

Emerging Technology + International Security

17.449

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Information

Information:
facts about something or someone

Information and Security

- Information
 - Shapes when conflicts begin and end
 - Can deter conflict
 - Can shape targeting/conduct of conflict
- Information and Communication Technologies (ICTs)
 - Change information flow/transmission speed
 - Shifts information asymmetries
- Affects interstate and intrastate conflicts

Why does an actor fight?

- Conflict is costly and risky
 - Fighting costs blood and treasure
 - Often destroys what you're fighting over
 - Can have reputational consequences
 - No guarantee you'll "win"
- A better solution to solving disputes?
 - Fight
 - Concede
 - Negotiate a settlement

Why does an actor fight?



Why does an actor fight?

- You're in an accident; the other driver sues you for \$40K
- A better solution to solving disputes?
 - Fight → Go to court
 - Concede → Give the driver \$40K
 - Negotiate a settlement → Settle out of court
- A few assumptions
 - \$10K legal costs for each driver
 - 60% chance of winning (stochastic process)

Why does an actor fight?

- **Fight**

- My "payoff"

- $\text{Payoff} = (-\$40,000) * (.6) - \$10,000 \rightarrow -\$24,000 - \$10,000 = \textbf{-\$34,000}$

- The other driver's "payoff"

- $\text{Payoff} = (\$40,000) * (.6) - \$10,000 \rightarrow -\$24,000 - \$10,000 = \textbf{\$14,000}$

- **Concede**

- If I concede, my "payoff"

- $\text{Payoff} = (-\$40,000) \rightarrow \textbf{-\$40,000}$

- If the other driver concedes, their "payoff":

- $\text{Payoff} = \textbf{\$0}$

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- **Negotiate a Settlement**

- Settle for mutually settled upon \$X

- Better for me if **$X < \$34,000$**

- Better for the other driver if **$X > \$14,000$**

- ~\$20K Bargaining range (14,000-34,000)–better for both parties

Why does an actor fight?

▪ ~~Fight~~

- My "payoff"

