5.8 Odds versus classical tests

Since the means look different, but the variances look similar, we might take a one-tailed t-test and a two-tailed F-test. See however Jaynes' discussion of this, as referenced.
The t-test gives significance at the level of 0.004 – this is the probability that the observed difference in the means would arise by chance, if the two sets of data were actually drawn from the same distribution. The two-sided F-test gives a significance level of 0.77 for the null hypothesis that the variances are the same.
The odds in the text were calculated for equal prior odds, and came out at 40 to 1. The right comparison would seem to be with the two-sided t-test, which is agnostic in this sense. Then the significance would be 0.004×2, corresponding to odds of 120 to 1.
The Bayes factor test gives a weaker conclusion because it does not enforce the assumption of equal variance. The Behrens-Fisher solution will give a bigger significance and smaller odds than the t-test.