

EMERGENCE 2nd Dec 2024 and 20th Jan 2025

2nd December 2024 - What is Emergence?

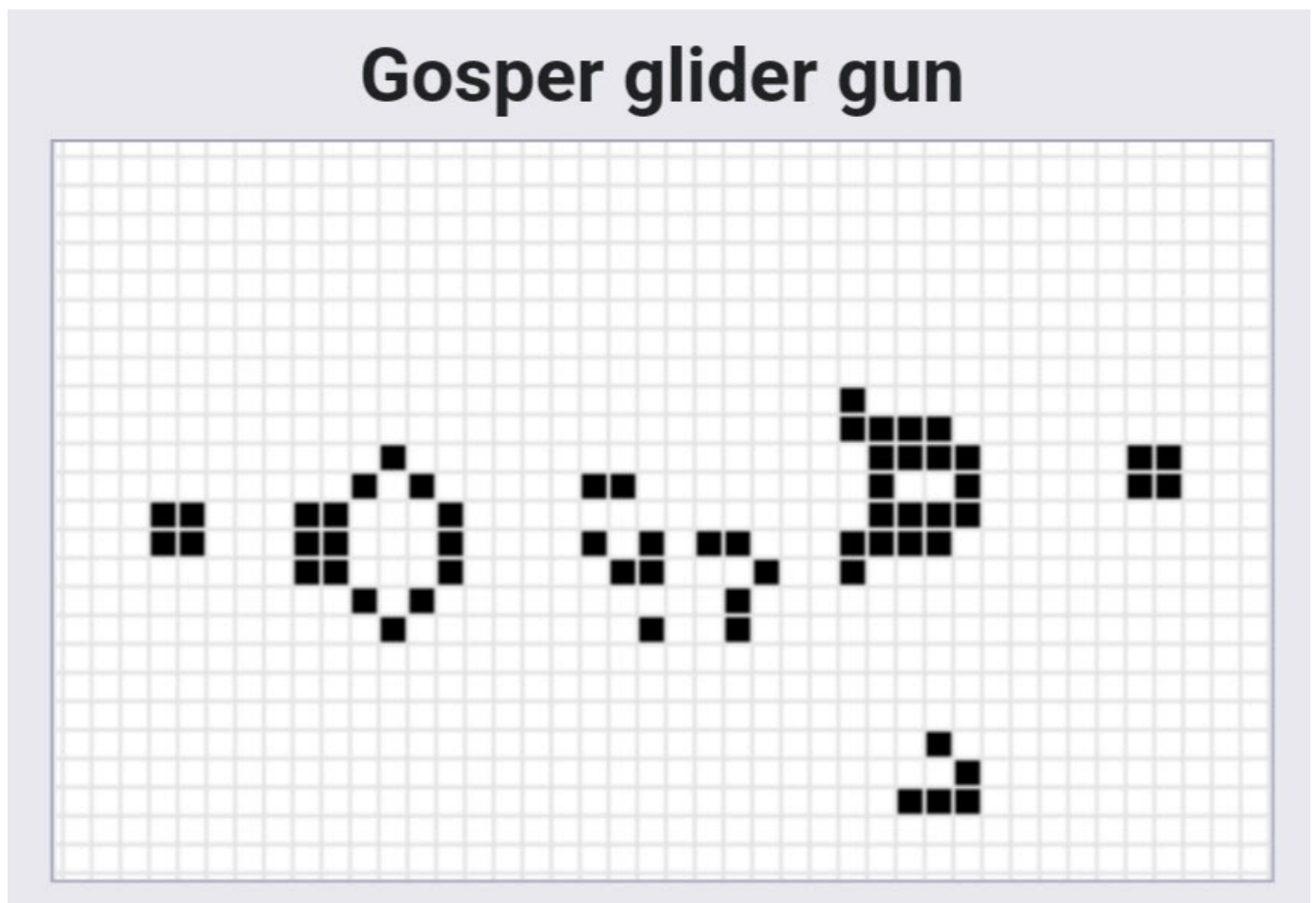
We will explore the concept of emergence.

One definition might be...

"Emergence is the idea that complex systems and patterns can arise from the interactions of simpler components, where the whole is greater than the sum of its parts. In other words, new properties or behaviors emerge that can't be predicted just by looking at the individual parts of the system."

We will start by looking at Conway's 'Game of Life'. In the process we will discover how higher level entities can emerge from a very simple algorithmic rule.

https://en.wikipedia.org/wiki/Conway%27s_Game_of_Life



A deep dive into emergence by Sean Carroll can be found at this podcast. It is quite long at 1h30m, skip to 9:25.

<https://www.preposterousuniverse.com/podcast/2024/11/11/295-solo-emergence-and-layers-of-reality>

20th January 2025 - Emergence

We will continue our topic from the 2nd December 2024. (Please have a look over the notes for that session).

Emergentism: <https://en.wikipedia.org/wiki/Emergentism>

First we'll quickly revisit Conway's Game of Life for those who were not present.

Then we'll investigate another classic example of emergent behaviour. Boids reproduces flocking, shoaling and herding behaviour.

Starling murmuration : <https://youtu.be/m6YDhVeW5Kc?si=pvkcY1HFDGMjo6rX>

<https://en.wikipedia.org/wiki/Boids>

As with the Game of Life, Boids is an example of how high-level organised behaviour is the result of a few very simple low-level rules.

To start the conversation we will watch this short video.

https://youtu.be/QbUPfMXXQIY?si=Npoz_Y3OCRgfPtfU
