THE T-FACTOR

NEW TECHNOLOGIES & INTELLIGENCE ANALYSIS LEARNING

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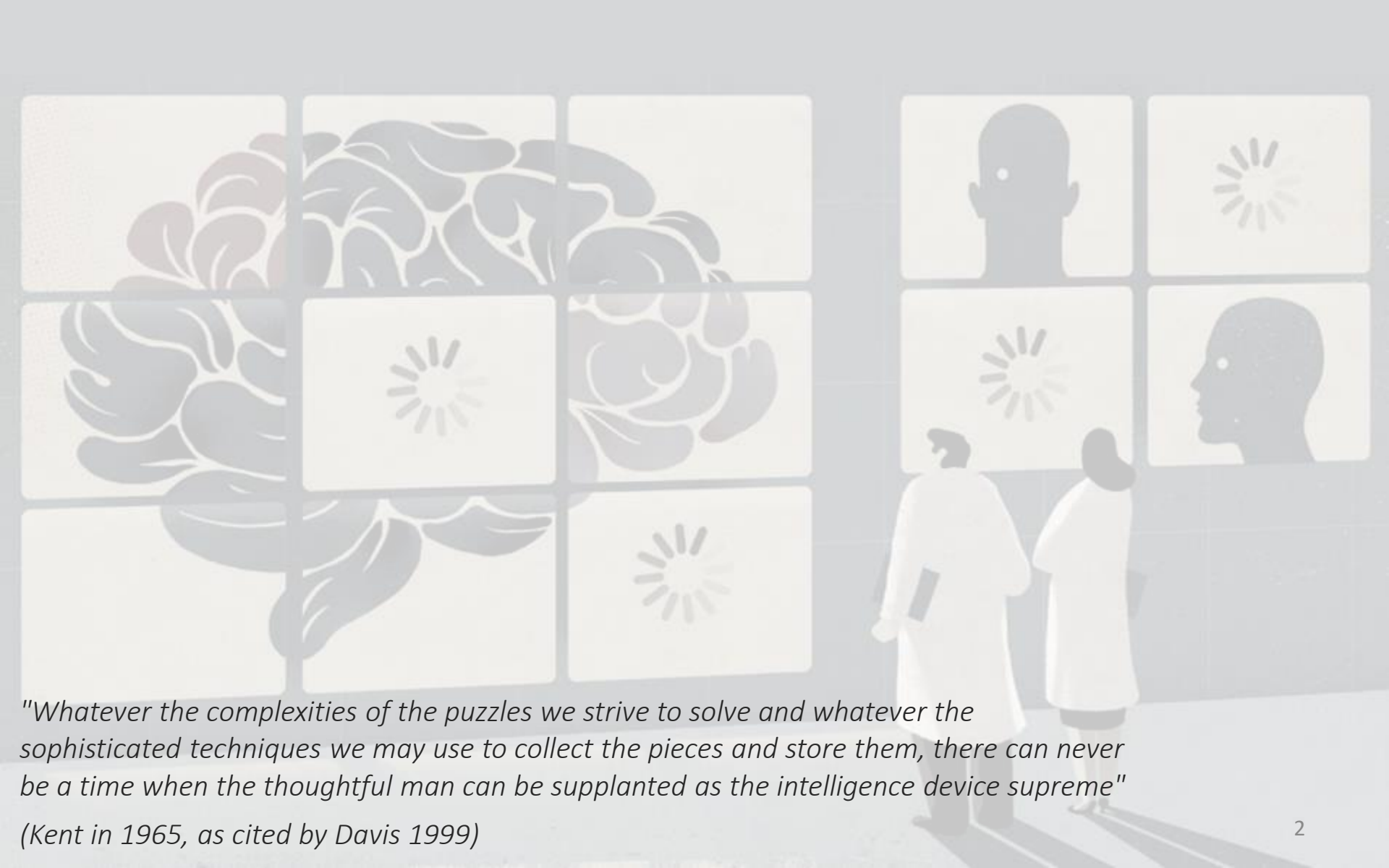
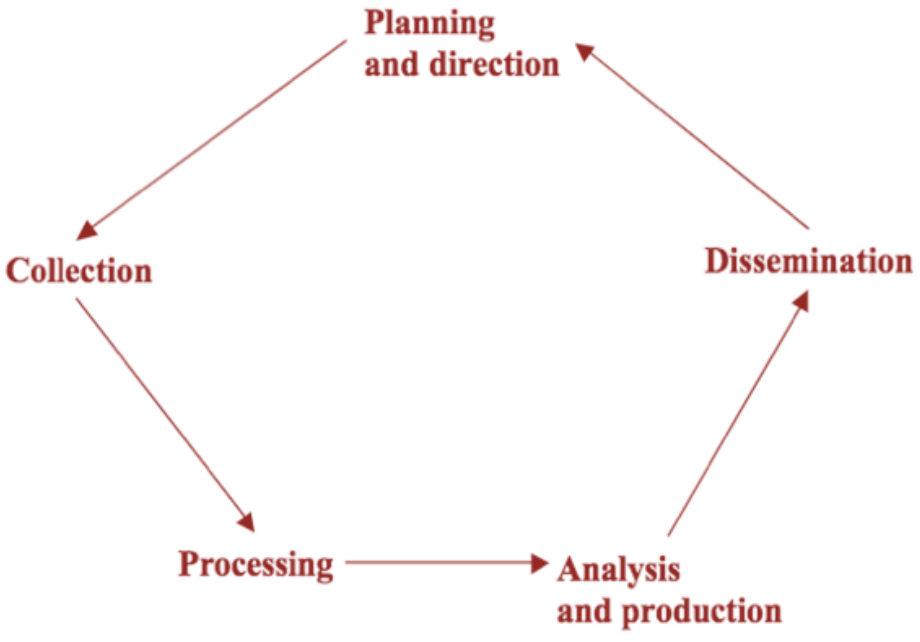


