Necessary Conversations: Nuclear Fear & A First Look at Interrogation Policy

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Avoidance

Casualties

Purchasing Drug Research (Bioshield)

Radioactivity, Germs, Chemicals

Detention & Interrogation Policy
Nuclear Fear
Overview

Benchmarks

A Flawed Discourse?

What We Know About Risk Perception (Mostly Nuclear Power).

Culture
Politics, Media & Law
Psychology

Extension to “Dirty Bombs”

Before the Bomb
Immediate Aftermath
Long-Term Aftermath
Cosmic radiation
Exposure at Different Elevations

1 mrem/year = 200 feet of altitude
4 mrem/year = 800 feet
500 mrem/year = some isolated populations
(10 mrems = 0.1 mSv)
Units - Dose

- Complex system (absorbed, equivalent, effective dose)
- Historical: Rem (Roentgen equivalent man)
- Modern: Sievert

Scale of effects (acute exposure)

<table>
<thead>
<tr>
<th>Dose Range</th>
<th>Effect Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.200 Sv</td>
<td>??????</td>
</tr>
<tr>
<td>0.2 – 0.5 Sv (penetrating radiation)</td>
<td>No effect, increased or reduced cancer risk, depending on exposure conditions and individual susceptibility</td>
</tr>
<tr>
<td>0.2 – 10 Sv (alpha radiation)</td>
<td></td>
</tr>
<tr>
<td>0.50 Sv</td>
<td>Blood count changes</td>
</tr>
<tr>
<td>1.00 Sv</td>
<td>Vomiting (threshold)</td>
</tr>
<tr>
<td>1.50 Sv</td>
<td>Death (threshold)</td>
</tr>
</tbody>
</table>
Benchmarks

60 mS/year  Denver
200 mS  ???

50 mS/year radiation workers

National Response Plan Protective Action Guide = 1 mS/year
### Flawed Discourse?

<table>
<thead>
<tr>
<th></th>
<th>Dental</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laypeople</td>
<td>21/30</td>
<td>3/30</td>
</tr>
<tr>
<td>Experts</td>
<td>7/30</td>
<td>20/30</td>
</tr>
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### Ubiquitous Mistakes of Fact

- Agency vs. Expert
- Male vs. Female
Cultural Links to Risk Estimation

Imaginability
Memorability
(A Distorted Scale…)

Why Radioactivity?
Why Radioactivity?

Pre-19th Century
Alchemy – Great Knowledge, Benefit, Danger
Contamination

19th Century
Apocalyptic Novels

Late-19th Century
Uniting the Alchemy and Apocalyptic Threads
Around Radioactivity
Culture

Modernity (Pt. 1)

Frederick Soddy (1877 – 1956)

“Don’t call it transmutation. They’ll have our heads off as alchemists.”
- Ernest Rutherford (1901)

“Inexhaustible Power” (1903)

The earth is “a storehouse stuffed with explosives…and possibly only awaiting a suitable detonator to cause the earth to revert to chaos.” (1903)
Culture

Modernity (Pt. 2)

H.G. Wells, *The World Set Free* (1913)

Between the Wars (1919-1939)

A New Balance Between Hope and Fear
Hope Survives

European Spas
Radioactive Toothpaste

E.O. Lawrence & His Donors

The A-Bomb (1945)
Culture

Modernity (Pt. 3)

Fallout and Contamination (1950s)

The Nuclear Power Debate (1970s)

Contamination is Permanent

Natural vs. Artificial

“One Molecule” vs. “Dose Makes The Risk”
Regulation – The Good News

Acceptability declines with number of people exposed.

Voluntary risk limits are ~ Disease risk

We regulate involuntary risk 1000x more than voluntary risk.

Acceptability rises with cube of benefits.
Regulation – The Bad News

Your Life is Worth…
$6.5m at HHS
$6.1m at EPA.
$2.7m at FAA.
$1.6m at Agriculture.

Possible Explanations
Interest groups and agency advocacy.
Fossilized/Incomplete consensus.
Cheap Shots & Political Debate
“Everybody Knows…”
The Dan Quayle Effect

Media Bias
“If it Bleeds, It Leads…”

Plaintiff’s Lawyers
The “One Molecule Theory”
Experts & Media
Adjusting the Risk:
Dread + Familiarity
+ Potential Casualties (?)
Contamination
Contamination

Permanent  One Molecule Theory

Unbounded Response  Unbounded Response

Individual Psychology
An Interesting Non-Issue: Mode of Death
Communication

Volume, Multiple Sources, Reputation, Clarity, Trust, Disputes, Dramatization and Symbolism.

Reassurance is Undramatic
More Information → More Imaginability

Humans Dislike Uncertainty
Overconfidence
Resisting New Evidence
Denial - Implications for Nuclear Power
Preparedness is Important
Fears are Self-Fulfilling

Politics

*Courage, Leadership & Cheap Shots*
Teaching the Jury One True Thing
A Tipping Point?
“The Water’s Edge”
Lessons: Preparedness

Psychology

- Disproving Catastrophe
- Imaginability: Is Debate Counterproductive?
- Resistance to Evidence
- Dissonance & Benchmarking

A Difficult Problem...
Lessons:
The Day After

Stigma
Signaling
Lessons: Long Term

Denial
Banning the Threat Is Not an Option

The Familiar
Bombing (1930s vs. 1940s)
Denver (0.6 REM/year)?
Nuclear Weapons
Radon Apathy

Mode of Death Matters Little
Lessons: Long Term

Lessons: Mitigation

Traditional Advice

See Above: Volume, Multiple Sources, Reputation, Clarity, Trust, Disputes, Dramatization and Symbolism

Benchmarking

Apples to Apples
Dental X-Rays (Again)
Denver (Again)

Mental Models

Knowledge Gaps and Misconceptions
The One Molecule Theory?
Lessons:
Long Term

An Ineffective Weapon?
Smart Communication…
Health Physics


Culture:


Psychology:

Politics:


Radioactivity Before WWII:

A First Look
at Interrogation Policy

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Introduction

The Habit of Responsibility

Unfamiliar Territory

Line Drawing
Overview

Current Thought
Philosophy, Law, Treaties

Coercion vs. Torture?

