Culturing Defensive Immunity:
Hardening Psychological Targets Against Cyber Attack

Dr Mils Hills

Guy Batchelor

THE UNIVERSITY OF
NORTHAMPTON
Northampton Business School

MINERVA
ELITE
'Performance Under Pressure'

Agenda

1. Background
2. Cyber-enabled threats
3. Case studies
4. Heuristics
5. Culturing immunity
6. Questions

The Challenge
To harden psychological targets against cyber-enabled attack
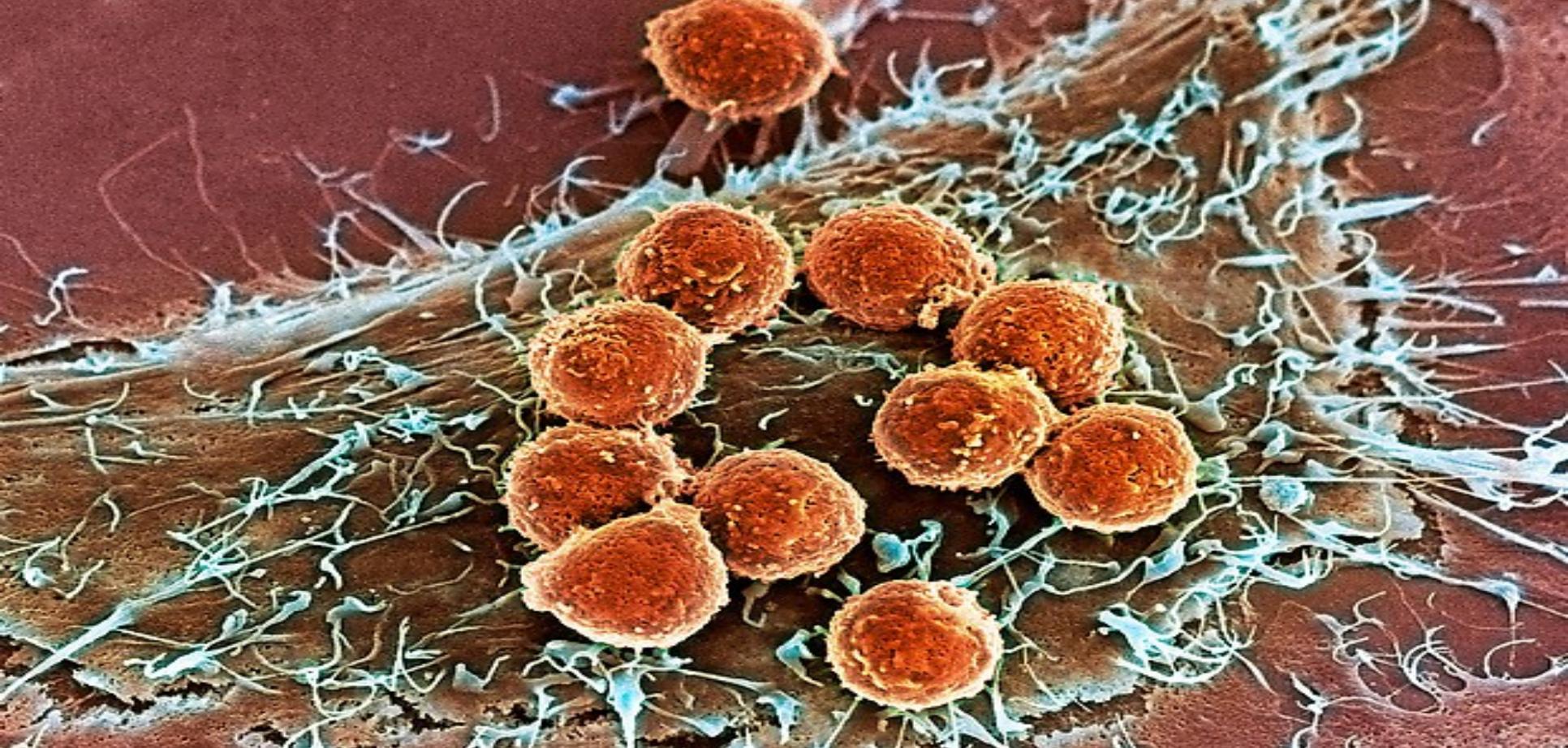
Immunity
A healthy socio-technical system that avoids knowable + effectively defeats emergent cyber-enabled risks

Situational Awareness,
Judgement, Focus

Smart thinking under pressure

Case Study

❖ **A cyber-enabled crisis**
❖ **Personal / professional firewalls & security breached**
❖ **What if blackmail / security breach was the intention?**
❖ **Recruitment of insider threat**
❖ **Pre-placement of vulnerability or collateral**

Case Study

About 11,700,000 results (0.48 seconds)

WhatsFake - Make fake conversations just like WhatsApp ...
www.whatsfakeapp.com/ ▾
Make fake conversations that looks just like WhatsApp. Available for iPhone on App
Store. Download Now. Amazing Features! WhatsFake allows you to quickly ...

