



Beyond timelines

Learning from incidents

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Principal Consultant



Perception

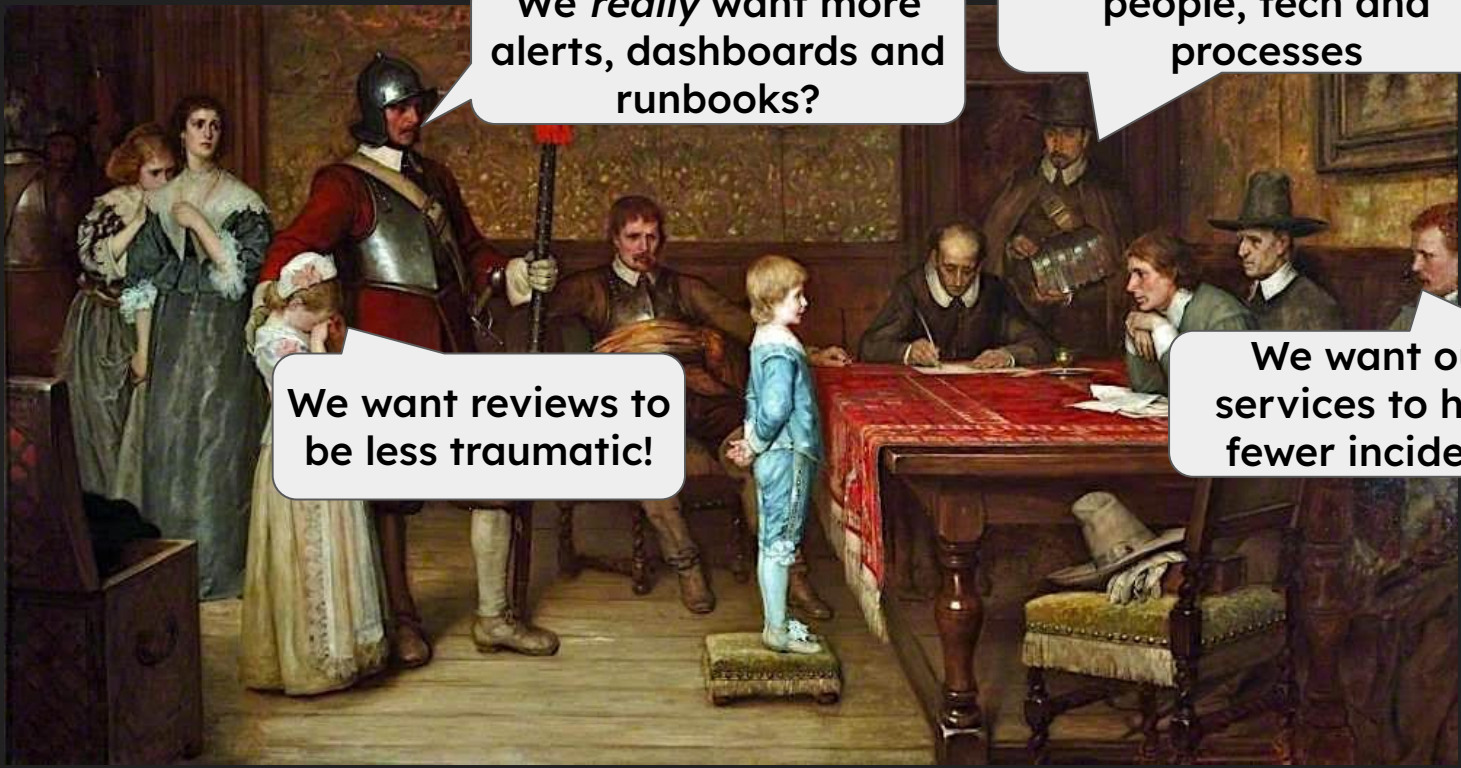


Reality?



Image credit: victorianweb.org - [William Frederick Yeames](#)

What problem are we here to solve?



We *really* want more alerts, dashboards and runbooks?

We want our stakeholders to have confidence in our people, tech and processes

We want reviews to be less traumatic!

We want our services to have fewer incidents

CONSTRAINTS
RISKS + ISSUES

CAPABILITIES

Reframing how we learn from incidents - Social Psychology Of Risk (SPoR)

