



FUTURE WARFARE

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1991 Iraq War

- PGMs: 10%
- Stealth: <40
- Real-time communications

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2003 Gulf War

- 1 RQ-4 Global Hawk 5X SatCom 1991 Gulf War
- 1 RQ 4 Global Hawk 70% of all TA
- PGMs: 100%





2022- Ukraine War

- Ubiquitous drones
- Long-range precision-artillery
- Space-based commercial Comm
- Algorithmic-based precision
- Cyber attacks
- Mass-scale disinformation



2022- Ukraine War

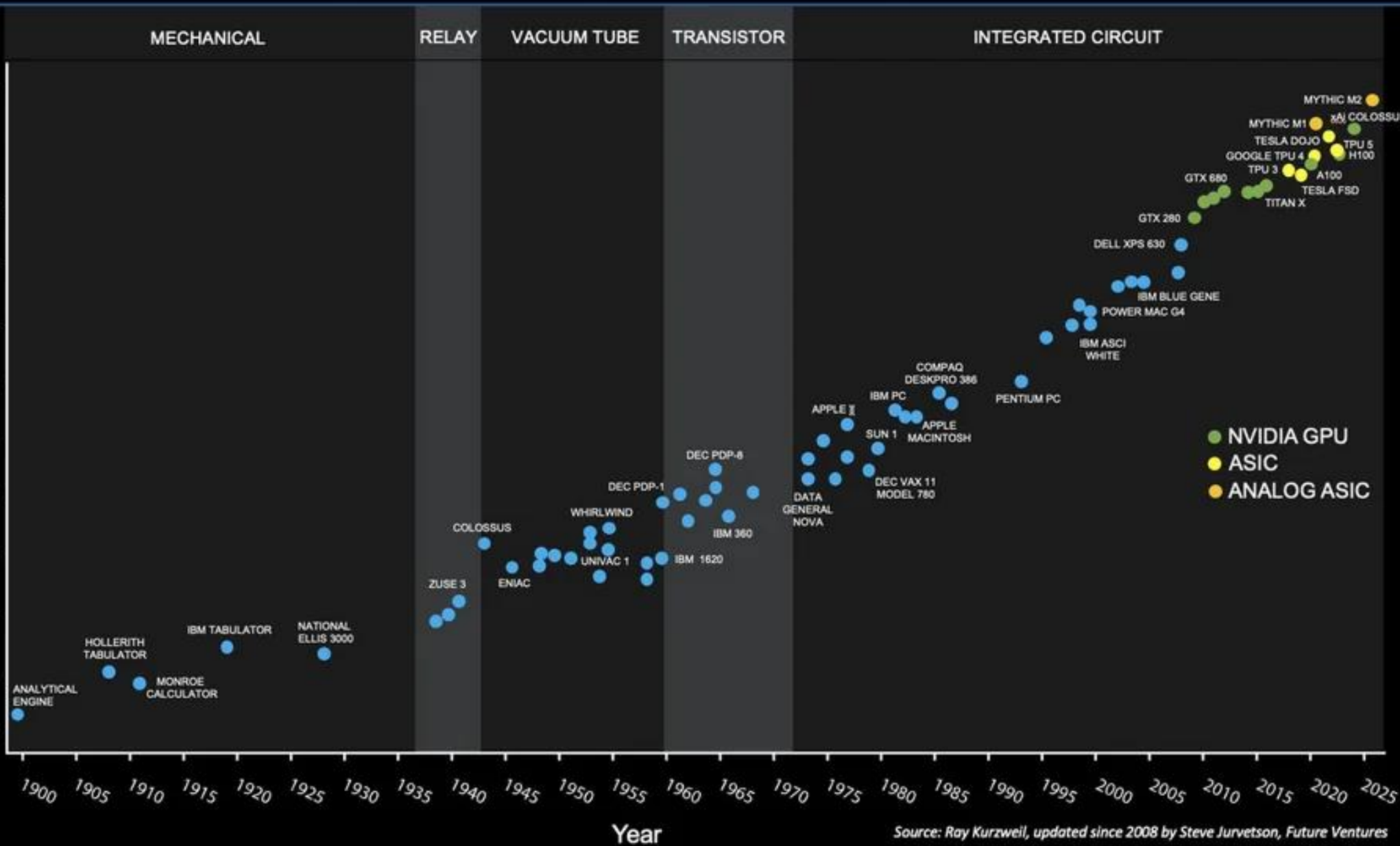
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War is not changing, it's just being waged

