Tuesday October 12

1. I derived at the end of class: If at time 0, B has clapped and that has had its effect on A, and now A is at phase φ_A, then the next time that B will have just clapped, and that will have had its effect on A already, A will be at phase

$$\varphi_A - g(1-\varphi_A) + g\left(\varphi_A - g(1-\varphi_A)\right).$$

   Write down the argument that leads to this conclusion again.

2. If we want A and B to be locked into an unchanging pattern, then the phase φ_A that A will be in just after having heard B clap will have to satisfy

$$\varphi_A - g(1-\varphi_A) + g\left(\varphi_A - g(1-\varphi_A)\right) = \varphi_A. \tag{1}$$

   Does $\varphi_A = 0$ satisfy this equation? Assume as we did in class that $0 \le g(\varphi) \le 1-\varphi$ for all φ. Do you have to make an additional assumption to ensure that $\varphi_A = 0$ satisfies eq. (1)?