The opportunities & limits of compellence strategies : the quest for a framework for analysis

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THE OPPORTUNITIES & LIMITS OF COMPELLENCE STRATEGIES

THE QUEST FOR A FRAMEWORK FOR ANALYSIS

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In grateful remembrance of my parents, because they showed me how to persevere.

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TABLE OF CONTENTS

LIST OF NOTES

LIST OF FIGURES

LIST OF TABLES

THE COMPELLENCE DEBATE

This is the latest parle we will admit;
Therefore to our best mercy give yourselves;
Or like to men proud of destruction
Defy us to our worst: for, as I am a soldier,
A name that in my thoughts becomes me best,
If I begin the battery once again,
I will not leave the half-achieved Harfleur
Till in her ashes she lie buried.
. . .
Therefore, you men of Harfleur,
Take pity of your town and of your people,
Whiles yet my soldiers are in my command;
O'erblows the filthy and contagious clouds
Of heady murder, spoil and villany.
If not, why, in a moment look to see
The blind and bloody soldier with fould hand
Defile the locks of your shrill-shrieking daughters;
Your fathers taken by the silver beards,
And their most reverend heads dash'd to the walls,
Your naked infants spitted upon pikes,
Whiles the mad mothers with their howls confused
Do break the clouds, as did the wives of jewry
At herod's bloody-hunting slaughtermen.
What say you? Will you yield, and this avoid,
Or, guilty in defence, be thus destroy'd?

Henry V, Act III, Scene 3, by William Shakespeare

1. *Introduction*

This study is about the use of 'compellence' as a foreign policy strategy. It can be considered as the opposite of 'deterrence'. Together, the two notions are often referred to as 'coercion'. Following Byman and Waxman (two representatives of the 'preponderant compellence school of thought'), coercion is provisionally defined as "the use of threatened force – and at times the limited use of actual force to back up the threat — to induce an adversary to change its behavior." [41: 1]

Coercion, as an abstract notion and as a particular foreign policy strategy, received a great deal of scholarly attention after World War II, especially during the 1960s and 1970s. At first, the emphasis was on one form of coercion: 'deterrence'. The 'induced change in behavior', mentioned in the given definition, here means to *abandon* an *intended* intolerable action. Gradually, a second form, known as 'compellence' got the attention. The 'induced change in behavior' here means to *reverse* a *previously executed* intolerable action. Initially, compellence was discussed as a derivative of deterrence. However, since the end of the Cold War, it has replaced deterrence as one of the most important areas of strategic interest.

1a Formulation of the Problem

The position compellence holds in the contemporary International Relations Theory follows from its relevance in modern world affairs. After all, it can be used to settle disputes with actors that demonstrate intolerable behavior, but promises to do so without the conquest of that actor's country and with the use of the lowest possible level of force - an aspiration typical in modern times. Nevertheless, the results of the application of compellence in recent history have often not been as positive as desired, or at least not optimal. Above all, however, these results have often been questionable or even controversial.

The variance of success in the practical application of compellence suggests that this is indeed a complex issue. This is not unique for compellence. When applying compellence as strategy it will often be difficult to bend the circumstances to one's will, as is the case with all human interaction. Especially a proper recognition of all connections between several factors of influence on the progress of a process is often problematic. But any strategy that provides variable levels of success – particularly when the cause of the variety is unknown or uncertain – creates doubt about its usefulness. This could result in the abandonment of a strategy – however useful in itself. Thus, uncertainty about the sources of success must be avoided. To accomplish that, there is a need of knowledge and insight into the factors that bring success, or enhance the chance of success. In other words, politicians and strategists must know what to do and what to omit.

The variance of success in the practical application of compellence, but particularly the contradictory appreciation of the success rate, indicates that a uniform theory of the success of compellence, and possibly about the very concept of compellence, is lacking. Several scholars have researched, and subsequently published, about the issue. Most notable is the work of Schelling, George et al., Byman et al., Jakobsen, Freedman, Pape, Mueller, and several writers in war colleges. Together they constitute, what can be called, the 'preponderant compellence school of thought'. Chapter 2 contains the most important elements of – what could be described as – the 'compellence debate'. It shows that these scholars agree on most of the aspects of compellence. They all recognize that some factors that play a role in the application of a compellence strategy are more important for success than others are. How-

ever, they do not always agree on their order of importance. This also suggests that it is a complex issue. However, most importantly, it confirms the lack of a uniform theory mentioned above.

This does not mean that these scholars fail to provide useful principles. However, they do not furnish one single comprehensive 'theory' of compellence. An observation in this context is that each of the scholars mentioned underlines (only) some elements of compellence. In part, they also disagree on particular items, including the importance of certain critical success factors for the successful application of compellence. Pape, for instance, asserts that the key to success lies in targeting an opponent's military strategy in, what he calls, 'coercion by denial'. With that, he particularly reacts against several of his colleagues, who consider the targeting of issues the opponent values ('coercion by punishment') the key to success. Another observation is that hardly any research has taken a quantitative approach to the subject. The scholars mentioned emphasize qualitative descriptions of the phenomenon. Finally, none of the sources mentioned uses a method that logically combines and orders the data, and demonstrates their mutual relationship. Especially as result of the latter, it is difficult to determine which factors promise to bring the highest degree of success, and why. However, as said, knowledge about the success factors is a condition for the proper application of a strategy. In other words, there are indications that the use of compellence is failure-prone, due to the limited familiarity with its complex characteristics, and above all the lack of insight into the success factors of compellence.

The problem this study seeks to solve concerns this inadequate appreciation of the characteristics of compellence and its success factors, and – as result of that – its inappropriate application as a foreign policy strategy. It is with this in mind that this study intends to defend the following thesis.

> *The addition of a systematic framework for the analysis of compellence cases to the literature produced by the preponderant compellence school of thought, provides tools for the identification, valuation and calculation of the relative impact under particular circumstances of the factors that are relevant for the success of compellence. Thus, it enhances insight into the working of compellence as a foreign policy strategy and its proper application.*

To come to such a systematic framework, this study will concentrate on answering the following research question.

> *What are the (critical) success factors of compellence?*

The following sub-questions can be derived from this primary research question.

- What factors are relevant for the concept of compellence, and what is their mutual relationship?
- What elements form the core of compellence, and what is the impact of variances in these core elements on the level of success of compellence?
- What – if any – are the 'critical success factors'?

In relation to the latter two questions, the following additional questions require an answer.

- What is the contribution of each of the core elements of compellence to the assessment of the expected utilities that drive the calculations that decision makers make when analyzing their chance of success?

- How do the expected utilities found sway the decision to pursue compellence as the most auspicious strategic option for the realization of the aspired political objectives?

The methodical and quantitative approach mentioned does not provide a 'new' theory of compellence. By building on the principles provided by the preponderant compellence school of thought, it opens a new perspective on these principles. It offers an additional mechanism to appreciate the complex characteristics of compellence. It not only provides an opportunity to confirm available principles, seen from another point of view, but it also supplements them. Thus, by adopting this methodical and quantitative approach, this study seeks confirmation and complementation of, and additions to, existing principles, where relevant. It aims to show that several of such completions and additions deserve closer consideration.

Ultimately, the intention of the study is to provide students, scholars, political advisors, and politicians with a tool to explain the (potential) outcomes of particular conflicts that involve compellence, and analyze certain elements of such conflicts. This can help avoid drawing conclusions, or (advising on) taking coercive actions, based on wrong assumptions.

1b Research Design

This study is descriptive as well as explanatory. It intends to describe how compellence 'works'. It indicates who are involved in the process of compellence and what factors play a role. It sketches the elements of compellence and their characteristics and it explains why compellence 'works' as it does. It provides the conditions, reasons, obstacles, consequences and context. The ambition of this study is not to provide a universal, all-embracing system that would primarily focus on mathematical details. It is to construct a model that is accessible to people not familiar with the underlying methods. That is why, ultimately, the study represents a search for an utilizable and implementable method, suited to deal with the process of compellence in such a fashion that it clarifies and explains. Moreover, it aims to provide a handle to guide discussions concerning certain aspects of the application of coercive strategies. In the course of developing the framework, it became obvious that no 'simple' explanation is possible. While attempting to avoid excessive complicated explanations, one conclusion proved inescapable: the appreciation of the mechanism of compellence in all its complexity demands a considerable mental exertion.

Essentially, this study is composed of two subdivisions. The first reflects a formal-modeling research. Based on a study of compellence as a phenomenon, a model is constructed which accommodates the elements of the compellence process. A second subdivision examines the applicability of the model. This subdivision first analyzes two artificial baseline scenarios, seeking universal rules for the application of compellence. In order to investigate its applicability to actual conflicts, the model was also applied to two real-life cases, comparing the theoretical to the actual outcomes. Eventually, the model was used to investigate whether, indeed, lessons can be drawn from using the framework.

Since, as said, this study does not intend to develop a new theory, but builds on the principles of compellence as described in available sources, it mainly uses data from existing literature. The research concentrates on two categories of literature. The first category concerns literature from the preponderant compellence school of thought, i.e. it is oriented towards compellence as a phenomenon and as a concept. It includes the use of military force in support of compellence, particularly the use of airpower. It also includes the principles of international relations, such as the causes of wars, etc. The subject proves to be well-

documented. The information gathered from the available sources served as a basis for the identification of the essence of the compellence process and the variables that play a role in that process.
The second category is oriented towards methods of modeling and quantitative analysis. Looking at compellence, the most important question seems to be what the *chance* is that it will bring the desired result. That is why initially the research concentrated on one of the science disciplines that deal with the principles of chance and probability: the theory of chance. The assumption was that it could directly contribute to a framework for the analysis of compellence. However, a closer look at the characteristics of the theory of chance showed that its features could only contribute to parts of the framework. In other words, despite some useful elements derived from the theory of chance, it was not possible to confine the research to the projection of this theory on the total process of compellence.
In the last instance, the study of existing literature on modeling and quantitative analysis showed that none of the available methods provided a clear-cut solution to accommodate the total compellence process.