SPoR mindset

Easy



Workspace

*Positive things
that “physically”
happened*

*Negative things
that “physically”
happened*

Easy



Hard



Head space

*Individual beliefs,
values, habits,
feelings, emotions*

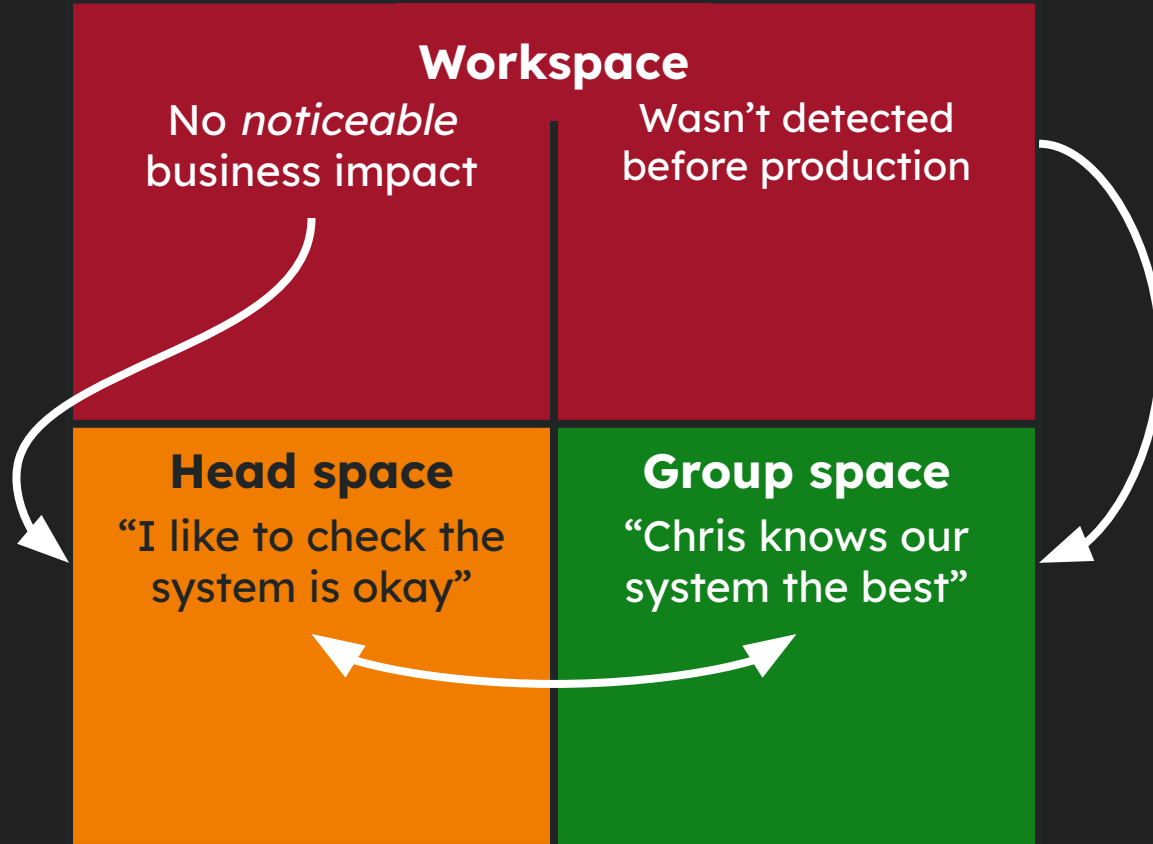
Group space

*Shared language,
rituals, beliefs, values,
habits*

Harder



SPoR mindset



CONSTRAINTS
RISKS + ISSUES

CAPABILITIES

Incident review foundations

Review foundations #2

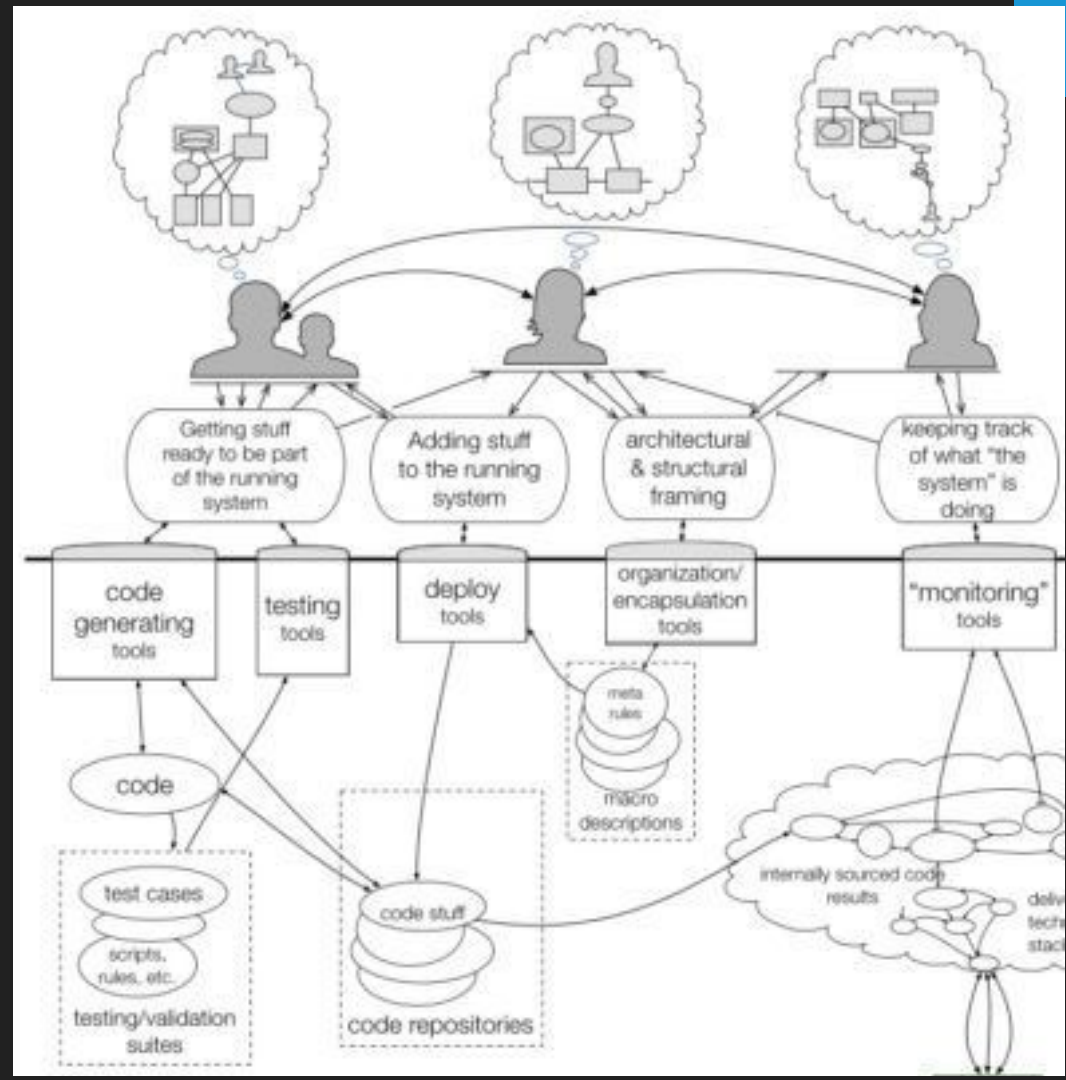
Incident timeline + other artefacts

The screenshot displays a 'Timeline' view of an incident. At the top, there is a search bar, a 'Show All' filter, and an 'Add Note' button. The date 'April 13, 2021' and the sort order 'Newest First' are shown. The timeline contains five entries:

- 5:08 PM**: Status: Open → In Progress updated by Barry C. Gull (bcgull)
- 5:07 PM**: Barry C. Gull (bcgull): "I'm on it."
- 5:03 PM**: Incident Acknowledged by Barry C. Gull (bcgull)
- 5:00 PM**: xMatters Conference Bridge added by Mary McBride (mmcbride): [Resolver Call](#) Discussing application response issue
- 5:00 PM**: Incident **INC-2504** initiated by **Mary McBride** (mmcbride)
Summary: Application response below SLA
Description: We are seeing application response below the declared SLA. We've got 30min to get it within spec.
Severity: Critical
Status: Open
Owner: Mary McBride

Review foundations #1

“The line of representation”
- John Allspaw



