

Science and War

Main questions -

1) Why we fight?

2) Sciences developed due to wars

Why we fight?

- On the surface -

- Survival of the physical being
- Survival of the group - aka - ideas
 - Myths
 - Sacred values
 - Symbols
- Us Vs. Them

Why we fight?

- A psychological view -

- Universal across all groups [1] -
 - Nature of sacred values (glue)
 - Reaction to their violation (prevention & repair of glue)
- Social driving forces
 - Ideological reasons for war
 - Communal identity
 - Purpose and social meaning
- Biological driving forces
 - Revenge = pleasure [2]
- **Dominance:** Constructive (hierarchy) Vs Destructive (group wars)

Why we fight?

- An evolutionary view [3] -

- Slaves of evolution
 - We are driven by sub-conscious
 - Sub-conscious is driven by genetics and environment
- Q: Why individuals sacrifice for a group?
 - Individuals want to survive and reproduce
 - Young men go to war & about 1/3rd die
- A: Evolutionary needs
 - Status - for reproduction dominance
 - Belonging - safety in numbers

Benefits of war? [4]

- Safest age - Probability of getting killed by humans
 - Stone age - 20%
 - 20th Century - 1 to 2%
- Wars = centralization of power = low in-fighting
- Productive Vs. Counter-productive wars : "Hitler's attempt at imperialism burnt out after a few years because of his very extremism, whereas Rome, ancient Persia, Venice, Holland, France, Great Britain and America have all fostered.. through war."
- Rise of 'global cops'

Why science in war?

- WW1 showed science can help make new technology
- Using old science Vs. New Scientific research
- Scientific problem solving Vs. Trial & Error

Some science outcomes

World War 1

- Chemical warfare - poison gas
- Explosives and artificial nitrate making
- Hydrophones and submarine detection
- Mobile X-ray machines
- Sanitary Napkins
- Radio communication
- Locating enemy artillery using sound

Some science outcomes

World War 2

- Radar revolution - smaller the better [5]
- Microwave cooker
- Atomic bomb
- Rockets
- Computation of secret messages
- Ball point pen
- Jet engines!

Can science help in Peace?

- Prediction using data analysis [6]
- Morally aware scientists ?
- Technologists for peace ?
- More social sciences ?

References

- 1) "Why do we wage war?" by W. Ferguson, reflecting on A. Lopez's paper "The evolution of war: Theory and Controversy" International Theory (2016)
- 2) "The pleasure of revenge: retaliatory aggression arises from a neural imbalance toward reward" D.Chester and DeWall
- 3) "Why we fight" - Dr. Mike Martin (from : <https://www.irishtimes.com/culture/is-fighting-in-our-genes-a-biological-theory-of-warfare-1.3505451>)
- 4) *Why war is good?* - R.D. Kaplan - (<https://www.forbes.com/sites/stratfor/2014/10/06/why-war-is-good/#3a8885325b96>)
- 5) "From World War II Radar to Microwave Popcorn, the Cavity Magnetron Was There" - A. March / "The Invention that changed the world" by R. Buderl.
- 6) "Can Big Data Stop Wars Before They Happen?" Sheldon Himelfarb, FP (<https://foreignpolicy.com/2014/04/25/can-big-data-stop-wars-before-they-happen/>)

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