Gradually, it proved to be useful to subdivide this part of the research into three main parts, related to three levels of analysis. At the highest level the decision-making takes place. The middle level, encompasses the arrangement of the factors that direct the decision-making process, i.e. two so-called utilities, the expected utilities of intervention, and the expected utility of submission. [1] At the lowest level, the organization of the variables that define the value of the factors at the middle level takes place.

As said, at the upper level the emphasis is on the decision-making process. Here, the choice the actors in the process have to make for a certain strategy is leading. The best-known theory that concentrates on modeling decision-making processes is game theory. It proved suitable for the purpose of this study without major adaptations.

At the middle level of analysis, the emphasis is on determining the value of the inputs for the game theoretical models: the expected utility of intervention and submission. Their value depends on other elements that form their constituent parts. It proved impossible to find an equivalent, directly applicable, method to the one found at the upper level. The study of the phenomenon showed that several lines of thinking were possible. This study discusses two approaches considered most representative.
For the first approach ideas are used from the principles of 'return on investment'—the subject of microeconomics. Adaptation of methods used in the branch of 'consultancy' – which advises companies in making risk assessments prior to deciding on a certain investment – proved to provide a suitable system of thought for the accommodation of the 'return on investment' approach (getting a reward that counterbalances the risk involved). These methods include elements of the theory of chance, mentioned earlier. In essence, this approach focuses on, what can be called, a reward & risk (R&R) orientation.
The second approach focuses on desirability and feasibility as elements of the consideration of the decision makers that have to choose between intervention and submission. This is called the desirability & feasibility (D&F) orientation. For the accommodation of this second

1 'Intervention' is in this study used as the umbrella notion for an 'aggressive' action by the actors. It implies, what is called, 'compellence' (the act to compel) for the compeller, and 'resistance' (the act to resist the compeller's demands) for the target. 'Submission' is used to cover the fact that actors 'give in'. I.e. submission has a 'defensive' character. It means 'resignation' (the act not to compel) for the compeller and 'compliance' (the act not to resist, but to comply with the compeller's demands) for the target.

approach, no sources could be found in the existing literature. The theory of supply and demand from microeconomics gives some handles to deal with this problem, but does not yield a comprehensive theory that can be applied directly to the issue under consideration. Consequently, the model that is used to provide the outcomes of this approach had to be based on the logical consideration of the issue, using principles of plausibility, etc.
Fortunately, the search for a manageable model disclosed several analogies between this (D&F) approach and the 'return on investment' (R&R) approach, although in final analysis the two approaches cannot be compared.

Note 1: Choice for R&R Orientation

Exploring both approaches (R&R and D&F) in all their details, including their application on real life cases, etc. would have consumed much space. That is why I decided that I had to make a choice between them for the in-depth follow-up investigation. Based on the findings of the initial survey of both approaches there was sufficient reason to consider both in parallel. Even in the phase of the validation, they both proved to be appropriate for further use, since the outcomes they predicted of theoretical cases were very similar. That is the main reason why I hesitated to abandon one of them prior to the end of the validation phase. Nevertheless, I preferred to use the R&R orientation ultimately.

One of the reasons was that the documentation underlying the D&F orientation is primarily only available in the context of the theory of supply and demand. Furthermore, the attribution of this theory to the D&F framework is, in essence, restricted to a particular way of thinking about desirability and feasibility, and does not imply a concrete contribution to the framework as such.
On the other hand, I discovered that I could directly apply the theory of 'return on investment', which underlies the R&R orientation, to the phenomenon of compellence as an issue that looks at rewards and risks. Indeed, some particular adaptations were necessary to apply this theory to the R&R framework. However, they concerned only lower level aspects and not the concept per se. Furthermore, the documentation of the return on investment theory is rich. Finally, I found that the R&R approach implicitly also reckons with demand and supply arguments.

Taken together, these considerations do not imply that the D&F orientation is false or useless. The examples of its use in this study, and the lessons to be drawn from this, show that its exploration was an effort worth making. In conclusion, however – given the decision to use only one approach as the basis for future consideration – I found it more attractive to consider the R&R approach than the D&F approach for that purpose.

At the lowest level of analysis, the organization of the (independent) variables originating from the study of existing literature about compellence takes place, in such a way that they can be arranged as one of the elements at the middle level. The existing literature provides several indications about the relation between these variables. Nevertheless, part of the choice was left to the discretion of the author, and needed to be based on principles of plausibility, etc.

In the process of building the frameworks for analysis, a hypothetical-deductive approach was used. It encompasses the iterative sequence of 'observation', 'induction', 'deduction', 'testing', and 'evaluation'. [259: 137-141] In the course of the research, those elements of the found theories that potentially promised to contribute to the explanation of the phenomenon (observation) were added – in several ways – to the thinking model (induction) and then provisionally computed (deduction). When necessary, this led to a new observation, etc. The initial result was examined (testing) and judged (evaluation). The primary focus was on explanation and on apparent resemblance to the real world. Using a method of trial-and-error, this process of research for potential adaptations to the framework continued until a satisfactory result was reached. Initially, this method focused on the broader, main elements of the model. Gradually, fine-tuning of the model provided an opportunity to insert the detailed data into a calculable model seeking results that could be expected in reality.

Finally, in seeking the bridge that could connect the essence of the compellence process with the framework for analysis, interpretation of the existing literature, and some adaptation of existing models was necessary. Furthermore, – since especially in the design of the model for analysis an important consideration was the avoidance of (unnecessary) complexity – concessions were made in the application of mathematics, and of high-level principles of probability, etc. Although the intention was not to violate scientific principles, the main objective was always to provide an understandable mechanism that gives insight into a very complex process. That is why quite some effort went to the presentation of the result of most of the calculations in the format of a chart or diagram.

After completing the framework, a search took place for those factors with the highest potential to influence the chance of success or failure. To that end, a system was developed to perform a sensitivity analysis on the available framework. Two, what could be called, fictitious 'baseline scenarios' are used representing 'perfect' settings. These scenarios serve to compare the impact of variances in all the variables. Subsequently, the framework was validated by applying it to two real-life scenarios. One is the conflict with Serbia over Kosovo and the other is the conflict with Iraq over Kuwait and Iraq's weapons of mass destruction. [2] Finally, conclusions are drawn, applying the framework to a few contemporary issues in the world of international relations.

1c Outline

This study consists of four main parts, which are composed as follows. The first part deals with the compellence debate and sets the scene. It consists of two chapters. The present, introductory, chapter will be completed with a description of the notions, including the definitions and the presuppositions regarding decision-making used in this study.
Chapter 2 discusses the details of the compellence debate, laying the theoretical foundation for this study. First, however, compellence as a strategy is placed in its historical context. Subsequently, one of the most important issues is discussed in detail: the meaning of success and failure in the context of compellence. Finally, a discussion of the most important elements of compellence takes place. Roughly, the structure of that discussion is based on the constituent blocks of the model that will be presented in this study.

The second part deals with the way compellence evolved from a phenomenon to a concept. It discusses the details of the frameworks as they are developed in this study. Chapter 3 presents an introduction to the frameworks. Among others, an account is given of the three levels of analysis that are used to build the frameworks. With a view to the complexity of the issue, this chapter intends to give a 'feel' for the approach used in this study.

2 These are two recent examples of compellence with varying success and controversial result. The first concerns the compellence actions in the Balkan conflict that took place from 1991 to 1999 and revolved around Bosnia (with operations Deny Flight from 1993 to 1995, and Deliberate Force in 1995), and around Kosovo (with operation Allied Force in 1999). They produced effects that several observers saw as ambiguous. The second example concerns the compellence actions in the Iraq conflict that spanned the period from 1990 (with operation Desert Storm in 1991) to operation Iraqi Freedom in 2003, and several other operations in between. They produced varying success. Moreover, where some considered the results in the Iraq conflict as a success, others disputed this.

Next, in chapter 4, the highest level of analysis – the upper tier, dealing with the decision-making process – is explained. The issue of so-called 'crosswise appreciation' [3] is introduced here. It has a major impact on the way actors in the compellence process appreciate their chance of success. Furthermore, this chapter gives an account of how game theory is applied to the decision-making process in this study. The conclusion is that for the application of the game theoretical computations, two kinds of information are needed: the involved actors' expected utility of intervention and of submission.
Chapter 5 focuses on the second level of analysis – the middle tier – that pursues these two expected utilities. It discusses two distinct approaches, the first coded as the Reward & Risk (R&R) orientation, and the second as the Desirability & Feasibility (D&F) orientation. The conclusion is that both approaches differ in design, but can essentially be fed with the same variables. The result is that the input of the middle tier consists of five so-called determinants: the impact of intervention, the impact of opposition (in the R&R orientation), impact of submission (in the D&F orientation), the proficiency to intervene, and the vulnerability to the threat.
In order to determine the value of these determinants, chapter 6, which discusses the third level of analysis (the lower tier), arranges the available exogenous variables in such a way that their contribution to the relevant determinants can be settled.
This part is concluded with chapter 7, in which an example is given of how the framework can be calculated actually.

The third part of the study deals with the analysis and validation of the frameworks. First, in chapter 8, two fictitious 'baseline scenarios' are computed, using the method of 'sensitivity analysis.' This analysis sheds some light on the question which factors can be counted as 'critical success factors', or as 'important success factors.' Furthermore, a comparison is made between the relative impacts of particular variables.
Next, in chapter 9, the most attractive model (which uses the Risk & Reward orientation) is validated by examining the development during the conflict over Kosovo (from 1998 to June 1999) and the Iraq conflict (from August 1990 to May 2003). This will demonstrate that the outcomes of the models are indeed consistent with the actual results. It will also provide some insight into the options available to the actors at a certain moment and under certain conditions, and the consequences of (not) choosing the most promising options. Besides, it presents the result of applying some counterfactual thought experiments.

