

MUTUALLY ASSURED DESTRUCTION

LOGLINE

In this timely documentary, neuroscientist and former hacker, Moran Cerf, investigates the dangerous crossroads of crisis decision-making and nuclear weapons. Moran uncovers how *Mutually Assured Destruction* has a fatal flaw: humans are not rational. Could Artificial Intelligence help solve the problem?

SUMMARY

A nuclear attack without warning is the ultimate nightmare of every world leader: minutes to respond, millions of lives at stake, and ambiguous information driving one critical choice made by an irrational human brain that could end the world...

For almost a century, global peace and security has been maintained by *Deterrence Theory*: if one country attacks with nuclear weapons, then its enemy will respond in kind, and the result will be *Mutually Assured Destruction*. But does this logical mechanism guarantee a safe future? Can one irrational person, unforeseen accident, or technological fluke ignite the end of humanity?

Professor Moran Cerf, recipient of the prestigious Carnegie Nuclear Research Grant, takes us behind the scenes and into the command centers, think-tanks, and silos where the world's nine nuclear armed countries could decide to end humanity. Moran explores the debates behind the use of these doomsday weapons, innovations in behavioral decision-making, and potential for autonomous wars. What are the global strategies created to deter leaders from engaging in devastating conflicts – and how likely will those protocols fail?

In conversations with secretaries of defense, missileers and submarine commanders, NSA and CIA directors, behavioral scientists, historians, physicists, A.I. engineers, and nuclear weapons experts, Moran exposes us to the thin fabric of flawed reasoning that encompasses *Deterrence Theory*, and the new technologies that hold the potential to save us, or lead to our demise.

Discover the hidden stories, accidents, and near-misses that almost led to nuclear Armageddon, the decision-making cultures of each nuclear-bearing nation, as well as insights into the very recent war in Ukraine that has triggered a new nuclear standoff fueled by terrifying emerging technologies. Can Deterrence still be counted on?

Moran uncovers how fallible the current system is due to the assumption that the human brain is capable of rational thinking during high-risk-low-probability events. Ultimately, by challenging how we think of humans as optimal decision-makers, Moran explores whether Artificial Intelligence could save us from ourselves. Could thinking machines help solve the problem, or would they evolve into the horrifying adversaries that Hollywood movies often portray?

MUTUALLY ASSURED DESTRUCTION is a film that addresses one of the most critical risks in human history and the role it plays in the delicate balance of world power. Carl Sagan once quipped, “The nuclear arms race is like two sworn enemies standing waist deep in gasoline,” arguing who has more matches. Moran Cerf helps us see our world from a new perspective, with the hope of harnessing the advances in human thinking. A future where humans and machines merge their skills to solve the most difficult problem in the world:

How to think and live.

FEATURING:

INTERNATIONAL NUCLEAR WEAPONS

JEFFREY LEWIS	PROFESSOR / MIDDLEBURY INSTITUTE	UNITED STATES
PAVEL PODVIG	RESEARCH FELLOW / UNITED NATIONS INSTITUTE FOR DISARMAMENT RESEARCH	RUSSIA
TONG ZHAO	SENIOR FELLOW / NUCLEAR POLICY, CARNEGIE ENDOWMENT FOR PEACE	CHINA
BENOIT PELOPIDAS	FOUNDER / NUCLEAR KNOWLEDGES — STANFORD UNIVERSITY	FRANCE
AVNER COHEN	HISTORIAN / MIDDLEBURY INSTITUTE	ISRAEL
BRUCE BENNETT	SENIOR ANALYST / RAND CORPORATION	NORTH KOREA
ROBERT FORSYTH	NUCLEAR SUBMARINE COMMANDER / BRITISH ROYAL NAVY	UNITED KINGDOM
JOHN GOWER	ADMIRAL / BRITISH ROYAL NAVY	UNITED KINGDOM
OLAMIDE SAMUEL	PROFESSOR	AFRICA
SYLVIA MISHRA	NUCLEAR RESEARCHER / KING'S COLLEGE LONDON	INDIA - PAKISTAN

