Reading guide: Cargo Cult Science

1. What is “cargo cult science”? Where is the term from?
2. What is the difference between science and “cargo cult” science? What exactly does Feynman mean when he says “a kind of scientific integrity”?
3. Why does Feynman contrast scientific integrity with advertising?
4. How do scientists fool themselves (he gives the example using a famous experiment by Millikan)?
5. In one of the most important parts, Feynman says,

“I'm talking about a specific, extra type of integrity that is not lying, but bending over backwards to show how you are maybe wrong, that you ought to have when acting as a scientist. And this is our responsibility as scientists, certainly to other scientists, and I think to laymen.”

First, in what context is he talking about this integrity? Second, does this set an unreasonably high standard of conduct of scientists (i.e., is any other profession held to this standard)?

1. What example does Feynman give as an example of poor science (he gives one from psychology and one from physics)? Why, to Feynman, is it poor science? What causes poor science?
2. Feynman describes a “A-number-one experiment” from psychology (he spends a page on it). Why is it such a good experiment?
3. Why is the training of students in parapsychology so dangerous?
4. When Feynman wishes the graduates (this is a commencement speech) the ability to keep their integrity, what forces do you think act against one’s ability to keep one’s integrity?