Finally, the epilogue, chapter 10, projects the findings of this study on contemporary international relations issues. It investigates whether its purpose, i.e. to produce a tool to explain and analyze certain elements of compellence, is achieved. It explores the way in which some propositions, partly derived from the existing literature, find expression in the model. This again leads to some propositions concerning some general compellence issues, on the one hand, and terrorism as a compellence strategy, on the other hand. These propositions can be the basis for further analysis.

3 Briefly, 'crosswise appreciation' means that parties (have to) take into account the assessments of their opponent. It implies that the actors do (or should) not base their decision on their own assessment of the prevailing conditions, but on what they estimate their opponent's assessment to be.

1d Notions

Several notions are used in this study. There is disagreement in the existing debates on the definitions used. Up to an extent, this has to do with semantics. It is annoying that sometimes the same term is used to denote different notions. This section presents the most frequently used terms, and a univocal definition is given of some notions, as they are used in this study. Moreover, their most fundamental characteristics are discussed.

1d.1 Armed Suasion (Coercion): Deterrence and Compellence

The literature mostly uses the expression 'coercion' to indicate the combination of two conceptually linked, but nevertheless distinctive, ideas: 'deterrence' and 'compellence'. Both intend to influence an adversary's [4] decision-making by the use of threatened force. Byman and Waxman define 'coercion' as "the use of threatened force – and at times the limited use of actual force to back up the threat [5] — to induce an adversary to change its behavior." [41: 1] Schelling makes the distinction between a passive and an active form of 'coercion'. In that context, he introduces the expression 'compellence' as a notion. In *Arms and Influence*, he recognizes a

> typical difference between a threat intended to make an adversary do something and a threat intended to keep him from starting something. The distinction is in the timing and the initiative, in who has to make the first move, in whose initiative is out to the test. [. . .] There is, then, a difference between deterrence and what we might, for want of a better word, call ***compellence***. [. . .] 'Coercion' covers the meaning but unfortunately includes 'deterrent' as well as 'compellent' intentions. [. . .] 'Compellence' is the best I can do. [Italics in the original] [222: 69-71]

Therefore, Schelling suggests using 'coercion' as notion containing both 'deterrence' and, what he calls, 'compellence'. [6] In the case of deterrence, the threat is intended to keep an adversary from starting something. In the case of compellence, the threat is intended to make an adversary do something.

Unfortunately, several writers still use the term 'coercion' as a designation for what Schelling calls 'compellence'. Therefore, the introduction of the term 'compellence' still causes confusion as to two notions: 'coercion' and 'compellence'. Luttwak introduces the phrase 'armed suasion' as a composite of both 'deterrence' and 'compellence'. [167: 218] He distinguishes between a negative form of armed suasion, intended to dissuade (deterrence), and a positive form, intended to persuade (compellence). Both forms refer to the use of threatened force. Since it solves the problem of confusion of tongues, this study uses Lutwakk's expression 'armed suasion' as a notion, encompassing both 'deterrence', and 'compellence'.

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4 In the case of compellence, this study mostly uses the expression 'compeller' for the initiator, i.e. the actor that compels, and the expression 'target', or 'coercee', for the adversary, i.e. the actor that is compelled.

5 Byman and Waxman explain the meaning of threatened force and the limited use of actual force to back up the threat by saying, "We use this particular definition to emphasize that coercion relies on the threat of future military force to influence adversary decision-making, but that limited uses of actual force may form key components of coercion. Limited uses of force sway adversaries not only because of their direct destructive impact but because of their effects on an adversary's perception of future force and the adversary's vulnerability to it." [37 :9]

6 It is worthwhile to note that Schelling's idea in itself does indeed solve semantic problems. However, it should also be recognized that there is still a source for confusion, as long as the word 'coercion' is used ambiguously.

1d.2 COERCIVE DIPLOMACY AND COMPELLENCE STRATEGY

A phrase often used in the existing literature is 'coercive diplomacy'. Unfortunately, there seems to be disagreement among the scholars on the exact meaning of this notion. Most authors use it to distinguish between 'coercive diplomacy' and 'pure coercion'. They agree that coercive diplomacy seeks to persuade an opponent to cease his aggression rather than bludgeon him into stopping. The latter is generally denoted as 'pure coercion', or 'coercion in war'. In contrast to the crude use of force to repel the opponent, they say that coercive diplomacy emphasizes the use of threats and the exemplary use of limited force to persuade him to back down. The strategy of coercive diplomacy calls for using just enough force to demonstrate resolution to protect one's interests and to emphasize the credibility on one's determination to use more force if necessary. In summary, most writers agree that the general intent of coercive diplomacy is backing up a demand on an adversary with a threat of punishment for noncompliance; a threat that will be credible and potent enough to persuade him that it is in his interest to comply with the demand.

The interpretation of coercive diplomacy described above does not address non-military pressure. However, apart from making a distinction between armed suasion and coercion in war, there are also good reasons to distinguish between coercive diplomatic actions that imply military pressure (armed suasion) and those that 'only' imply non-military pressure. In fact, the term coercive diplomacy would be very well suited to cover exactly this part of diplomacy, i.e. diplomacy that carries pressure to solve a conflict of interests, but does not involve military threat. [7] It will be used accordingly in this study.

Note 2: George's View of Coercive Diplomacy

A special remark is justified with regard to George, who adopts a different point of view. He argues that coercive diplomacy focuses on the instrument of coercion ***only*** *for the purpose of bringing rogue states to reason. It applies, he says, "threats of force and, if necessary, limited force . . . on behalf of setting clear limits to intolerable behavior." [61: 219] It employs threats or limited force to persuade an opponent to call off or undo an encroachment. He asserts, "Coercive diplomacy is a* ***defensive strategy*** *that is employed to deal with the efforts of an adversary to change a status quo situation in his own favor." [Emphasis added; 93: 8] "Defensive uses", he writes, "are quite distinct from offensive ones, wherein coercive threats can be employed aggressively to persuade a victim [8] to give up something of value without putting up resistance. Such offensive uses of coercive threats are better designated by the term* ***blackmail strategy****." [Emphasis in the original; 93: 7] So, George distinguishes between the defensive (or provoked) application of coercive threats (which he calls 'coercive diplomacy), and the offensive (or unprovoked) use of coercive threats (which he calls blackmail strategy). [9] This study does not pay attention to blackmail. The focus is on the so-called 'defensive', provoked application of coercive threats. This phenomenon could be defined as 'compellence' proper.*

The above considerations imply that this study differentiates between coercive diplomacy, armed suasion and war as three 'means' related to the levels of a conflict. More details are

7 This does not mean that the involvement of military threat is no part of diplomacy as a whole. On the contrary, particularly armed suasion – with its undeniable military component – should be seen as an element of diplomacy.

8 The use of the word 'victim' here is saying a lot!

9 Note that also deterrence can, in theory, have an offensive (or unprovoked) variant. It would imply keeping an adversary from taking what legitimately belongs to him by the use of threatening force. This variant, however, will be ignored in this study. Consequently, the term 'deterrence' only refers to the defensive, provoked version.

given in Annex A, in the section on Political and Military Measures (Means – "Mittel") on page 189. There, regarding coercive diplomacy, it is said that, at that level of conflict (actually, at that level on the scale of escalation), parties start to display conflict behavior. It becomes an option when the appreciation of the situation differs considerably and both parties contemplate on taking drastic actions to either attain or maintain their preferred situation. However, still purely hostile actions, i.e. the threatened use of force, are not (yet) considered. Non-military pressure – implying protests, negative economic and diplomatic gestures, as well as threats with non-violent, political, or economic sanctions – often suffices to bring about a solution. Obviously, 'war' implies the use of massive force. The purpose of war is not to affect the decision-making process of an adversary who still has a choice to continue his resistance. The purpose of war is to deny an enemy his choice and bring him under control. Armed suasion lies in between coercive diplomacy and war. It has, as was said, a negative form (to dissuade, or deter), and a positive form (to persuade, or compel). Any application of the latter as an instrument for strategic purposes will be denoted as 'compellence strategy' in this study.

1d.3 DEFINITIONS

In conclusion, the definitions developed for this study are, for the greater part, based on the considerations found in existing literature, although with some adaptations to avoid any misapprehension. They are the following in increasing order of conflict behavior:

- *COERCIVE DIPLOMACY*
  At the lowest level op conflict behavior, there is coercive diplomacy. The definition used in this study is as follows:

  The part of diplomacy that implies the demonstration of conflict behavior – short of the use of threatened force – to induce an adversary to display a different (political) behavior than he otherwise would.

- *ARMED SUASION*
  Armed suasion implies a higher level of conflict behavior. It covers the notion often termed 'coercion'. The definition used in this study is:

  The use of threatened force – and at times the actual use of limited force to back up the threat – to induce an adversary to display a different (political) behavior than he otherwise would.

  There are two main forms of armed suasion: deterrence and compellence.

  - *Deterrence*

    The use of threatened force – and at times the actual use of limited force to back up the threat – to induce an adversary to refrain from taking intolerable actions he intends to take.

  - *Compellence*

    The use of threatened force – and at times the actual use of limited force to back up the threat – to induce an adversary to reverse an intolerable action he has taken earlier.

- *Blackmail*
  A special (negative) form of armed suasion is blackmail. The definition used in this study is:

  The unprovoked use of threatened force – and at times the actual use of force to back up the threat – to induce a 'victim' to take actions other than he otherwise would.

- *Compellence Strategy*
  A notion regularly used in the compellence debate is compellence strategy. The definition used in this study is:

  Any application of compellence as an instrument for strategic purposes.

- *WAR*
  At the highest level of conflict behavior, there is war. The definition used in this study is:

  The massive use of (brute) force to conquer an opponent's territory in order to control his society.