ARTIFICIAL INTELLIGENCE

DAVID FERRUCCI	FOUNDER / IBM WATSON	MACHINE DECISION, ELEMENTAL COGNITION
DOUG LENAT	FOUNDER / CYC — STANFORD UNIVERSITY	SYMBOLIC AI
PETER HANCOCK	PROFESSOR OF ENGINEERING / UNIVERSITY OF CENTRAL FLORIDA	COGNITIVE DESIGN, MAN-MACHINE TEAMS
ZACH KALLENBORNAS	POLICY FELLOW / SCHAR SCHOOL OF POLICY & GOVERNMENT	WMDS, DRONE SWARMS, AI TERRORISM
GRAHAM TAYLOR	PROFESSOR OF ENGINEERING / VECTOR INSTITUTE	MACHINE LEARNING, EXPLAINABLE AI
MICHAEL HOROWITZ	DIRECTOR / PERRY WORLD HOUSE, UNIVERSITY OF PENNSYLVANIA	AI MILITARY INNOVATION
YEJIN CHOI	SENIOR RESEARCHER / ALLEN INSTITUTE FOR AI	COMMONSENSE AI, PROJECT MOSAIC
ASHLEY LLORENS	VICE PRESIDENT, MICROSOFT RESEARCH	AUTONOMOUS MACHINE WAR
RAO KAMBHAMPATI	PRESIDENT / ASSOCIATION FOR THE ADVANCEMENT OF AI (AAAI)	HUMAN-AWARE AI
IYAD RAHWAN	DIRECTOR / MAX PLANCK INSTITUTE FOR HUMAN DEVELOPMENT	MACHINE AND AI ETHICS

GOVERNMENT / MILITARY

LEON PANETTA	SECRETARY OF DEFENSE — DIRECTOR, CIA — CHIEF OF STAFF / OBAMA	U.S. NUCLEAR STRATEGY, DECISION-MAKING
BARACK OBAMA	44 TH U.S. PRESIDENT	NUCLEAR DECISION-MAKING
DEBORAH ROSENBLUM	ASSISTANT SECRETARY OF DEFENSE FOR NUCLEAR & BIOLOGICAL DEFENSE / BIDEN	U.S. NUCLEAR STRATEGY, DECISION-MAKING
MICHAEL ROGERS	DIRECTOR / NSA — ADMIRAL / U.S. NAVY	U.S. NUCLEAR STRATEGY, DECISION-MAKING
BOBBY RAY INMAN	DIRECTOR / CIA — DIRECTOR / NSA — ADMIRAL / U.S. NAVY	U.S. NUCLEAR STRATEGY, DECISION-MAKING
JIM BOENSCH	U.S. NUCLEAR MISSILE LAUNCHER	MINIEMEN "MISSILEER"
ED KAPLAN	DEAN / U.S. ARMY WAR COLLEGE	U.S. NUCLEAR HISTORY & STRATEGY
JURGEN HEITMANN	U.S. NAVY SEAL	GROUP DECISION-MAKING, LEADERSHIP
ANAGHA IYENGAR	PROGRAM MANAGER / U.S. NATIONAL NUCLEAR SECURITY ADMINISTRATION	ATOMIC ENERGY SAFEGUARDS
JOHN G. FERRARI	MAJOR GENERAL, U.S. ARMY — AMERICAN ENTERPRISE FOUNDATION	CYBERSECURITY, U.S. NUCLEAR STRATEGY
ROBERT GREEN	NUCLEAR BOMBARDIER-NAVIGATOR / BRITISH ROYAL NAVY	NUCLEAR COMBAT
LEONOR TOMERO	DEPUTY ASSISTANT SECRETARY OF DEFENSE / NUCLEAR & MISSILE DEFENSE	U.S. NUCLEAR PLANNING AND BUDGETING
DOUGLAS SHAW	U.S. DEPARTMENT OF ENERGY — U.S. ARMS CONTROL 7 DISARMAMENT	DETERRENCE THEORY

SPECIALTY

DAN ARIELY	PROFESSOR OF PSYCHOLOGY & BEHAVIORAL ECONOMICS / DUKE UNIVERSITY	HIGH-RISK DECISION-MAKING, PSYCHOLOGY
JOAN ROHLFING	PRESIDENT / NUCLEAR THREATS INITIATIVE	NUCLEAR WEAPONS SECURITY & REDUCTION
SANDRA MATZ	PROFESSOR OF COMPUTATIONAL SOCIAL SCIENCE / COLUMBIA UNIVERSITY	BIG DATA AND PSYCHOLOGY
SHARON WEINER	SENIOR FELLOW, INTERNATIONAL PEACE & SECURITY / CARNEGIE CORPORATION OF NY	NUCLEAR WEAPONS, NON-PROLIFERATION
FRANK VNO HIPPEL	PROFESSOR OF THEORETICAL PHYSICS / PRINCETON UNIVERSITY	NUCLEAR PHYSICS
MARTIN HELLMAN	PROFESSOR OF CRYPTOLOGY / STANFORD UNIVERSITY	NUCLEAR THREATS & CYBER-SECURITY
JAMES ACTON	CO-DIRECTOR / NUCLEAR POLICY PROGRAM, CARNEGIE ENDOWMENT	ESCALATION RISKS, ARMS CONTROL
EMMA BELCHER	PRESIDENT / PROJECT PLOUGHARES	NUCLEAR NON-PROLIFERATION, REDUCTION
MIKE LIPPITZ	STRATEGIC TECHNOLOGY PLANNING / DEPARTMENT OF DEFENSE	DOD PROCUREMENT, SOVIET DETERRENCE
PAGE STOUTLAND	CYBER CONSULTANT / NUCLEAR THREAT INITIATIVE	NUCLEAR WEAPONS CYBER-SECURITY
LENN EDEN	SENIOR RESEARCH SCHOLAR EMERITUS / STANFORD UNIVERSITY	INTERNATIONAL SECURITY, ARMS CONTROL
ALEX WELLERSTEIN	NUCLEAR WEAPONS HISTORIAN / STEVENS INSTITUTE OF TECHNOLOGY	NUCLEAR LAUNCH PROTOCOL HISTORY
PABLOS HOLMAN	HACKER — INVENTOR — FUTURIST	UNCONVENTIONAL NUCLEAR FUTURES

