

CONTOURS: ON THE POLICY OF CONSEQUENCES AS SEEN THROUGH SOCIAL SCIENCES

*Mika Kerttunen**

ABSTRACT

This analysis situates the policy of consequences within the frameworks of strategy and decision-making, where similar logic has been applied. The article expands the risks-and-costs approach from primarily focusing on pain and reduction of vital values to also include benefits and rewards as essential tools in interpersonal and interstate cognitive-behavioural influence. The author argues that implementation of such a policy requires a tangible vision of a better state of affairs; credible capability to establish and implement the policy; assured intention to deploy consequences; and robust communication to create the desired perceptions of determination and capabilities.

TABLE OF CONTENTS

I.	INTRODUCTION	171
II.	RISKS, COSTS, AND BENEFITS IN INTERNATIONAL RELATIONS.....	172
	A. <i>Deterrence</i>	174
	B. <i>Game Theory</i>	174
	C. <i>Geoconomics</i>	175
	D. <i>Rational and Public Choice Theories</i>	176
	E. <i>Hegemony</i>	177
	F. <i>Cooperation</i>	178
	G. <i>Cognitive Impact</i>	180
	H. <i>Summary of Behaviours and Relations in Influencing Settings</i>	181
III.	CONCLUSION.....	182

I. INTRODUCTION

This comment looks for the guidance that social sciences can offer to resolve the practical problem at issue, here, of an enforceable schedule of consequences for cyber violations: How can the consensus be achieved among international actors—together with subsequent behaviour—that the costs of compliance are less than the costs of non-compliance? This background comment regards the policy of consequences as an example of an at-least-two-party relation, exchange, and form of cooperation, but also as an example of a method of state normative strategies. This comment examines the notions, assumptions, and conditions of political science, sociology, and strategic studies—cooperation, conditional learning, bargaining, and deterrence—that assume utilitarian ethics on the one hand, and on the other hand, the possibility of influencing the behaviour of other(s) by risk and

cost manoeuvres (even manipulation).

This analysis situates the policy of consequences within the frameworks of strategy and decision-making. At the same time, this analysis of the policy of consequences deliberately distances the concept and policy of deterrence—in particular, the narrow reading of deterrence as a method of punishment. Moreover, this analysis expands the risks-and-costs approach from negative, to neutral, and to positive. This expanded risks-costs-benefits approach covers not only pain and reduction of vital values, but also covers the managerial costs of regulation, enforcement, and maintenance of an order. This approach also regards as an essential tool in interpersonal and interstate cognitive-behavioural influence the negation of costs, namely via benefits and rewards.

II. RISKS, COSTS, AND BENEFITS IN INTERNATIONAL RELATIONS

The concept of influencing the adversary through risks, costs, and benefits considerations can be found in canonical political history and international relations literature. Thucydides offers an early reading of hegemonic interstate relations and persuasion in the “Melian Dialogue”:¹

[W]e recommend that you should try to get what it is possible for you to get, taking into consideration what we both really do think; since you know as well as we do that, when these matters are discussed by practical people, the standard of justice depends on the equality of power to compel and that in fact the strong do what they have the power to do and the weak accept what they have to accept.²

Similarly, the process of calculation can be found in classical Chinese strategic literature, including the Chinese concepts resembling the Western notion of strategy, which incorporate concepts of plans and processes, comprehensive and non-linear deception, and rational-mathematical calculation.³ Contemporary Western strategic thought is based on the notion of war as interaction between politically motivated

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* D.Soc.Sc. Mika Kerttunen is Director of Studies, Cyber Policy Institute, Adjunct Professor in Military Strategy at the Finnish National Defence University, and Visiting Staff Member of University of Tartu Law School.

** This comment draws from U.S. Department of State Deputy Coordinator for Cyber Issues Michele Markoff’s remarks at the MIT Conference on Cyber Norms (CCN5, March 2017), but does not necessarily, in its points of departure and interpretations, represent her position or intention.

1. THUCYDIDES, *Book V*, in HISTORY OF THE PELOPONNESIAN WAR, ¶¶ 84–116 (Rex Warner trans., 1954).

2. *Id.* ¶ 89.

