

# Modern Technologies and Conflicts

## AI and autonomy at war

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# Some basics

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what is intelligence and consciousness?

unmanned/autonomy/AI?

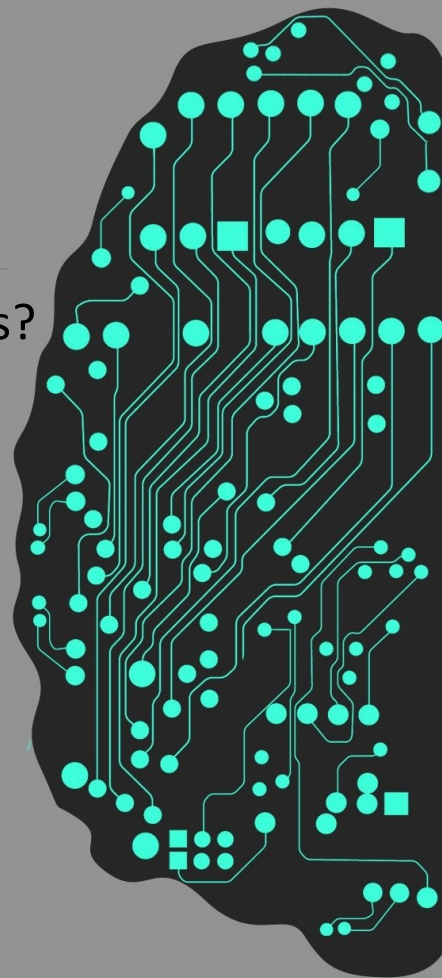
types of AI?

- strong/general AI

vs

weak/narrow AI

what about physical form?



# History of autonomy

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mechanical automata since middle ages

- Digesting Duck, Leonardo's mechanical knight, [Karakuri](#)

biological automata since 19th cent.

- Frankenstein, R.U.R.

accelerated progression after WW2

- Turing, von Neumann, Minsky, ...

exponential since 90s



# History of autonomy in warfare

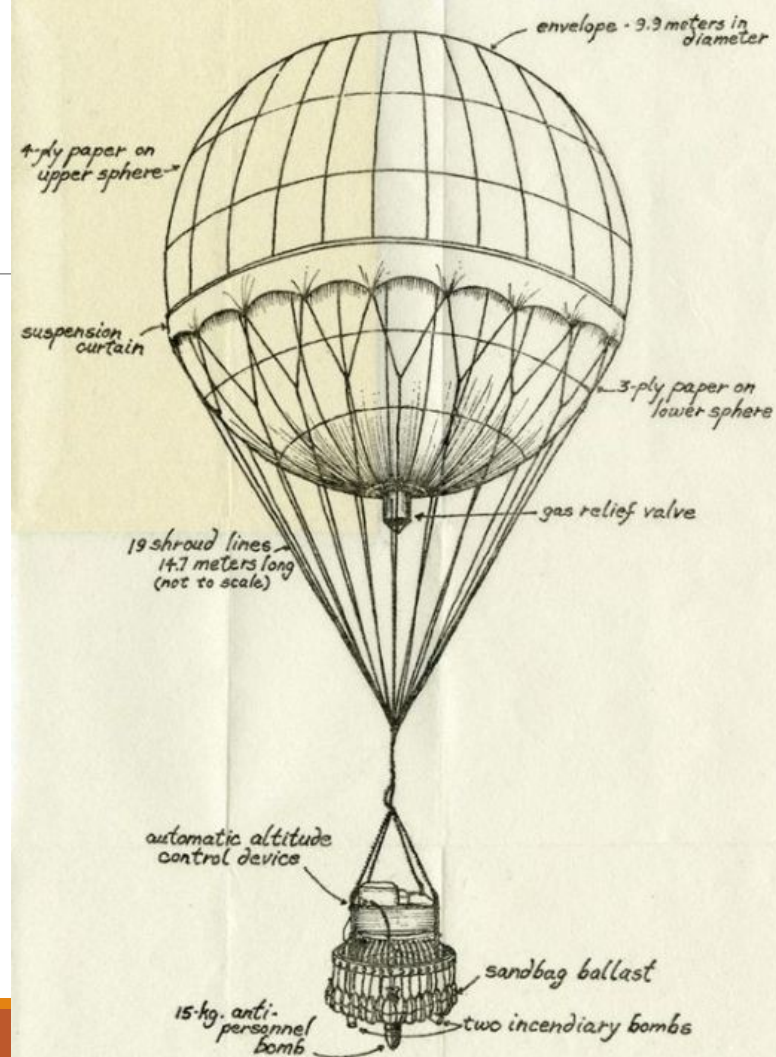
before WW1: hot-air balloons

- observation and bombing

interwar: aerial practice targets

during WW2: remote control of all types

- both wired and wireless
- air, land and sea -based
- V1 and V2?





and <https://www.youtube.com/watch?v=z1csDqNO8FY>

# Cold War

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target practice, decoys and reconnaissance

