Weinberg et al. calculated the anthropic likelihood of the cosmological constant ? using a model as- suming that the number of observers is proportional to the total mass of gravitationally collapsed objects, with mass greater than a certain threshold at t ? ?. We modify Weinbergs model in a way that the number of observers is proportional to the number of collapsed objects, with mass and time equal to certain preferred mass and time scales. Unlike Weinbergs model, the anthropic likelihood of the primordial density perturbation amplitude Q from our model explains Q0 well without any additional constraint. Furthermore, observers will be affected by the history of the collapsed object, and we introduce a method to calculate the anthropic likelihoods of ? and Q from the mass history using the extended Press-Schechter formalism. In contrast to models using only a single mass constraint, the results from the models using the mass history are robust even if we allow both ? and Q to vary.