3. MATTI NOJONEN, JYMÄTTÄMISEN TAITO: STRATEGIAOPPEJA MUINAISESTA KIINASTA 42–56, 63–67 (2008).

actors and strategy as interplay between desired objectives and available resources.⁴ Countries seek to solve their disputes and conflicts through a series of threats, offers, and conditions of behaviour. British Prime Minister Theresa May's conditioning of the post-Brexit U.K.-E.U. security cooperation⁵ triggered critical comments on coupling security with other trade-offs.⁶ More explicit use of threats, offers, conditions, and the play of action, and reaction can be detected in bilateral peace talks, conflict resolutions, and arms control negotiations. The Cuban Missile Crisis of 1962 and the American-Vietnamese war and peace process of 1965–1973, are among the best-documented and researched examples of threats, bargaining, and communication through words and deeds.

The bargaining power of *harm versus no harm* is most explicitly employed in the policy of deterrence and game theories. Schelling sets the fundamental thesis:

But suffering requires a victim that can feel pain or has something to lose. To inflict suffering gains nothing and saves nothing directly; it can only make people behave to avoid it. The only purpose . . . must be to influence somebody's behavior, to coerce his decision or choice. To be coercive, violence has to be anticipated. And it has to be avoidable by accommodation. The power to hurt is bargaining power. To exploit it is diplomacy—vicious diplomacy, but diplomacy.⁷

A. Deterrence

Deterrence, narrowly understood, refers to a threat of punishment.⁸ A wider

4. See, e.g., CARL VON CLAUSEWITZ, ON WAR (Michael Howard & Peter Paret eds. & trans., 1976); COLIN S. GRAY, STRATEGY AND HISTORY: ESSAYS ON THEORY AND PRACTICE 77–78 (Colin Gray & Williamson Murray eds., 2006) (discussing why there is a need for a structure of war which includes disarming the enemy, exertion of maximum strength, and the ability to evolve during the conflict).

5. Article 50 Letter from Theresa May, Prime Minister, U.K., to Donald Tusk, President, E.U. 3 (Mar. 29, 2017), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/604079/Prime_Ministers_letter_to_European_Council_President_Donald_Tusk.pdf (“If, however, we leave the European Union without an agreement[,] the default position is that we would have to trade on World Trade Organisation terms. In security terms[,] a failure to reach agreement would mean our cooperation in the fight against crime and terrorism would be weakened.”).

6. Anushka Asthana et al., *Don't Blackmail Us over Security, EU Warns May*, GUARDIAN (Mar. 30, 2017, 2:34 AM), <https://www.theguardian.com/politics/2017/mar/29/brexit-eu-condemns-mays-blackmail-over-security-cooperation>.

7. THOMAS C. SCHELLING, ARMS AND INFLUENCE 2 (1966). Vast air power literature provides useful insights on threats and bargaining. See, e.g., ROBERT A. PAPE, BOMBING TO WIN: AIR POWER AND COERCION IN WAR (Robert J. Art et al. eds., 1996); GLOBAL AIR POWER (John Andreas Olsen ed., 1st ed. 2011).

8. See THOMAS C. SCHELLING, THE STRATEGY OF CONFLICT 6 (1980) (discussing how the definition of deterrence has evolved); see also SCHELLING, ARMS AND INFLUENCE, *supra* note 7, at 70–73 (discussing that deterrence is a two-sided proposition that is contingent on assurances from the aggressor of the fact that imminent harm will come if not heeded); see generally Paul K. Davis, *Deterrence, Influence, Cyber Attack, and Cyber War*, 47 N.Y.U. J. INT'L L. & POL. 328 (2015).

reading acknowledges two aspects of deterrence: punishment and denial. The latest interpretation, especially tailored for cyber affairs, adds in the aspects of entanglement and “normative taboos.”⁹ Regardless of what is assumed to cause the deterring effect—abstaining from thought behaviour, pain, failure, rewards, accumulation of costs, or shame—the theory, or the theories, assumes the adversary acts rationally, basing her decision-making on calculation, weighing the totality of potential, while considering the likely costs and gains.¹⁰ Furthermore, the theory—and most importantly its credibility—assumes resemblance between the imposed threats, the values of the adversary, and the anticipated behaviour. Deterrence as a principal political commitment is absolute, yet real life choices and the operationalization of deterrence call for challenging value choices.¹¹

B. Game Theory

Similarly, *game theory*—a logical pursuit and methodology to model, predict, and explain behaviour—assumes rational calculative behaviour. Game theory calculations also take into account positive results where the amounts of costs and payoffs usually alternate between (a) and (-a). Also common between the theory and policy of deterrence and the methodology of game theory is that they assume an undefined degree of awareness of optional consequences—therefore, the options, costs, and benefits need to be communicated. Moreover, all parties need to become involved in the play, which is the issue in question. Similarity of values and interest—but also similarity of structures, processes, and involvement—increases the likelihood of successful cognitive-behavioural effects.

