Intelligent Biology.

UCL

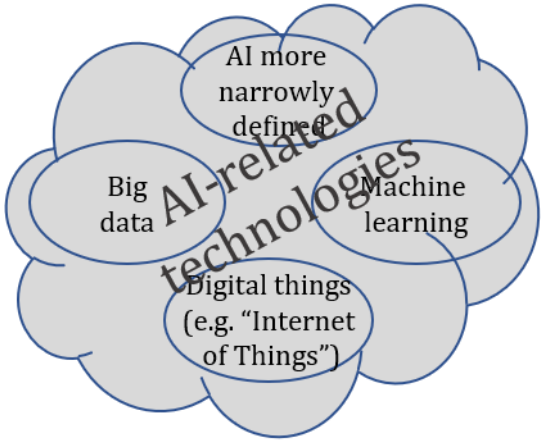
Artificial Intelligence: UK strategy

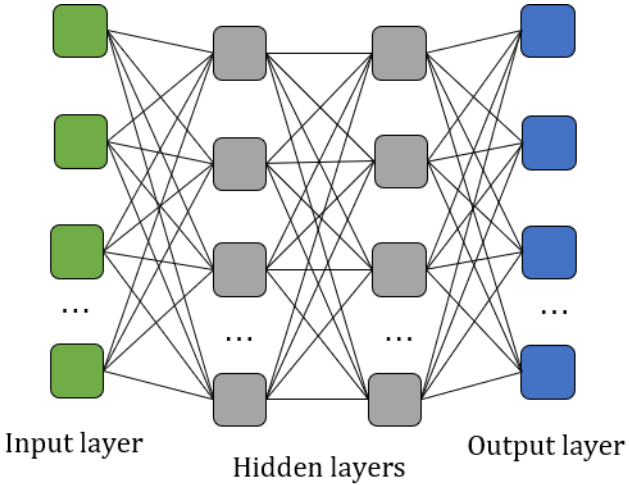
Nicholas Wright

Georgetown, UCL,

Intelligent Biology, New America

AI-related Technologies: What Specifically is New?





Automated systems learning directly from data to do tasks that are complicated.

Current strengths

“Perception”, e.g. images, speech, or some kinds of patterns in big data

Choosing actions in **tasks constrained enough** to have vast amounts of data

NEAR FUTURES
e.g. “ISR”, logistics

Current limitations

Needs **huge amounts of data** (often labelled)

Context is very poorly understood

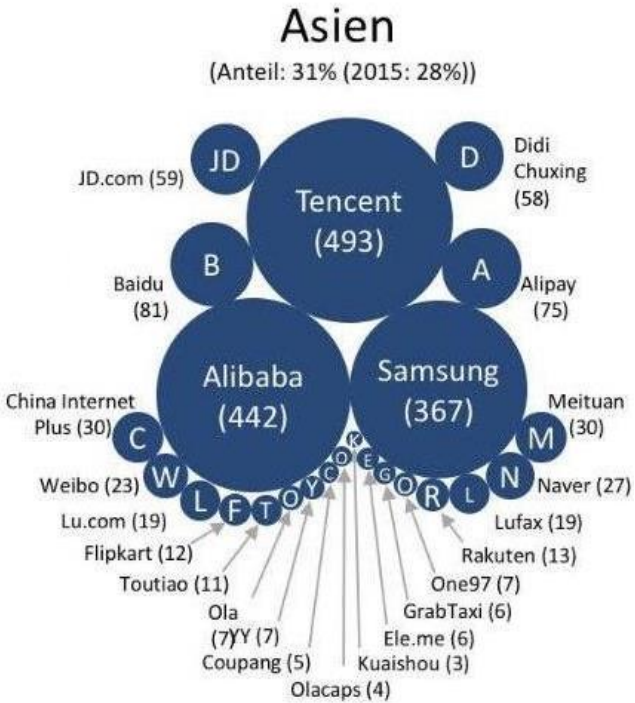
NEAR FUTURES
e.g. prepare datasets, human-machine teams

FURTHER POTENTIAL DISRUPTION

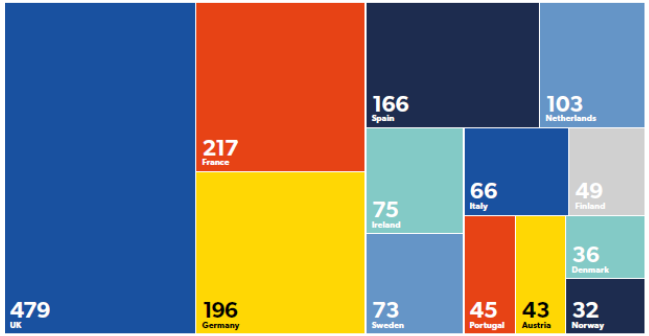
Cutting-edge research → Real World → Real World at Scale