1d.4 Deterrence and Compellence Compared

Intensive research has been done into deterrence. After all, the dominant strategy during the Cold War was all about deterrence. The preponderant influence of 'total war'-thinking in the then rigid bi-polar world even created, as Brodie describes it, a "commitment to the Strategy of Deterrence." [29: 393] Moreover, in the West the available nuclear weapons were seen as the ultimate means to deter the opponent (then communism) from implementing its expansionistic policy. Much of the knowledge on compellence derives from the study of deterrence. That is why most scholars explain the characteristics of compellence by comparing them to those of deterrence.

Characteristic for both concepts is that they are not aimed at defeating the opponent. Compellence does not intend to 'control' the opponent. It will leave the opponent with the capability to resist. Submission results from a 'free' choice not to resist. To explain what this means, Schelling introduces the notion 'Brute Force'. He makes a distinction between compellence, on the one hand, and war fighting with 'brute force', on the other. The latter is beating the enemy and destroying his capabilities, depriving him of his capabilities to resist. This idea about war fighting follows Carl von Clausewitz, who wrote, "To secure the [war's] object we must render the enemy powerless; and that, in theory, is the true aim of warfare."[51: 75] Schelling describes the contrast of brute force with armed suasion as follows,

> There is a difference between taking what you want and making someone giving it to you, between fending off assault and making someone afraid to assault you, between holding what people are trying to take and making them afraid to take it, between losing what someone can forcibly take and giving it up to avoid risk or damage. It is the difference between defense and deterrence, between brute force and intimidation, between conquest and blackmail, between action and threats. It is the difference between the unilateral, 'undiplomatic' resource to strength, and compellence diplomacy based on the power to hurt. [222: 2-3]

Therefore, Schelling recognizes that armed suasion (i.e. compellence, as well as deterrence) uses the **'power to hurt'** as an attribute of military force, not its **'power to defeat'**. He states in this context,

> In addition to seizing and holding, disarming and confining, penetrating and obstructing, and all that, military force can be used to hurt. In addition to taking and protecting things of value, it can destroy value. In addition to weakening an enemy militarily, it can cause an enemy plain suffering. [. . .] In traditional military science, they are incidental; they are not the objects. [. . .] The power to hurt can be counted among the most impressive attributes of military force. [222: 2]

The conceptual difference between deterrence and compellence relates to the mechanism that deters or compels, as well as to timing, i.e. the difference between static and dynamic. Schelling writes about this,

> The threat that compels rather than deters often requires that the punishment be administered until the other acts, rather than if he acts. This is because often the only way to become committed to an action is to initiate it. This means, though, that the action initiated has to be tolerable to the initiator and tolerable over whatever period of time is required for the pressure to work on the other side. For deterrence, [a] trip-wire can threaten to blow things up out of all proportion to what is being protected, because if the threat works the thing never goes off. But to hold a large bomb and threaten it unless somebody moves cannot work so well; the threat is not believable until the bomb is actually thrown and by then the damage is done.
>
> [. . .]
> Deterrence involves setting the stage — by announcement, by rigging the trip-wire, by incurring the obligation - and then waiting. The overt act is up to the opponent. The stage setting can often be nonintrusive, nonhostile, and nonprovocative. The act that is intrusive, hostile, or provocative is usually the one to be deterred; the deterrent threat only changes the consequences, if the act in question—the one to be deterred—is then taken.
> Compellence, in contrast, usually involves initiating an action (or an irrevocable commitment to action) that can cease, or become harmless, only if the opponent responds. The overt act, the first step, is up to the side that makes the coercive threat.
> [. . .]
> Deterrence tends to be indefinite in its timing. [. . .] If *you* cross [the line], *then* is when the threat is fulfilled *[sic]*, either automatically, if we've rigged it so, or by obligation that immediately becomes due. But we can wait—preferably forever; that's our purpose. [Italics in the original]
> Compellence has to be definite: [. . .] There has to be a deadline. [. . .] Compellence, to be effective, can't wait forever. Still, it has to wait a little; collision can't be instantaneous. The coercive threat has to be put in motion to be credible, and then the victim must yield. Too little time, and compliance becomes impossible; too much time, and compliance becomes unnecessary. Thus, compellence involves timing in a way that deterrence typically does not. [222 :70-2]

1d.5 DETERRENCE-COMPELLENCE INTERACTION

The Danish scholar Jakobsen indicates that it may not be a problem to make a theoretical distinction, but that in a practical sense it is much more difficult to always distinguish in a proper fashion between deterrence and compellence. In his words,

> Distinguishing between compellence and deterrence can be difficult, both theoretically and empirically, because the strategies may overlap or be employed simultaneously. [. . .] A threat aimed at preventing the continuation of something contains both compellent and deterrent elements. [134: 7]

Freedman endorses this opinion. He contends,

> Deterrence and compellence merge when the attempt is made to deter continuance of something the opponent is already doing. This problem revolves around the question of timing, because it has confused the question of 'who has to take the initiative'. Inevitably, once an initial deterrent threat has failed and the task is to change action that has been set in motion then the next threat must be compellent. [. . .] Therefore, once an engagement has begun, the difference between the two, like the difference between defence and offence, may disappear. [82: 19]

The previous paragraphs suggest an alternation of deterrence and compellence in one process. It starts with the intolerable behavior of the compeller's adversary [10] (the target). It is reasonable to expect that the target decides to demonstrate his (intolerable) behavior, after judging the reaction he can expect from the compeller. In other words, the target takes into account the deterrent posture of the compeller, which obviously carries too little weight for him. In fact, the compeller's deterrence – explicit or implicit – fails, as we the phrase runs. As a reaction to the target's action, the compeller decides to use compellence. For his part, the target will then try to deter the compeller from doing so. This demonstrates that compellence and deterrence take place in relation to each other. It is an exchange of compelling and deterring actions. This sequence of events is important when dealing with the dynamics of the compellence process.

1e Presuppositions Regarding Decision-Making

One of the central questions when considering armed suasion, particularly compellence, is how decision makers behave, more precisely, how they behave under conflict circumstances. The literature on decision-making (DM) theory is voluminous. Many authors have written about the subject, among them scholars that are held in high esteem, such as Hans Morgenthau, Thomas Schelling, Bruce Bueno de Mesquita, Robert Jervis, Richard C. Snyder, and Graham T. Allison. From the discussions among these experts, it can be inferred that the notion of decision-making is anything but univocally determined. Nevertheless, there is a mainstream of opinion, known as the 'classic model'. In this context, Dougherty and Pfaltzgraff write,

> Because economists and students of business administration made significant early inputs to DM theory, the theory as originally developed reflected many of the assumptions of the Enlightenment and of the Benthamite Utilitarians, with their emphasis on reason and education in the making of human social choices. It assumed a rational person who is clearly aware of all the available alternatives and who is capable of both calculating the respective outcomes of each alternative and then freely choosing according to the order of value preferences.
>
> [. . .]
> According to the classic model of decision-making, policymakers make a calculation in two basic dimensions — expected utility and probability — and, assuming that they are rational, they will attempt to maximize the expected utility. In other words, after all the available alternatives have been surveyed and the product of weighted values and assesses probabilities has been obtained, decision makers can choose their optimal course. [72: 463]

10 Note that this is only the case with compellence proper. In the case of blackmail the demanded action of the adversary is not related to the reversal of an intolerable action the adversary started. So, blackmail occurs unprovoked, and the very first action of the confrontation lies with the compeller.

As will become clear later, one of the foundations of this study is game theory. "Game theory assumes that each state is an autonomous decision-making unit and has a unique set of options and stipulated payoffs associated with each of the options. These assumptions of a unitary state with one national interest make game theory of particular relevance to **realists**. [. . .] Realists and most policy makers begin with the rational model, in which foreign policy is conceived of as actions chosen by the national government that maximize its strategic goals and objectives."[Emphasis added; 181 :117-119]

In addition, the preponderant compellence school of thought also takes the realist approach to international relations. The fact that this school of thought provides the theoretical foundation of this study, as well as the selection of game theory as an important element of the model, dictates the choice that is made in this study to follow the 'classic model'. It implies that the following aspects underlie this study:

- The state as a unitary actor
- Rational choice
- Expected utility maximization

1e.1 The State as Unitary Actor

The 'unitary actor' assumption suggests that a state acts as an integrated unit. It is, of course, recognized that decisions concerning the display of conflict behavior in international relations are usually not a single person's action, but the result of a (hierarchical) decision-making process. However, Bruce Bueno de Mesquita, for instance, takes the view that "[t]he selection of war or peace is a choice that is initiated, conducted, and concluded by individual leaders who must accept responsibility for their decisions". Furthermore, he asserts that "[t]he choice of war or peace depends on the choices of individuals and not on compulsion by circumstances." [35: 5] As James recapitulates in his book *Crisis and War*, "Bueno de Mesquita has adopted the time-honoured position that social reality is a product of contingent behaviour, rather than being predetermined in some Hegelian manner. He does not see military conflict as the end result of a process which lies beyond the influence of decision makers. [. . .] The emphasis placed by Bueno de Mesquita on the judgments of individual leaders follows in the tradition of the first image from Waltz." [135: 28-31] In sum, it is recognized that the use of this unitary actor assumption needs some caution. Nevertheless, for the sake of economy in the first place, but even more because almost all the theories underlying this study start from this assumption, the state as unitary actor will be used in this study as basis for the discussion. [11]

1e.2 Rational Choice

At the heart of most decision-making theories lies the principle of rational choice. Many experts on the subject would agree with Von Neumann and Morgenstern that "the notion of rationality is not at all formulated in an unambiguous way." [191: 9] Dougherty and Pfaltzgraff describe a person as rational if he "is clearly aware of all the available alternatives and is capable of both calculating the respective outcomes of each alternative and then freely

11 So, the emphasis is on state actors. It is, however, assumed that the provided framework, in principle, can be applied to non-state actors as well, assuming that some kind of 'decision-making body' also represents these non-state actors.

choosing according to the order of value preferences." [72: 463] Vollebergh and Vromen give two characteristics of a rational person in their chapter on the principles of the choice theory.