- Payoff = ~~(-\$40,000) * (.6)~~

~~$-\$24,000 - \$10,000 = -\$34,000$~~

- The other driver's

- Payoff = ~~(\$40,000) * (.4)~~

~~$\$10,000 \rightarrow \$24,000 - \$10,000 = \$14,000$~~

EX-POST INEFFICIENT

▪ Negotiate a Settlement

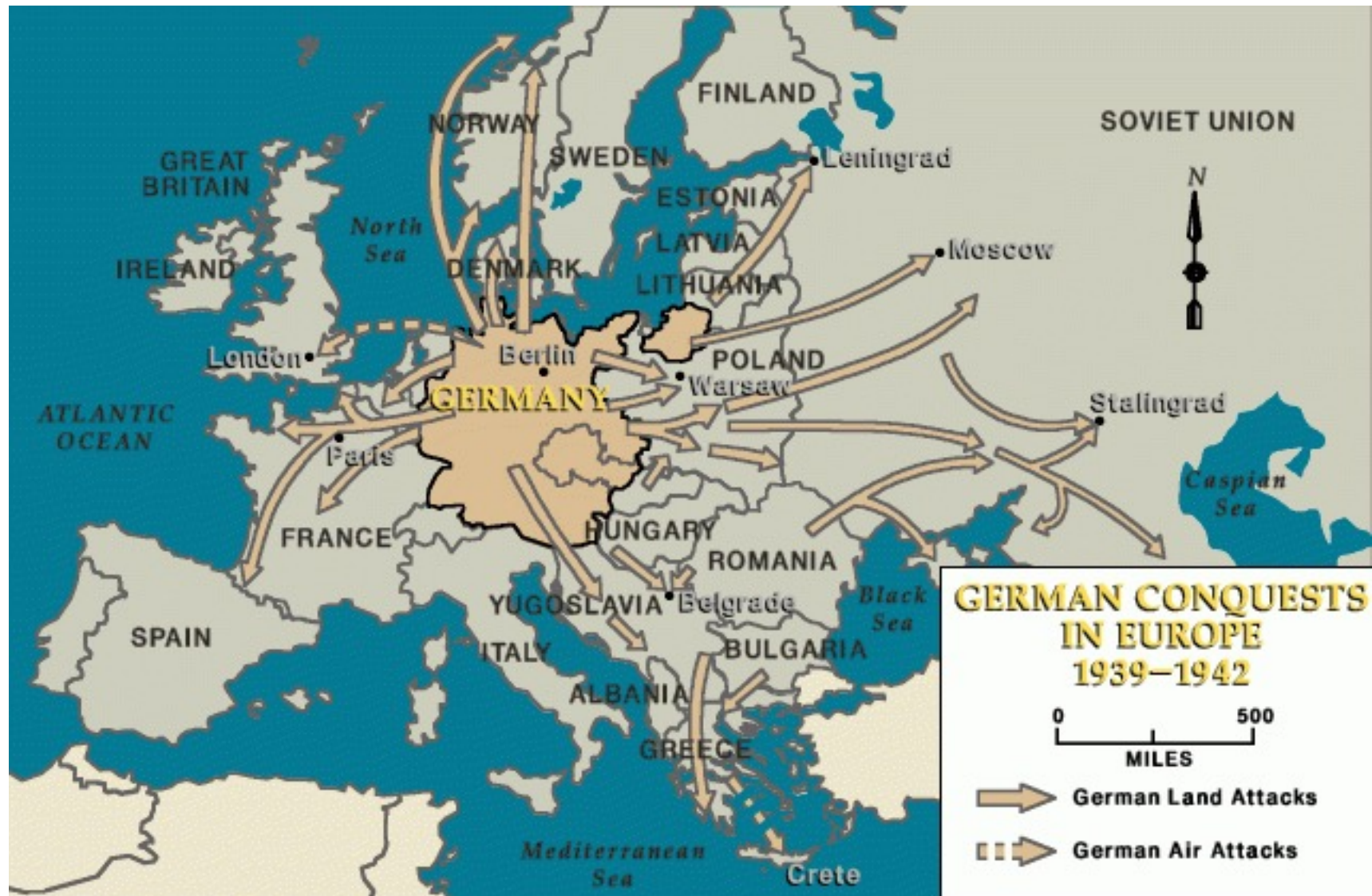
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Why does an actor fight?



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Why does an actor fight?

▪ ~~Fight~~

▪ ~~State A's "payoff"~~

▪ ~~Payoff = $(-40,000) * (.6)$~~

~~$100 - 10,000 = -34,000$ sq miles~~

▪ ~~State B's "payoff"~~

▪ ~~Payoff = $(40,000) * (.4)$~~

~~$100 - 24,000 = -23,000$ sq miles~~

EX-POST INEFFICIENT

▪ Negotiate a Settlement

▪ Settle for mutually settled upon X **square miles**

▪ Better for **State A** if $X < 34,000$ square miles

▪ Better for **State B** if $X > 14,000$ square miles

▪ Bargaining range (14,000-34,000)—better for both parties

Why does an actor fight?

- If war is inefficient, why don't states just negotiate?
- Common explanations
 - People are irrational (and ignore costs)
 - Leaders don't pay costs of war
 - Rationalist explanations

Why does an actor fight?

- If war is inefficient, why don't states just negotiate?
- Common explanations
 - People are irrational (and ignore costs)
 - Leaders don't pay costs of war
 - **Rationalist explanations**

Common Rationalist Explanations for War

- Anarchy
- Expected benefits greater than expected costs
- Rational preventive war
- Rational miscalculation due to lack of information
- Rational miscalculation/disagreement about relative power

Common Rationalist Explanations for War

- Anarchy
- Expected benefits greater than costs
- Rational bargaining
- Rational miscalculation
- Rational misperception/disagreement about relative power

But...leaders can still bargain to avoid costs of fighting.

