What do we mean by the directions “cranial” and “caudal” on a vertebra?: response to reviews and editorial comments

Mike Taylor

First, I would like to apologise that it has taken so long — almost a full year — to handle these reviews, which were sent on 3rd January 2020. I am sure everyone involved understands that this has been a strange and difficult year. Nevertheless, the delay is entirely my own fault, and I apologise.

# Comments on review 1 (Ryan D. Marek)

XXX Marek’s multiple comments on the structure of the manuscript are noted, and taken into account (along with those of the other reviewer and editor) in the radical restructuring of the new version of the manuscript.

XXX We also accept his point that the tone of the original submission is not to everyone’s taste. While we do not necessarily agree that more formality is always better, we recognise that there is a balance to be struck, and that the first version of this manuscript erred too far in the direction of informality. We have accordingly reworded the prose extensively.

XXX Relatedly, we have greatly reduced the role in the new manuscript of the account of how the question of orientation came to our attention, agreeing that “making it the focal point of the submission is detrimental to the paper” and that the more substantial questions of anatomical meaning are a stronger focus for the introduction. However, the disagreement with Mannion in the reviews of the *Xenoposeidon* revision remain of interest as a concrete example of how the ideas in the present manuscript are significant, so the account is retained in a reduced form in the discussion.

XXX We have regretfully removed the Saegusa and Ikeda's (2014: figure 8) illustration, even though it provides a perfect single-figure example of the inconsistency we seek to illustrate, for fear of seeming confrontational. We have substituted less helpful but more inoffensive references to illustrations in our own work.

XXX We have reworked and combined some of the illustrations along the lines that Marek suggests. We have also followed his suggestion to expand Figure 4 to show additional long cervical vertebrae as well as the *Giraffatitan* C5 that is our principal example.

XXX We note the comments on colour-blindness, and have checked that where colour is used to distinguish lines with different meanings, those lines are also distinguishable by other criteria.

In general, we have followed the specific comments attached to Marek’s review, but with some exceptions. In particular, we do not agree with the suggestion that expunging the pronoun “we” throughout and substituting passive voice would improve the manuscript. We have changed some instances, but in other clarity is best served by the simpler active phrasing.

We have retained the section on open peer-review, contrary to Marek’s recommendation, as it is important to us and relevant to the origin of the present paper’s core question.

We note that that in the Rating Scale Questions, Marek ticks the “disagree” column for the statements “This article adequately engages with the relevant scholarly literature” and “The literature review was thorough given the objectives and content of the article”. The reason this paper was written is that there *is* no relevant scholarly literature, so we are at a loss as to what Marek intends us to do in response to this scoring. Since Tschopp’s scoring of these questions is neutral, and since Marek does not mention any specific papers that he thinks we should have cited or discussed, we have not been able to identify any changes to make in this respect.

We take Marek’s point that “comparing multiple quantitative measures of vertebral anatomy across a range of organisms/vertebral regions” would be of interest, but we consider this work beyond the scope of the present paper, in which we aim simply to establish definitions.

# Comments on review 2 (Emanuel Tschopp)

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# Comments on handling editor’s summary (Peter Falkingham)

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