- with jet engines too

modern era of drones/UAVs began during the 80s, in the Middle East



# Present

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remote control is commonplace

growing autonomy

- locomotion a sensors

„human in the loop“ principle

fire-and-forget systems

still not true intelligence









Сочи

# ОКЕАНСКАЯ МНОГОЦЕЛЕВАЯ СИСТЕМА «СТАТУС-6»

Головной исполнительный прототип в районе побережья и наведение гарантированного непрямого удара территории страны путем создания зон обширного радиоактивного заражения, непригодных для осуществления в этих зонах военной, хозяйственно-экономической и иной деятельности в течение длительного времени

Назначение:



МДЛ № 0802

Длина - 14 м

Средняя скорость - 1000 км/ч



МДЛ № 0801

Длина - 11 м



Средняя скорость - 1000 км/ч

Средняя скорость - 1000 км/ч

Средняя скорость - 1000 км/ч



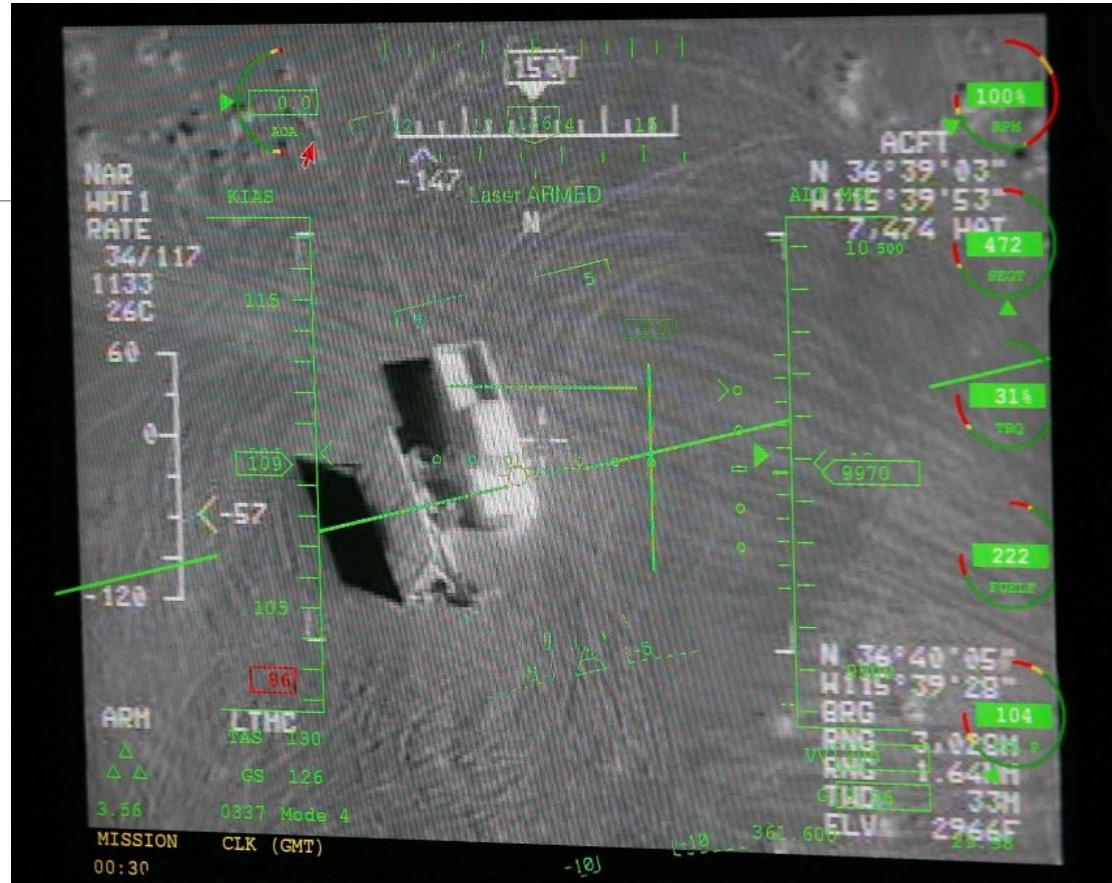
Удары в радиусе 100 км

Система в эксплуатации на территории ОМД «Статус-6» № 0801

Система в эксплуатации на территории ОМД «Статус-6» № 0801

# Problems?

- lower conflict-threshold
- collateral damage
- „gamification“
- dehumanization
- psychological impacts
- political and cultural fallout



# Non-state actors

terrorists, guerillas etc.

- reconnaissance, targeting, smuggling
- direct attacks

commercial drones are cheap,  
available and easily modified

perfect example of horizontal  
proliferation of dual-use tech





# Near future

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growing autonomy across the board

- <https://www.youtube.com/watch?v=h449oljg2kY>

closer integration and mixed units

autonomous swarms

first autonomous kill?

arrival of true AI?