"Whatever the complexities of the puzzles we strive to solve and whatever the sophisticated techniques we may use to collect the pieces and store them, there can never be a time when the thoughtful man can be supplanted as the intelligence device supreme"

(Kent in 1965, as cited by Davis 1999)

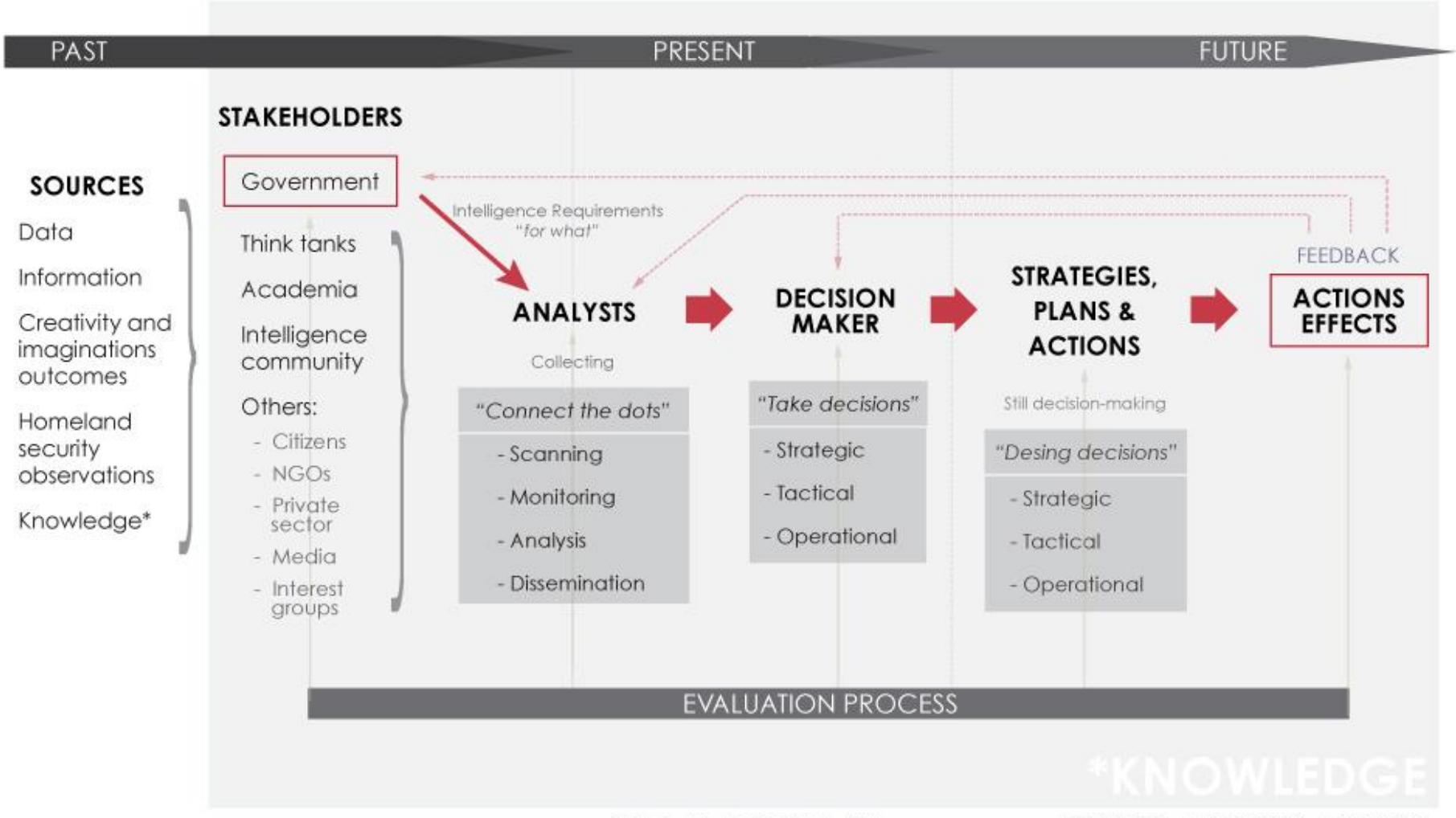
LEAVING BEHIND THE INTELLIGENCE CYCLE

CIA TRADITIONAL
INTELLIGENCE CYCLE



- ✓ Requirement?
- ✓ Lineal?
- ✓ Cyclical?
- ✓ Theoretical?
- ✓ Intelligence requirement?
- ✓ Human Factor?
- ✓ Analysis?
- ✓ Evaluation?
- ✓ Affected by new technologies?