PENDING CLEARANCE:

WILLIAM PERRY	SECRETARY OF DEFENSE / CLINTON	NUCLEAR ACCIDENTS
ERNIE MONIZ	SECRETARY OF ENERGY / OBAMA	NUCLEAR ACCIDENTS
HENRIK SKAUG SÆTRA	PROFESSOR OF COMPUTER SCIENCE AND ETHICS / ØSTFOLD UNIVERSITY COLLEGE,	AI ETHICS
GEOFF LING	FOUNDER OF THE DARPA BIOLOGICAL TECHNOLOGIES OFFICE	UNIMAGINABLE THREATS
HAROLD HERING	U.S. NUCLEAR MISSILE LAUNCHER	FLAWS IN THE NUCLEAR CHAIN OF COMMAND
RORY SUTHERLAND	MARKETING EXPERTS, CHAIRMAN OF THE OGILVY & MATHER GROUP (NOW WPP)	HOW TO SELL A WAR
SARA KUTCHESFAHANI	SENIOR POLICY ANALYST AT THE CENTER FOR ARMS CONTROL AND NON-PROLIFERATION	REDUCING NUCLEAR RISKS

ADDITIONAL INTERVIEWS:

DANIEL KAHNEMAN (NOBEL LAUREATE, ECONOMICS AND PSYCHOLOGY), **ESTHER PEREL** (RELATIONSHIP THERAPIST), **TIM URBAN** (WRITER, WAIT BUT WHY), **LAURIE SEGALL** (JOURNALIST AND FORMER CNN TECHNOLOGY EDITOR-AT-LARGE), **RAHZEL BROWN** (BEATBOXER), **NOURIEL ROUBINI** (PROFESSOR OF ECONOMICS, NEW YORK UNIVERSITY), **ERIC SCHURENBERG** (FORMER EDITOR-IN-CHIEF, INC. AND FAST COMPANY), **ROY RAMON** (FORMER ISRAELI SUBMARINE COMMANDER), **MICHAEL PLATT** (PROFESSOR OF NEUROSCIENCE AND DECISION-MAKING, WHARTON), **NORMAN PALMER** (FORMER DIRECTOR AT THE DEPARTMENT OF HOMELAND SECURITY), **PAUL COSTA** (HEAD OF ENGINEERING, APPLE), **PATTY MILLS** (BROOKLYN NETS BASKETBALL PLAYER), **ERIKA LAWLER** (OLYMPIAN MEDALIST), **BARBARA TVERSKY** (PROFESSOR OF ENTREPRENEURSHIP, UNIVERSITY OF CHICAGO), **GUY HOFFMAN** (PROFESSOR OF ROBOTICS, CORNELL UNIVERSITY), **JOSHUA ELLIOTT** (DARPA), **DIANA TAMIR** (PROFESSOR OF PSYCHOLOGY, PRINCETON UNIVERSITY), **JULIA LANE** (PROFESSOR OF PUBLIC SERVICE, NEW YORK UNIVERSITY), **SETH GOLDSTEIN** (PROFESSOR OF COMPUTER SCIENCE, CARNEGIE MELLON UNIVERSITY), **ANDY WALSH** (HUMAN PERFORMANCE EXPERT), **ALICA COHN** (EXECUTIVE COACH), **Yael HANEIN** (PROFESSOR OF ELECTRICAL ENGINEERING, TEL-AVIV UNIVERSITY), **ELAY DE BEER** (GAMING EXPERT), **JB MILLER** (HOLLYWOOD EXECUTIVE), **SUSANNA POLLACK** (PRESIDENT OF "GAMES FOR CHANGE"), **KYLE DROPP** (FOUNDER OF "MORNING CONSULT" POLLING COMPANY)