Doing the Right Thing
525th Military Intelligence Brigade

Balance Sheet
Current Thought
Usual Approach:

“[W]hat had already become totally impossible under Catherine the Great, was all being practiced during the flowering of the glorious twentieth century – in a society based on socialist principles, and at a time when airplanes were flying and the radio and talking films had already appeared.”

Utility Theory/Cost Benefit:

“For the purpose of rescuing from torture these hundred innocents, should any scruple be made of applying equal or superior torture, to extract the requisite information from the mouth of one criminal?”

- Jeremy Bentham
Alternatives

“Shocks the Conscience”
- Felix Frankfurter

“Historical/aesthetic considerations”
- Alan Dershowitz

Bright Lines

Touching The Body
Military’s Treatment of Its Own People
Legal Doctrine:

Fifth Amendment (Self-Incrimination)
Fifth & Fourteenth Amendments (Due Process)
Eighth Amendment (Cruel and Unusual)
Geneva Convention Relative to the Treatment of Prisoners of War
Geneva Convention Against Torture
Article 17
Every prisoner of war, when questioned on the subject, is bound to give only his surname, first names and rank, date of birth, and army, regimental, personal or serial number, or failing this, equivalent information... No physical or mental torture, nor any other form of coercion, may be inflicted on prisoners of war to secure from them information of any kind whatever. Prisoners of war who refuse to answer may not be threatened, insulted, or exposed to any unpleasant or disadvantageous treatment of any kind.

Article 88
Officers, non-commissioned officers and men who are prisoners of war undergoing a disciplinary or judicial punishment, shall not be subjected to more severe treatment than that applied in respect of the same punishment to members of the armed forces of the Detaining Power of equivalent rank.

Article 89
In no case shall disciplinary punishments be inhuman, brutal or dangerous to the health of prisoners of war.
“For the purposes of this Convention, the term ‘torture’ means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession . . . when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity”

Geneva Convention Against Torture
The Logic of Interrogation
An Operational Distinction?

Interrogation vs. Torture

Does torture work?

Ancient Greek History
South Vietnam
Philippines Airliner Plot
CIA Manuals

Does interrogation work?
“From the moment you go to prison you must put your cozy past firmly behind you. At the very threshold, you must say to yourself: “My life is over, a little early to be sure, but there’s nothing to be done about it. … Confronted by such a prisoner, the interrogator will tremble.”

“But we were confounded by the utter directness of the lies. It wasn’t a kind of cocktail party fib, easily seen through, easily peeled away. It was the mindless refutation of the obvious. And forbidden from punishing anyone for noncooperation, we couldn’t do a damned thing about it.”

“As long ago as 1919 the chief method used by the interrogator was a revolver on the desk …”

“You can’t put a dagger on the table.”

Coercion But Not Torture?
Coercion But Not Torture?

Soviet Union (1920s-1950s):

Lies, Intimidation, enticement, promises, “playing on one’s affections.”

Persuasion, Foul Language, Confusion

Night, Sleeplessness, Assembly line interrogation

Bright lights, sound effects

“Stress positions,” kneeling, standing.

Humiliation.

Drugs

Beatings, Burns, Crushing, Extreme Heat.

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“Even students overheard by an instructor expressing macho admiration for this or that torture technique was given a failing mark for the day. If there was any suspicion on the instructors’ part about the restrain of a student, the offender was dismissed from the program.”

“But we were also coached in how to walk the Geneva Convention tightrope without falling off, how to make a prisoner threatened without issuing an explicit threat. . . You could tell the prisoner something like ‘Do you know how many of your own people were killed at the end of World War II when the German prisons opened?’ But you couldn’t take that extra step and say, ‘If we send you back, you know they’re going to kill you.’

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Afghanistan

“But, as I realized now, the trouble was that the safe route was ineffective. Prisoners overcame the Huachuca model almost effortlessly, confounding us not with clever cover stories but with simple refusal to cooperate.”

What Happened

“I never wavered in my commitment to the conventions, but I did begin to say, ‘Well, how can we justify this?’ It was like confronting a tax question back at the office: this is what we want the answer to be.”

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What Happened

Taking Advantage of Other Missions
Processing, Coca-Cola, Sleep Cycles
Masquerades & Forgeries
Stress Positions (But Only Sometimes)
Prolonged Questioning
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“The abiding theme of the Conventions is you can never treat prisoners worse than you treat your own men. And it was in that interpretation that I saw some wiggle room for us. It would be one thing if we were doing something to rig the game, like tag-teaming prisoners with multiple interrogators. What if we made it a rule that interrogations could go as long as the interrogator could hold up?”

Balance Sheet
Balance Sheet

Sincerity, Standards, and Legalism
Cruelty and Fastidiousness
No Good Answers
“Prisoner 237 plowed through the article . . . his face turning a paler shade with each page. Finally, he put it down on the table in the booth, rolled his head to the side, and vomited on the floor.”

“We failed to break prisoners who I have no doubt knew of terrorist plots or at least of terrorist cells that may one day do us harm.”

Primary Documents


References

Books


A.M. Dershowitz, Why Terrorism Works: Understanding the Threat, Responding to the Challenge
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A First Look at Interrogation Policy

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