Review foundations #3

Get the right people together



Review foundations #4

Document and share:

- Contributing factors
- Today I Learnt ...
- Actions
- Feelings, emotions?
- New beliefs & habits?

Shakespeare Sonnet++ Postmortem (incident #465)

Date: 2015-10-21

Authors: jennifer, martym, agoogler

Status: Complete, action items in progress

Summary: Shakespeare Search down for 66 minutes during period of very high interest in Shakespeare due to discovery of a new sonnet.

Impact:¹⁶³ Estimated 1.21B queries lost, no revenue impact.

Root Causes:¹⁶⁴ Cascading failure due to combination of exceptionally high load and a resource leak when searches failed due to terms not being in the Shakespeare corpus. The newly discovered sonnet used a word that had never before appeared in one of Shakespeare's works, which happened to be the term users searched for. Under normal circumstances, the rate of task failures due to resource leaks is low enough to be unnoticed.

Trigger: Latent bug triggered by sudden increase in traffic.

Resolution: Directed traffic to sacrificial cluster and added 10x capacity to mitigate cascading failure. Updated index deployed, resolving interaction with latent bug. Maintaining extra capacity until surge in public interest in new sonnet passes. Resource leak identified and fix deployed.

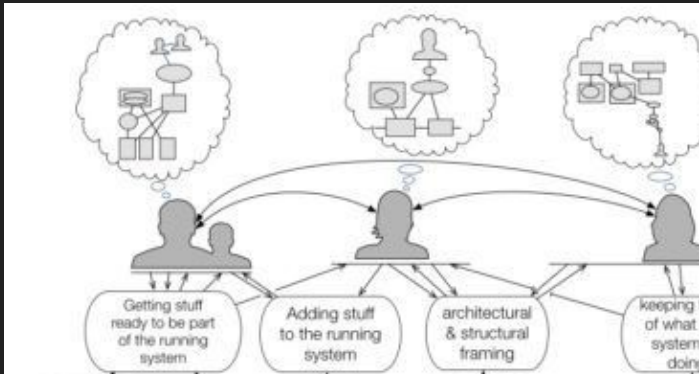
Detection: Borgmon detected high level of HTTP 500s and paged on-call.