Common explanations don't explain why miscalculation happens

f information

Fearon's Rationalist Explanations for War

- Must explain why states can't negotiate
- Three logics that explain rationalist wars:
 - Issue indivisibility
 - Commitment problems (states might renege on agreements)
 - **Private information and incentives to misrepresent information**



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Fearon's Rationalist Explanations for War

- Private information and incentives to misrepresent
- "Wars usually begin when two [actors] disagree on their relative strength (Blainey 1981)."
 - Blainey suggests: emotional commitments might bias assessments; complexity makes it hard to make estimates (heuristics); states have private information

A Flashback to Targeting...(Capabilities)

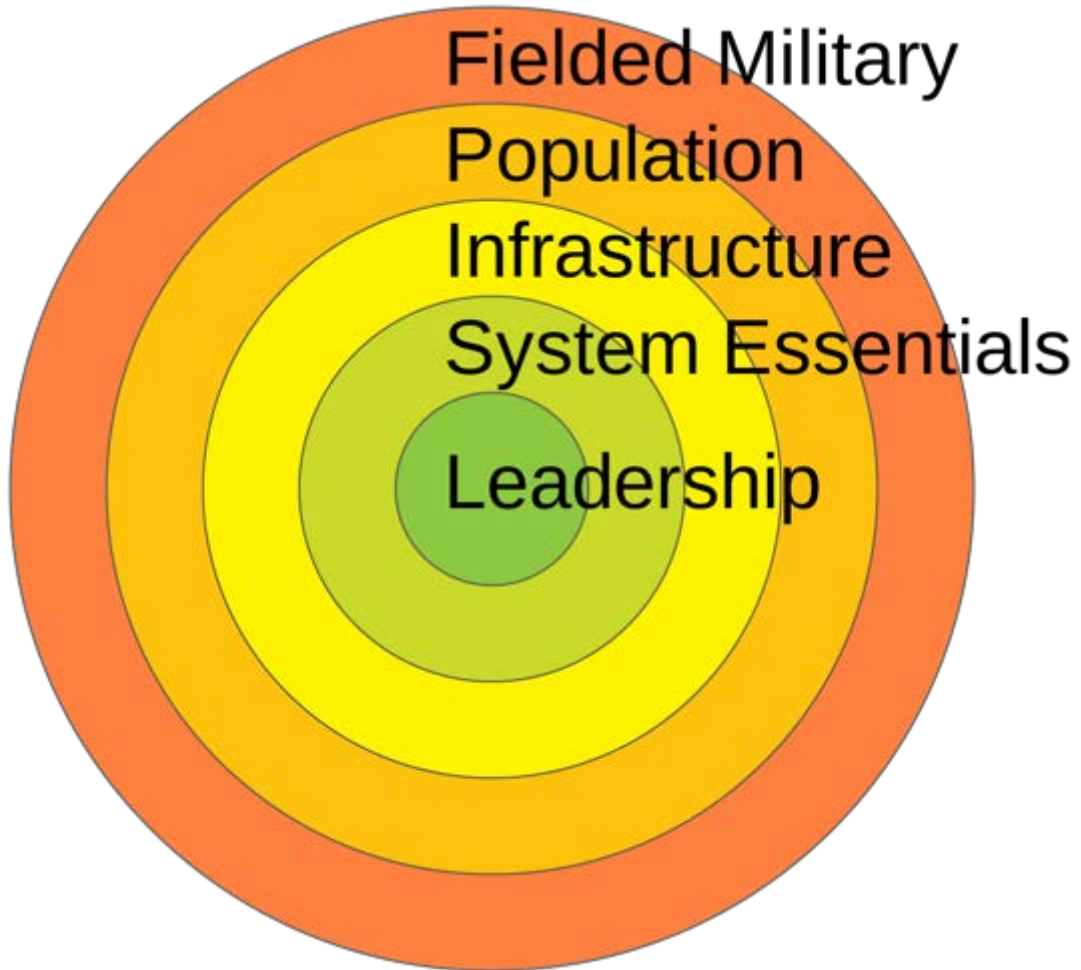


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Intentions



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Fearon's Rationalist Explanations for War