Constrained choices

perception

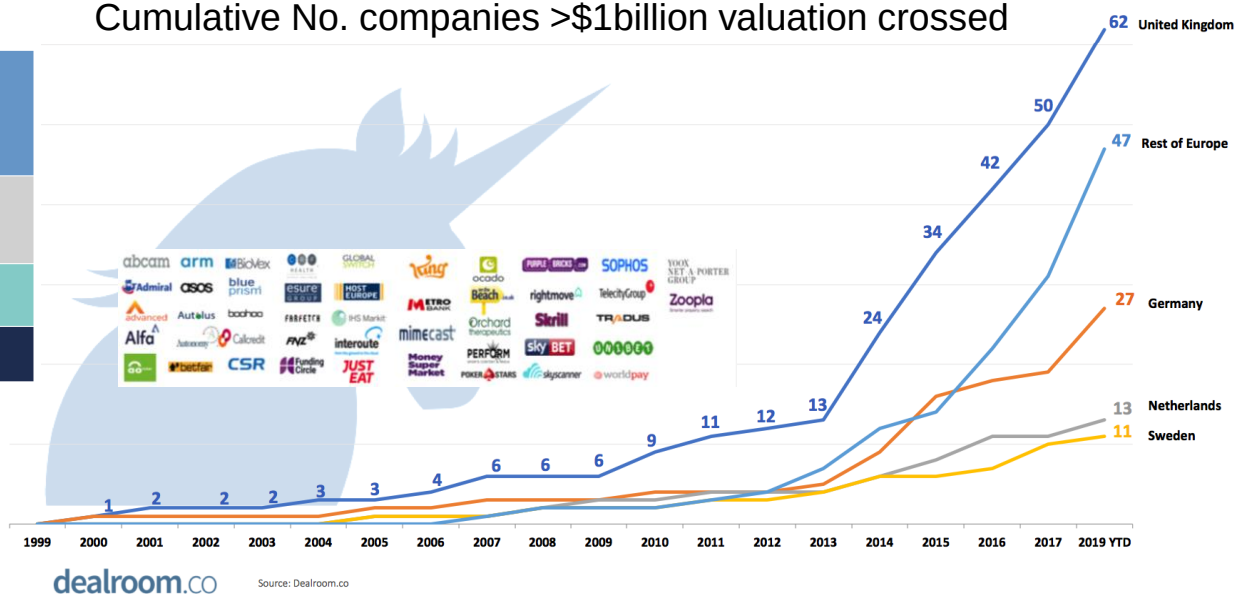

Asien
(Anteil: 31% (2015: 28%))
Tencent (493)
Alibaba (442)
Samsung (367)
JD
JD.com (59)
D
Didi Chuxing (58)
B
Baidu (81)
A
Alipay (75)
China Internet Plus (30)
C
Meituan (30)
M
W
Weibo (23)
N
Naver (27)
L
F
T
O
Y
C
K
O
E
G
O
R
L
Lu.com (19)
Lufax (19)
Flipkart (12)
Rakuten (13)
Toutiao (11)
One97 (7)
Ola (7)
GrabTaxi (6)
YY (7)
Ele.me (6)
Coupang (5)
Kuaishou (3)
Olacaps (4)

AI startups



Source: MMC Ventures, Beauhurst, Crunchbase, Tracxn

Cumulative No. companies >$1billion valuation crossed



HMG/UK wins many global comparisons,
e.g. e-Government

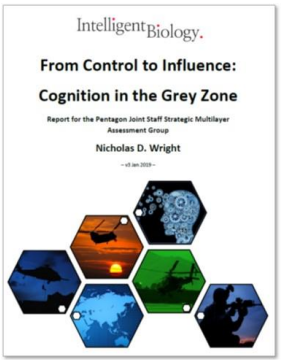
British strategy

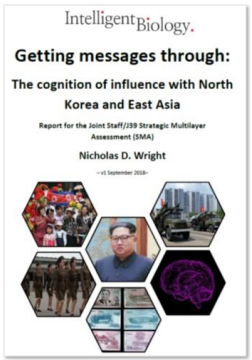
Investment: perception, constrained choices

