Information Theory Summary:

- The Shannon entropy provides a way to measure the **unpredictability** of a dynamical system.

  — How unpredictable is the future behavior of the flock of birds, or of the raisin in the dough?

- Mutual information can be used to measure of the **memory** or **correlations** in a dynamical system.

  — How much information does knowing the past behavior of the flock give me about the future behavior?

  — If I know the position of the left half of the flock, how much does that tell me about the right half of the flock?