INTELLIGENCE ANALYSIS PROCESS

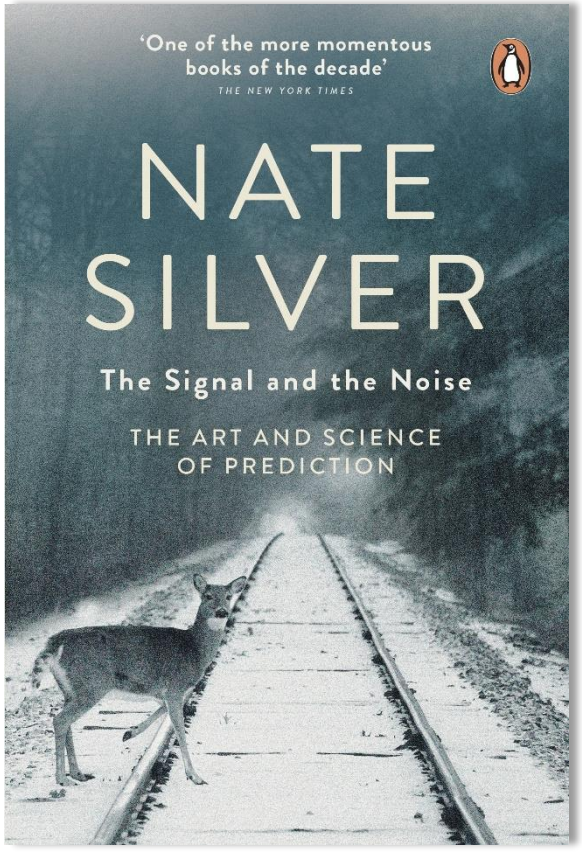


Blanco, J.M. and Cohen, J., 2014

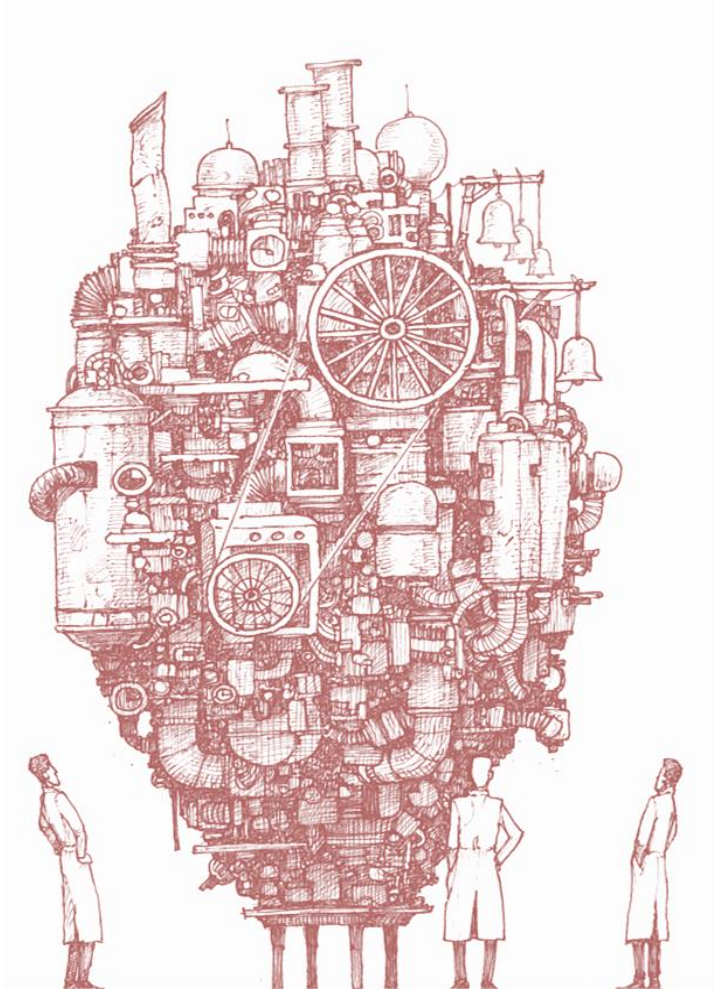
Intelligence + Experiencie + Over Time

CONS OF THE USE OF TECHNOLOGY IN INTELLIGENCE ANALYSIS

- ✓ Technological solutionism
- ✓ Data paralysis
- ✓ Need to detect new risks and opportunities
- ✓ Cost. Short life cycle of technological developments
- ✓ Degree of maturity
- ✓ Fail managing signal from noise or reducing uncertainty



