resolve the problems? Standard techniques need not be described in your procedure section. One detail you should include is the number of times you repeated a measurement. It is useful to state, at a minimum, whether a measurement was reproducible or not.

The question of detail is a tough one for procedure sections. You don't really need to tell the reader everything, but you have to say enough. The ideal procedure section is one that will allow the reader to go into the stockroom, pick out the right equipment, repeat the experiment, and get results consistent with yours based only on the information in your report. Giving the right amount of detail is a skill that requires practice.

A Little on Style

Procedure sections are right up there with theory sections for putting the reader to sleep. In procedure sections, the culprit is usually excessive use of the passive voice. ("The ball was hit by the batter" rather than "The batter hit the ball.") In the natural sciences, we have this fond hope that the identity of the experimenter should not affect the result of the experiment, except insofar as one person may be a more skilled experimenter than another. To remove the experimenter's identity, writing in the passive voice became standard in the scientific community. Unfortunately, the passive voice is really boring to read, partly because it tends to be wordier and partly because it dilutes the action.

However, the active voice is becoming more accepted in the physics literature. I would prefer to read about how, "We measured the focal length by . . ." or, "One of us (JHE) moved the lens while another (TEF) read the scale." Use the active voice if you can.

CHECKLIST FOR THE PROCEDURE SECTION:

- ❑ List of equipment (in prose).
- ❑ Sketch or schematic diagram of experimental setup.
- ❑ Description of measurements, in roughly the order in which they were made.
- ❑ Departures from obvious procedures.
- ❑ Steps taken to reduce experimental uncertainty.

THE ANALYSIS SECTION

Data Reduction