> This is not about the notion of the behavior of a flesh-and-blood person, but the behavior of what is called 'homo economicus', or 'homo politicus'. [. . .] 'Rational', here means roughly that, in decision-making, someone is guided by considerations such as 'consistence', and 'more over less'. [12]

Arrow calls someone rational if he is able to formulate an order of preference that is complete and transitive. His approach is widely accepted as the foundation for the rational choice theory. That is why it will be used as the basis for this study.

Note 3: Arrow's Explanation of Rationality

Arrow gives a complete explanation of the notion of rationality, [10: 12-13] using two axioms:

- ***Axiom I** (Completeness): For all x and y, either x R y or y R x* [13]
- ***Axiom II** (Transitivity): For all x, y, and z, x R y and y R z imply x R z.*

In plain language, the first axiom means that for all x and y, x is always at least as good as y, or y is at least as good as x. The second axiom means that, for all x, y, and z, if x is at least as good as y and y is at least as good as z, then x is at least as good as z.

The first axiom, which deals with completeness, dictates that all alternatives should be comparable. The second axiom, which deals with transitiveness, dictates that preferences should be consistent in the sense that if one element is preferred over a second element and the second element is preferred over a third element, then the first element is preferred over the third element. Arrows notes: "A relation satisfying both Axioms I and II is termed a weak ordering or sometimes simply an ordering." [10: 13]

1e.3 EXPECTED UTILITY MAXIMIZATION

The rational choice paradigm uses the concept of expected utility maximization. This concept implies that the (rational) actors involved behave approximately as subjective utility maximizers. The premise of the concept is that the actors will choose the action (or status) of which the expected value exceeds that of the alternative action (or status). This study uses the theory of games, developed by Von Neumann and Morgenstern, which is primarily concerned with the problem of individuals that are involved in this kind of strategic interaction. This means, in the words of Von Neumann and Morgenstern, that individuals, "confronted with certain quantities of commodities and a number of wants which they may satisfy [. . .] [will try] to obtain maximum satisfaction of their wants." [191: 10] Von Neumann and Morgenstern build on the principles from economic theories that traditionally assume that a consumer desires to obtain a maximum of utility or satisfaction, and the entrepreneur a maximum of profit.

This study has also taken into account the principles presented by Bueno de Mesquita in his book *The War Trap*. [35] He introduces the phrase 'expected utility', drawn from microeconomic theory and uses the 'expected utility theory' to create a model for the explanation of the decision maker's choice between peace and war. De Mesquita's theory describes the cir-

12 The Dutch text reads: "Hier staat niet zozeer het begrip van het gedrag van iemand van vlees en bloed op de voorgrond, maar het gedrag wat wel de homo economicus of homo politicus wordt genoemd. [. . .] En rationeel betekent hier globaal dat iemand zich bij beslissingen laat leiden door overwegingen als 'consistentie' en 'meer boven minder'."[205: 47]

13 The statement 'x is preferred or indifferent to y' is symbolized by '$x \, R \, y$' .

cumstances under which a leader may rationally choose to go to war. This choice, according to Bueno de Mesquita, depends upon the expected value or utility of doing so as perceived by the central decision-maker of a given state. James gives a concise description of the background of de Mesquita's theory.

> In order to understand expected utility theory in the context of war, the means and ends of foreign policy must be distinguished from each other. Utility theory in this context is concerned with the relative costs and benefits associated with resorting to arms. Thus, war can be a rational choice or it is perceived by a national leader to be the optimal means towards some end. The moral value of the objectives desired — conquest of territory, control over foreign populations, and so forth — is not an issue. An expected utility model seeks to explain, not to judge, decision making at the brink of war, and it uses the rationality postulates of economic theory in so doing. Since the focus is on the means as opposed to the ends of foreign policy, war can be reconciled with the notion of rational choice. [135: 28-31]

Since this study uses the principles of the rational actor paradigm, of game theory, and of expected utility theory, the doctrine of utility maximization will be one of its driving elements.

Note 4: The Term 'Utility'

The term 'utility' is often used in this study. It can be applied in its 'regular' meaning as "the level of usefulness", or "something useful". However, most of the time, the intended meaning is that derived from microeconomics. As can be deduced from Katz, and Rosen's 'Microeconomics' [148], microeconomics distinguishes between a 'common' utility function, and a 'vN-M' (Von Neumann & Morgenstern) utility function.

The common utility function concerns a total utility, which refers to the total satisfaction, sometimes represented by a numerical score, of consuming a particular commodity. The common utility function then becomes a formula showing the total utility associated with each commodity bundle. This utility function is mostly used in relation to indifference curves, i.e. to the set of bundles of commodities among which a consumer is indifferent. The section on 'Diminishing Marginal Utility' on page 25 refers to this utility function.

The vN-M utility function concerns an uncertain event. With an uncertain event the expected value of the utility depends on the value of the concerned commodity, but also on the ***probability*** *of that commodity occurring. In the vN-M utility function the utility associated with some uncertain event is the expected value of the utilities of each of the possible outcomes. In other words, with a vN-M utility function the utility associated with a gamble is the sum of the expected value of the utilities of each of the outcomes. With the vN-M utility function rational behavior calls for maximizing the expected value of the utility, not for maximizing the utility of the expected (monetary) value.*

As this study concerns events with a high level of uncertainty, and also heavily depends on the game theoretical approach introduced by von Neumann and Morgenstern, the majority of the references to utilities will concern vN-M utilities. In the context of a vN-M utility function, the expression 'expected' utility is usually found.

2. *Preponderant Compellence School of Thought*

The introductory chapter indicates that the methodical and quantitative approach used does not intend to provide a 'new' theory of compellence. It builds on the principles provided by the preponderant compellence school of thought. It intends to open a different, new perspective. The existing literature coming from the preponderant compellence school of thought provides a large quantity of useful ideas on the characteristics of compellence. [14] It contains contributions from, among others, Byman et al. [36, 37, 38, 39, 40, 41], Freeman [82], George et al. [61, 91, 92, 93, 94, 95], Jakobsen [133, 134], Mueller [185, 186, 187], Pape [199, 201, 202, 199], Schelling [222], and several other writers associated with war colleges. Although these scholars also allow for international relations considerations, this is not the primary focus of their research. That is why, for the international relations context of compellence, reference is made to scholars from that discipline, notably Bueno de Mesquita [35], Brown [31], George [90, 96, 97], Holsti [122], Kennedy [153], Miall [178], Midlarsky [179], Mingst [181], Nicholson [192], Nye [194], Dougherty and Pfalzgraph [72], Spangler [237], Viotti [261], Rummel [219, 218], Wright [279], and, of course von Clausewitz [51, 52].

As indicated in the introduction, the writers involved from the preponderant compellence school of thought show consensus on many points. On several issues, however, remarkable disagreement seems to exist. Moreover, the focus of the various writers on the points of major interest deviates. Finally, some points the author of this study regards to be of interest for the compellence debate, get little and sometimes even no attention. This is partly because these writers do not use a methodical and quantitative approach.

The subsequent sections present and discuss the essentials of the compellence debate and by doing so build the theoretical foundation for this study. For the sake of convenience, the structure of that discussion is roughly based on the constituent blocks of the model that will be presented later on in this study. First, however, compellence as a strategy will be placed in its historical context. Then, one of the most important issues will be discussed in detail: the meaning of success and failure.

2a Historically Known, Feasible Strategic Option

Obviously, the most important question is whether policy-makers do consider compellence as a feasible strategic option per se. In that respect it may be interesting to see if anything can be learned in history about the feasibility of compellence. What must be realized, then, is that in history hardly ever a war was fought to the last man, or until the entire enemy society was annihilated. In the past, most of the time the aim of warfare was to defeat the opponent's army in order to reduce his capability to resist any longer. Thus, defeat on the battlefield is a sign of vulnerability. In essence, it signals potential future pain and suffering, or to use von Clausewitz' phrase "still greater disadvantages." [51 :77] Surrender follows because that potential future suffering is unacceptable, not the defeat of the army per se. Schelling refers to this phenomenon, when he writes "'Surrender' is the process following military hostilities in which the power to hurt is brought to bear."[222 :30] In fact, as Slantchev concludes, "All wars are about compellence: each side is trying to persuade the other that

14 A rather concise overview of the most important ideas that have been developed with regard to compellence is provided by Lawrence Freedman, particularly in the introduction and the first chapter of the book *Strategic Coercion; Concepts and Cases*. [82]

surrender is better than continuing to fight. That is, the wartime status quo is worse for the other side than capitulating." [230]

Note 5: Historical Examples of Compellence Cases

To demonstrate that the use of compellence has been known from time immemorial, Schelling [222: 10-11] refers to Herodotus' "The Histories", written in the mid-fifth century B.C. The extract in the frame below refers to the Persians who wanted the Ionian cities to surrender and join them, without having to fight them. They instructed their ambassadors to do as quoted.

Schelling also refers to another remarkable and clear example of compellence. [222 : 11] It comes from a scene from Shakespeare's King Henry V, quoted in the epigraph on page 2 of this dissertation. Henry V landed in France in the summer of 1415. His first objective was Harfleur, a port town in the north-west of France. Since the governor of Harfleur decided to surrender, it is even an example of successful compellence.

This is one of the indications that the often-heard assertion that "compellence does not work" is not based on historical evidence.