Action Items:¹⁶⁵

Action Item	Type	Owner	Bug
Update playbook with instructions for responding to cascading failure	mitigate	jennifer	n/a DONE
Use flux capacitor to balance load between clusters	prevent	martym	Bug 5554823 TODO

Incident review foundations

Get the right people together



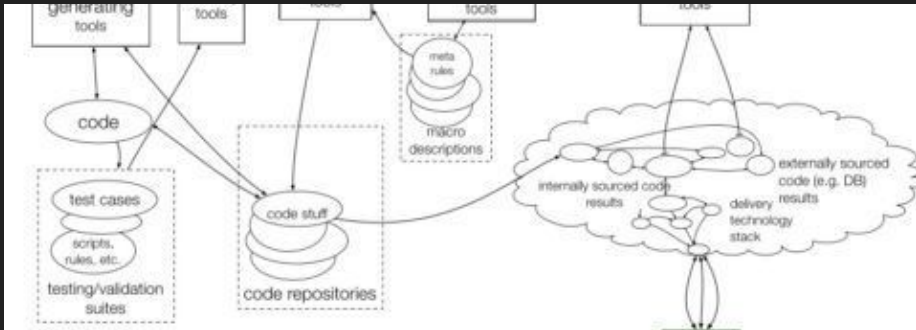
Timeline + other artefacts

April 13, 2021 Newest First

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"The line of representation" - John Allspaw



Document and share:

- Contributing factors
- Today I Learnt ...
- Actions
- Feelings, emotions?
- New beliefs & habits?

Three *subtle* SPoR shifts

1. Connect before you consult

2. Ask open questions

3. Listen well

Three *subtle* SPoR shifts

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CONSTRAINTS
RISKS + ISSUES

CAPABILITIES

Connect before you consult

Why *connect* before we *consult*?



Are we learning from accidents

- Nippin Anand

Connecting - what, how?

1. What is our own culture, how does it affect our perception?
2. How do we relate to the review participants? How do they relate to us?
3. Build human connections
 - a. In 121s, as equals.
 - b. At the start of a review, using “headspace” type questions.



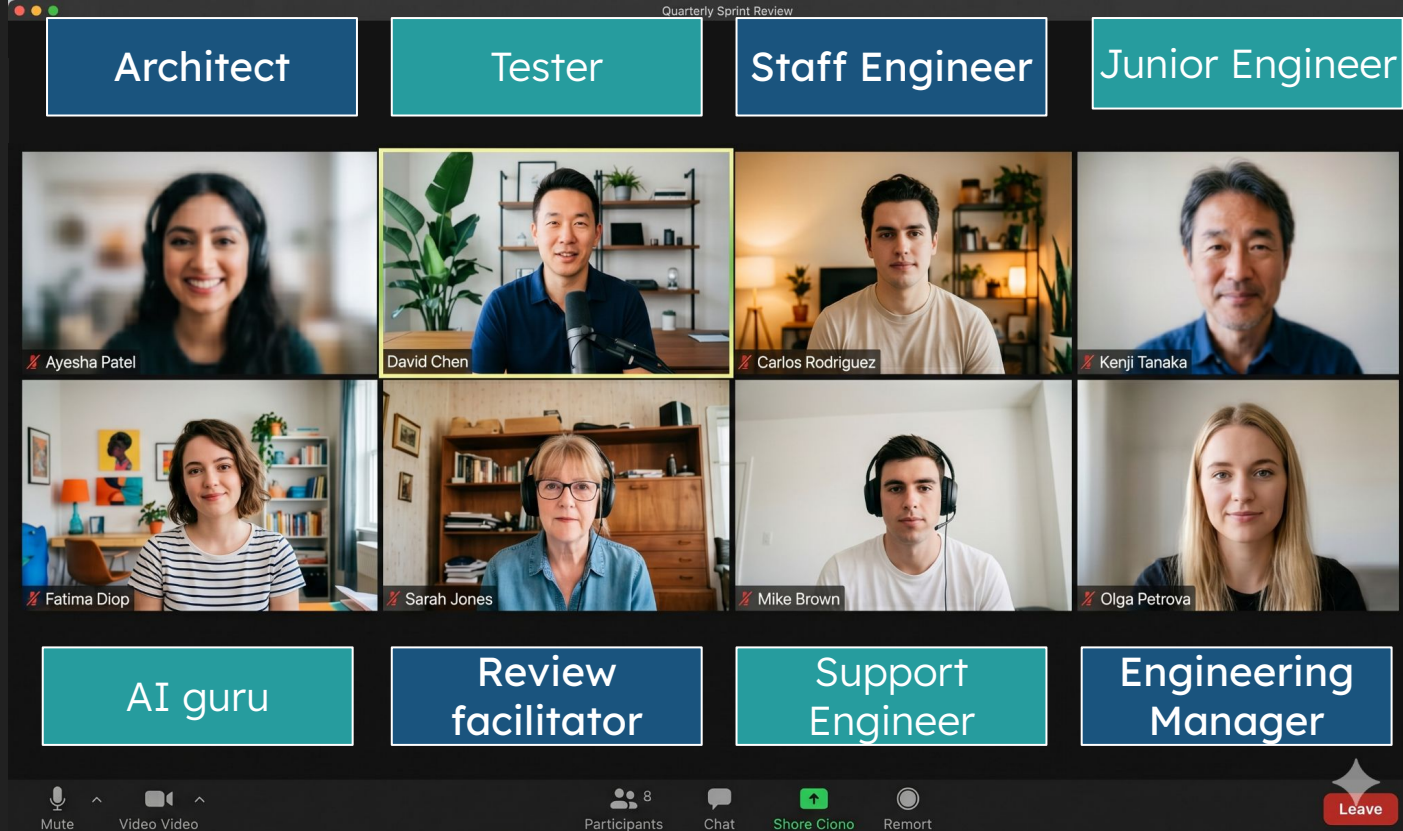
[Are we learning from accidents](#) - Nippin Anand

