Conclusions

- What mathematical vocabulary can we use to describe phenomena like the flock of swallows?

- How can we discover and characterize patterns? Is there an objective notion of pattern, or is the discovery of patterns a purely subjective process?

  — Guessing the rules usually not possible.

  — Use Information theory and computation theory instead.

- How does organization arise in nature? How do chaos and order combine?

  — Beats me! I suspect that there are few, if any, general principles of organization.

  — However, “Rule as the Sum of Rulelessness” often holds.