There are numerous other historical examples that demonstrate that the perceived undeniable prospect of defeat often suffice to force an enemy to his knees. Even a credible threat — if necessary backed up by the limited use of force, as a 'reality check' — sometimes already does the job. The logical consequence of this observation is that it is possible to compel an adversary merely by installing in him the firm conviction of certain defeat, and future suffering. Going one step further, it may even be that the firm conviction of future suffering can be sufficient. [15]

> Make your proposals to them and promise that, if they abandon their allies, there will be no disagreeable consequence for them; we will not set fire to their houses or temples, or threaten them with any greater harshness than before this trouble occurred.
> If, however, they refuse, and insist upon fighting, then you must resort to threats, and say exactly what we will do to them; tell them, that is, that when they are beaten they will be sold as slaves, their boys will be made eunuchs, their girls carried of to Bactria, and their land confiscated.
>
> *'The Histories', Book 6;9 by Herodotus*

Strategists recognized this fact in the 19th century when naval strategy introduced another kind of suffering than the one related to direct acts of war. This approach, particularly advocated by Mahan [169], and in an adapted form by Corbett [58], assumes that forcing economic isolation on the adversary can compel him to submit. The underlying assumption is that economic isolation, because it leads to reduction of power, is a serious threat. The fact that most nations border on the sea, and for their trade, and therefore their economic prosperity, are highly dependent on the free use of it, makes them vulnerable for actions that will bar them from free access to overseas sources (for instance, by blockade). Following this line of argument, also the concept of *gunboat diplomacy* came into use. [42, 254] It implies the use of threatening force, symbolized by gunboats off the coast of the opponent, in order to compel him to surrender or comply with certain demands. The art of that diplomacy is to advance the moment at which the adversary concludes that suffering is unquestionable, bringing about early surrender. Sometimes, even the threat of sending gunboats suffices.

15 It can be asserted that the earlier the moment of surrender, the more successful the action. This means that actions aimed at advancing the moment at which the adversary comes to this conclusion of unquestionable defeat – and therefore decides to surrender – enhance the degree of success.

The arrival of the airplane in the early 1900s enhanced this kind of strategic thinking. The unique qualities of Airpower brought some new elements of military power to the attention of politicians and diplomats. Particularly the capacity of aircraft to reach the opponent's heartland quickly, directly, and relatively undisturbed made it clear that the opponent was more vulnerable than before. [108, 182] The capability to hurt an opponent (the 'power to hurt') became more explicit. [73] Thus, it was recognized that Airpower provides the capability to threaten an opponent directly and emphatically with punishment. Particularly air strategy during World War II was a demonstration of Airpower's special position with regard to compellence. Although not all elements of this new concept were understood yet, and although the theories of that time arose more from 'gut-feeling' than from scientific research, the foundation was laid for an in-depth study of the phenomenon. [113, 114, 168] Ultimately, this created a new conceptual notion of both deterrence and compellence. It started to have an impact on the way of thinking within the international political arena. The threat of the use of Airpower complemented and later replaced gunboat diplomacy. [16] It provided a new instrument to bring about surrender even earlier than had previously been possible. In other words, the diplomacy that used military threat as a basis for exercising armed suasion started to use Airpower as its main instrument. [17] "Air strikes in particular, [were] increasingly seen by the US public and many policy makers as a low-cost, low-commitment tool". [41: 20] Nowadays, to an increasing extent, politicians consider this strategic use of Airpower as a feasible option, and even count it among their options of first choice. That is why the diplomacy that uses compellence is nowadays often called *Airpower diplomacy*. [111]

The bottom line of this part of the compellence debate is that compellence is indeed a phenomenon with a long history. The very fact that it has been applied on a frequent basis demonstrates that – apart from several failures – there must have been sufficient successes. The revived conceptual attention this phenomenon received among researchers and politicians, particularly in the period after World War II, justifies taking a closer look at its fundamental qualities and at the reasons behind the success and failure cases.

Note 6: Compellence and the Airpower Debate [18]

In the context of the expression 'Airpower diplomacy´ to denote the diplomacy that uses compellence, it is sometimes said in the compellence debate, that "air strikes do not work." Since these remarks are mostly made in connection with the use of air strikes as means to support a compellence strategy, this would mean that in essence compellence could not be successful. However, the previous discussion shows that history belies that contention. Usually the discussion takes place as result of interservice rivalry.

The discussion flared up particularly after the Kosovo conflict. People like the American 'soldier-strategist', retired Army Colonel Harry G. Summers Jr. opposed the use of Airpower as executed by

16 The use of aircraft 'from the sea', i.e. of attack aircraft stationed on aircraft carriers, is what is understood by the application of Airpower here. From a naval perspective, this application of Airpower, i.e. the deployment of maritime forces that are built around aircraft carriers – like, for instance, the US 6th Fleet during several conflicts around the Mediterranean – is even a direct continuation of former 'gunboat' diplomacy. Naval Airpower here replaced the guns as the Navy's instrument of threat. This remark, incidentally, also implies that the notion of Airpower is not seen as exclusively related to Air Forces in this study.

17 It is not just a coincidence that Article 45 of the UN Charter mentions 'national air-force contingents' as the means that members should hold immediately available for combined international enforcement action, in order to enable the United Nations to take urgent military measures. It indicates that the UN appreciates the specific value of Airpower as an instrument for quick enforcement actions.

18 See in this context also Byman and Waxman [37].

NATO by saying that if President Clinton had studied war, "he would have known that airpower alone has never been decisive." The British military historian and commentator Sir John Keegan – who at the end of the first week of Operation Allied Force wrote, "airpower simply does not seem to be working" – supported this opinion.

Keegan obviously changed his mind at the end of the operation. In the London Daily Telegraph of June 4, 1999, he wrote, "It was less than three weeks ago that the realization first dawned on me: Airpower might actually be winning the Balkan War. I turned the thought round for a while and looked at it from several directions, [. . .]. I didn't want to change my beliefs, but there was too much evidence accumulating to stick to the article of faith. That article of faith, held by all military analysts outside a few beleaguered departments of airpower studies in the service academies, was that air forces could not, alone, win wars. [. . .] It now does look as if airpower has prevailed in the Balkans and that the time to redefine how victory in war may be won has come. [. . .] After this war, [. . .] there will be no grounds for debate or dispute. Aircraft and pilotless weapons have been the only weapons employed. The outcome is therefore a victory for airpower and airpower alone." Keegan repeated his message on June 6, 1999, when he wrote, "There are certain dates in the history of warfare that mark real turning points. Now there is a new turning point to fix on the calendar: June 3, 1999, when the capitulation of President Milosevic proved that a war can be won by air power alone. [. . .] the air forces have won a triumph, are entitled to every plaudit they will receive and can look forward to enjoying a transformed status in the strategic community, one they have earned by their single-handed efforts. All this can be said without reservation, and should be conceded by the doubters, of whom I was one, with generosity. [. . .] Already some of the critics of the war are indulging in ungracious revisionism, suggesting that we have not witnessed a strategic revolution and that Milosevic was humbled by the threat to deploy ground troops or by the processes of traditional diplomacy, [. . .]. The revisionists are wrong. This was a victory through air power."

Keegan's plea was – obviously – applauded by the Airpower community, and he is regularly quoted by them since. However, it did not impress a number of others, like retired US Army Lt. General William Odom, former director of the National Security Agency, who wrote, "This war didn't do anything to vindicate airpower. It didn't stop the ethnic cleansing, and it didn't remove Milosevic." In addition, Summers backed up his previous remark by saying "With the seeming victory of airpower in Kosovo, we are again in danger of thinking there is some easy way to win wars."

Ultimately, it is probably best to follow Byman and Waxman's statement: "Air power and other instruments must be understood in context, not in isolation." [37 :12]

2b Success and Failure

In section 1a it was asserted that, despite the essential feasibility of compellence as a strategic option, its application surely has not always brought the desired result. The degree of success shows considerable variation. That may explain the formerly mentioned 'popular' conclusion that considering it an opportunity is not worthwhile. Another reason underlying this conclusion has to do with the way the notions of 'success' and 'failure' are interpreted. That is why it is of the utmost importance to discuss in detail the essentials of these two notions. In other words, it is necessary to agree on what is understood by 'success' and, of course, 'failure'.

This section on success and failure first explains success (and failure) as a notion. It relates its meaning to the concept of marginal utility. The discussion shows that success can have many faces and many gradations. The next consideration concerns the judgment of success. This discussion will also include the distinction between the choice of compellence as a strategy and the execution of compelling actions. This leads to the conclusion that the effects of compelling actions are secondary to the effects of the strategic choice. In other words, success or failure in the context of armed suasion, and compellence in particular, primarily depends on making the proper strategic choice, i.e. choosing the right means for the aspired objective. Eventually, the findings of this section cause the search for success (and failure)

per se in this study to be abandoned. Conversely, the emphasis is come to lie on the relative chance of success in compellence cases.

Note 7: Success & Failure of Compellence and the Conflict Spectrum

We have to be aware that we cannot limit ourselves to an explanation of success and failure as a notion only. We have to recognize that also the characteristics of the conflict at hand will have their influence on the question of success and failure of compellence.

A complication is that the increased attention for compellence easily entices one to consider it as a unique phenomenon and treat it in isolation. One then forgets that compellence is nothing but a 'normal' (political) act to settle a conflict. In essence, compellence is an instrument of diplomacy. The simple fact that authors like George et al. [90, 91, 93, 94, 95, 96], Jakobsen [134], and Schulz [225] use the expression '(coercive) diplomacy' in the title of their books about compellence also suggests that. In other words, compellence resides in the diplomacy part of the conflict spectrum, albeit the higher end of the scale of antagonism (see Figure 56 on page 187). It is 'only' one of the options available.

It is wrong to conclude that compellence failed while, in fact, the strategic decision was made to choose one of the other political options available (possibly after examining the potential efficacy of compellence). Thus, decisions whether or not to use compellence – and examination of these decisions – should consider the whole gamut of political options. A focus on compellence as an isolated act, without attention for the other political options, constitutes a hazard to the proper weighing of all alternatives. It often results in the deduction that compellence per se does not work, while, in fact, the conclusion has to be that choosing compellence was a wrong decision in the first place, and possibly 'only' did not work under the given circumstances.