PROS OF THE USE OF TECHNOLOGY IN INTELLIGENCE ANALYSIS

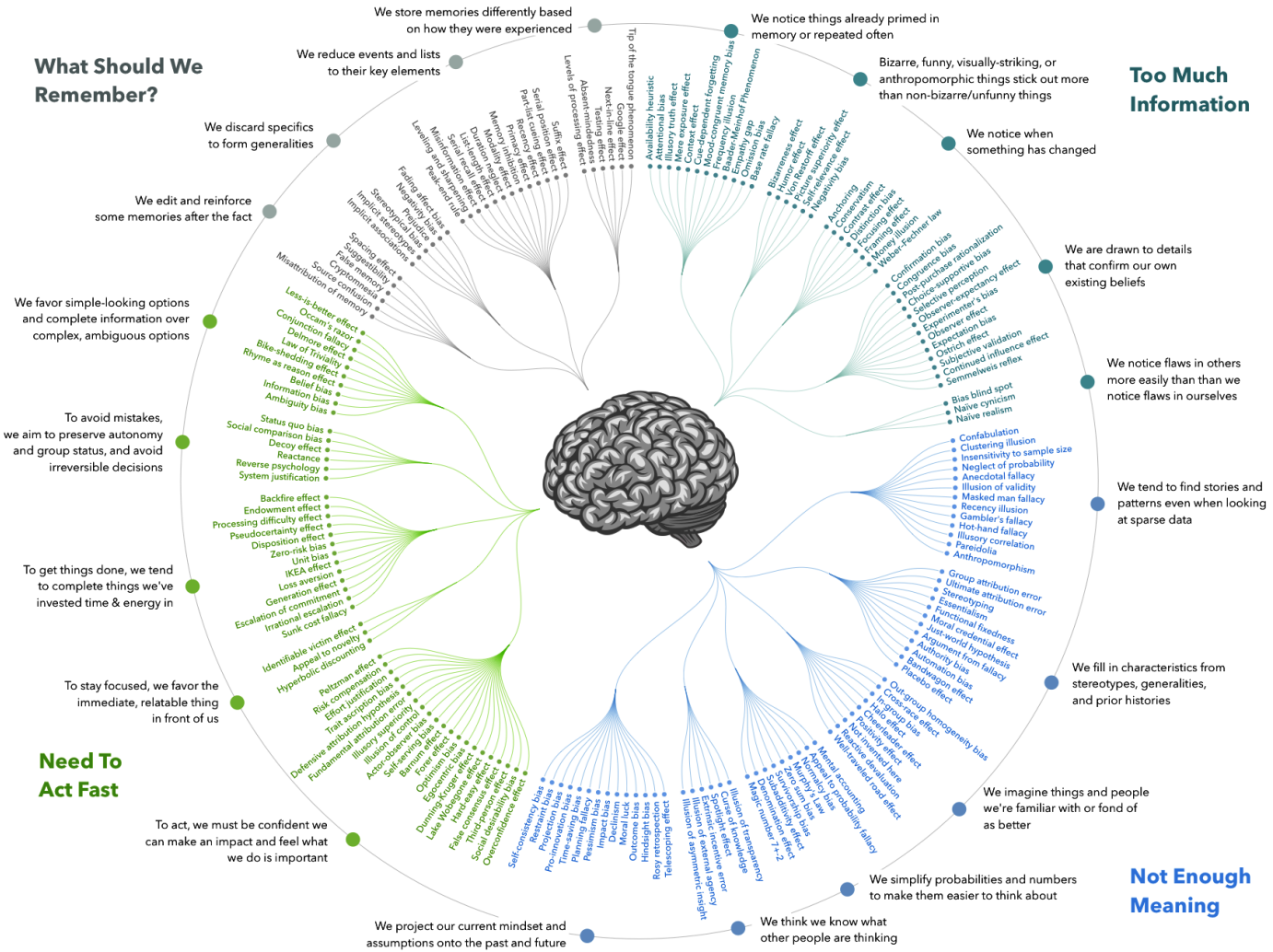


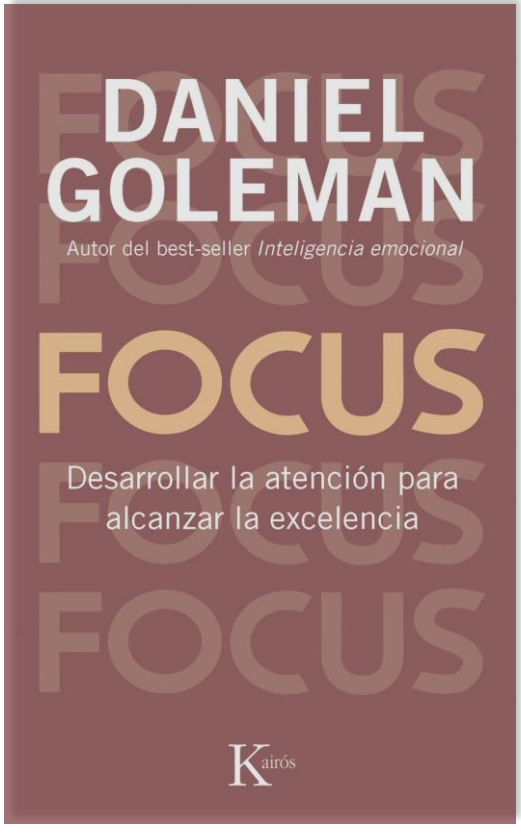
- ✓ Manage complexity
- ✓ Limit cognitive biases
- ✓ Manage the volume, volatility and variety of information, and especially its unstructured character
- ✓ Overcome human limitations to process and interpret large amounts of data and information
- ✓ Support analytical tasks
- ✓ Improve the presentation of intelligence products, especially through the support of visualization technologies.
- ✓ Training and developing new skills

