



## Comment on: are school textbooks misleading?

Vasant Raman<sup>1</sup>

Received: 22 October 2020 / Revised: 10 November 2020 / Accepted: 1 December 2020 / Published online: 15 December 2020  
© The Royal College of Ophthalmologists 2020

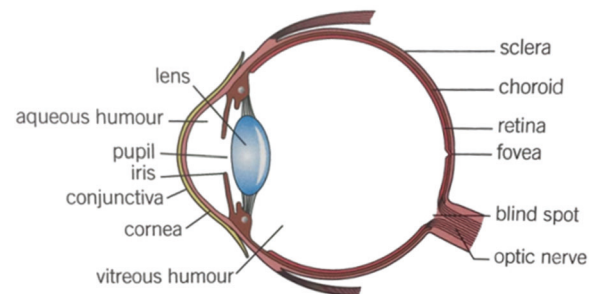
### To the Editor:

I read with interest the article on the topic by Wood and Corbett [1].

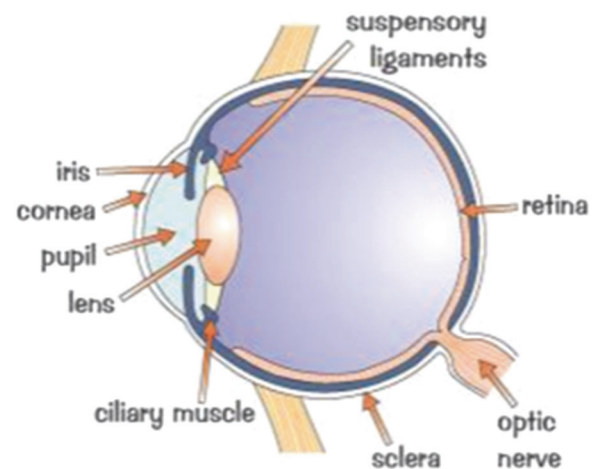
One cannot argue about the question posed in the introduction section “whether errors in school textbooks should be corrected”. Providing accurate information on any subject should be an endeavour in any walk of life. The misleading anatomy of the conjunctiva covering the cornea [1] is deeply entrenched among medical students. As a teacher of undergraduate medical students, I have seen over the last decade that as a recurring theme amongst 4th year students during their 1-week placement in ophthalmology.

With the majority of medical schools in the UK providing a PBL (problem based learning) curriculum replacing the traditional teaching of anatomy in the preclinical years, one may assume this factual error probably stems from teaching in high school. This lack in understanding of the basic anatomy of the eye may continue even after graduation, as exposure to ophthalmology during medical school in the UK can range from “some” to “none at all” [2].

Few weeks back to my consternation, when questioned about the source of error one of the medical students directed me to a medical textbook [3] widely followed for studying and revising for their exams. The same mistake of the conjunctiva covering the cornea was depicted in the text. For undergraduates’ taking up non-ophthalmic specialties, this lack of understanding may not be critical. However, this may not be the case if they take up general practice as a vocation, as they are bound to encounter patients with eye conditions. A serious infection of the cornea can be mistakenly diagnosed as conjunctivitis.



**Fig. 1 Anatomy of the eye.** Incorrectly depicting the conjunctiva covering the cornea.



**Fig. 2 Anatomy of the eye.** Correctly depicting the various structures of the eyeball but not anotating the vitreous cavity at all.

The act of “omission and commission” galore in equal measures in school textbooks. Whereas Edexcel 3 (Fig. 1) board has erred in showing the conjunctiva over the cornea [4], AQA4 GCSE (Fig. 2) biology board seems to have gotten this fact right. However, they have completely omitted in naming the vitreous cavity, the largest constituent of the eyeball [5]. In the past, the vitreous cavity was often erroneously called the posterior chamber as

✉ Vasant Raman  
vasant.raman@nhs.net

<sup>1</sup> Royal Eye infirmary, Level 3, Derriford Hospital, University hospitals of Plymouth NHS Trust, Plymouth PL6 8DH, UK

opposed to the space between the Iris and the lens. Yet this is another source of misconception amongst undergraduate medical students. This error seems to have been corrected somewhat partly over the years in so far as some naming it correctly, whereas others have committed to avoid annotating the vitreous cavity altogether. The AQA GCSE biology board has also used a non-existent and not commonly accepted term for the pupillary reflex as IRIS reflex further adding to the confusion.

The onus of responsibility rests with editors entrusted with writing course material in the textbook. They should seek the help of professional bodies if they are unsure of the factual information. It is heartening to know that the publishers and examination board has agreed to work on the suggestion provided by the authors. Alternatively, the RCOph should approach the various school boards, and provide them with guidance to the editors whilst writing the section on eye-related matters.

## Compliance with ethical standards

**Conflict of interest** The author declares no conflict of interest.

**Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## References

1. Wood MT, Wood SA, Corbett MC. Are school textbooks misleading? *Eye*. 2020;34:989–90. <https://doi.org/10.1038/s41433-019-0638-1>
2. Tariq F, Loutfi M, Ghouri N, Watts M. Survey of current undergraduate ophthalmology teaching in the United Kingdom. *Eye news*, Pinpoint Ltd, Edinburgh (U.K). Vol. 26:(3) October/November 2019.
3. Naish J, Court DS. *Medical sciences*. 3rd ed. Elsevier London. 14th August 2018. Section 8: Page 381.
4. Fullick A, Bircher P, Locke J. *A level Biology for OCR*. UK: Oxford University Press; 2015.
5. P Gannon. *GCSE AQA Biology for the Grade 9-1 Course*. Coordination Group Publication Ltd. (CGP); 2016.