Real life manoeuvres, unlike “games,” are rarely symmetrical. There is an asymmetry of information. For example, while it is safe to assume that the attacker has a fairly complete knowledge of the targeted cyber system and the values associated with it, the defender is not necessarily aware of the attacker’s identity or of her strategy or payoffs. Moreover, the cyber defender may be forced to act only at certain points in time, while the cyber attacker is free to become active at any time. This is emblematic of the dilemma between *discrete time* for one player and *continuous time* for the other.¹²

9. See generally Joseph S. Nye, Jr., *Deterrence and Dissuasion in Cyberspace*, 41 INT'L SECURITY (No. 3) 44–71 (2016).

10. See GLENN H. SNYDER, DETERRENCE AND DEFENSE: TOWARD A THEORY OF NATIONAL SECURITY 10 (1961) (discussing how deterrence “is a function of cost-gain expectations of the party deterred”).

11. See, e.g., ANDREW RADIN, HYBRID WARFARE IN THE BALTICS: THREATS AND POTENTIAL RESPONSES 21–22 (2017), https://www.rand.org/content/dam/rand/pubs/research_reports/RR1500/RR1577/RAND_RR1577.pdf (discussing the ways in which social differences prevented more Ukrainians from joining the pro-Russian separatist movement); see also Andrew Higgins, *Two Border Cities Share Russian History—and a Sharp European Divide*, N.Y. TIMES (Nov. 9, 2017), <https://www.nytimes.com/2017/11/09/world/europe/narva-estonia-ivangorod-russia.html> (discussing the cultural divide between two cities separated by a relatively narrow river).

12. See, e.g., Kien C. Nguyen et al., *Security Games with Incomplete Information*, IEEE INT'L CONFERENCE ON COMM. (2009), <http://ieeexplore.ieee.org/document/5199443/?part=1> (studying the game theory of security games and discrete time); Stefan Rass et al., *Defending Against Advanced Persistent Threats Using Game-Theory*, PLOS ONE (2017),

C. Geoeconomics

The notion of *geoeconomics*—defined as a method of analysis and as a form of statecraft—is “the use of economic instruments to promote and defend national interests, and to produce beneficial geopolitical results; and the effects of other nations’ economic actions on a country’s geopolitical goals.”¹³ Geoeconomics similarly assumes rationality. In fact, it assumes economic rationality—a play of rather tangible payoffs and costs. Blackwill and Harris examine seven instruments “suited to geopolitical application: trade policy, investment policy, economic and financial sanctions, cyber, [economic assistance or] aid, financial and monetary policy, and energy and commodities.”¹⁴ They “view cyber as among the newest, most powerful geo-economic instruments.”¹⁵ Blackwill and Harris specify geoeconomics-based cyberattacks as (i) state sponsored, (ii) attempting economic influence as a means to affect state behaviour, (iii) “making use of economic or financial market mechanisms and seeking to impose economic costs as part of a larger geopolitical agenda,” and (iv) entailing attacks “to degrade or compromise another country’s [or a target’s] critical economic or financial infrastructure or its major economic or commercial entities.”¹⁶ The last is exemplified as theft of commercial intellectual property, bringing down individual companies, undermining national economic sectors, and compromising critical infrastructure. Blackwill and Harris view cyber means as threats against the United States and Western states and companies, and recognize the need to prevent and mitigate these threats. However, they do not examine cyberspace as a potential venue to employ cyber means for the promotion of national interests and for influence projection by the U.S. government, whether in a friendly or unfriendly manner.¹⁷

D. Rational and Public Choice Theories

As mentioned, *rational and public choice theories* and strategy assume rationality of action and decision-making. The following three models of behaviour and decision-making are the most common:

- Rational actor model (and individual decision-making): Considers countries as unitary decision-makers and their actions as purposive, rational, and value-maximizing.¹⁸

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0168675> (discussing how advanced persistent threats include attacks that include social engineering and technical exploits).