A black and white photograph of a group of people sitting around a table in a meeting room. The scene is partially obscured by a large, semi-transparent blue rectangular overlay. The text "Ask open questions" is centered within this overlay in a white, sans-serif font. The background shows a window with a view of buildings and a potted plant on the left.

Ask open questions

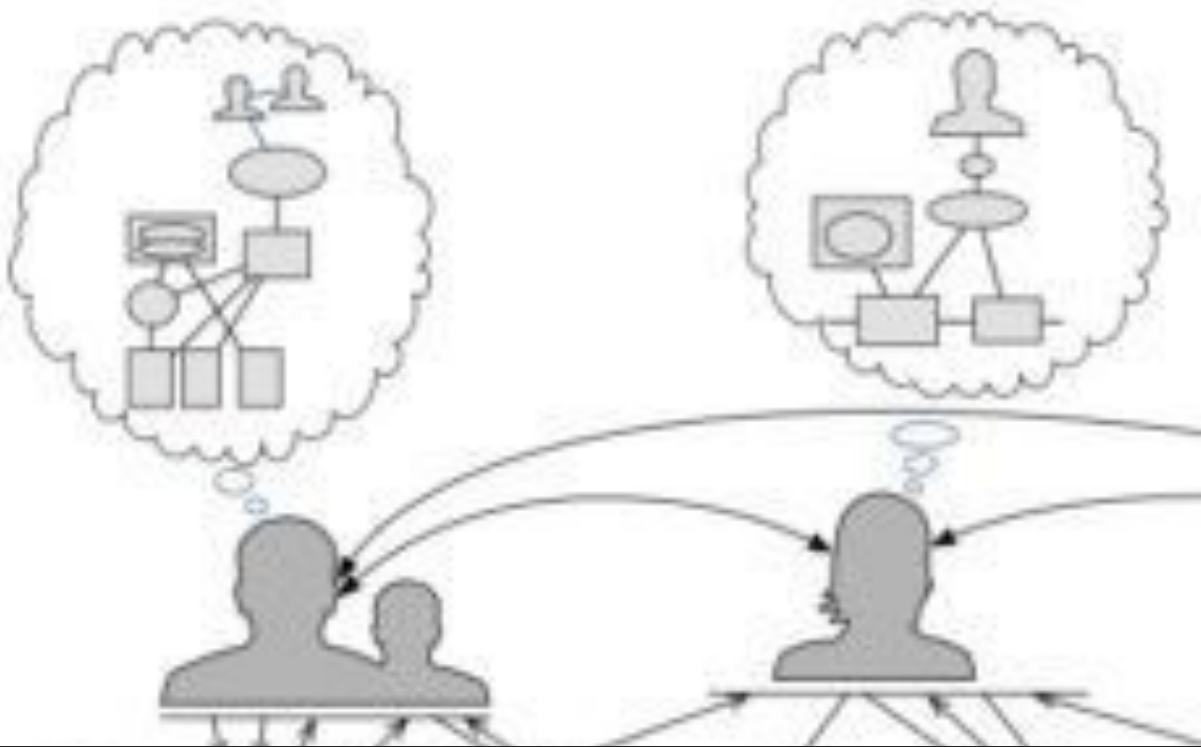
Why ask open questions?

- *Addressing difference*



Why ask open questions?

- *Make the unsaid / unconscious **conscious***



How do we ask open questions?

1. Be mindful of difference
2. Use open, neutral facilitation, e.g.
 - a. The *group* populates the timeline, votes on what *they* want to discuss.
 - b. Keep questions short, simple, open-ended
 - c. Use reflective language

“

Where would you
like to start?

”

Open questions

“

Please tell me more
about that.

”

A black and white photograph of a group of people sitting around a table in a meeting. The image is partially obscured by a large blue rectangular overlay. The text "Listen well" is centered in white on the blue overlay. The background shows a window with a view of buildings and a plant on the left.

Listen well

What are we listening for and why?

