

Writing Conventions in the Disciplines:

Writing in the Natural Sciences

“An effective voice in a scientific paper is a little like an effective umpire or referee in a sports contest – the less the audience is aware of the referee, or the personal voice of the scientist, the better.”

- *Tradition and Adaptation* (123)

Basic Purpose/Approach: Natural scientists may be writing to describe observations and draw conclusions from them or they may be writing to survey a broader array of observations in the field and from these, draw conclusions. Because their audiences are very specialized, scientists know them precisely, and are often personally familiar with a number of the individuals who will be most likely to read their work. Scientific writers tend to assume humble personae. For these reasons, the personal voice is not considered necessary or desirable and diction is highly specialized.

Significantly, scientists write with an awareness of audience and purpose just as writers in other disciplines do – they are not writing in the fashion they do because they are *actually entirely objective*, but rather because various habits of thought and requirements of disciplinary expectation require them to write *as if* they are entirely objective.

Nouns: Scientists tend to string long noun phrases together in order to accurately identify complicated phenomena and objects. However, because of this need to be as specific and accurate as possible, scientific writers often struggle with misplaced modifiers. Proper punctuation and parallelism are frequent solutions used to solve this problem.

Pronouns: On the rare occasions when scientists use a first-person pronoun, they prefer the plural “we.” Research in the natural sciences is more often collaborative than in other disciplines, so the use of “we” places emphasis on the collaborative nature of the research and the research itself, rather than on the individuals involved in the research. Even in scientific book reviews in which one might suppose writers would occasionally use “I,” scientists tend to prefer “we” as indicative of themselves and the larger scientific community/audience.

Titles: Lengthy, specific titles are considered desirable in the natural sciences, because audiences are typically specialized and seeking primary knowledge from which to draw larger conclusions.

Tense:

Scientists place a high value on accepted work and so they use the present tense in referring to accepted theories and facts. Conclusions that are not yet accepted or the work that led to conclusions – even validated ones – do not deserve the status of fact and are thus referred to in the past tense.

Present:

- Refers to published work. *Newton's laws are...*

Past:

- Refers to one's own work which, of course at the time of writing, has not yet been published and incorporated into the body of presently accepted work.
- Refers to work (not conclusions) of others. *Newton calculated...*

Passive Voice: Because of the de-personalized nature of scientific writing, frequent use of the passive construction is a marker of scientific writing. Passive voice is particularly prominent in the Methods sections of scientific articles, because the goal in this section is to enable others to replicate the experiment, not to emphasize the original experimenters. Note: the subjects of studies are more often partnered with active verbs. For example: *The flowers wilted when...*

Modifiers: Many modifiers used in scientific writing are themselves nouns, but scientists use modifiers not only in the interest of being specific, but in order to qualify their assertions. Rather than stating that a finding is "exceptional," a scientist might qualify the statement by noting that the finding is "markedly different from the expected results."

Diction: As noted above, scientists value specific, clear language, so technical jargon and precise linguistic choices are a must. A catchy style and accessibility to a lay audience are not factors in diction choices. Rather, scientists want other scientists to be able to understand and locate their work as conveniently as possible.

Tone: Scientists work to establish new and unique findings in relation to a body of already established knowledge. They write to contextualize their own work within that of the broader community, so novelty and originality are de-emphasized in order to establish the ways in which new findings extend or modify previous ones.