The Proper Use of Ignorance

Training Intelligence Analysts

Martin Hill

Int Analyst / PhD Student / Information Systems Architect

Context

Military - British Army Reservist:

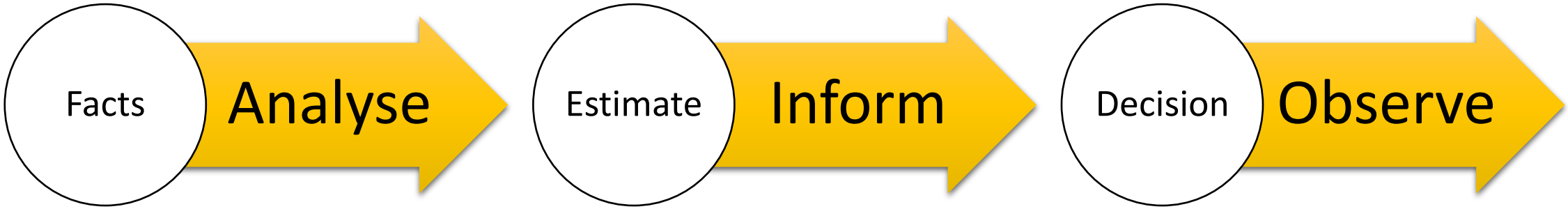
- Cavalry 1999-2003 (+Kuwait 2001, Iraq 2003)
- Infantry Company Signaller 2003-2006
- Combat Engineer 2007-2010
- Intelligence Analyst 2010-

Academic - PhD ‘Student’ at Defence Academy UK:

- Distributing Knowledge
- Characteristics

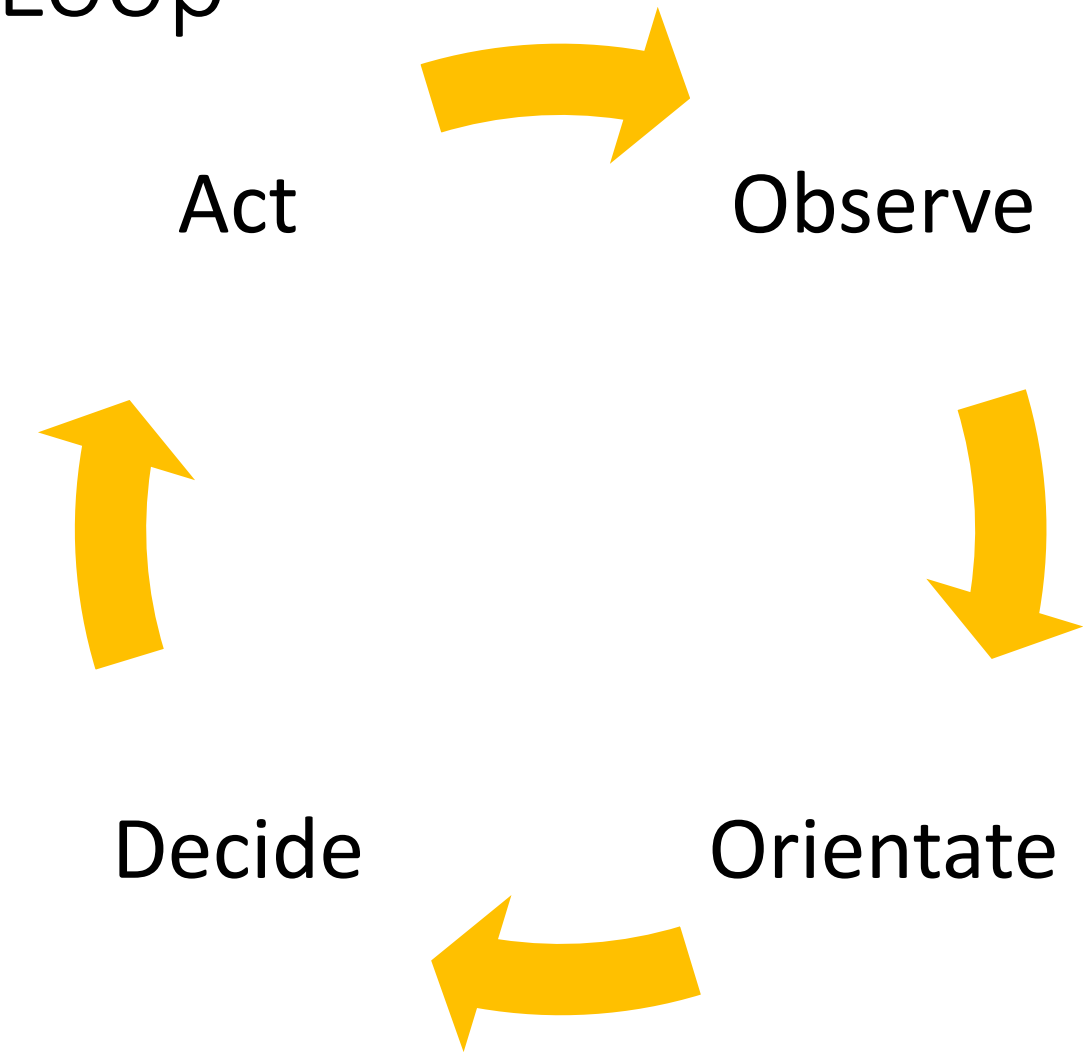
Commercial - Information Systems Architect:

- Big Data Analytics & Fusion
- Robotics and automation

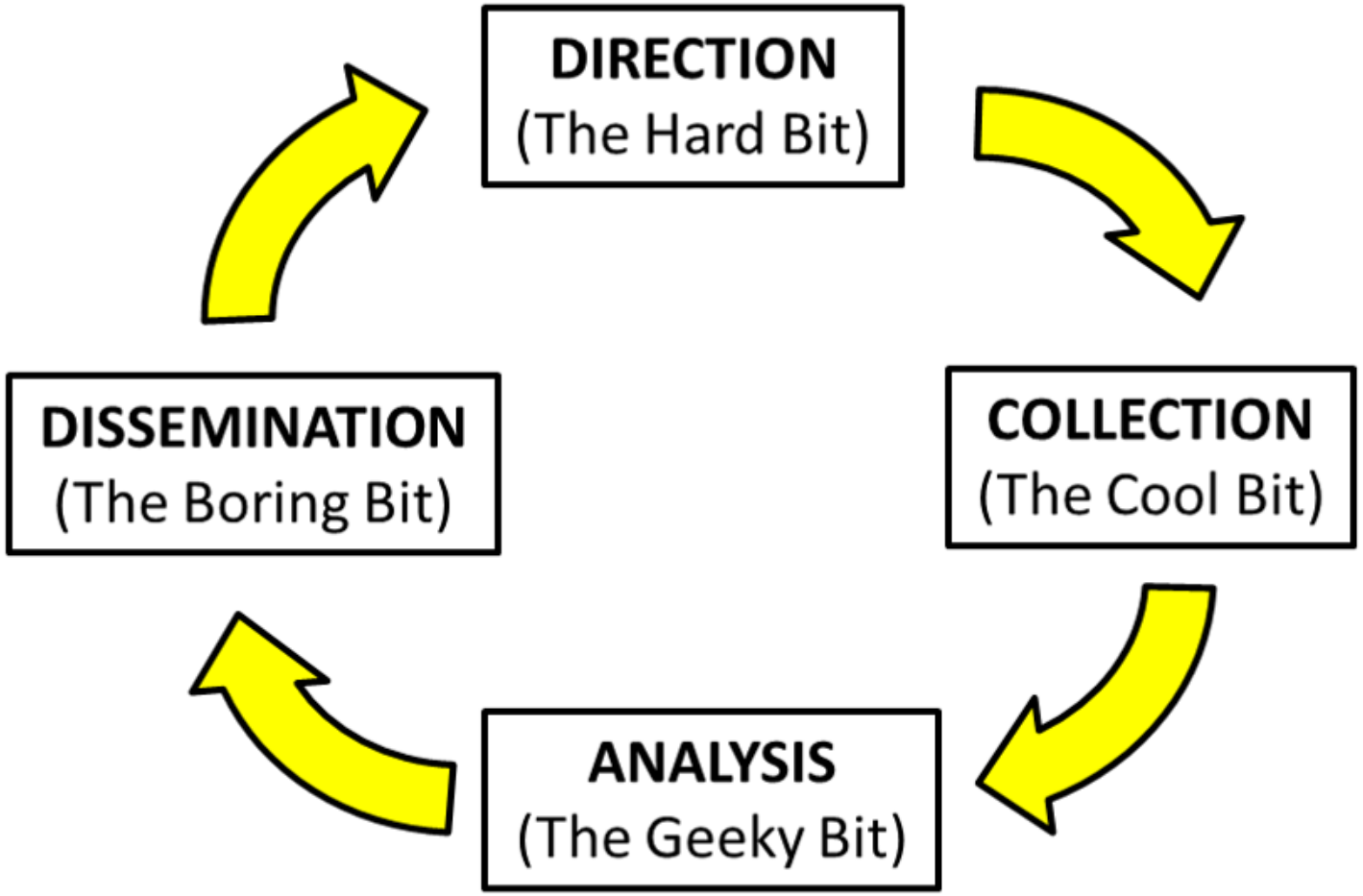


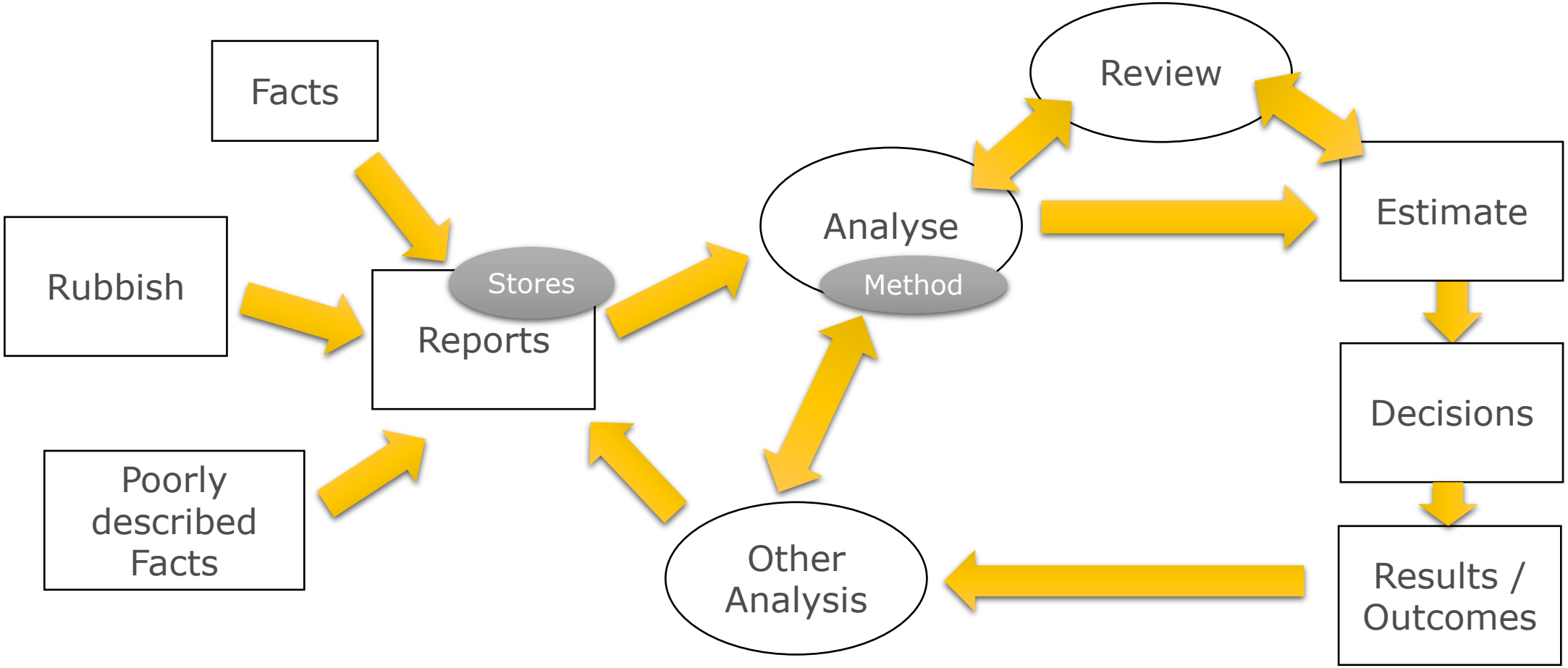
Data Information Intelligence

Boyd’s OODA Loop



‘Orientate’ - Intelligence Cycle




Facts
Rubbish
Poorly described Facts
Stores
Reports
Analyse
Method
Review
Estimate
Decisions
Results / Outcomes
Other Analysis