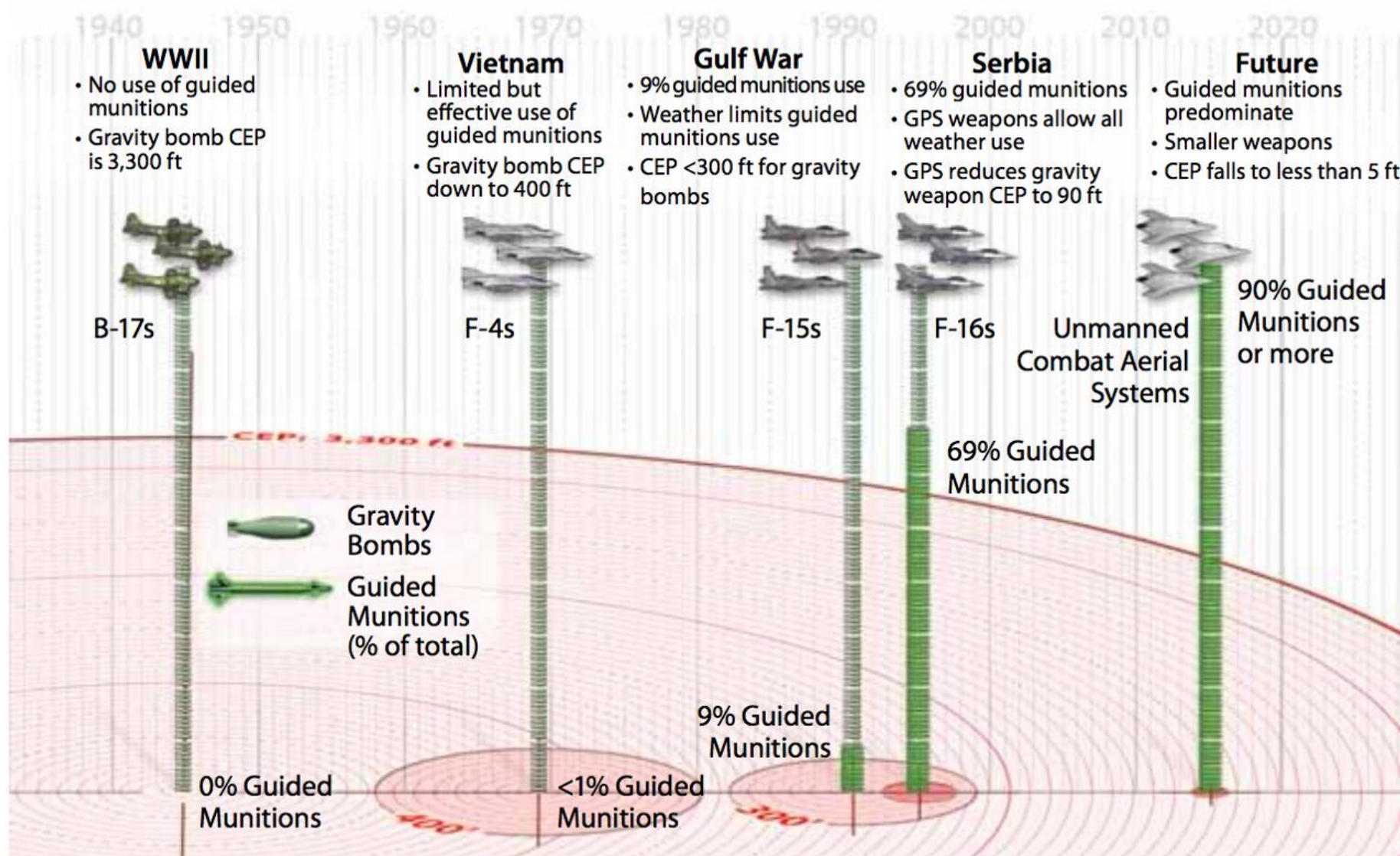
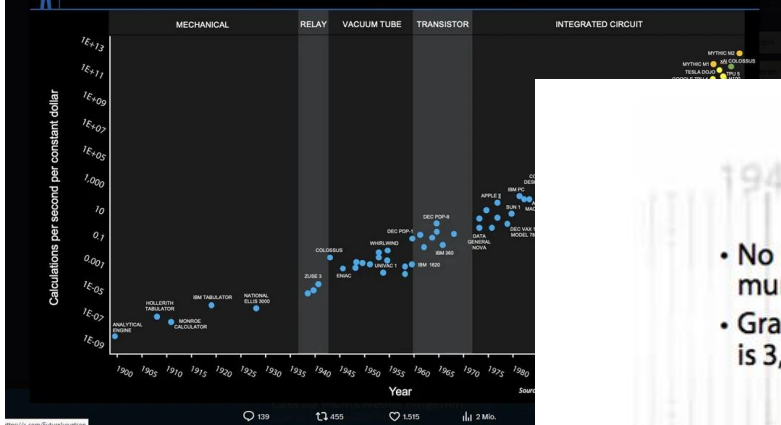
128 YEARS OF MOORE'S LAW