It is all the more remarkable, then, that the predominant compellence school of thought has only little attention for the choice between compellence and the other (diplomatic) options available within the conflict spectrum. The focus is almost exclusively on the choice between intervention and submission, where the latter is often explained as a sign of failure. In this study, it will be expounded that this is not always the right conclusion. Maybe, the predominant compellence school of thought is of the opinion that this discussion about strategic options may be important, but does not belong to the core of the compellence debate per se. However, the author of this study thinks that full appreciation of the strategic 'choice' between available options is more than a secondary issue.

That is why also the other elements of the conflict spectrum deserve, at least some rudimentary, attention. For this, the work of Rummel. [219, 218] provides useful information. In essence, he presents a concise overview of several other sources that deal with the essentials of the conflict spectrum. Annex A discusses some of the details. It deals with the position armed suasion, particularly compellence, occupies in the so-called conflict spectrum, or conflict continuum, relating it to other strategic options to solve conflicts. It only provides a guideline of thought about the elements of conflict as developed by the author of this study. It shows how the reasoning behind certain aspects of conflict materialized in this study.

2b.1 Success as a Notion

Success and failure are notions that are routinely used in common language, and they appear to concern simple, straightforward concepts. It sounds so simple and logical, for instance, when De Wijk says, "Success is measured in terms of the degree to which political objectives are achieved. These political objectives hold pronouncements upon the desired behavior of the opponent." [272: 306] In essence, this statement contains the fundamental rules for the judgment of success. However, unfortunately, a closer look at the issue shows that the meaning of success – especially the degree to which political objectives are achieved – is not as straightforward as it seems. In addition, the pronouncement upon the desired behavior of the opponent deserves some additional consideration.

The popular idea is that 'success' and 'failure' are two simple phenomena: if one manages to make something work, one succeeds, if one does not, one fails. This approach considers suc-

cess and failure as a binary issue: either one succeeds or one fails, working like an 'on-off switch', just black and white. There is no middle course, or gray area. Obviously, this is not a proper representation of reality, where the world is full of shades of gray. Prior to asking whether an action will have success, it is necessary to establish what it is that the action has to achieve; what is the objective? Then, success and failure should be related to the set objective. Moreover, reality shows that instances with maximum success – i.e. instances where a set objective is fully attained without, for instance, making a single concession – are rare.

The above contemplation demonstrates that considering the concept of success and failure as binary is not appropriate. Byman and Waxman, who support this position, write the following in relation to the enforcement of behavior adaptation through compellence.

> Studies of [compellence] often pay inadequate attention to the range of goals pursued by a coercer. Moreover, they typically employ absolute, binary metrics of success, where a coercive strategy either worked or failed. Assessment of coercive strategies must shed these tendencies and instead consider a spectrum of possible outcomes.
>
> [. . .]
> The way in which the very issue of 'success' is framed exacerbates this confusion. The use of absolute, binary terms does not capture the complex and often subtle effects of [compellence] [. . .] The straitjacket of binary metrics distorts the lessons we may draw from aggregated empirical data when cases in which the U.S. threats helped move and adversary in favorable ways but short of maximal U.S. objectives are coded either as absolute failures or as absolute successes. [39: 10]

This suggests that it is a better approach to consider the concept of success and failure as an analogue phenomenon, meaning that it does not concern – to put it in technical terms – an 'on-off switch' but a 'slide bar' showing *more* or *less* success. Then, since it should be viewed from the perspective of set objectives, the question is whether the result acquired by the action was acceptable. Formulated in another way, the question is whether the action taken to meet the objective promises to be worthwhile (ex ante) or was worthwhile (ex post). This is the approach taken by Mueller. He suggests asking the question, "Did the results of the operation outweigh the investment done to carry out the operation?" [186: 7] Then, even if the initial objectives are not fully achieved, and the settlement implies incomplete compliance with the initial demands, an action can be called a success if the achieved gains were worth the offer made. In fact, the concept of 'value for money' is introduced here, and along with it, the concept that deals with utility, particularly of — what is known in economic theories as — 'diminishing marginal utility.'

Note 8: Success & Failure and the Concept of 'Total War'

It may be that the 'simple' approach to success and failure of military actions is the result of the fact that warfare in the modern age is still very much dominated by the concept of 'total war'. This concept follows the image of war that prevailed during two World Wars, and also during the Cold War. This model seems to assume that, like in a football match, the winner takes it all. In that concept of warfare there is no 'second place'. The result of the Cold War seems to confirm this way of thinking. After all, 'the West' won the Cold War, and 'the Russians' lost it! And indeed — assuming that the stakes during the Cold War concerned the safeguarding of ideologies and lifestyles — pursuing the 'communist' ideology and lifestyle has been replaced by pursuing the 'capitalist' ideology and lifestyle in a major part of the world, including the former communist world. However, has communism been dispelled from the face of the earth? And is capitalism accepted as the one and only valid ideology? The answer is clearly negative. There is an undeniable shift in favor of capitalism, but particularly the 'milder' forms of communism are anything but exterminated. This leads to the conclusion that, despite the obvious clear-cut result, the level of success of the Cold War for the West cannot be quantified as one hundred percent.

Diminishing Marginal Utility

Now a phenomenon, known from the realm of economics, viz. the price mechanism, the mechanism that considers the price of commodities [19] must be considered briefly. A major part of microeconomics revolves around this issue. In the context of this study the observation is relevant that the price of an object depends on the value (or utility) the 'buyer' attaches to the object involved. In formal wording, "the amount of a commodity an actor is willing to acquire, and thus the price he is willing to pay, depends on the level of positive impact of this acquisition on the satisfaction of the actor's needs." However, the price of a commodity does not only depend on the demand. It arises from an interaction between demand and supply. It relates to the sacrifice someone is willing to make in order to obtain a commodity, on the one hand, and to the availability of that commodity, on the other. The fewer units of the commodity available, the more sacrifices a consumer is willing to make. In the interaction between demand and supply, the result is then a higher price. Conversely, more supply leads to a lower price.

Consequently, not the total utility determines the price one is willing (and therefore one has) to pay, but what is called the 'marginal utility'. This is the combination of utility and available amount. Von Neumann and Morgenstern write about this notion, "Marginal utility [. . .] corresponds to the maximum effort [a rational actor] will be willing to make – if he behaves according to the customary criteria of rationality – in order to obtain a further unit of that commodity." [191: 31] As long as the marginal utility exceeds the price the actor has to pay, he will (still) continue to acquire the commodity. This dependence is not linear as is shown in the left-hand diagram of Figure 1, which presents this dependence as a function of the utility and the available amount.

Looking at the diagram, a second relevant observation can be made. It concerns the diminishing level of marginal utility. This implies that an actor is willing to make large sacrifices for the first units of a commodity. However, the more units of that commodity the actor possesses, the less willing he is to sacrifice for the acquisition of more. The Prussian civil servant Gossen introduced this concept of 'diminishing marginal utility' — known as 'Gossen's First Law' — in 1854 in his book *Entwicklung der Gesetze des menschlichen Verkehrs und der daraus fließenden Regeln für menschliches Handeln.* This law reads:

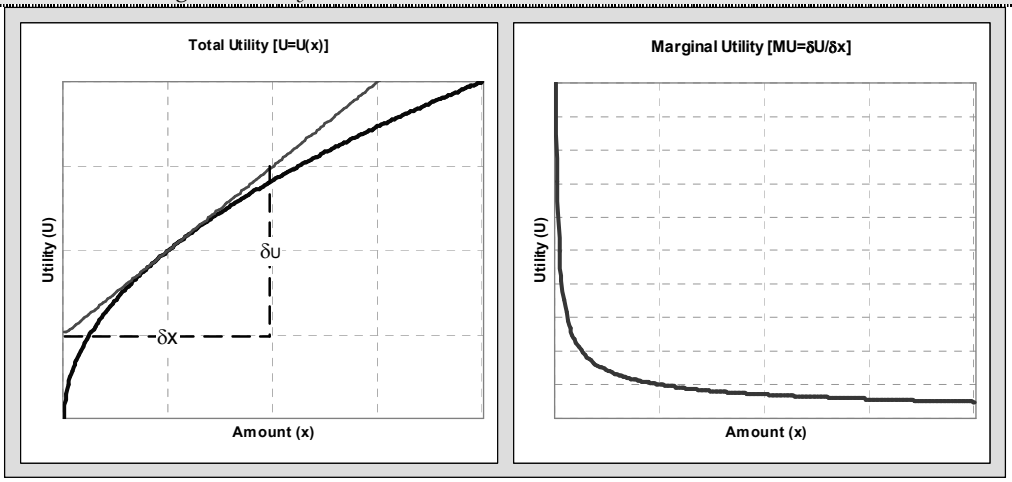
> *If one experiences enjoyment uninterruptedly, the corresponding intensity of pleasure decreases continuously until satiety is ultimately reached, at which point the intensity becomes nil.*

Again, the two elements described above are involved: the utility a commodity has for an actor and the available amount of that utility. As shown in the first of the two diagrams, the tangent line to the total utility curve represents the level of marginal utility (in mathematical terms: $\delta U/\delta x$). The outcome for every utility and each amount is given in the right-hand diagram of Figure 1. This curve has an exponential character, demonstrating that the marginal utility in case of a very low level of supply is extremely high, whereas the marginal utility approaches the zero-line in case of a high level of supply. Simply put, the first part

19 As will follow in the remainder of this study, the 'commodity' the actors in a compellence process pursue is the achievement of their political objectives. For the compeller, this is compliance with his demands by the target, i.e. that the target reverses his intolerable behavior. For the target, this is resignation by the compeller, i.e. that the compeller accepts the target's intolerable behavior.

one gets brings high satisfaction, while the last part, of the same size, hardly satisfies at all, or, the more one gets of something, the less worth the remaining part has.