Limits to Attention

"Where information is plentiful, attention becomes a scarce resource"

(paraphrasing Simon 1971)

"…even as the [HP] web introduced more information, it did nothing to expand our limited attention capacity"

(Sieloff 1999)

"No commander is less fortunate than he who operates with a telegraph wire stuck in his back"

(Moltke via Creveld 1985)

Limits to Attention

Ask not only **what consumes information**,

but also **what information consumes**.

Amongst other things

information consumes the attention of the recipients;

if it doesn't, it **is not informing them**

Crayoning Over Maps:

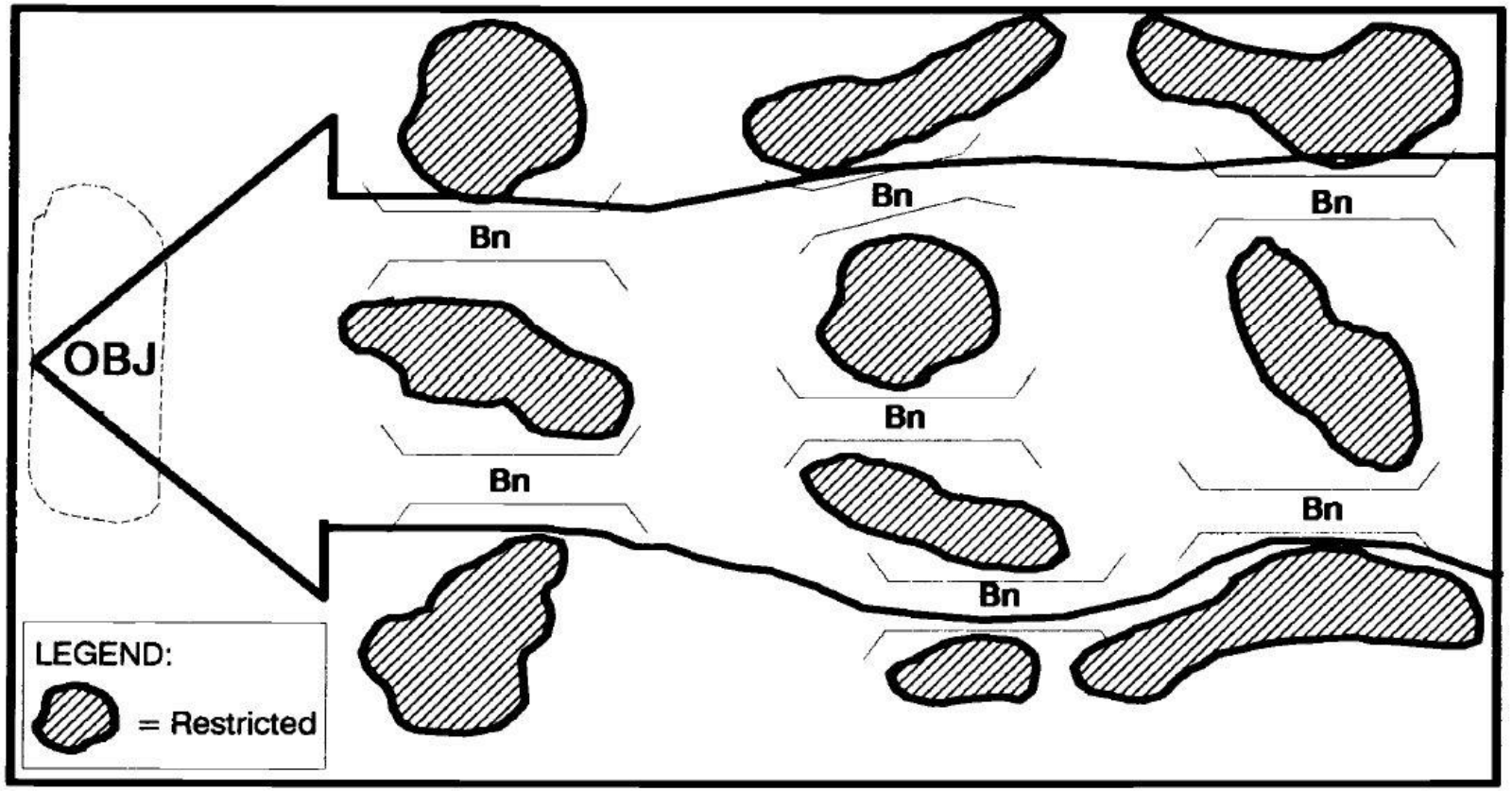
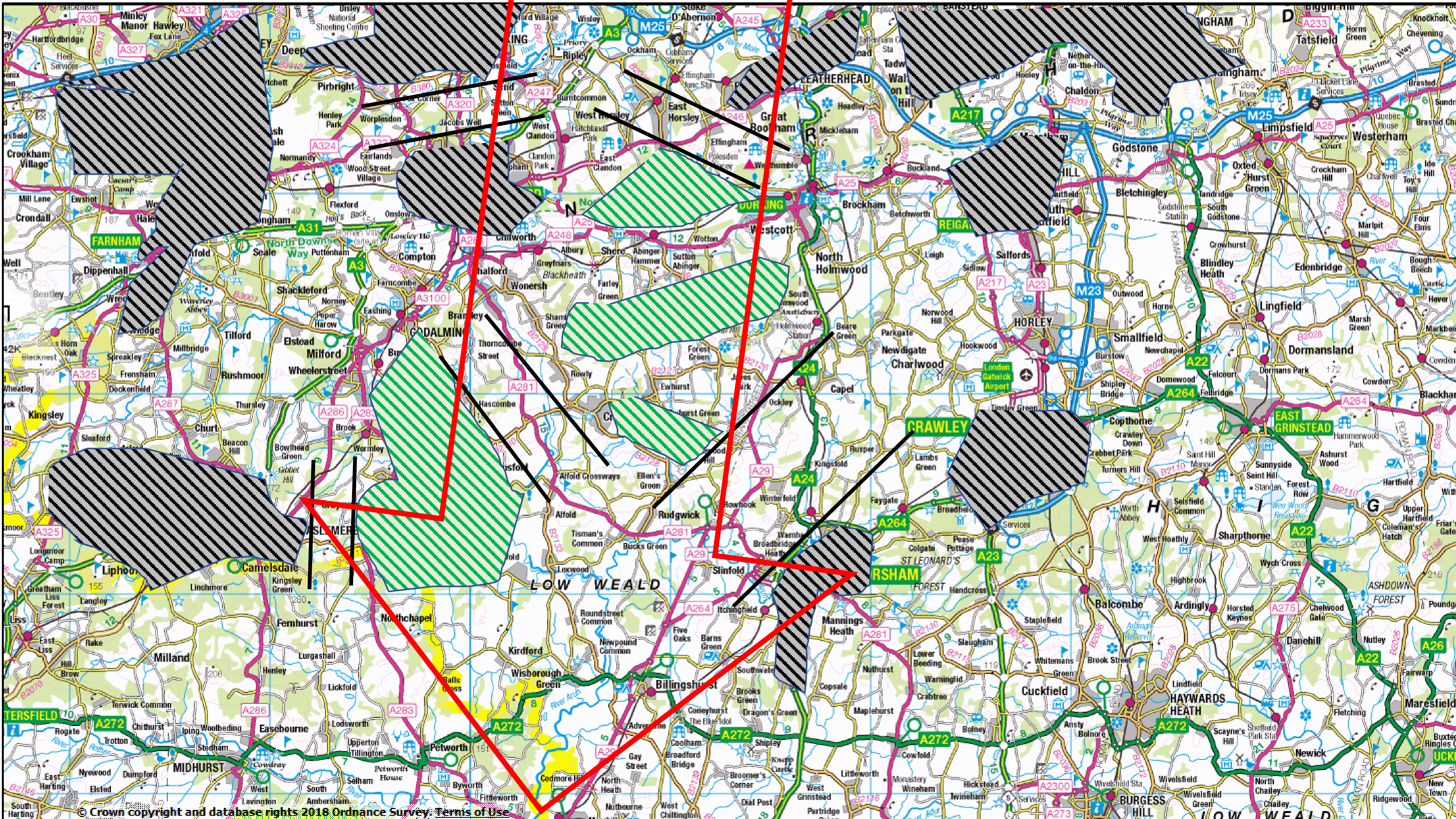


Figure 2-8. Group mobility corridors to form avenues of approach.