How To Make Fake WhatsApp Number! {Trick} - YouTube
www.youtube.com/watch?v=C2h60ij7E_s ▾
5 Mar 2014 - Uploaded by inside tech
How to destroy WhatsApp group:
https://www.youtube.com/watch?v=ul-v6X51qeo Do not use this
trick for ...

Yazzy (Fake Conversations) - Android Apps on Google Play
https://play.google.com/store/apps/details?id=com.cerminara.yazzy... ▾
★★★★☆ Rating: 4 - 13,055 votes - Free
With Yazzy you can easily create fake, but very faithful to the original, ... show or hide
overflow, change WhatsApp background, change avatars, etc. Ads can be ...

How To Create Fake WhatsApp Chat From Your Android ...
swapmyapp.com › How To ▾
13 Jun 2014 - Easily play prank with your friends who are on WhatsApp. Create Fake
WhatsApp Chat From Your Android and see the reactions of your friends ...

How Can I Make Fake Whatsapp Conversation to Fool ...
geekofreak.com/.../how-can-i-make-fake-whatsapp-conversation-to-fool... ▾
29 Apr 2014 - There is a fake Whatsapp chat application named Whatsaid which can
make you winner. So, download and install this app before she makes ...

Heuristics

Interpreting, making (sense of) reality

❖ **Proven solutions applied to new situation**

❖ **Sometimes sensible short-cuts to manage complex or boring tasks**

❖ **We want to believe the world is as we want it to be – not what it is or could be**

❖ **We must check these temptations**

❖ **Challenges for both**

  ▪ avoiding cyber—enabled threat exposure

  ▪ decision-making in maelstrom of crisis
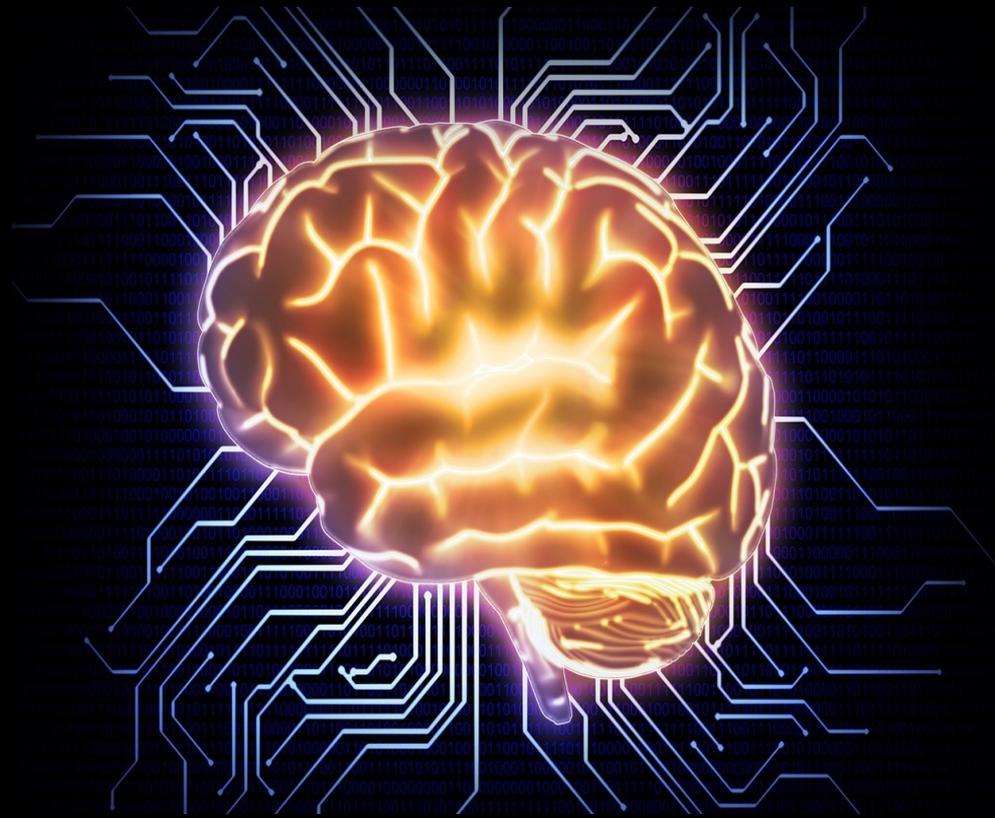
Culturing Defensive Immunity: Hardening Psychological Targets

Learning from Intelligence

truly effective intelligence must on occasion be "doubting" of the enterprise at hand. It must raise difficult – and perhaps unpleasant – questions of operational planners. It must be free to inject contrary evaluations of the operational situation. It must not fall victim to – nor encourage – wishful-thinking or a raft of other misperceptions and biases in stressful situations (Dearth: 1995(a): 9).