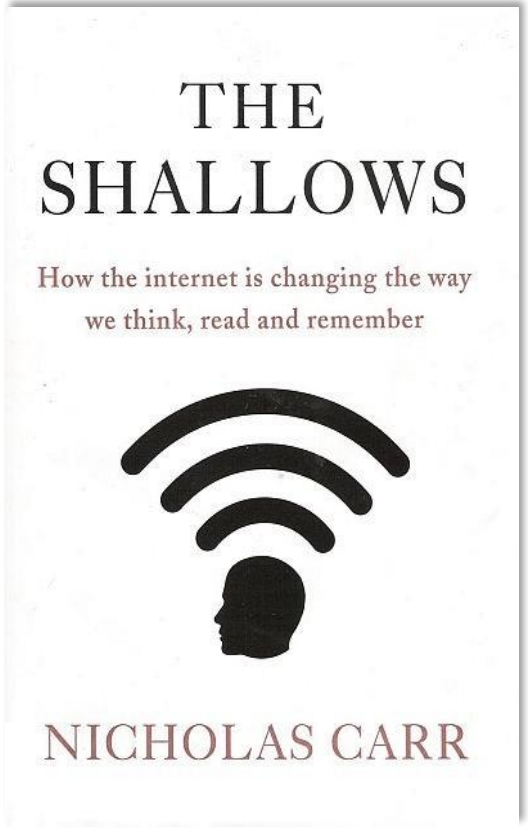
TECHNOLOGICAL CHALLENGES IN INTELLIGENCE ANALYSIS

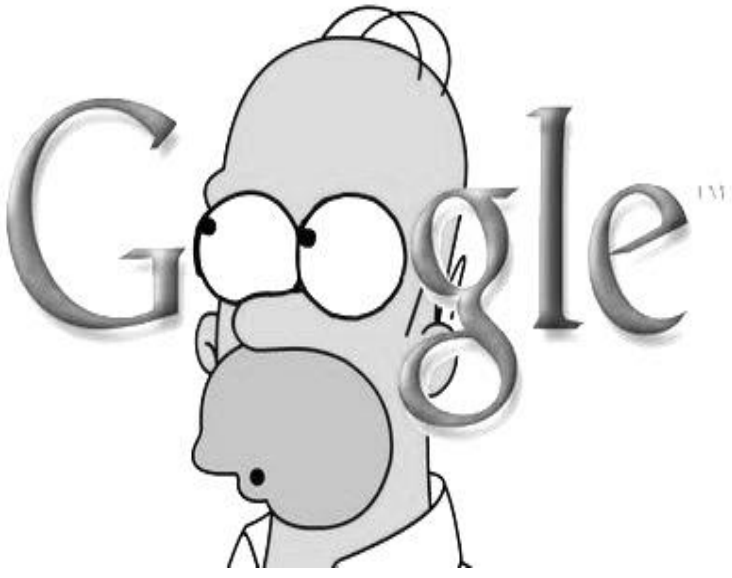
External	Environment VUCA	Identification of trends Wild Cards	Prospective challenge
	Information	Infoxication	Quantitative challenge
		Reliability and credibility of information	Qualitative challenge
Internal	Organization	Leadership Change management Digital transformation	Organizational challenge
	Analysts	Cognitive biases Impacts of technology on cognitive skills Obsolescence of knowledge and skills	Cognitive challenge