- Private information and incentives to misrepresent
- "Wars usually begin when two [actors] disagree on their relative strength (Blainey 1981)."
 - Blainey suggests: emotional commitments might bias assessments; complexity makes it hard to make estimates (heuristics); states have private information
- States want to avoid war but also want a favorable resolution
 - Might exaggerate capabilities/hide weaknesses
 - Might take actions that risk war (e.g., mobilizations)
- Leads states to miscalculate willingness/capability to fight

Gathering Information



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Gathering Information



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Gathering Information



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Gathering Information

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Your Army

No cellphones, laptops were allowed to go with Army 82nd paratroopers deploying to Middle East

Kyle Rempfer

January 6, 2020



Rempfer, Kyle. "No cellphones, laptops were allowed to go with Army 82nd paratroopers deploying to Middle East," *Army Times*, January 6, 2020. © Sightline Media Group. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Gathering Information



ReallyVirtual Sohaib Athar

@m0hcin all silent after the blast, but a friend heard it 6 km away too... the helicopter is gone too.

9 hours ago



ReallyVirtual Sohaib Athar

A huge window shaking bang here in Abbottabad Cantt. I hope its not the start of something nasty :-S

10 hours ago



ReallyVirtual Sohaib Athar

Go away helicopter - before I take out my giant swatter :-/

10 hours ago



ReallyVirtual Sohaib Athar

Helicopter hovering above Abbottabad at 1AM (is a rare event).