Calculations per second per constant dollar

1E+13
1E+11
1E+09
1E+07
1E+05
1,000
10
0.1
0.001
1E-05
1E-07
1E-09



128 YEARS OF MOORE'S LAW



CEP, a measure of accuracy, defines the radius of a circle in which 50% of a salvo's munitions fall. Since WWII, CEPs for guided munitions have fallen precipitously. The above image illustrates falling CEPs for air-dropped munitions since World War II and the increasing employment of guided munitions since the Vietnam War.

Future warfare?

**“The best way
to predict
the future
is to
create it.”**

Abraham Lincoln



Realistic trends

- more automation
- more human-enhancement
- more cyber/hybrid attacks
- more disinformation



Jevon vs. Baumol

Why AC is
cheap, but AC
repair is a luxury

Read it in the a16z newsletter
a16z.substack.com

STRATEGY

THE LOGIC OF WAR AND PEACE

REVISED AND ENLARGED

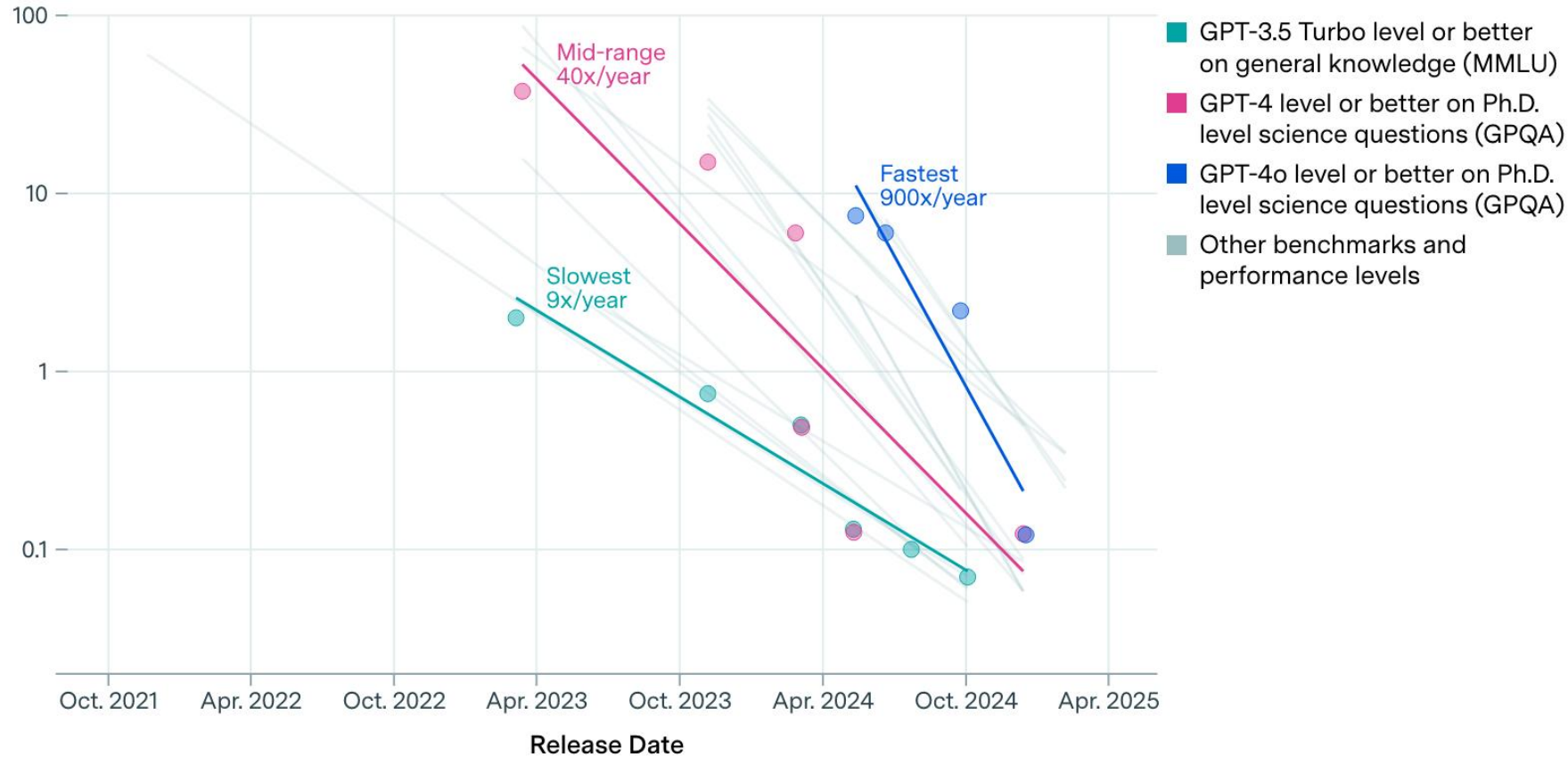
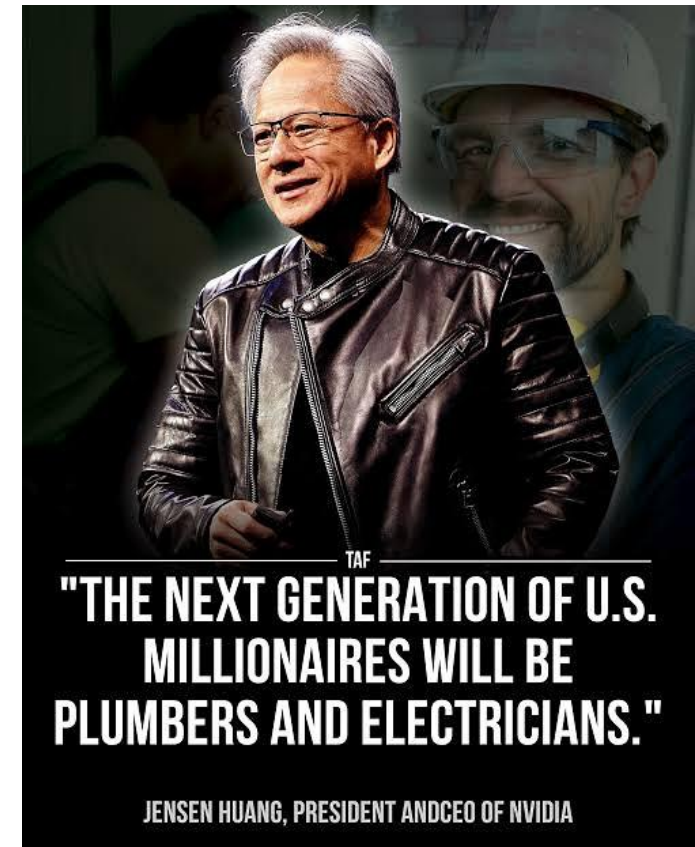
EDWARD N. LUTTWAK

Jevon's Paradox: "We'll spend more on what gets more productive."

Baumol Effect: "We'll spend more on what doesn't get more productive."

Luttwak's paradox: most effective defense will lead to attack elsewhere

Price (USD per million tokens)

Data source: Epoch AI, [Artificial Analysis](#)

Jevon + Baumol and future warfare

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- Asymmetric attacks: the less decisive the battlefield, the more isolated from it our societies, the more attacks on civilians
- Socio-economic interdependence=weaponized vulnerabilities

Europe is largely unprepared