COGNITIVE BIAS INDUCED BY TECHNOLOGY IN INTELLIGENCE ANALYSIS







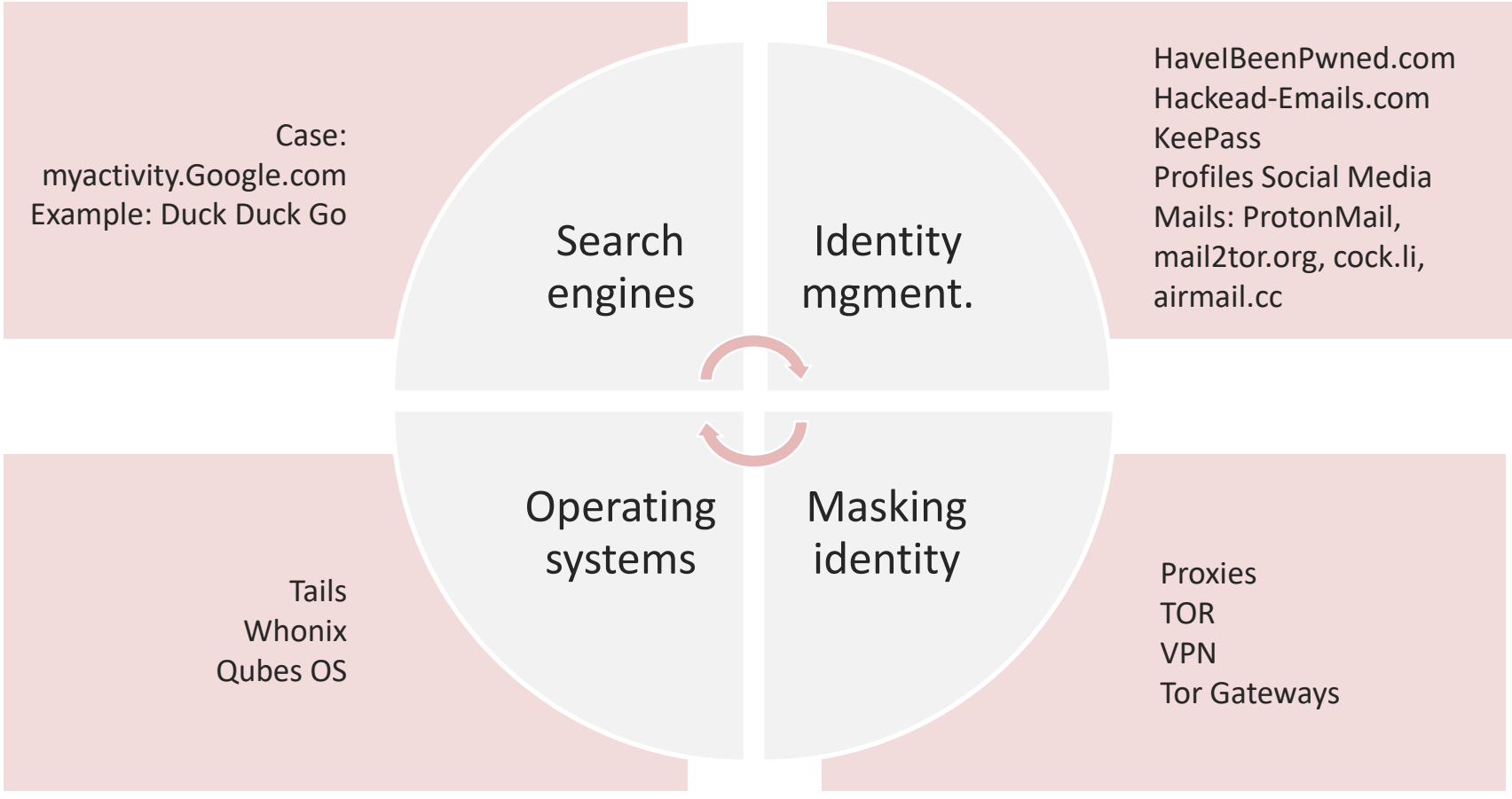


TECHNOLOGY AND COGNITIVE SKILLS

TECHNOLOGICAL CHALLENGES IN THE PROCESS OFINTELLIGENCE ANALYSIS

INTELLIGENCE TASKS	CHALLENGE
Planning and direction	Technological surveillance Technological requirements Identify end-user requirements Option: own development or commercial product Cost-benefit analysis Security concerns
Collecting, monitoring and processing	Collecting tools. Crawls. Entity extraction. New demand in intelligence services: Tools for verification Training using OSINT tools Security concerns
Analysis	Previous agreement: human-driven analysis and technology-enabled analysis Training using analytical tools. Complex, because implies knowledge in different domains (data mining, statistics…) Develop computer support for structured and advanced techniques of analysis (for example ACH with Bayesian support)
Dissemination	Develop visualization tools, integrated with analytical capabilities Training. Complex (for example Tableau)

OPERATIONS SECURITY



"Education is an admirable thing, but it is well to remember from time to time that nothing that is worth learning can be taught." Oscar Wilde

IMPORTANCE OF VUCA AS A CONTEXT

- ABILITY TO PREDICT THE EFFECTS OF A SITUATION +

COMPLEXITY

Each event is conditioned by a multiplicity of causes and factors, each of which is interrelated with third events. This situation generates a high level of confusion that prevents us from having a clear vision of the situations that we face.

VOLATILITY

Changes are rapid, almost unpredictable, making it difficult to identify trends or patterns and reducing the stability of processes. The type, the magnitude, the volume and the speed with which they occur make analysis tasks more difficult.

