

Cultural Post-Mortems

An approach to learning when your people systems fail

Winna Bridgewater
Principal Engineer, Syntasso

@thepreviewmode
[linkedin.com/in/winnab](https://www.linkedin.com/in/winnab)

Last September...



Complex Adaptive Systems



Complex Adaptive Systems: characteristics

Systems

coordinated action towards
some purpose

Complex

many and varied relationships
among parts of the systems

Adaptive

agents that make up the systems
can change and evolve in
response to new conditions in
the environment



Operating at the edge of chaos



Complex Adaptive Systems: they're everywhere

Ant Colonies

Power Grids

Beehives

Cities

The Climate

Flocks of Birds

Nature

Biology

Developing Embryo

War

The Cell

Terrorist Networks

Organisations

Economy/Markets

Infrastructure

Societies

Political Parties

Traffic Flow

Human Brain

The Internet

Immune System

Crowds of People



Birds



Birds as agents in a system



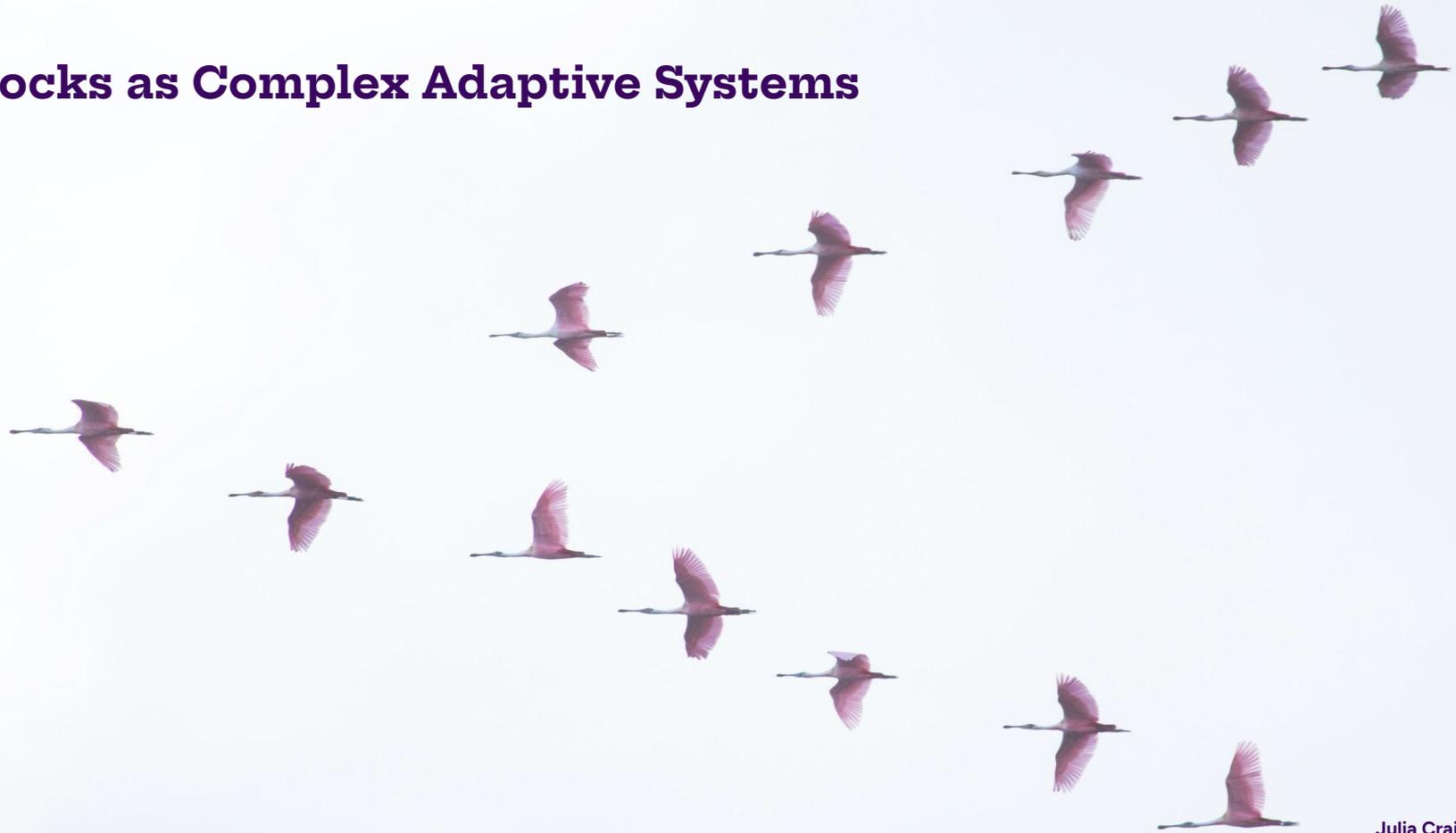
Single bird

Very simple
programming

Julia Craice, Unsplash



Flocks as Complex Adaptive Systems



Julia Craice, Unsplash



Flocks as Complex Adaptive Systems

1 Shared goal: Migration

👉 No central leader

2 Many birds, very simple programming

3 Simple rules for interactions

1. Don't hit your neighbour.
2. Don't hit an obstacle.
3. Don't fly too close or too far from the birds around you.

4 Emergent behaviour

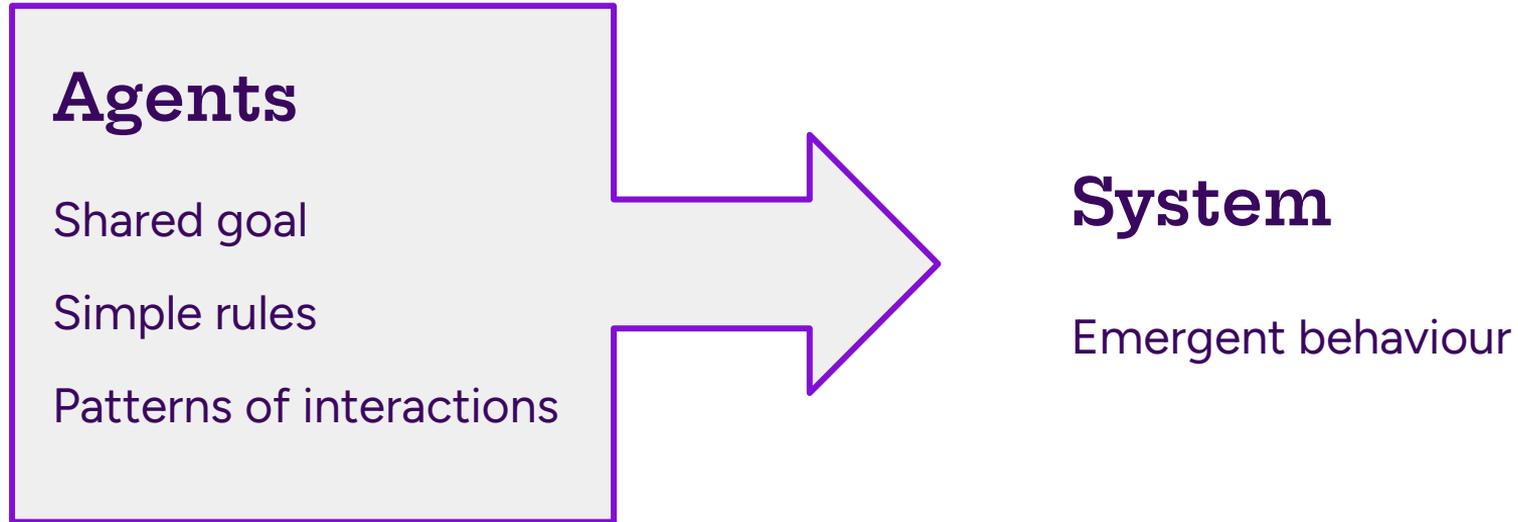
Julia Craice, Unsplash



You can't really understand