13. ROBERT D. BLACKWILL & JENNIFER M. HARRIS, WAR BY OTHER MEANS: GEOECONOMICS AND STATECRAFT 20 (2016).

14. *Id.* at 49.

15. *Id.* at 59.

16. *Id.* at 60.

17. *Id.* at 20, 49–92, 237–38.

18. GRAHAM ALLISON & PHILIP ZELIKOW, ESSENCE OF DECISION: EXPLAINING THE CUBAN MISSILE CRISIS 13–54 (2d ed. 1999); see generally JÜRGEN HABERMAS, BETWEEN FACTS AND NORMS: CONTRIBUTIONS TO A DISCOURSE THEORY OF LAW AND DEMOCRACY 332–36 (William Rehg trans., 1996); SCHELLING, *supra* note 7, at 13–20; Colonel (Retired) Charles D. Allen & Dr. Breena E. Coates, Ph.D., *Strategic Decision Making Paradigms: A Primer for Senior Leaders*, U.S.

- Organizational behaviour model (systemic decision-making): Considers countries as non-unitary decision-makers. Looks at foreign policy actions as outputs of the many large organizations which, combined, constitute a government, each working according to their standard patterns of behaviour. Decision-making is rational (but not strategic/bargaining), as it follows the encapsulated and bounded rules and procedures of rationality.¹⁹
- Governmental politics model (collective decision-making): Considers countries as non-unitary decision-makers. Conceives foreign policy actions as resultant of the politics, bargaining, idea-sharing, and power-playing that go on in the national government. Decision-making is strategic and rational, but local, institutional, and personal level preferences come to play.²⁰

The key question—and independent variable—becomes of the rationality, logic, reasoning, and common sense behind decisions that results in a categorical behaviour originating entirely from the reason.²¹ Firstly, what rationality is counted in; secondly, how rationality is understood; thirdly, the role of anomalies, uncertainty, and irrationality; and, ultimately, whether value orientations and interest positions are similar or different notions: the former, a domain of emotions and normativism, and the latter, a domain of cognitive rationality.

Regarding rationality, elite theory assumes rulers and administrative elites operate relatively independently of the society and value orientations. On the contrary, their rationality is based on expert (scientific) knowledge and the goal of greatest benefits, net of costs. Accordingly, systems theory speaks of autonomous subsystems and administrative self-reflective steering, and the economic theory of democracy takes into account the self-interested egocentric behaviour of the participants. Contemporary political science and sociology has contested the possibility of instrumental, utilitarian, and comprehensive rationality: norms, values, and belief systems seem to operate outside of maximizing rationality.²² Overall, bias evidence suggests people make a wide variety of substantial and systematic errors, even in economic decisions.²³

Norm-conformative behaviour, irrational in this respect, cannot be explained

ARMY WAR C. (July 2009), http://www.au.af.mil/au/awc/awcgate/army-usawc/strat_dm_paradigms.pdf.

19. ALLISON & ZELIKOW, *supra* note 18, at 143–85.

20. *Id.* at 255–313.

21. See ANTHONY KELLY, DECISION MAKING USING GAME THEORY: AN INTRODUCTION FOR MANAGERS 175 (2003) (“Kant defines rationality as behaviour in line with *categorical imperatives* or laws that prescribe a certain type of behaviour derived from reason alone.”).

22. See generally PATRICK DUNLEAVY & BRENDAN O’LEARY, THEORIES OF THE STATE: THE POLITICS OF LIBERAL DEMOCRACY 90–92, 137–45, 169–82, 314–15 (1987); see generally HABERMAS, *supra* note 18, at 332–41 (referring to JON ELSTER, THE CEMENT OF SOCIETY: A STUDY OF SOCIAL ORDER (Jon Elster & Michael S. McPherson eds., 1989)); THOMAS C. SCHELLING, MICROMOTIVES AND MACROBEHAVIOR (1978).