Easy



Workspace

Positive things that “physically” happened

Negative things that “physically” happened

Easy



Hard



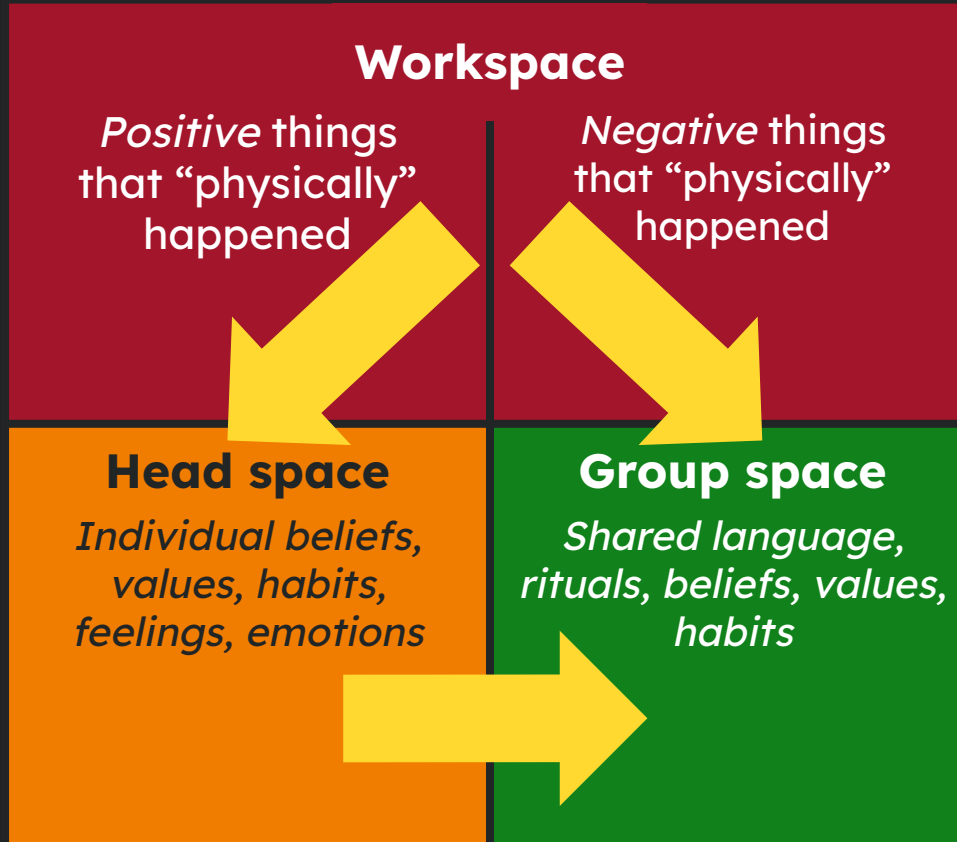
Head space

Individual beliefs, values, habits, feelings, emotions

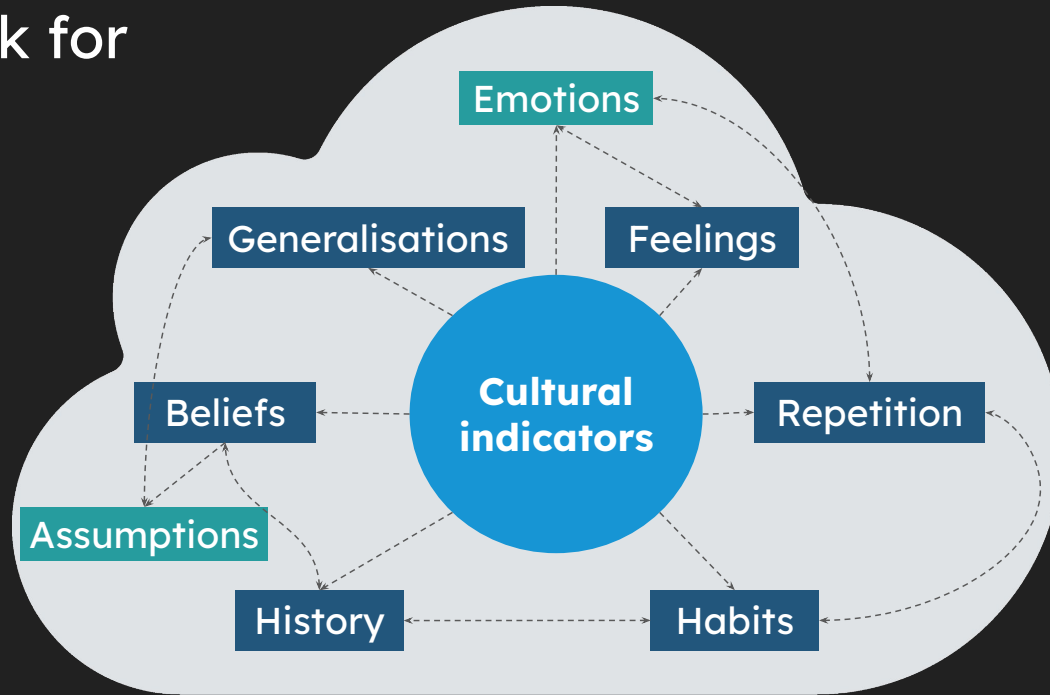
Group space

Shared language, rituals, beliefs, values, habits

Harder



Listen / look for



Repeated words, reflective language

IR: I was working on ... that I created um and I was still **experimenting** on how it works so it's yeah as part of **experimenting** ...