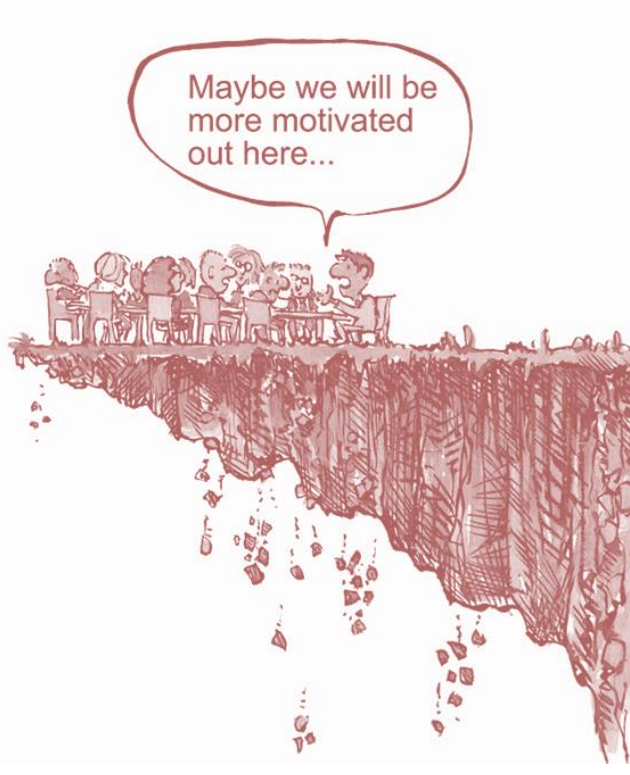
AMBIGUITY

The answer to the key questions (who, where, why, when ...) is difficult to establish. Errors of interpretation and the plurality of meanings is a cause and effect of confusion, resulting in an increase in imprecision.

UNCERTAINTY

Many of the changes that take place are disruptive, evidencing that the past does not have to be an indicator of the future, and hindering our preparation in the face of future scenarios.

- KNOWLEDGE ABOUT A SITUATION +



Own elaboration based on the VUCA presentation model of HRB Harvard

VUCA PRIME RESPONSES

- ABILITY TO PREDICT THE EFFECTS OF A SITUATION +

CLARITY over COMPLEXITY

Even chaos can make sense. Generate knowledge maps. Make a dynamic tracking of the existing analyses to detect new evidences (monitoring). Understand each phenomenon from within and from the global perspective simultaneously. Do not use simplistic, mono-causal or mere chance explanations, trying to answer all possible questions.

One of the great challenges is knowing and knowing how to use constantly changing information from disparate sources.

VISION over VOLATILITY

Think in future as a habit. Imagine scenarios and analyse them in a back-casting process to detect indicators, in order to avoid future risks and threats.

The objective and methodology applied must be clearly defined. We must be able to rapidly integrate large amounts of information without the process or tools used, resulting in less precision and speed.

AGILITY over AMBIGUITY

Maximize the ability to learn, make mistakes, communicate, respond and adapt. It requires rapid problem solving and constant decision-making. It must be proactive and be focused on the problem to anticipate the effects even before adopting the answer.