10 hours ago



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Gathering Information

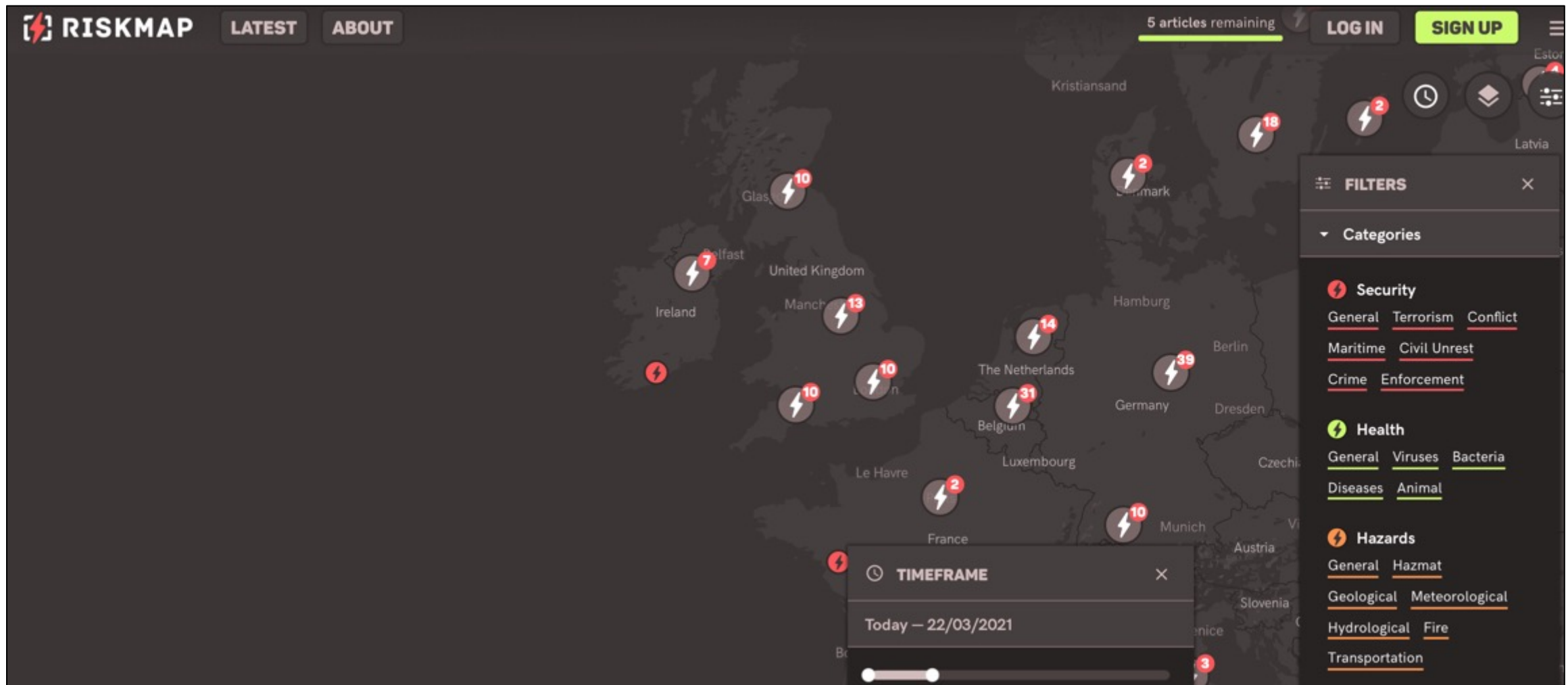
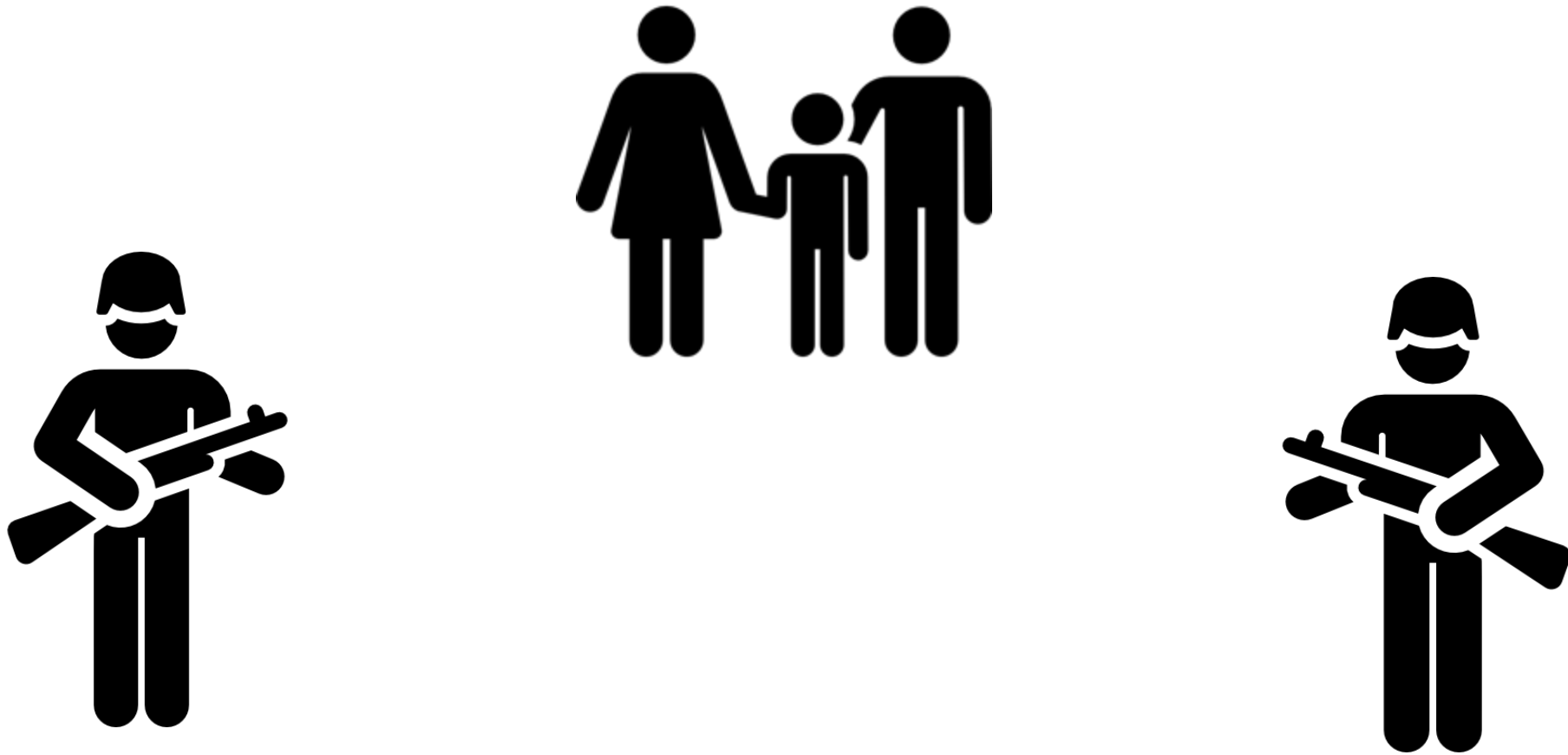


