

Topics for Paper #1. Due Weds Feb. 21.

Instructions:

- (a) Choose one of the following topics and respond to it in an essay of no less than 5 pages and no more than 7 pages. Your essay should be typed, 10- or 12-point, double-spaced and spell-checked. Please submit a hardcopy of your paper in class on the due date, as well as an e-copy to Turnitin.
- (b) Your essay should conform to the guidelines for writing philosophy essays handed out in class. ***Make Absolutely Certain that you have read and understood these guidelines before you attempt to begin writing your essay.*** If you do not follow these guidelines, the grade for your essay will suffer!
- (c) Your essay must include a bibliography that minimally includes the relevant course texts. Your essay must use this bibliography as a source to cite for all claims and quotes you attribute to authors. If you do not include a bibliography that you cite for claims and quotes, the grade for your essay will suffer!
- (d) Please make use of Poly's Writing Center if you have trouble with spelling and/or grammar. If your essay contains so many spelling/grammatical errors that a reader cannot comprehend what your claims are, then your grade will suffer as a result. Information about Poly's Writing Center can be found at <http://www.poly.edu/academics/support/polytechnic/writing>.

1. Are fixed points in thermometry real? Use examples from the history of thermometry to critically assess Chang's claim that sense-data and high-level theories are not robust over time, while "middle-level regularities" like fixed points are.
2. Assess Chang's view of how measuring standards are established, using examples from the history of thermometry. What is his notion of epistemic iteration and how does this contrast with a foundationalist's view? Why is circularity in justification of standards for Chang not a problem?
3. How did Thomson operationalize his two concepts of absolute temperature? If such operationalization is at the basis of all measurements in science, what does this suggest about what science is telling us about the world?
4. "Even if truth is the ultimate aim of scientific activity, it cannot serve as a usable criterion of judgement. If scientific progress is something we actually want to be able to assess, it cannot mean closer approach to the truth." (Chang 2004, pg. 228.) Explain what Chang means by these statements. Do you agree or disagree? Why or why not?