Feedback on Palaeoecosystems assignments 2016

General points

- One genus, many genera; one phylum, many phyla
- A **fauna** is the assemblage of organisms in a given place.
- Genus and species names (but not names of higher taxa) should be italicised, with a capital for the genus (and other proper nouns, e.g. Mollusca) but not the specific epithet, e.g. *Homo sapiens*.
- If you aren't confident on writing style, or want to improve your mastery of punctuation and grammar to write more compelling and convincing prose, consult Strunk and White's excellent short tome *The Elements of Style*.

Wenlock assignment

- The abstract should summarise the paper and follow a similar structure: guidance on structuring an abstract can be found at nature.com/nature/authors/gta/Letter_bold_para.doc
- The introduction should summarise what the literature currently says about the topic, highlighting any areas of uncertainty.
- Methods should convey the information necessary to replicate your results – the reader doesn't need to know what colour pen you used to complete your lab notebook…
- Limitations tend to fit well in the methods section – putting them between discussion and conclusion interrupts the narrative flow.

- Data should be presented in an accessible format – tables belong in lab notebooks, whereas graphs allow the reader to obtain a clear overview at a glance.
    - For each table or figure, ask yourself 'what is the point' – the key fact or phenomenon that the item is trying to display. Then ask yourself the best way to visually convey that piece of information.
- A list of descriptions of each fossil seen rarely progressed a report; such information fits better in a lab notebook. What was more interesting were synthetic overviews that brought this information together to construct an argument. For example, "The low, dome-like habit of scleractinian corals (Fig. X) and the fragmentary, well-rounded nature of bivalve shells (Fig. Y) in our sample suggests a high-energy environment, which explains why our sample had a much higher proportion of suspension feeders (e.g. sponges, crinoids) than the group average."
- Use your own data to draw conclusions, and (most importantly) when drawing a reconstruction of the ecosystem represented by your slabs.
- A survivorship curve describes the chance of an individual of a species surviving to adulthood. It does not make sense to talk about a survivorship curve of a community that contains multiple taxa.
- How representative is the Wenlock of Silurian seas more generally? It is **a**, not **the**, Silurian ecosystem.
- The Wenlock occurred long after the Ordovician extinction event. Succession operates on a fundamentally different time scale to recovery from mass extinction.
- Does the palaeoenvironmental setting that you reconstructed for your assemblage (e.g. soft unconsolidated muds) match with sedimentological or biological evidence (e.g. large-grained sediment, abundance of encrusting oysters)?
- The conclusion should ultimately answer the 'question' set up in the title / introduction.

Long essay

- Always find an original or secondary source to cite a fact if you can (where the fact is not 'common knowledge' – citations aren't necessary for every point.). If you must cite lectures, then cite them as 'Smith, Pers. Comm' – but try to avoid this.
- Don't lift quotes from your sources – use your own words to summarise what the source is saying, or better still reference the source in support of your own argument. The same goes for figures.
- An essay tells a story. Don't just present a string of unrelated facts – create a narrative, using examples to illustrate your key points as you develop an argument. An essay plan is invaluable in the crafting of a clear argument; another approach is to make ample use of headings as you write the essay (even if some of these become redundant in the final draft).
- Stick to the topic. If you're talking about reconstructing palaeoenvironment using trace fossils, then their role in biostratigraphy or evolutionary reconstruction is an irrelevant diversion.