23. See, e.g., John Conlisk, *Why Bounded Rationality?*, 34 J. ECON. LITERATURE (No. 2) 669 (June 1996) (discussing evidence, success, methodology, and scarcity as legitimate reasons to study bounded rationality).

as purposive-rational in avoidance of internalized sanctions (e.g., shaming), as an actor rationally cannot resolve to act irrationally. Norms, value orientations, and belief systems—the maintained behavioural expectations—are immune, or, at least, resistant to learning and rapid adaptation. Moreover, rationally motivated action, bargaining, and argumentation can only take place in negotiations between rationally oriented actors.²⁴

E. Hegemony

Imposing and implementing preferred rules of behaviour upon others are known hallmarks of *hegemonic* behaviour and hegemonic stability theory. *Pax Romana*, *Pax Americana*, the *Monroe Doctrine*, the *Brezhnev Doctrine*, and other labels of and zones of influence all testify of a regionally and militarily dominant power regulating, pacifying, and stabilizing its immediate surroundings and self-declared spheres. On a global scale, such epochs, leadership, or balances of political power add up to unilateral, bipolar, or multipolar world orders. Hegemonic patterns of law and order fall close to colonial rule and can also be seen as manifestations of vast material inequality—even without any adherence to Gramscian notions of class.

What is common in hegemonic-dominant patterns of control is the employment of a variety of state instruments of power. Political, societal, and social order is maintained through administrative and legal measures; strong intelligence, military, and law enforcement communities; educational and cultural training and indoctrination; and economic, financial, and trade agreements.²⁵ When it comes to international law, dominant powers seem to oscillate between instrumentalization of and withdrawal from it—that is, they either seeking to develop or evade international legal order.²⁶

A more permissive reading of hegemony portrays it as “about the adoption of rules of economic and political life that reorient and reorganize world politics[;]” and “the enrollment of others in the exercise of your power by convincing, cajoling, and coercing them that they should want what you want.”²⁷ Being able to enroll others to follow set rules, thus becomes as much a question of vision, dialogue, commitment, and cooperation as an exercise of coercive or punitive power. It is also essential to differentiate the venues of international regulation: rules can be set and implemented through other states/governments, international organizations, or private companies, as well through the means of regulation from treaties, customary

24. *Id.*

25. See, e.g., RAYMOND WILLIAMS, MARXISM AND LITERATURE 108–14 (Steven Lukes gen. ed., 1977) (describing Williams’s account of hegemony as a lived experience and dynamic process exceeding any particular ideology and where opposition is controlled, transformed, or neutralized).

26. See, e.g., Nico Krisch, *International Law in Times of Hegemony: Unequal Power and the Shaping of the International Legal Order*, 16 EUR. J. OF INT’L L. (No. 3) 369–408 (2005) (discussing how hegemony and the existence of international law are intertwined, and the latter is dependent on the balance of power).

27. JON AGNEW, HEGEMONY: THE NEW SHAPE OF GLOBAL POWER ix, 1–3, 9 (2005) (arguing that “marketplace society [the American Main Streets and malls] defines the core attributes of American hegemony, not the mimesis or restructuring of world politics around a political division of labor redolent of American constitutionalism”).

law, and soft law to standards and even code.²⁸

F. Cooperation

Commitment to the policy of consequences is a particular form of cooperation. Cooperation can be defined as actors adjusting “their behaviour to the actual or anticipated preferences of others, through a process of policy coordination.”²⁹ Thus, cooperation requires that the involved actors firstly—at some minimal level—acknowledge and share similar goals, and secondly gain rewards.³⁰ This expectation raises two main challenges: who defines the goals (and how); and how are the costs and gains distributed among the participants.

While shared goals, threats, and potential gains explain cooperation, it can also be expected to occur when:

- The number of participants is relatively low;³¹
- The participants believe they will, and do, continue to interact with each other for a significant period of time, increasing trust and efficiency through repeated positive exchanges;³²
- International regimes, organizations, or other external actors facilitate cooperation;³³
- Epistemic, expert communities speak for cooperation;³⁴
- Power and capability asymmetry exist, allowing the stronger actors to

28. See, e.g., Richard Ned Lebow, *The Power of Persuasion*, in POWER IN WORLD POLITICS 120, 120–40 (Felix Berenskoetter & M. J. Williams eds., 2007); see also, e.g., Lawrence Lessig, *Code is Law: On Liberty in Cyberspace*, HARV. MAG. (Jan.–Feb. 2000) (discussing how new regulations on cyberspace can encroach on constitutional tradition); see generally Krisch, *supra* note 26.

29. ROBERT O. KEOHANE, AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY 51 (1984).

30. See Helen Milner, *International Theories of Cooperation among Nations: Strengths and Weaknesses*, 44 WORLD POL. 466 (1992) (discussing how cooperation amongst states grants states the ability to help improve the general welfare of one another).