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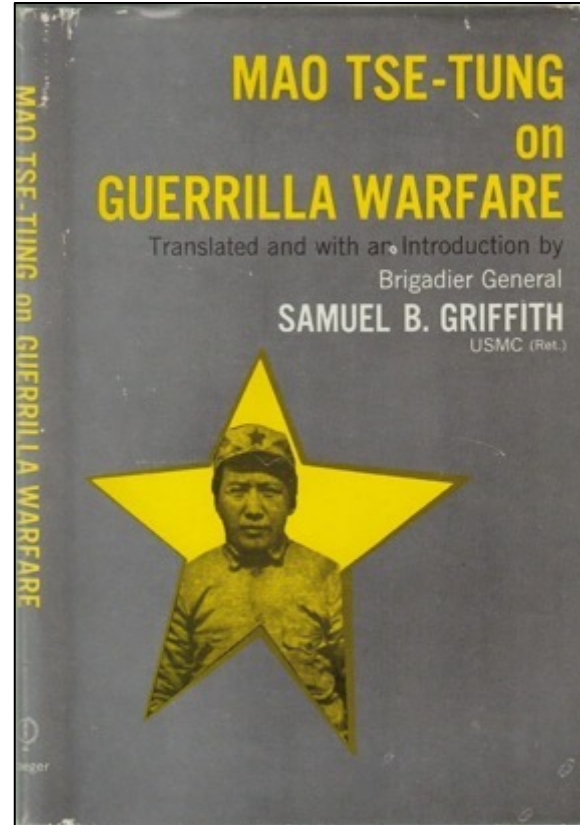
Information and (Counter)insurgency



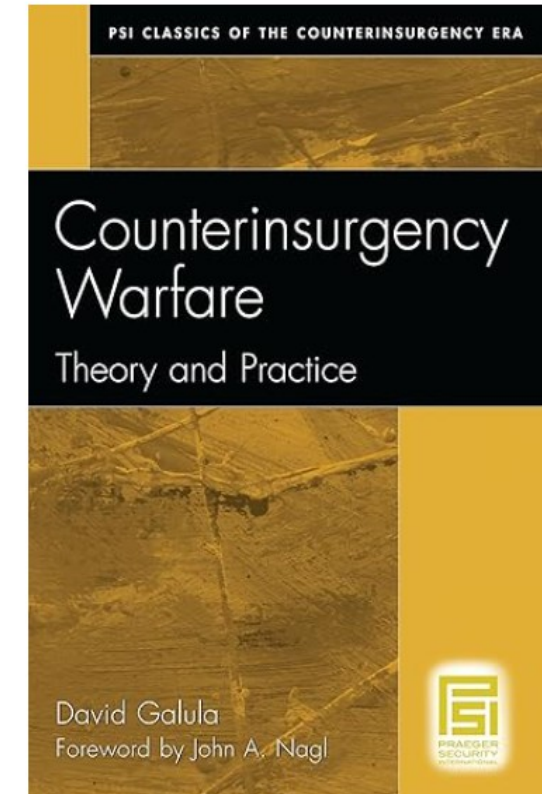
Information and (Counter)insurgency



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Mao Tse-tung On Guerrilla Warfare. Translated and with an introduction by Brigadier General Samuel B. Griffith. Praeger, 1961. © Praeger. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.