Rehearsing for Resilience: Scenario-Driven Exercises

| Information-Gathering	Assessment of the Situation	Decision-Making	Action & Monitoring	Communication
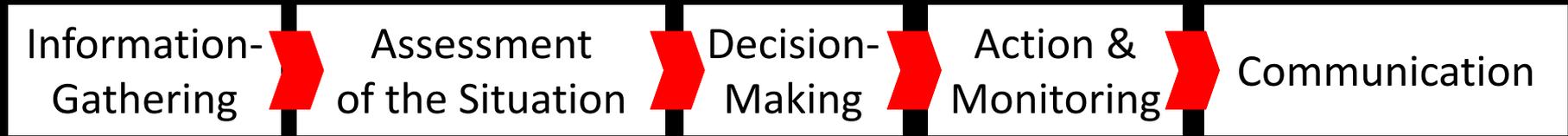
- ❖ *SDEx: Lean exercising, agility, adaptability, options generation*
- ❖ *Focus on logic & sustainability of decisions*
- ❖ *Try, fail, learn, repeat*
- ❖ *Grow confidence & competence*

Changing the course of battle

❖ mental processes, disciplines, courage & creativity of the special forces soldier
❖ comfort with incomplete, inconsistent information
❖ good decisions as reflexes
❖ understand 2nd and 3rd order effects

SF enhancement of crisis management process
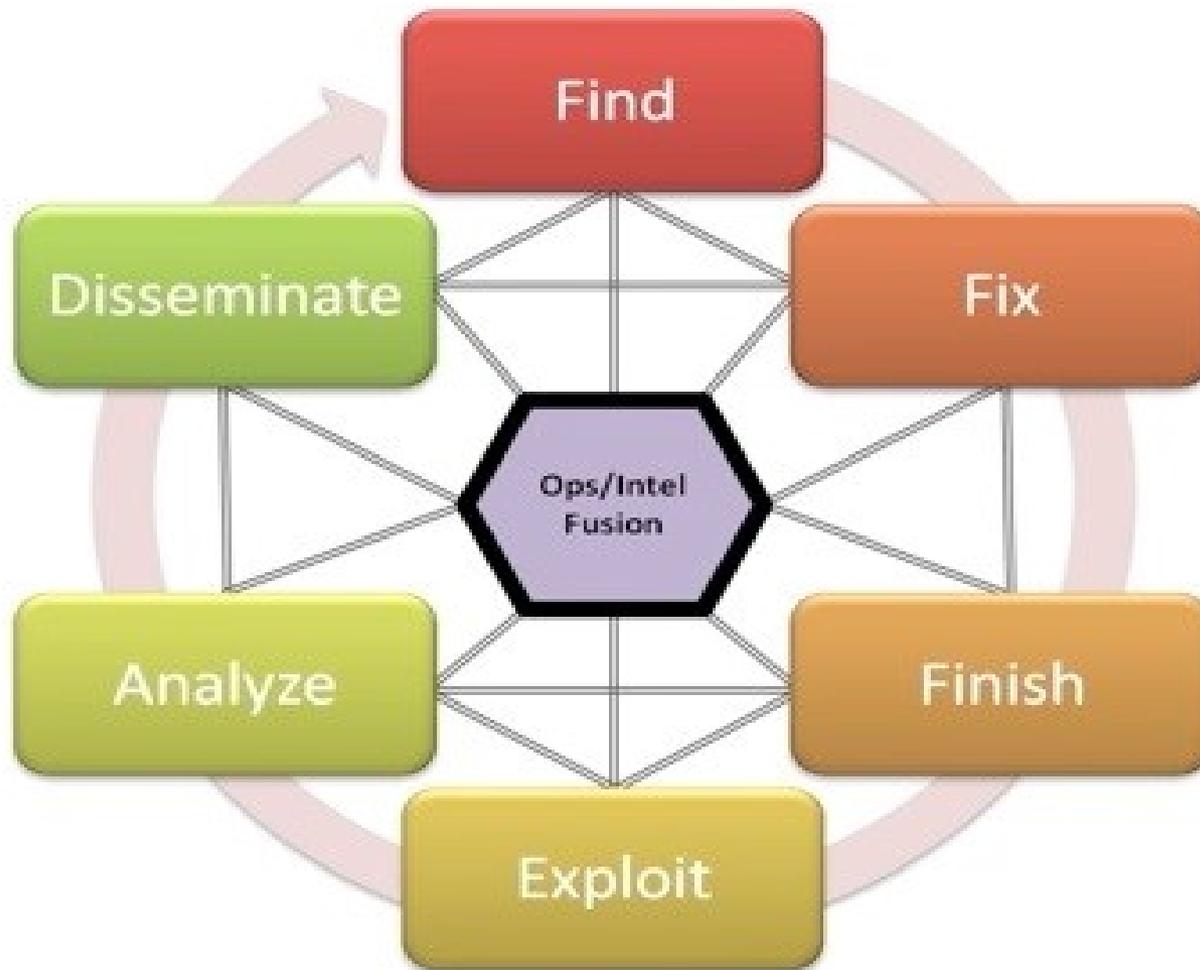
Organisations that are striving for resilience have demonstrated their ability to better understand […] risks as well as their own vulnerabilities. They have also shown their willingness to invest in risk treatments that have created adaptive capabilities to prevent, reduce, respond to and recover from the extremes of today's uncertainty

Gibson & Tarrant, 2010: 11

Questions?