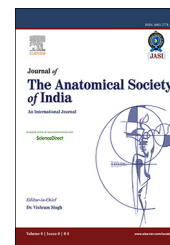


Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/jasi](http://www.elsevier.com/locate/jasi)

## Letter to the Editor

# 'Morphology' – A misunderstood term in Anatomy in India



### Keywords:

Morphology  
Terminology  
Education  
Medical  
Undergraduate

To the Editor,

The Oxford English dictionary states that term 'morphology' literally means "the study of forms of animals or plants".<sup>1</sup> If a search on 'morphology' is made in standard publication index websites like Google Scholar or PubMed, we can get innumerable number of studies on morphology: the form and appearance of a structure – in medical, basic biological and botanical fields. But it is a strange fact that such a simple term is currently being used in anatomy medical education in India, as an equivalent for 'evolutionary remnant'. This has even crept into the vocabulary of academicians and faculty and is found in textbooks. As examples, Essentials of Anatomy by A. K. Datta, a popular and authoritative anatomy textbook, states that morphology of palmar aponeurosis is that it is the remnant of tendon of Palmaris longus.<sup>2</sup> Clinical Anatomy for Students, written by Neeta V. Kulkarni, states that the temporomandibular joint articular disc is morphologically a part of lateral pterygoid.<sup>3</sup> Textbook of Anatomy and Physiology for Nurses by Ashalatha et al. states that tibial collateral ligament is morphologically the distal part of adductor magnus and the fibular collateral ligament is morphologically the primitive origin of peroneus longus muscle.<sup>4</sup> These excellent textbooks are of immense educational value, and have been a rich academic resource and are loved and adored by teachers and students alike, but the use of this specific term 'morphology' needs to be reviewed. Questions based on these statements appear even in university level examinations, professional competitive medical examinations and viva voce for students, in India, where they are asked about the morphology of a particular structure and the examiner expects

that candidate to comment about the evolutionary counterpart of that structure. The student often gets confused, if he/she remembers the genuine meaning of the word morphology.

This fact has created unnecessary confusions and uncertainty for years, in the Indian medical education scenario. As these sort of questions keep on appearing in exams, students are forced to somehow believe that this term also means 'evolutionary remnant'. Another interesting fact is that the term 'morphology' is widely used in clinical medicine when considering anatomical descriptions of an organ or a lesion, in disciplines such as pathology, surgery and dermatology, where the term clearly means the form or external appearance.<sup>5</sup>

The word morphology just means 'form and structure' and nothing else. The use of the term 'morphology' to mean something else has to be strictly discouraged, as this creates an unnecessary ambiguity among students and academicians. The closest term that can be used to mean 'evolutionary remnant' would be 'phylogenetic remnant' and not 'morphologic remnant'. Recognition and correction of facts as simple as these are important to lift the quality of basic medical education in India.

So, if a question arises in an anatomy viva as "What is the morphology of dens?" the answer must be "Dens has the morphology of a tooth, or a peg".

### Conflicts of interest

The author has none to declare.

### REFERENCES

1. Coventry L. *Morphology The Oxford English Minidictionary*. 5th ed. Oxford University Press; 2000:331.
2. Datta AK. *Essential of Human Anatomy: Superior and Inferior Extremities*. 3rd ed. Current Distributors; 2004.
3. Kulkarni NV. *Clinical Anatomy for Students: Problem Solving Approach*. Jaypee Brothers, Medical Publishers; 2007.
4. Ashalatha P, Deepa G. *Textbook of Anatomy & Physiology for Nurses*. Jaypee Brothers, Medical Publishers Pvt. Limited; 2012.

5. Kumar V, Abbas AK, Fausto N. *Robbins and Cotran Pathologic Basis of Disease*. Elsevier Health Sciences; 2004.

Received 30 July 2015

Available online 23 December 2015

Doris George Yohannan

Assistant Professor, Department of Anatomy, Sree Gokulam Medical  
College and Research Foundation, Venjaramoodu,  
Thiruvananthapuram, Kerala, India

E-mail address: [dorisgeorge54@gmail.com](mailto:dorisgeorge54@gmail.com)

<http://dx.doi.org/10.1016/j.jasi.2015.11.002>

0003-2778/

© 2015 Anatomical Society of India. Published by Elsevier, a  
division of Reed Elsevier India, Pvt. Ltd. All rights reserved.