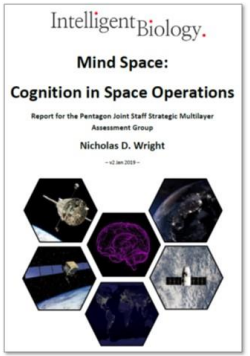
Innovation: networks of expertise

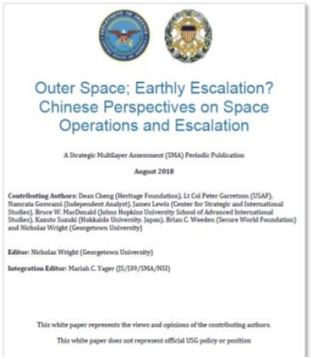
Ethics and norms: spiralling grey zone conflict

nick@intelligentbiology.co.uk www.intelligentbiology.co.uk



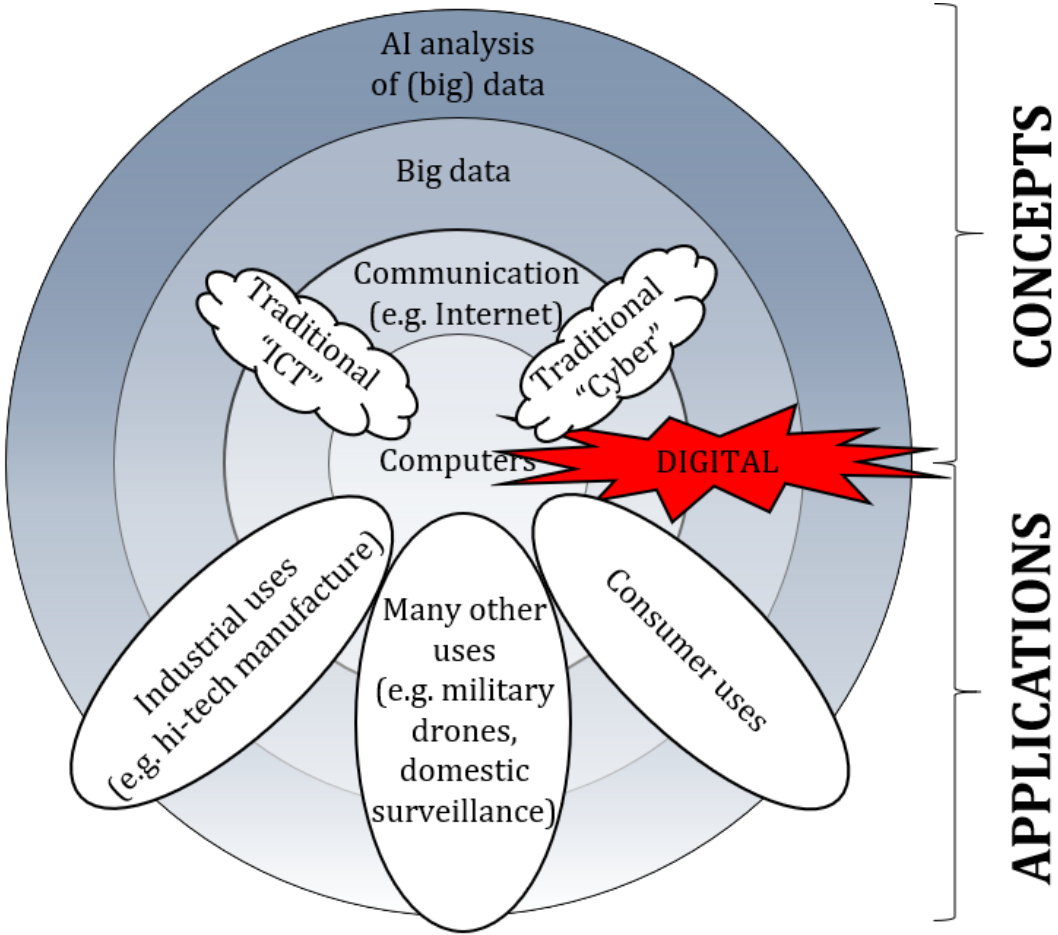