Lyndsay: Okay. **And what were you expecting to happen?** So you had a mental model in your head of the deletion happening and so what were you expecting to see happen **What surprised you?**

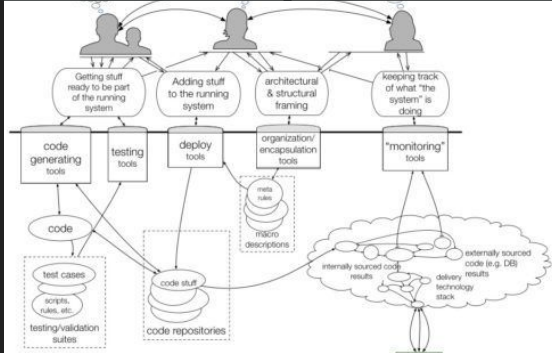
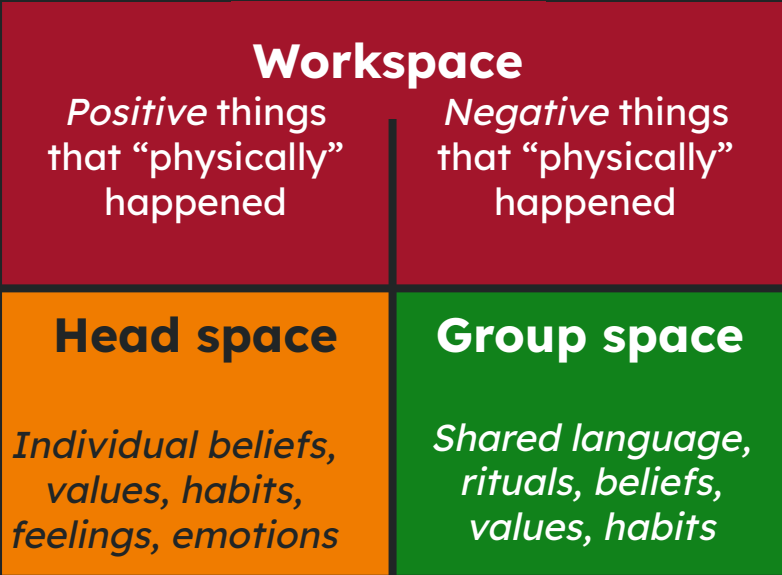
IR: Well, at that point, **nothing surprised me.** It worked based on how I expected to work ...



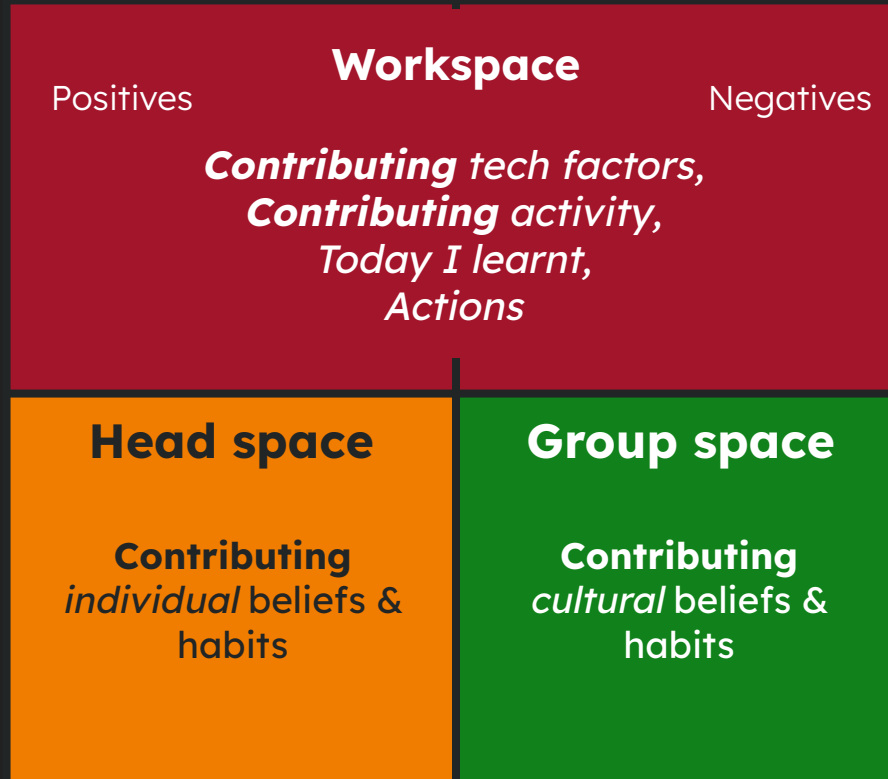
Putting it all together

Incident review foundations + SPoR mindset

1. Connect before you consult
2. Ask open questions
3. Listen well



Outcomes 1 & 2



Outcome 3



References

1. [Line of representation](#) - John Allspaw
2. [Are we learning from accidents](#) - Nippin Anand
3. [Incident review template](#) - Google SRE
4. [Post mortem best practices](#) - Incident.io
5. [Getting the *right people* together](#) - Equal Experts

Fin
(And Office Hours!)