the whole system by simply
looking at its individual parts



Complex Adaptive Systems



Teams & organisations



Organisational CASEs

- 1. Shared goal**
- 2. Patterns of interactions**
- 3. Simple rules**
- 4. Emergent behaviour**



Shared goal

at Syntasso

Help platform engineering
teams thrive.

Individual team members at Syntasso

- Three founders and four engineers.
 - Three female, four male.
 - Three have children.
 - Spectrum of years of experience, weighted toward more not less.
 - Companies large and small.
 - Most have shared working history.
-

Early Influential Interactions

Company Goals / Vision

Values

Our Values

- Progress over perfection
- Be kind and caring
- Directly to customer

Mission

Syntax's mission is to help platform engineering teams thrive.

Vision (see also "Where do we want to be in 2 years?" slides / 7 year wanted)

Through improving "Platform Engineer Experience", we will enable platform teams to help customers of the platform to:

- Improve productivity / go faster
- Increase efficiency / do it cheaper
- Reduce the complexity / governance

Strategy

- We use our expertise and specialty in the "Platform as a Product" domain
- We help customers successfully with a blend of products and customer collaboration
- Products that can evolve our strategy and roadmap
- Customer collaboration to provide specific, fast feedback
- We strive to create an environment we "want" to be in, so we can:
- Kickstart and provide part of our spark.