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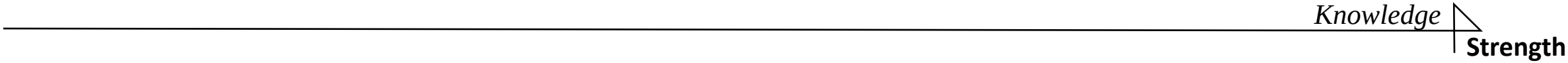
Hatching the Ardennes gives you …

Simple Knowledge Scope

Known Knowns / Explicit knowledge The things we know.	**Unknown Knowns?** / Tacit Knowledge Things we know so well we no longer notice them; deep expertise, hidden true assumptions
Known Unknowns / Explicit Ignorance Things we know we do not know	**Unknown Unknowns** / Tacit Ignorance? The things we do not even realise we do not know; hidden false assumptions



Five levels of ignorance

0: Lack of Ignorance

1: Lack of Knowledge

2: Lack of Awareness

3: Lack of Process.

4: Meta Ignorance.

Distance Cost - Ignorance to Knowledge

- Type A - Collected and immediately available
- Type B - Not yet collected, but could spend resources to collect
- Type C - Not collectable (not knowable)

Ignorance Depth

- **Not ignorant**: Knowing.
- **Expert Self-Ignorance:** Not realising what is known (tacit knowledge).
- **Irrevocable Ignorance** Not able to know.
- **Simple ignorance**: Knowing what is not known and know how to answer it.
- **Investigatable Ignorance**: Not knowing what is not known but have exploratory methods to discover the questions.
- **Stumped ignorance**: Not knowing what is not known and not knowing how to know.
- **Ignorant Ignorance**: Not realising that one is ignorant
- **Patchy Ignorance:** Some collaborators are ignorant

Ignorance Flavours

- Ignorant of Information
- Ignorant of Theory
  - Paradigm shifts – ignorant of pre-theory me
- Usefully Ignorant Expert
  - Bright but naïve
- Ignorant of the future

Ignorance Motivations

- Avoid overload
- Mission Command
- Security & Secrecy
- Knowledge is Power: Status & Reputation
  - Exposing expertise is risky
- Social/Tribal Filters
  - Belonging, noticing and sharing
- Scaffolding: Interim Partial Ignorance
  - Social ‘pinkness’ in peacekeeping
  - Cyber security ‘joint’ to army ops