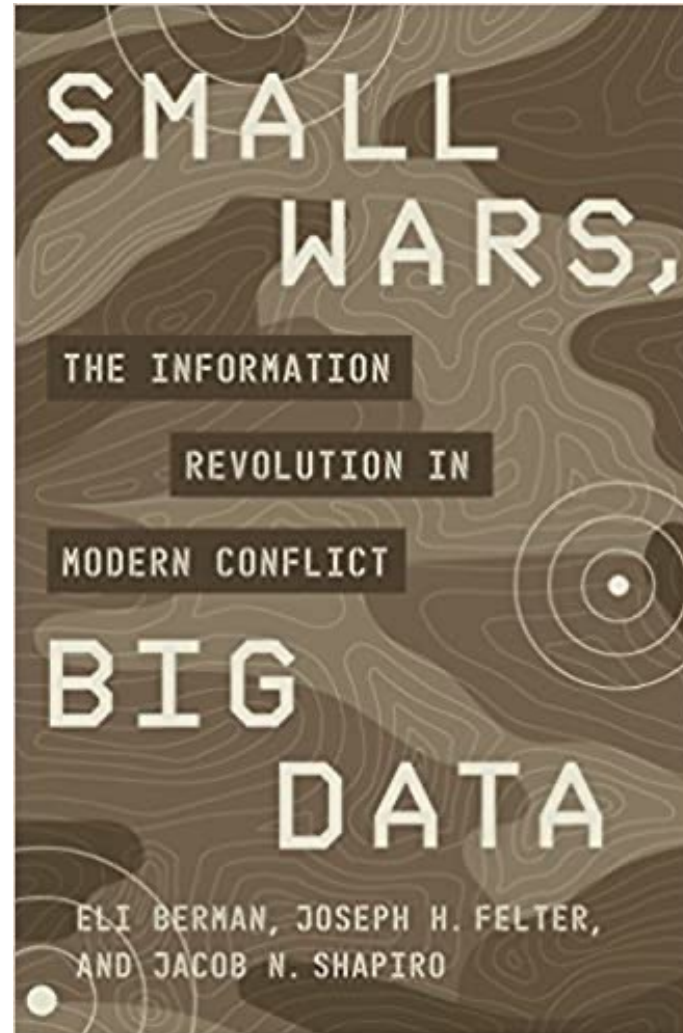
Galula, David. *Counter-Insurgency Warfare: Theory and Practice*. Praeger Security International, 2006. © Praeger Security International. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Information and (Counter)insurgency