A black and white photograph of a group of people sitting around a table in a meeting. The image is partially obscured by a large blue rectangular overlay. The text "Let's try this!" is centered in white on the blue overlay. The background shows a window with a view of buildings and a plant on the left.

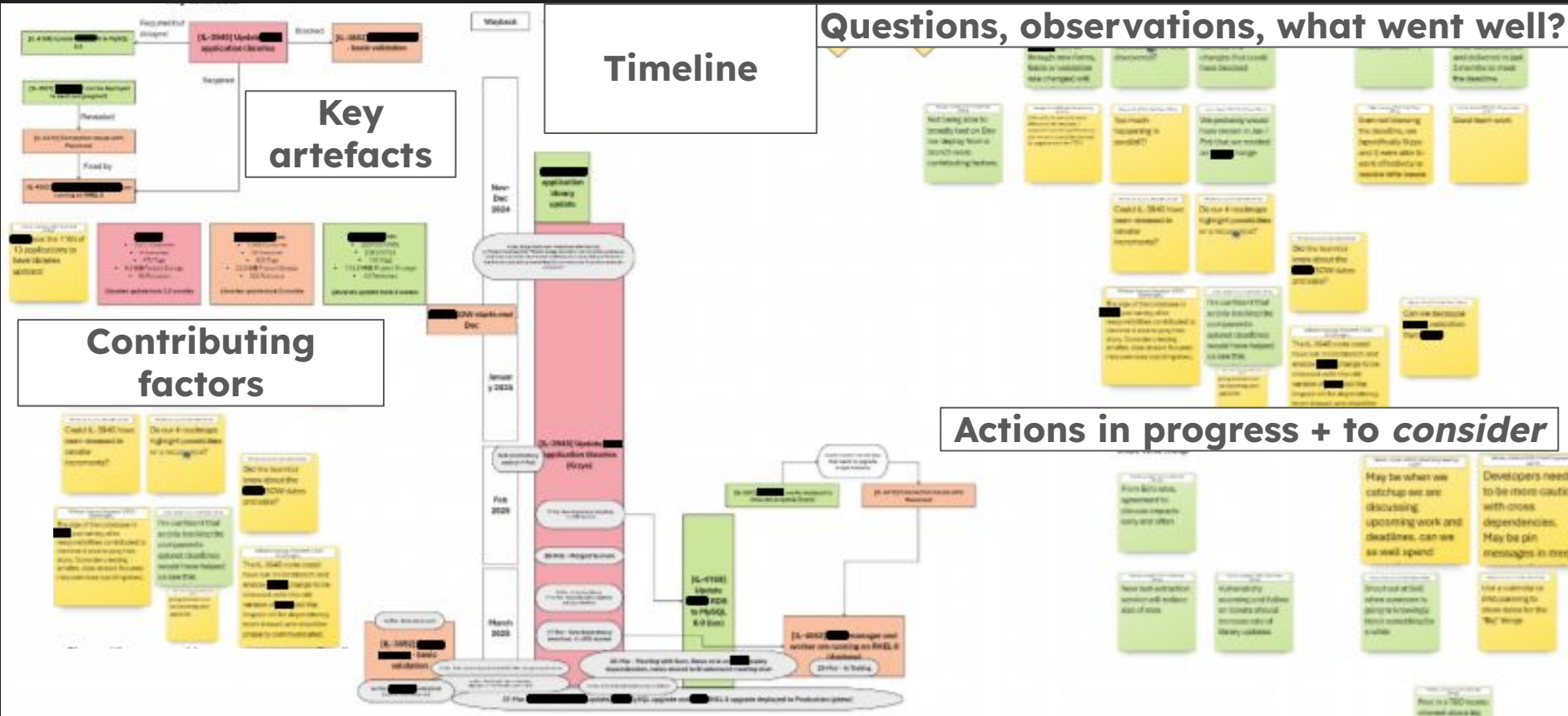
Let's try this!

Ask open questions, listen well, map the story

1. Form groups of 3-4
2. One person tells a 3 minute, true story.
3. One person listens and asks questions.
4. The others listen and note head space and group space language.
5. Play back what you noted at the end.

Workspace	
<i>Positive</i> things that “physically” happened	<i>Negative</i> things that “physically” happened
Head space	Group space
Individual beliefs, values, habits, feelings, emotions	Shared language, rituals, beliefs, values, habits

A real incident review



Listen / look for

1. Repetition
2. Emotion
3. Head space / group space language, e.g.:
 - a. Beliefs and assumptions (*it was just...*)
 - b. Habits (*we always/normally/usually ...*)
 - c. History
 - d. Generalisations
 - e. Feelings or emotions