Training

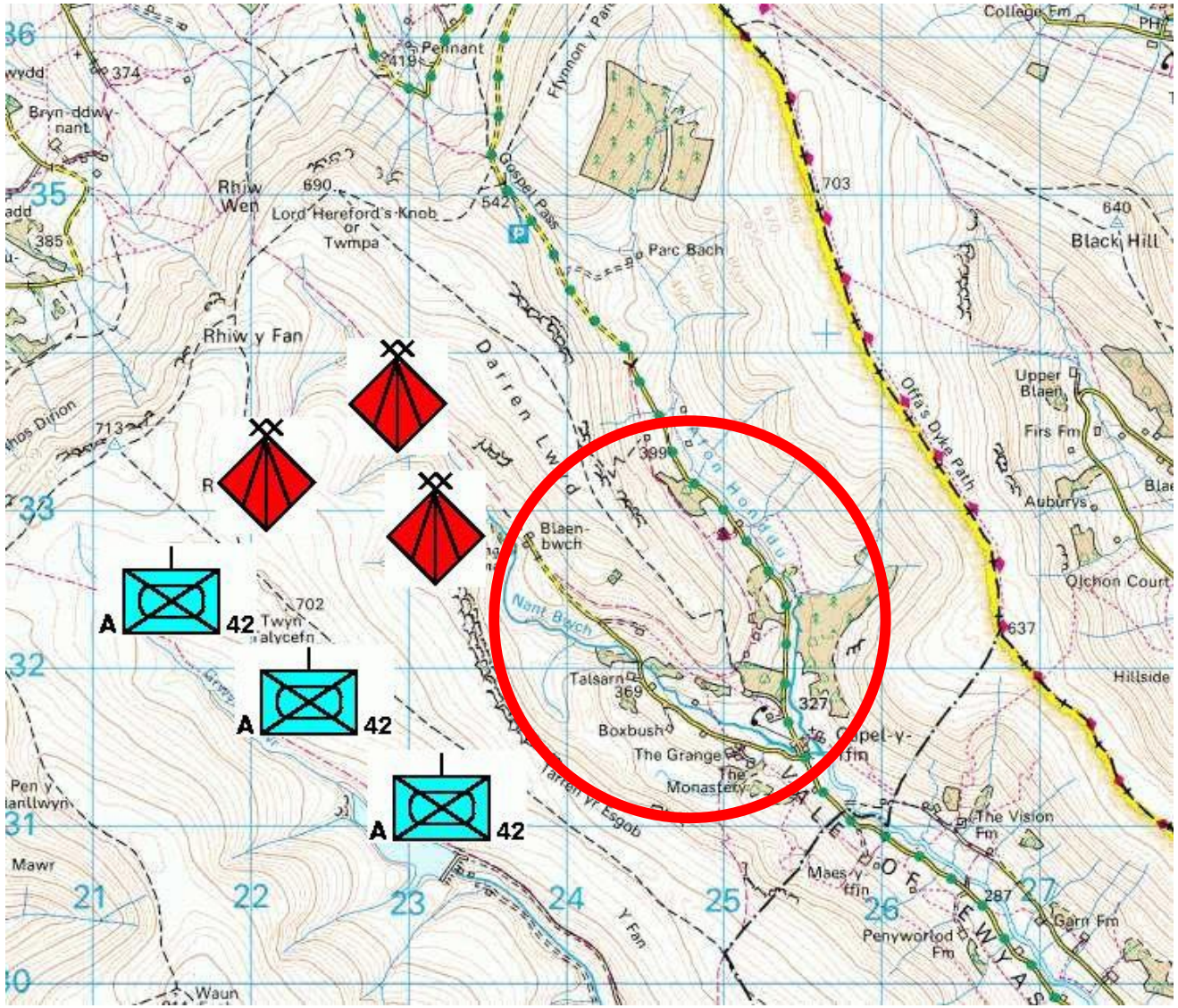
- Theory
- Military Simulations
  - Generic
  - Realistic
  - Combined
- Non-military exercises

Challenges

- Not enough time!
- Rewiring the Brain is hard
- Learning to fail – in public
- Intractable paradigm shifts
  - Cyber, Info Ops, Peacekeeping

Emptiness, Absence & Ignorance

- Ignorant
- Looked but found nothing
- Looked thoroughly and nothing there



Confirmation Bias builds evidence

Evidence vs Emptiness: Evidence of Lack

Evidence vs Lack of Evidence

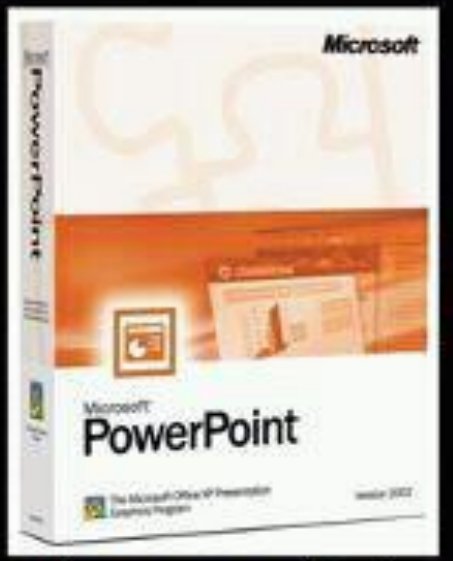
What strangers think I do

What my family thinks I do

What my recruiter said I would do

What Hollywood thinks I do

What I think I do



What I actually do