Psychological Safety

OKR meeting

~every three months

Revolutionary company perspective

Ways of Working and Syntax Norms

Workshop June 2022

Ceremony audit

What makes it unproductive?

Plans based on group discussion

InSincerity

AGGRE

YOUR COLLEAGUE LEFT ANOTHER COLLEAGUE'S NAME OFF THE LIST OF AUTHORS FOR A PAPER.

What does it look like for you

Do What are the core activities that this person/role does?

Decide What does this person/role discuss with the wider team?

Decide What is this person/role responsible for deciding?

InScope affinities **Parking Lot**

Knowing

Feeling

Doing

Assumption: all in for three days

Everyone in person OR everyone remote

Later

Each of Central and Eastern and Northern etc.

Coffee 1 to 1s

Get to know each other

Hope -> Ears session

2

1

4



Varied interactions

at Syntasso

- Team meetings
 - Board meetings
 - Rotated pairing
 - Soloing with playback
 - 1:1s
 - Async
-

Simple rules

Intentioned

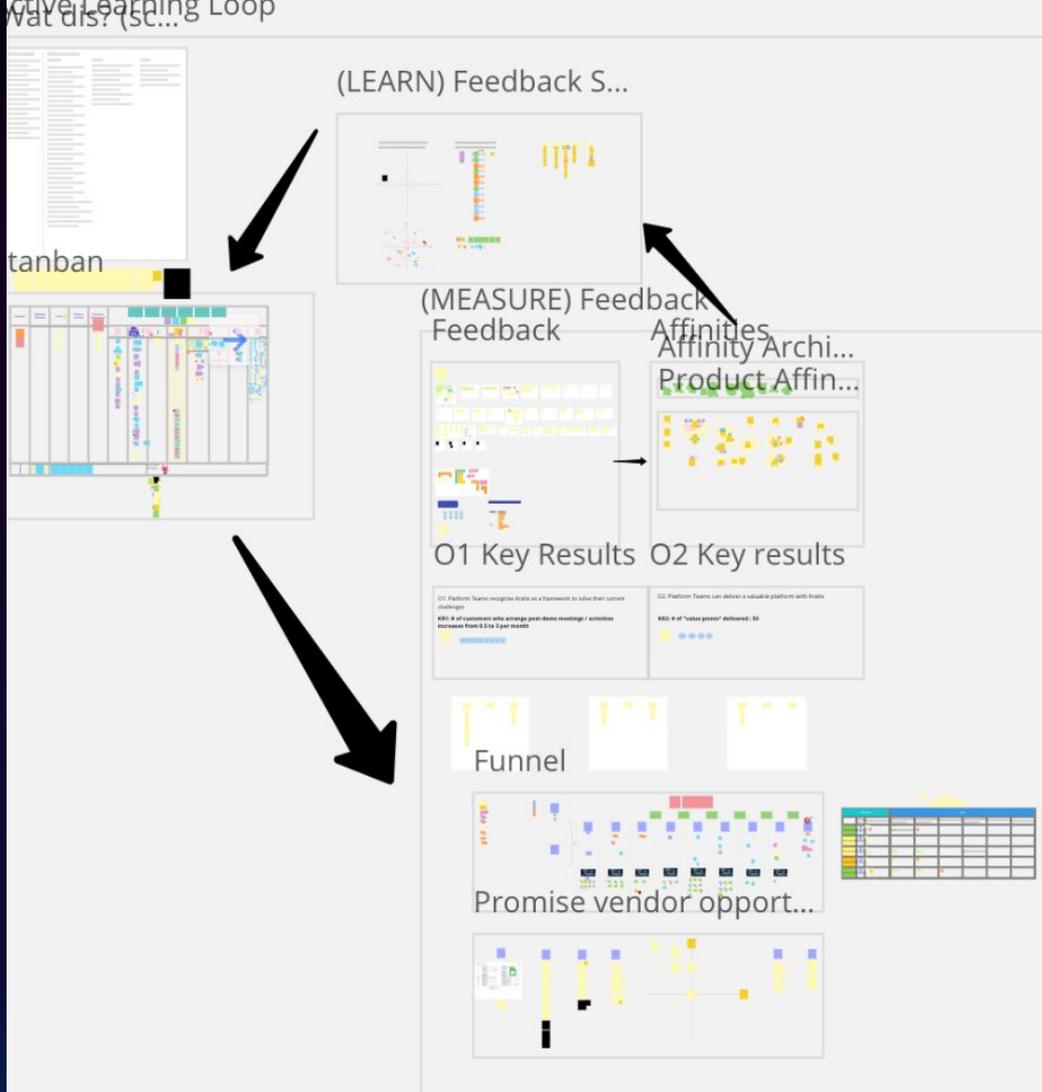
1. Progress over perfection
2. Be kind and candid
3. Diversity is valuable