31. However, a larger number of participants would increase the opportunities of interaction and gains as well as legitimacy. *Id.* at 470–80 (following R. Keohane, S. Krasner, R. Axelrod, E. Haas, and J. Grieco); see also Ann L. Herbert, *Cooperation in International Relations: A Comparison of Keohane, Haas and Franck*, 14 BERKELEY J. INT'L L. 222 (1996).

32. Milner, *supra* note 30, at 474.

33. *Id.*, at 470–80; see also Herbert, *supra* note 28, at 222.

34. *Id.*

have more dominant roles, while enabling the weaker ones to excel in niche capabilities and receive absolute gains.³⁵

On the other hand, due to the lack of shared goals, experiences of mutually beneficial cooperation, and required expertise, a push for cooperation remains lukewarm. Especially in the case of several participants, the risk of freeriding—taking the benefits without fully committing—is obvious. Without such sharing of values and measures—the partners and allies, while facing domestic pressure and international influence—can seek a waiver of their commitment. Accordingly, opponents would do their utmost to deny and degrade international and legal support of commitments that could undermine their purposes.

Any effective policy of commitment—be it a treaty, nuclear guarantees, or influencing with consequences—requires projection of intentions: first, by having (or acquiring) them, and second, by persuasively communicating them.³⁶ The practical problems of communication are three-fold: the message needs to be received by the intended recipient; it needs to be understood the way it is intended to be understood; and that understanding has to resonate with the recipient.³⁷ While communication among the committed has to be explicit regarding both risks/costs and benefits/rewards, communication towards others has to be explicit on anticipated benefits, but remain opaque on risks and costs.³⁸ The more precise the communicated schedule of consequences becomes, the easier it is for adversaries and opportunists to find avenues of circumvention. Furthermore, it is essential to convince the domestic and international publics of the justice and legitimacy of responses.³⁹

The ultimate end-state of commitment and communication needs to be “a position where we cannot fail to react as we said we would[.] . . . or where we would be obliged by some overwhelming cost of not reacting in the manner we had declared.”⁴⁰ It must be a position where the commitment is credible, without a doubt.

G. Cognitive Impact

State behaviour is ultimately individual decision-maker or operator behaviour. As argued in the theory of operant or instrumental conditioning, the psychological and behavioural element of consequences sheds light on types of consequences, which integrates positive and negative conditioning into practices.⁴¹

Reinforcement is a process of increasing the frequency or rate of a behaviour by means of presenting an appropriate and relevant stimulus shortly after the display

35. *Id.*

36. SCHELLING, ARMS AND INFLUENCE, *supra* note 6, at 36 (providing that capabilities alone are not sufficient to persuade enemies or allies).

37. *Id.* at 36–39.

38. *Id.*

39. Nye, *supra* note 9, at 51.

40. SCHELLING, ARMS AND INFLUENCE, *supra* note 6, at 43.

41. *Operant Conditioning*, OMICS INT'L, http://research.omicsgroup.org/index.php/Operant_conditioning (last visited on Feb. 2, 2018) (noting that the theory of operant conditioning was developed by B.F. Skinner).

of the behaviour. The event that intensifies the likelihood of the behaviour to be repeated is called a reinforcer. Punishment is a process wherein a stimulus is presented after the display of behaviour and causes a decline in the likelihood of this behaviour to reoccur. There are five main methods of reinforcing or punishing consequences:

- Positive reinforcement: Behaviour (or response) is followed by a stimulus that is appetitive or rewarding, increasing the frequency of that behavior.⁴²
- Negative reinforcement (escape): Behavior is intensified by the removal of an aversive stimulus, thereby increasing that behavior's frequency.⁴³
- Positive punishment (punishment): Behavior is followed by an aversive stimulus causing the decrease in repeating the behavior.⁴⁴
- Negative punishment (penalty/removal): The removal of something which is favorable, to decrease the likelihood of the behavior to reoccur.⁴⁵
- Extinction of behaviour: Caused by the lack of any consequence following a behavior. When a behavior is inconsequential (i.e., producing neither favorable nor unfavorable consequences or results) it will occur less frequently. When a previously reinforced behavior is no longer reinforced with either positive or negative reinforcement, it leads to extinction in that behavior.⁴⁶

Accordingly, the effect of reinforcement and punishment can be changed in various ways.