The technologies used as support have to be agile and adaptable to users and needs, leaving behind generalist solutions.

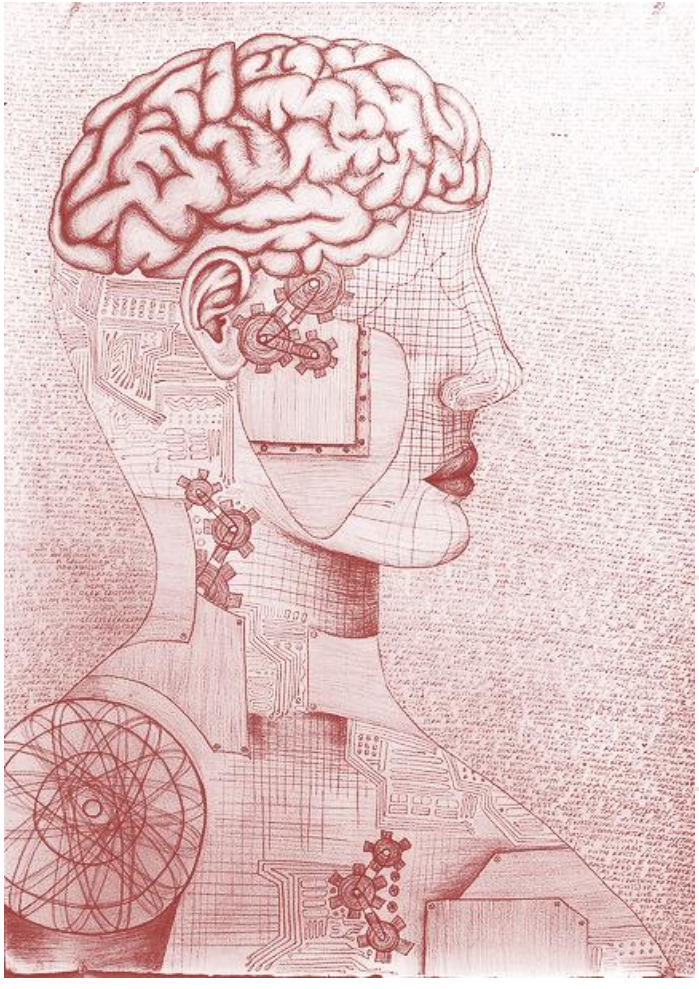
UNDERSTANDING over UNCERTAINTY

The phenomenon that we face must be fully understood. The answer should go beyond our own previous experience and knowledge.

It needs to build knowledge networks, with trust and credibility, and use new technologies to strengthen the whole process and progressively improve reasoning skills.

- KNOWLEDGE ABOUT A SITUATION +

LEARNING TO LEARN



- Game as transversal skill
- Skills over the Knowledge
- Learning, not teaching
- Learning organizations

HOW TO SURVIVE. SKILLS NEEDED IN A VUCA WORLD

+ ABILITY TO PREDICT THE EFFECTS OF A SITUATION -

CLARITY over COMPLEXITY

Adaptive thinking
Lateral thinking
Knowledge Management
Information overload management
Diversity management
Intellectual curiosity
Star-busting creativity techniques
Cognitive biases management
Data analysis
Operating with estimates (Lowhental)
General / holistic approaches as well as **t**echnical vision
Information media literacy
Observation
Explainers (Ackoff & Greenberg)

VISION over VOLATILITY

Learn to learn
Knowing how to unlearn
Continuous training
Antifragility (N. Taleb, 2013)
Creativity
Agility
Motivation
humility
Cognitive adaptability
Collaborative intelligence
Knowledge management based on the team
Diagnosing collaboration barriers
Self-taught use of new technologies
Gaming-mine
Evaluative vision
Social media relations ability

AGILITY over AMBIGUITY

Critical thinking
Experimentation
Learned lessons
Learn to doubt
Dismisses the superfluous
Self-driven learning
Social pressure management
Proactivity
Decision-making engineering
Team-based decision making quality
Adaptation of the methodologies to the study objective
Finding solutions
Intelligence analysis process development
Crisis management
Time and priorities management
Serious gaming techniques
Talent management
Critical writing
Resolution / decision-making

UNDERSTANDING over UNCERTAINTY

Transparency
Confidence
Managing overconfidence (honestly introspective)
Collaboration / teamwork
Technological awareness
Creating scenarios / simulations
Idea Generation
Validation of acquired knowledge
Inter-personal skills
Intelligence of the crowds
Leadership In virtual and transcultural teams
Information visualization techniques
High performance team development
Management of virtual teams

\- KNOWLEDGE ABOUT A SITUATION +

THANK YOU!!