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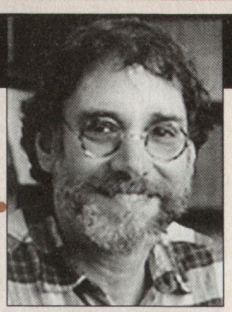
... dem Terrorismus- und Spieltheorieexperten



Prof. Dr. Todd Sandler

Interview mit Todd Sandler, Professor am Robert R. und Katheryn A. Dockson Lehrstuhl für Internationale Beziehungen und Wirtschaft an der University of Southern California, Los Angeles, USA.

Die mathematische Spieltheorie wurde in den Zwanzigerjahren durch den Mathematiker John von Neumann begründet und während des Zweiten Weltkrieges für die Analyse und Lösung strategischer Probleme eingesetzt. Dazu gehörten u.a. der Einsatz der US-Bomber im südwestlichen Pazifik gegen die japanischen Nachschublinien. Nach dem Zweiten Weltkrieg wurde die Spieltheorie auch für die Lösung wirtschaftlicher Probleme eingesetzt. Das bekannteste Modell der Spieltheorie ist das Zweipersonen-Nullsummenspiel, in dem, wie im Krieg, ein Akteur das gewinnt, was der Gegner verliert. Professor Sandler ist ein ausgewiesener Kenner der Materie und setzt die Spieltheorie bei der Analyse des Terrorismus praktisch um.

Der Autor ist der Meinung, dass die Spieltheorie sowohl in den internationalen Beziehungen als auch in den strategischen Studien eine prominente Rolle einnimmt. Zudem bietet sie ein aussagekräftiges Analyseinstrument im Bereich des internationalen Terrorismus. Diesen definiert der Autor als grenzüberschreitende, indirekte Strategie der Schwachen. Internationaler Terrorismus stellt nicht zuletzt ein Nebenprodukt bzw. Preis der Globalisierung dar. In seiner Forschung entwickelte der Autor verschiedene statische und dynamische Modelle zur Analyse des internationalen Terrorismus. Dass Regierungen oft gegeneinander arbeiten und dass bei der Verhinderung von terroristischen Anschlägen im Inland nur deren Verschiebung an andere geografische Orte stattfindet, sind nur zwei von vielen Forschungsergebnissen von Professor Sandler. A. St./ag

How do you assess the status of game theory in political science and strategic studies, respectively?

Game theory has gained prominence as a tool in political science and analytical-based strategic studies. Game theory is vital for these two fields because strategic interactions, where what I do depends on what another agent (sometimes, an adversary) does, permeate both areas of study. Interactive choices that cause players' payoffs to be interdependent are viewed as strategic. Strategic behavior also involves a recognition of this interdependence; one agent thinks that the opponent(s) will behave in a certain manner and acts on this presumption. Similarly, the opponent anticipates the other players' belief-based actions and chooses a strategy based on this belief, and so on.

In political science, all of the major journals now have articles using game theory in most issues. I co-authored two papers applying game theory to international terrorism in the *American Political Science Review.* For strategic studies, game theory is present, but in a less formal way – i.e., it underlies some authors' arguments.

How do you define international terrorism?

The best definition is the one that Edward Mickolus, Peter Flemming, Jean Murdock, and I use to put together our data set on International Terrorism: Attributes of Terrorist Events (ITERATE). This definition is as follows: International terrorism is the use, or threat of use, of anxiety-inducing, extranormal violence for political purposes by any individual or group, whether acting for or in opposition to established governmental authority, when such action is intended to influence the attitudes and behavior of a target group wider than the immediate victims and when, through the nationality or foreign ties of its perpetrators, through its location, through the nature of its institutional or human victims, or through the mechanics of its resolution, its ramifications transcend national boundaries. As such, incidents originating in one country and terminating in another are transnational, as are incidents involving demands made of a nation, its people, or institutions (e.g., a newspaper), other than where the incident occurs.

What role does international terrorism play in today's world?

International terrorism is a tool of the weak to create political change through fear induced by horrific acts. It has been used to influence foreign policy, topple regimes, create instability, and publicize causes or grievances. To date, it has been most effective in gaining attention. International terrorism is relatively cheap to perform and extremely expensive to protect against. This expense disparity arises because the terrorist can direct their resources to a sole target, while an intended target must guard almost everywhere. While terrorists have formed cooperative networks to utilize their resources efficiently, countries have been less successful at creating such networks as they try to maintain autonomy.

In many ways, international terrorism is a price that the world must pay in an integrated or globalized environment. Globalization augments cross-border transactions. One such transaction is international terrorism.

How do you assess the possibilities of validating data in non-zero-sum games?

What modelers have done is to build noncooperative game representations and then test the model's predictions against real-world observations. In the case of individual efforts to thwart terrorist attacks, I have shown that countries work at cross-purposes by overspending in efforts to transfer the attack abroad. A type of «deterrence race,» analogous to an arms race, results. Attacks against US interest abroad are a manifestation of US efforts to eliminate attacks at home.

What role does game theory play in analyzing international terrorism and international counterterrorism?

Game theory indicates the strategic interactions among potential targets in their efforts to thwart and divert attacks. Also, game theory captures the intense interaction between terrorists and government as both choose actions to counter those of their opponents. Not only can game theory model interactions at a point in

The National Security Strategy of the United States of America, September 2002

Am 17. September dieses Jahres hat das Weisse Haus, durch einen früheren Kongressbeschluss verpflichtet, einen Bericht über die Nationale Sicherheitsstrategie der Vereinigten Staaten vorgelegt. Bei näherer Betrachtung handelt es sich um die Sammlung verschiedener Referate, die Präsident Bush 2002 an verschiedenen Orten gehalten hat. Zwei Beiträge dürften für den Leser der ASMZ von Interesse sein:

1. Prevent Our Enemies from Threatening Us, Our Allies, and Our Friends with Weapons of Mass Destruction
2. Transform America's National Security Institutions to Meet the Challenges and Opportunities of the Twenty-First Century.