Evolved

1. Speak up if you want to know about something you're not working on
2. Use breakout rooms conversations



Feedback loops at Syntasso



Emergent behaviour

at Syntasso

- Trust
- Safety
- Learning
- Conflict
- Leadership
- Agility



Perturbances





John Rodenn Castillo, Unsplash

Reaction to provocation

Unpredictable

Stability 👉 instability

Adaptive tensions

Emergent behaviour

Butterfly effect



Complex adaptive systems exhibit behaviour that cannot be predicted, but can often be explained retrospectively.



September



Complex Adaptive Systems



Thank you!

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Work in flight

- Workshop
- Event organising
- Collaborative demo with another company



Throughout the week

We'll start exploring the demo.

Are you making decisions?
Should I join?

No, just exploring.

We'll continue the
demo exploration.

Are you making decisions?
Should I join?

No, just exploring.



Throughout the week

Demo folks, let's sync.

Are you making decisions?
Should I join?

No, just syncing.

Ok team, here is what we are
going to do for the demo...



About that demo...

**I feel really surprised by this update.
Actually, I feel upset, excluded, and
disappointed.**



After the meeting ended

- Awkward silence in group conversation
- Flurry of DMs in Slack
- Stilted group reconvening after lunch
- Very little productive work accomplished
- Emotions run high – it was a weird day
- Retrospective without retrospection



After the workday

- Drained
- “Should I quit?”



Making sense of the situation



Examples of CAS

- Ant colonies
- Beehives
- Flocks of Birds
- Immune Systems
- Human Brain
- Climate
- Markets
- Cities
- Traffic
- Teams and organisations



Ant colonies

Ant as heterogeneous agent

- Has a role
- Interacts with the other ants
- Has mostly local information
- Makes local rules and decisions
- Constantly adapts

Colony as emergent global system

- Emerges from interactions of heterogeneous agents
- Is robust and adaptive
- Has a lifecycle



Teams as Complex Adaptive Systems (CAS)

- A system of agents that interact with each other and their environment, such that even relatively simple agents with simple rules of behaviour can produce complex, emergent behaviour.
- Include many feedback loops in which the output of a process within the CAS becomes a new input for the system
- Seemingly small and insignificant interventions can have large, unexpected outcomes (or vice-versa) as a result of the feedback and interconnected ripple effects which follow them.
- Always on their way to somewhere, evolving, but never reaching.
- Self-organisation: order out of chaos, which makes them adaptive and resilient.



Understanding and influencing CAS

- We need to look for interconnections within the system rather than isolated problems. In safety this means looking at the things that occur in relation to lots of incidents and not simply the incidents in isolation.
- Importantly we need to be careful when attributing cause and effect in a complex adaptive system, as we have seen it is very rarely that simple.
- Equally we should be careful about prediction. Prediction can never be certain – things happen when you least expect them to in healthcare. Therefore keep in mind the system is dynamic, and it doesn't necessarily respond to intended change as predicted.



You can't understand
the colony by looking
at the behavior of
individual ants.



Complex Adaptive Systems: managing

- “It’s important to constantly learn and expose yourself to diverse points of view. But it’s work to do that.”
- The key issue is that you can’t really understand the whole system by simply looking at its individual parts.
- Documenting the desired dominant patterns and the ones that should be eradicated or reduced is a first step in understanding the system.
- Taking a more holistic approach to understanding our entire system, and focusing on how we can better create guardrails instead of overly-prescriptive workflows has profound impacts on unlocking the potential of our team.



Other team failures

That time someone got angry and aggressive with everyone else during team standup and ended up walking out and going home before the meeting ended

That time a team missed publishing updates to the org for the fifth week in a row and was contacted by stakeholders about lack of visibility into team progress

That week when three team meetings were completely steamrolled by one person who seemed to only have objections, complaints, and criticisms to share

That time when most of the team learned they were responsible for delivering an additional feature during a call where the stakeholder asked the team why the feature wasn't finished