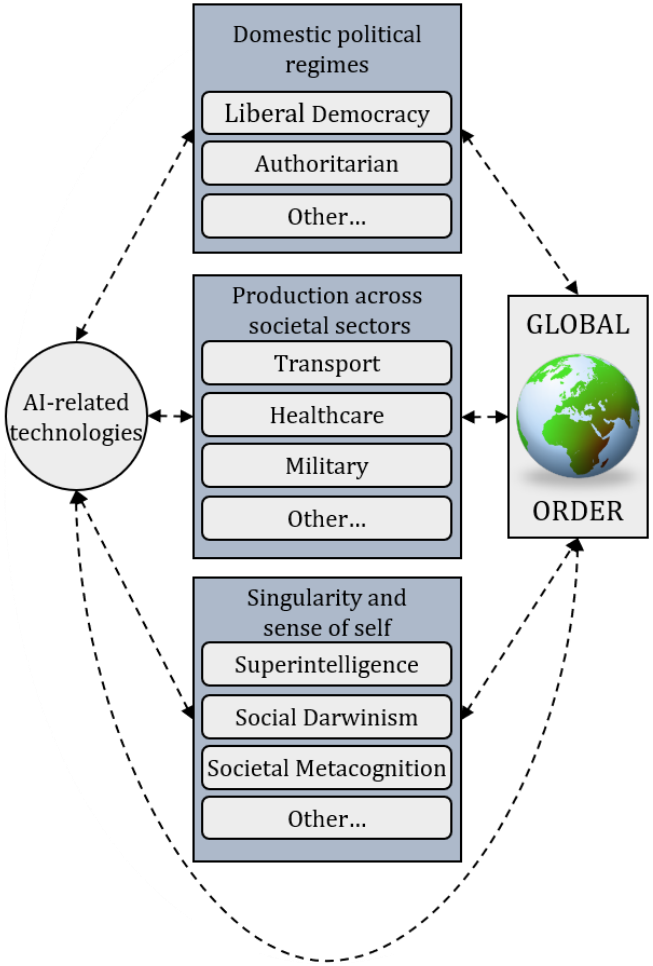


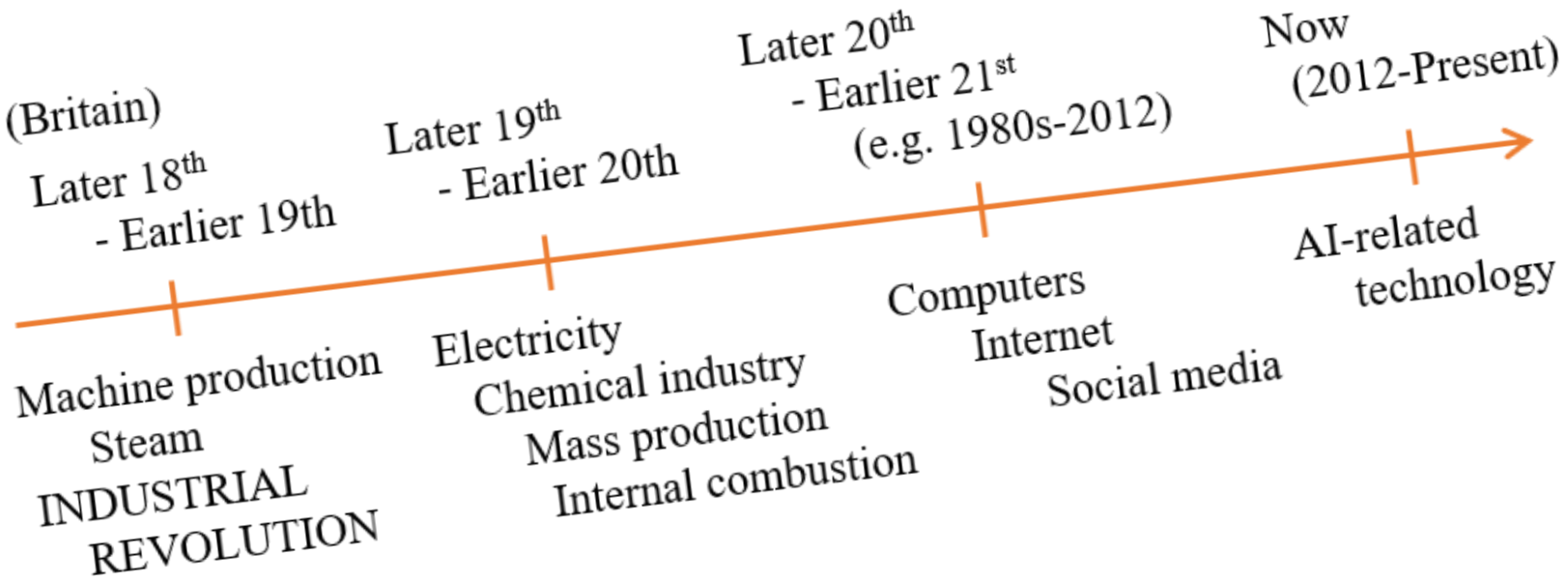
Backup slides

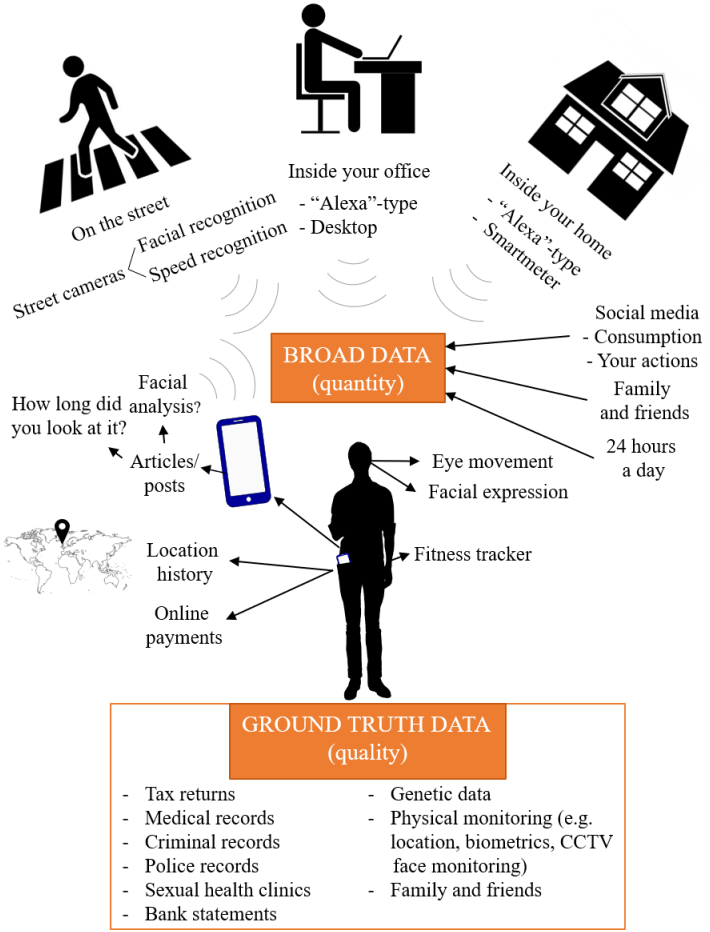
The onion of digital technologies

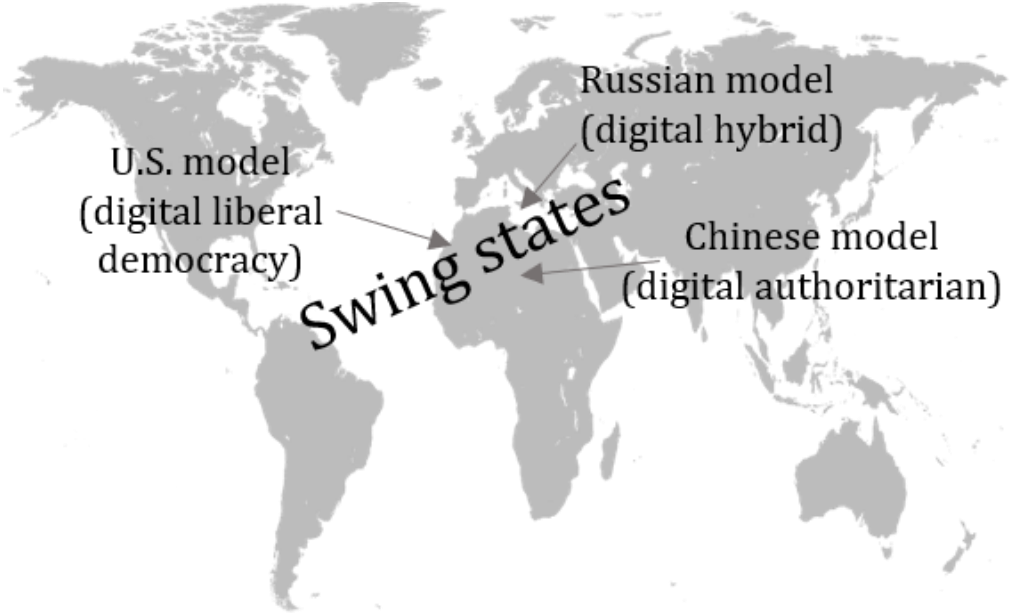


AI's impacts on the global order




(Britain)
Later 18th - Earlier 19th
Later 19th - Earlier 20th
Later 20th - Earlier 21st (e.g. 1980s-2012)
Now (2012-Present)
Machine production
Steam
INDUSTRIAL REVOLUTION
Electricity
Chemical industry
Mass production
Internal combustion
Computers
Internet
Social media
AI-related technology