- Satiation/Deprivation: The effectiveness of a positive or “appetitive” stimulus will be reduced if the individual has received enough of that stimulus to satisfy its appetite. The opposite effect will occur if the individual becomes deprived of that stimulus: the effectiveness of a consequence will then increase. If someone is not hungry, food will not be an effective reinforcer for behavior.⁴⁷
- Immediacy: An immediate consequence is more effective than a delayed consequence. If one gives a dog a treat for “sitting” right away, the dog will learn faster than if the treat is given later.⁴⁸
- Contingency: To be most effective, reinforcement should occur consistently after responses and not at other times. Learning may be slower if reinforcement is intermittent, that is, following only some instances of the same response, but responses reinforced intermittently are usually much slower to extinguish than are responses that have always been reinforced.⁴⁹

42. DANIEL L. SCHACTER ET AL., PSYCHOLOGY 278–88 (2d ed. 2010).

43. *Id.*

44. *Id.*

45. *Id.*

46. *Id.*

47. RAYMOND G. MILTENBERGER, BEHAVIOR MODIFICATION: PRINCIPLES AND PROCEDURES 84–86 (4th ed. 2007).

48. *Id.*

49. *Id.*

- Size: The size, or amount, of a stimulus often affects its potency as a reinforcer. Humans and animals engage in a sort of “cost-benefit” analysis. A tiny amount of food may not “be worth” an effortful lever press for a rat. A pile of quarters from a slot machine may keep a gambler pulling the lever longer than a single quarter.⁵⁰

H. Summary of Behaviours and Relations in Influencing Settings

While making significant shortcuts and generalizations, the following table of state actor relationships and behaviours within the influence seeking of international relations, identifies and combines acknowledged formats with a number of identified elements of interrelations. It also relates the formats to the continuum of and elemental features of human strategic behaviour, as outlined by Freedman in *Strategy, A History*.⁵¹ The notions of coalition forming, deception, and brute force—albeit of strategy—emphasize more the character than the nature of strategy.⁵² Similarly, they speak of the character of the interaction in question.

	Cooperation	Compliance	Deterrence	Coercion
Argument	“You might”	“You should”	“If you”	“You must”
Nature of relationship	Equal	Hierarchic	Mutual	Hegemonic
Nature of communication	Open, discursive and explicit	Arguing	Set and explicitly implicit	One-sided, dictating and explicit
Foundation of calculation	Anticipation of relevance and relative and/or absolute rewards	Anticipation of acceptance	Avoidance of costs	Avoidance of irrelevance
Foundation of behaviour	Positive opportunism	Negative opportunism	Risk of escalation	Force
Capabilities	Known or expected	Known	Known to uncertain	Credible
Main deficiency	Different expectations	Different motivations	Credibility	Questionable continuity

Dominant	< Coalition forming >	< Deception >	< Brute force >
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50. *Id.*

51. See LAWRENCE FREEDMAN, STRATEGY: A HISTORY 3–9 (1st ed. 2013) (“there are elemental features of human strategy that are common across time and space. These include deception and coalition forming. . .”).

52. COLIN S. GRAY, THE FUTURE OF STRATEGY (1st ed. 2015) (following Clausewitz’s ontological stand on war as expressed in “the remarkable trinity”).

features of strategy	
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This table highlights the main underlying assumptions (theoretical and practical) each relationship automatically carries. Only by acknowledging such premises, strengths, and weaknesses, are we able to effectively utilize, improve, or disregard them.

III. CONCLUSION

The policy of consequences operates within the three main state-centric theories (assumptions) of peace and stability: the hegemonic ability to coerce and punish; the balance of power and the necessity to deny; and the benevolent market democracy with the possibility, even expectation of rewards.⁵³ Moreover, the policy of consequences operates with compliance, regimes, and functional jurisprudence, rather than political negotiations and the formalism of law. Thus the position of power and the urgent necessity equal the premises of universal legal support. Such formed and wielded policy obviously could not escape becoming respectively targeted as unilateral and oppressive, elitist and exclusive, and unjust and ineffective.