Im ersten Beitrag werden die «rogue States» wie folgt charakterisiert:

- brutalize their own people and squander their national resources for the personal gain of the rulers;
- display no regard for international law, threaten their neighbors, and callously violate international treaties to which they are party;
- are determined to acquire weapons of mass destruction, along with other advanced military technology, to be used as threats or offensively to achieve the aggressive designs of these regimes;
- sponsor terrorism around the globe; and
- reject basic human values and hate the United States and everything for which it stands.

Als mögliche Massnahme gegen Staaten, die über Massenvernichtungswaffen verfügen, werden in diesem Bericht präemptive Aktionen in Betracht gezogen:

«The United States has long maintained the option of preemptive actions to counter a sufficient threat to our national security. The greater the threat, the greater is the risk of inaction – and the more compelling the case for taking anticipatory action to defend ourselves, even if uncertainty remains as to the time and place of the enemy's attack. To forestall or prevent such hostile acts by our adversaries, the United States will, if necessary, act preemptively.

The United States will not use force in all cases to preempt emerging threats, nor should nations use preemption as a pretext for aggression. Yet in an age where the enemies of civilization openly and actively seek the world's most destructive technologies, the United States cannot remain idle while dangers gather.»

Im zweiten Bericht setzt sich der Präsident mit der Terrorismusbedrohung der USA auseinander:

«Terrorists attacked a symbol of American prosperity. They did not touch its source. America is successful because of the hard work, creativity, and enterprise of our people.»

Das Modell für die zukünftige Bekämpfung des Terrorismus ist die Operation «Enduring Freedom» gegen Afghanistan. Bei dieser Art von Operationen wollen sich die USA durch den internationalen Gerichtshof nicht einschränken lassen:

«We will take the actions necessary to ensure that our efforts to meet our global security commitments and protect Americans are not impaired by the potential for investigations, inquiry, or prosecution by the International Criminal Court (ICC), whose jurisdiction does not extend to Americans and which we do not accept. We will work together with other nations to avoid complications in our military operations and cooperation, through such mechanisms as multilateral and bilateral agreements that will protect U.S. nationals from the ICC. We will implement fully the American Servicemembers Protection Act, whose provisions are intended to ensure and enhance the protection of U.S. personnel and officials.»

Gegenüber früheren Berichten können auf Grund dieses Berichtes zwei Richtungsänderungen der Gesamtstrategie der USA abgeleitet werden:

1. gegen Schurkenstaaten mit Massenvernichtungswaffen sollen präemptive Aktionen geplant und ausgeführt werden;
2. der Terrorismus wird aktiv in jenen Staaten, die diese Organisationen beherbergen und fördern, bekämpft. Das Modell dazu ist Enduring Freedom.

Im Gegensatz zur Clinton-Administration hat die Gesamtstrategie der USA eine Verlagerung in Richtung Offensive erfahren. A. St.

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time, but it can also model interactions over time among a changing number of agents. Most important, game theory can incorporate uncertainty and learning in its analysis. In my published papers, I have applied game theory to identify more effective antiterrorism policies – e.g., in evaluating the installation of metal detectors at airports or stated polices not to negotiate with hostage takers.

Have you already developed an appropriate model and if yes, how does it look?

I have developed a host of different models which have appeared in such journals as the *American Economic Review, American Political Science Review, and Journal of Law and Economics.* These models incorporate both the goals and constraints of the adversaries. The dynamic model depends on a game-tree representation, where different choices have to be made by opponents over time. The static models address the strategic interaction within a single time period. For example, one set of models involves hostage taking and the optimal governmental responses.

What are your conclusions from your work?

My work shows that governments often work at odds with one another. That is, efforts to deter terrorism at home merely divert the attack abroad. Governments' pledges not to negotiate with terrorists are frequently violated unless an enforcement mechanism (e.g., constitutional amendment or law) is imposed. Retaliatory attacks often cause terrorists to change the timing of their attacks, with no overall decline in such attacks. Policies directed at one kind of terrorist incident (e.g., hijackings) cause the terrorists to substitute into another kind of event. Piecemeal cooperation among governments – e.g., sharing intelligence but not cooperating on counterterrorism – may exacerbate resource misallocation. ■

Gelesen

in Herald Tribune vom 23. Mai 2002, S. 14: ***"A new way to play war"*** U.S. Army lures youths with video games, by Alex Pham, Los Angeles Times.

The U.S. Army, realizing that American youth would rather play video games than do push-ups in the mud, was set Wednesday to unveil games designed to appeal to a media-saturated, tech-bombarded generation.

Though the military has long used realistic video games as training tools, this is the first time the army has relied on games to reach out to the public. The intent of the free games – which will be distributed starting in July at recruiting stations and on the army's Web site – is to sell the soldiering life.

"The goal was to give them a synthetic experience of being in the army in game form," said Michael Zyda, director of the Naval Postgraduate School's Modeling, Virtual Environments and Simulation Institute in Monterey, California, which developed both games.

The game project started two years ago, when the economy was bursting at the seams and dot-coms beckoned young people with the promise of riches and free-wheeling offices in which they could skateboard. The army spent $5 million to develop video games to show army life. Like unscripted TV shows, the games show mostly action, leaving out the boring parts.

Will that be good enough? "It can't hurt," said Charles Moskos, a specialist on public attitudes toward the military. "But a video game isn't going to be as good as real personal contact." ag