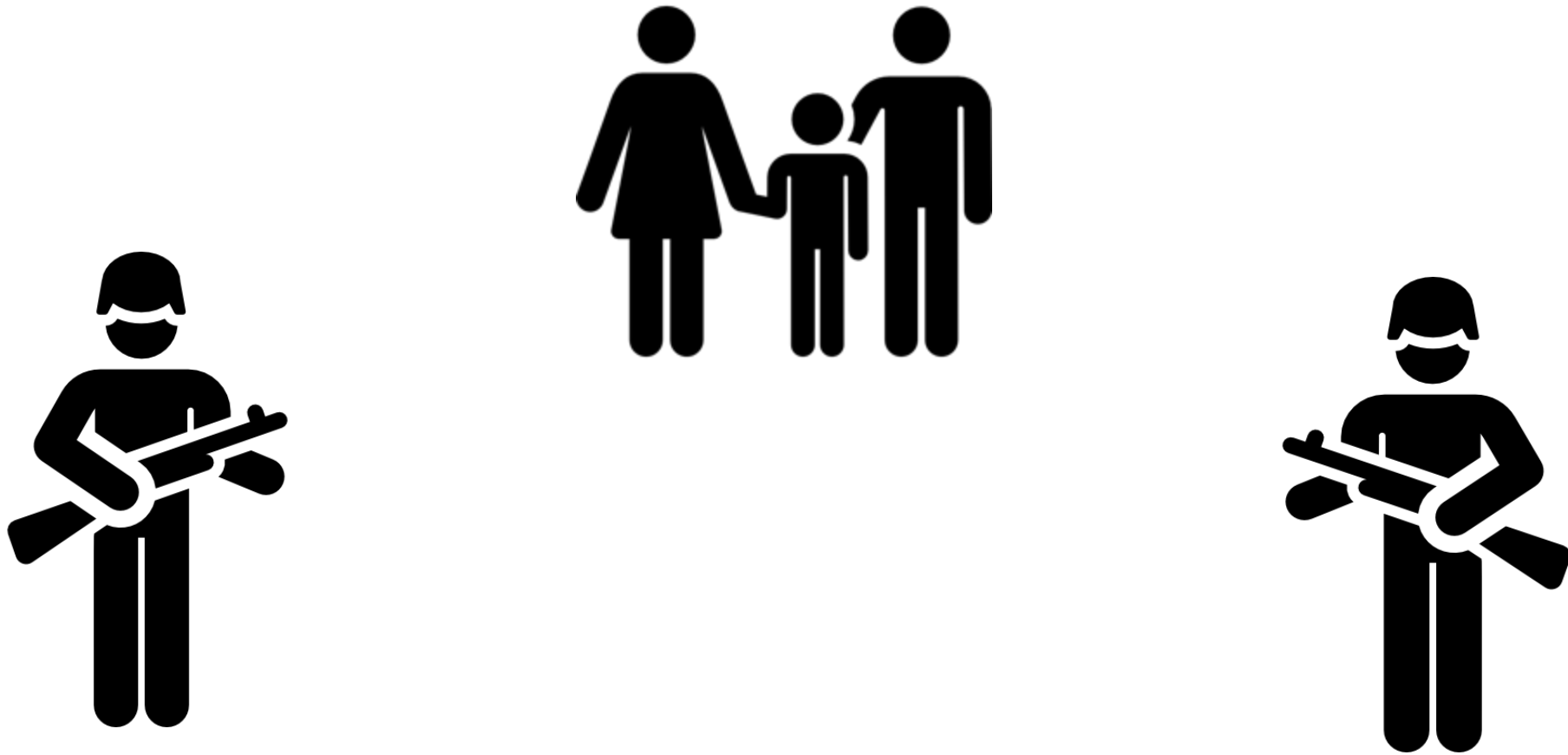
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Information and (Counter)insurgency



Berman, Eli, Joseph H. Felter, and Jacob N. Shapiro. *Small Wars, Big Data: The Information Revolution in Modern Conflict*. Princeton University Press, 2019. © Princeton University Press. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Information and (Counter)insurgency



Why does an actor report?

- **Don't Report**

- I (family) could be harmed
- Government might think I'm responsible

- **If I Report**

- Perhaps protect myself (family)
- But...what if insurgents find out?

- **Counterinsurgent wants to lower the cost/risk of reporting**

How do insurgents respond?

- **Overwhelm tip line**
 - Make it difficult to separate "signal from noise"
- **Try to eliminate means of reporting**
 - Destroy cell phone infrastructure (but this has downsides?)
 - Limited shut downs
 - Creates new relationships, actors, targets (private firms-insurgents)
- **Change tactics**
 - Indirect Fire vs. attacks that require me to be in an area
 - Shift operating areas (Boko Haram)

How do insurgents respond?

- But wait, what if ICTs (like cell phones help insurgents)?

How do insurgents respond?

- What choices do governments have?
 - Shut down communication networks?
 - But what are the risks/costs for the government?
 - Take no action and leave networks open
 - Again, what are the risks/costs?
- Mechanisms: SIGINT vs. Cell phone tips?
 - How do Berman et al. demonstrate that **tips** work?
- What affects how cell shutdowns affect violence?
 - Symmetric vs. asymmetric conflict matters

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