To be able to credibly change unwanted, or maintain desired, behaviour by harming or rewarding, a state needs firstly to have a tangible vision of a better state of affairs, at least for those immediately involved. Secondly, it needs capability to establish and implement the policy—without deployable and employable capabilities, a policy of consequences would be based on a bluff. Thirdly, even the most robust and available cyber capabilities without a commitment—an intention to use if and when needed—would at best create uncertainty, and at worst disbelief among other actors. Fourthly, the policy needs to be communicated to potentially supportive and potentially opposing audiences in manners that create the desired perceptions of determination.

Combining the classical notions of deterrence with a behavioural approach, it is possible to distinguish a four-tiered typology of consequence projection:

- Rewards: Offering direct or indirect payoffs;
- Support: Increasing capacity to prevent and deter hostile signals and attacks;
- Punishment: Causing damage to or degrading systems or services; and
- Denial: Denying access to data, services and entities.

Obviously, the proposed, anticipated, and projected consequences may cover all the major governmental policy areas with effective global reach. Most importantly: foreign, security, defence, economy, trade, financial, and industrial policies. Together with the additional aspects of *inter alia* immediacy, duration, scope, volume, and actors involved, such a framework can be developed into a

53. Other clusters of peace theories include, among others, developmental theories and individualistic theories—the latter assuming awakening or emancipation of a religious, ecological, non-violent, or feminist nature.

detailed and ultimately classified schedule or action plan of consequences in accordance with the U.S. Presidential Policy Directive 41 *United States Cyber Incident Coordination*,⁵⁴ and within the framework of the National Cyber Incident Response Plan.⁵⁵

The main logical weakness of a policy of cyber consequences is that—while assuming *ex ante* rationality—it excludes bargaining, and leaves the door open for value oriented and emotional behaviour, which in this context constitutes irrational behaviour. Exposure to consequences, costs and rewards, may not be sufficient. The issue of normative motivation being different and irreducible to rationality cannot be removed, but its implications can be mitigated. A feasible end-state including demonstrated commitment and capabilities and strong communication, at best, may substitute real interaction, and suffice as criteria of credibility; at worst, the doctrine may lead to further fragmentation of value communities, and competition between the most capable of countries on capabilities and normative formation.

Potential political critique—most likely based on taking unauthorized and unilateral action, imposing post-colonial world order and double standards—needs to similarly be mitigated. It is obvious that a policy of consequences cannot entail the formal inequality or contain the lukewarm promises of the Treaty on the Non-Proliferation of Nuclear Weapons.⁵⁶ The rewards of willingly becoming a manager of a new cyber order, or by persuasion adhering to its demands, need to be substantial. The policy of consequences therefore does not only promise improved cyber security or ask for determined action, but also commands financial, material, and immaterial resources. Most importantly, as the policy of consequences is by nature a social contract, the responsibilities and commitments it requires have to be reciprocal.⁵⁷

Finally, acknowledging the notion of “geotechnopolitics” that Eneken Tikk has coined⁵⁸—loosely the state of affairs where the ‘old-school’ geopolitics meets (post)modern technologies and unforeseen interdependency—any technical response, even those that powerful actors such as the United States would employ, is likely to cause not only retaliation but also unintended consequences making the policy of consequences more a careful selection than a full range of options to be

54. United States Cyber Incident Coordination, Pres. Docs., 2016 PPD No. 41 (July 26, 2016).

55. U.S. DEPT. HOMELAND SECURITY, NATIONAL CYBER INCIDENT RESPONSE PLAN, (Dec. 2016), https://www.us-cert.gov/sites/default/files/ncirp/National_Cyber_Incident_Response_Plan.pdf.

56. Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161 (providing Articles I and II divide countries into nuclear-weapon states and non-nuclear weapons states, and Articles IV and VI speak of technical and scientific assistance and the pursuance of negotiations in good faith on cessation of nuclear arms race, nuclear disarmament and general and complete disarmament).

57. JOHN RAWLS, *A THEORY OF JUSTICE* 14 (3d ed. 1972); John Rawls, *The Law of Peoples*, 20 CRITICAL INQUIRY 36 (1993).

58. Eneken Tikk, *Cyber: Arms Control Without Arms?*, in 1.16 ARMS CONTROL IN EUROPE: REGIMES, TRENDS AND THREATS 151 (Tommi Koivula & Katariina Simonen eds., Nat'l Def. Univ. 2017).

implemented. The crooked timber that man is carved from justifies warnings of high hopes, quick fixes and fast rewards.