On the street
Street cameras
Facial recognition
Speed recognition
Inside your office
- "Alexa"-type
- Desktop
Inside your home
- "Alexa"-type
- Smartmeter
BROAD DATA
(quantity)
Social media
- Consumption
- Your actions
Family
and friends
24 hours
a day
Facial
analysis?
How long did
you look at it?
Articles/
posts
Eye movement
Facial expression
Location
history
Online
payments
Fitness tracker
GROUND TRUTH DATA
(quality)
- Tax returns
- Medical records
- Criminal records
- Police records
- Sexual health clinics
- Bank statements
- Genetic data
- Physical monitoring (e.g. location, biometrics, CCTV face monitoring)
- Family and friends



Approved For Public Release

AI, China, Russia, and the Global Order:

Technological, Political, Global, and Creative Perspectives

A Strategic Multilayer Assessment (SMA) Periodic Publication

December 2018

Contributing Authors: Shazeda Ahmed (UC Berkeley), Natasha E. Bajema (NDU), Samuel Bendett (CNA), Benjamin Angel Chang (MIT), Rogier Creemers (Leiden University), Chris C. Demchak (Naval War College), Sarah W. Denton (George Mason University), Jeffrey Ding (Oxford), Samantha Hoffman (MERICS), Regina Joseph (Pytho LLC), Elsa Kania (Harvard), Jaclyn Kerr (LLNL), Lydia Kostopoulos (LKCYBER), James A. Lewis (CSIS), Martin Libicki (USNA), Herbert Lin (Stanford), Kacie Miura (MIT), Roger Morgus (New America), Rachel Esplin Odell (MIT), Eleonore Pauwels (United Nations University), Lora Saalman (EastWest Institute), Jennifer Snow (USSOCOM), Laura Steckman (MITRE), Valentin Weber (Oxford)

Opening Remarks provided by: Brig Gen Alexus Grynkewich (JS J39), Lawrence Freedman (King's College, London)

Editor: Nicholas D. Wright (Intelligent Biology)

Integration Editor: Mariah C. Yager (JS/J39/SMA/NSI)

This white paper represents the views and opinions of the contributing authors.

This white paper does not represent official USG policy or position.

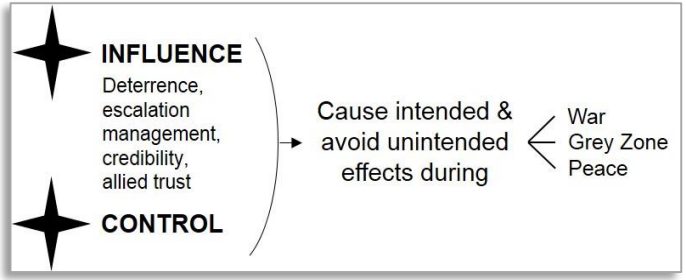
Approved For Public Release

Strategy is the art of creating power.

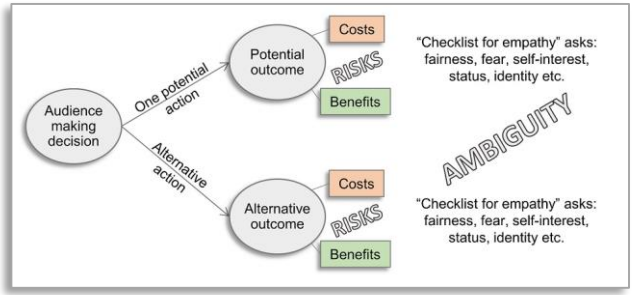
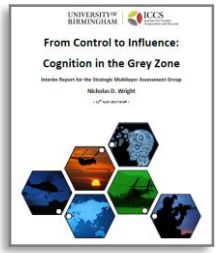
(Sir Lawrence Freedman, Strategy, 2013)

Strategy in the Grey Zone is the art of creating influence.

Influence *and* control



Fundamentally cognitive: *realistic* about human nature



Use *evidence*