Exercises Social Software, Lecture 1

Exercise 1 *To what extent does the protocol of the Solomon verdict hinge on the surprise element? Describe the version of the protocol that would also work a second time that was discussed in class. Say, two men both claim to be the rightful owner of an olive tree and appear before Solomon's court. They have heard about the earlier verdict.*

Exercise 2 *Solomon's verdict and the context in which it takes place is part of a 'social reality' with a rather elaborate structure. Try to spell out this structure in some detail. Look at John Searle's paper (in Useful Links, on the course webpage) for inspiration.*

Exercise 3 *Consider the following quote from a collection of talks from the physicist Richard Feynman. :*

> *From time to time, people suggest to me that scientists ought to give more consideration to social problems—especially that they should be more responsible in considering the impact of science upon society. This same suggestion must be made to many other scientists, and it seems to be generally believed that if the scientists would only look at these very difficult social problems and not spend so much time fooling with the less vital scientific ones, great success would come of it.*
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> *It seems to me that we do think about these problems from time to time, but we don't put full-time effort into them—the reason being that we know we don't have any magic formula for solving problems, that social problems are very much harder than scientific ones, and that we usually don't get anywhere when we do think about them.*
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> *I believe that a scientist looking at nonscientific problems is just as dumb as the next guy—and when he talks about a nonscientific matter, he will sound as naive as anyone untrained in the matter.*
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> *Richard Feynman,* The Pleasure of Finding Things Out, *p. 141.*

If one of the most eminent physicists of the twentieth century believes that he is as dumb as the next guy when it comes to curing the ills of society, is it reasonable for logicians, computer scientists, game theorists interested in the analysis of social software to think that they are smarter? Discuss.

Exercise 4 *Try to work out for yourself why so-called 'sealed bid, second price auctions' are strategy proof. In a sealed bid, second price auction the bids are sealed, and the item goes to the bidder with the highest bid, but this bidder pays the amount of the* second *bid. Strategy-proofness of an auction means that it is never in a bidder's interest to make an offer that does not reflect his or her true valuation of the item on sale.*

Exercise 5 *You are designing social software for divorce mediation. Work out a procedure for division of common property that is reasonable for both of the ex-partners. Here are some hints: First make a list of the items to be divided. The two partners may value different items differently. Try to get information about how they each value their stuff. This will give you the input for a so-called 'cake cutting algorithm'. Try to set up the procedure in such a way that a reasonable couple will agree to adopt it.*