Figure 1: Total and Marginal Utility



The notion of diminishing marginal utility is closely related to a rule originating from the Italian economist Pareto. This 'Pareto Principle' is also known as the '80/20 rule'. The 80/20 rule has expanded far since its first economic use. The postulate was interpreted to reflect the notion that (the first) 20% of your effort will generate 80% of your results. There is also a corollary: (the final) 20% of your results absorb 80% or your resources or efforts. This insight is widely applied to leadership and management, and has become one of the best known 'leadership shorthand terms', saying that the last 20% of the results will cost 80% of the effort.

The combination of the principle of marginal utility and the 80/20 rule shows that, on the one hand, the level of expected utility diminishes the more one gets of it, whereas the effort necessary to acquire that last portion is relatively high, on the other. Thus, one will think twice before starting rather disproportional efforts to acquire these final percentages. This leads to the conclusion that the pursued level of success relates to the price of success. Thus, since the price is disproportionally high for the last few percentages, the success rate will hardly ever reach the one hundred percent level. [20]

2b.2 Success and Failure; Complementary Issues

The considerations of the previous section demonstrate that success has to be expressed in terms of levels. The idea of success that comes in degrees may be better understood, when the dimension 'failure' is added. The basic principle of this approach is that success and failure are clearly related. It should be obvious now that this does not imply the popular notion that often translates this relation into the opposite positions of an 'on-off switch'. This binary approach has been rejected and is replaced by the notion of a sliding scale. So, success and failure should be seen as the opposite positions of such a sliding scale. In this notion, failure is the complement of success: the higher the level of success, the lower the level of failure, and the other way around.

20 Anticipating the discussion that follows in the section on The Eye of the Beholder on page 32, it is useful to mention here that a politician can run into political problems when he decides to accept a limited success rate as result of the impracticability to achieve a one hundred percent success rate.

Note 9: Complementariness of Success and Failure; Two Considerations

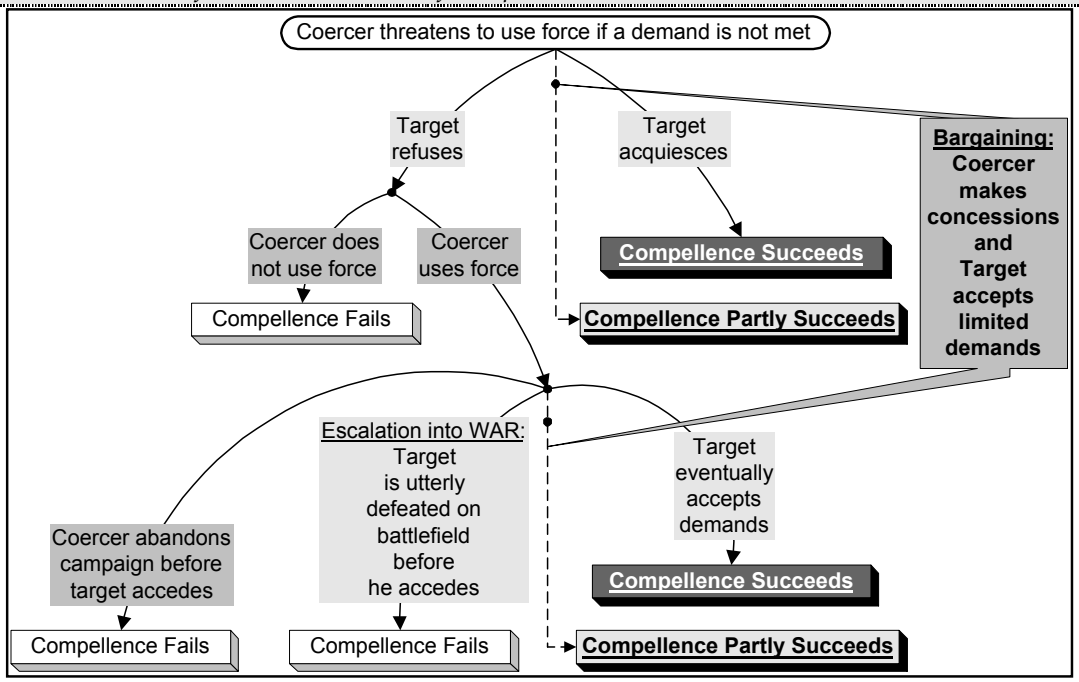
The question is whether these two complementing 'faces' of success, are always applicable. Two further considerations are relevant in this context, viz. one single party's estimate, and the estimate between two parties.

The first consideration shows the situation in which it is appropriate to apply the complementariness mentioned above. It is related to one party's estimate of the expected level of success of his action. The portion of the objective met by his action can safely be denoted as the degree of success. In essence, here, the success rate represents the degree of effectiveness of the action. Conversely, the portion of the objective that has not been met by the initiated action can safely be called the degree of failure of that action. Seen from this perspective, success and failure are fully complementary.

The second consideration shows that this complementariness does not always exist in the relation between two parties. One is tempted to assume that – in an interaction between actors – the level of success of one party corresponds to the degree of failure of the other. Indeed, often the success of one party's action is at the expense of the opponent's success. However, this is fully correct only in the case of a so-called 'zero-sum game'. In the case of a zero-sum game, whatever one player gains, the opponent loses. Therefore, zero-sum games have a 'win-lose' character. For the success of compellence, on the contrary, seeking a 'win-win' solution has many advantages. That is not to say that with compellence the party that gives in will not lose more than the other will. Probably he does. However, that losing party also hopes to profit from giving in, even though he might lose more than he wants. Essentially, this means that there is a good chance that the defeated party loses less than the winner gains. This leads to the conclusion that complementariness of success and failure in the relation between parties will hardly ever apply to compellence.

2b.3 GRADATIONS OF SUCCESS AND FAILURE IN A COMPELLENCE PROCESS

Figure 2: Gradations of Success and Failure of Compellence



The previous discussion argues that success can have many faces and many gradations. As a form of armed suasion compellence, in essence, takes place in an atmosphere of bargaining preparedness. In other words, through negotiations, the result of compellence can be less than what was expected or hoped for at the start of the campaign. Figure 2 provides some insight into this mechanism. It identifies compellence as "partly successful" whenever this initial objective is not fully met. However, failure, in this setting, is reserved for the situation that either the compeller backs off totally, before or after the bargaining failed – i.e. none of

his objectives are met — or the target refuses and is subsequently militarily defeated (after the conflict has escalated in war). It is particularly interesting to find a way to judge the degree of success in those cases that compellence 'partly' succeeds.

2b.4 Two Kinds of Success

Besides the fact that success (and failure) has gradations, two kinds of success can be observed in the context of compellence. We are often tempted to zoom in on the 'working' of compellence and find the elements that determine the probability of successful execution of a compelling action (and, of course of the resistance against that action). That is, however, only a limited approach to the problem. The choice for compellence as a strategy should also be considered. This means that the question must be answered whether, given the circumstances, compellence is the proper strategy and has the potential to bring success.

When observing the assessment of the concerned party's leadership, it is useful to place it in the proper context. First, success and failure are notions that say something positive and negative about the result of an ***act***. Other things, for instance ***situations***, also have positive and negative aspects, but these aspects are not defined as success and failure. Success and failure are inherently linked to acts. Unlike circumstances and situations, acts are not static, but dynamic. They have a direction, oriented towards results, aims, or objectives. In the context of the concerned parties' assessment, two acts are relevant: the act of choosing the right strategy, and the act of executing that strategy.

- The first aspect involves considerations about the choice of compellence as a strategy, about success BY (the application of) compellence.
- The second aspect involves considerations about the working of compellence, about success OF (the application of) compellence.

The two perspectives are closely related. No doubt, the choice for compellence as a strategy also depends on whether the compelling action has sufficient potential for success, given the circumstances. Nevertheless, making the proper choice and executing the action properly are not the same, even though the two are conceptually related. Separate factors that only determine the strategic choice — and are not, or only indirectly related to the execution — can have an impact on the final outcome of the process. Consequently, they deserve separate attention.

Success BY (the Application of) Compellence

When choosing the strategy with the highest probability of success, the focus is on the question whether compellence as a 'strategy' works. This question is related to the 'object', or purpose of the strategy as considered in Annex A. The primary questions, then, are "Is compellence the proper strategy for the job?" or "Is compellence suited for the achievement of the object?" In a practical sense, this means that compellence has to offer a reasonable opportunity to achieve the object. The object, or the expected result of the choice, is *changing the opponent's behavior to meet the initiator's demands*. Thus, the level of success can be measured in terms of the level to which the target complies with the demands. The chosen strategy

should offer a reasonable chance that the opponent's decision-making process can be influenced to the extent to which the status quo changes satisfactorily [21] in favor of the initiator.

Three main elements have an influence on the strategic choice, and its success or failure. The first concerns the decision-maker's preferences. Here, the characteristics related to the psychological dimension of decision-making play a part, particularly those of brinkmanship, risk avoidance and risk acceptance. In the case where the initiator has a risk-accepting attitude, there is a chance that he will decide to take actions with a low level of certainty when balancing object, aims, and means. The second element is related to the interests at stake. It has to do with the level of concessions and compromises the initiator finds acceptable. This — what can be seen as a deviation of the original, ideal object — reflects the fact that the price to pay has to correspond to the object. In case of a highly valued object, this acceptable price will be high as well. However, it also is a matter of how to achieve a maximum result (on the object-scale) by using minimum effort (on the means-scale). Here, the principle of diminishing utility comes into play. The actor will estimate whether it is worthwhile to use compellence strategy even though expecting one hundred percent success would be unrealistic. The third element consists of the interaction between the choice for a compellence strategy, and the execution of that strategy, success OF compellence actions.

Success OF (the Application of) Compellence

Assuming that compellence is potentially the proper strategy, its mechanisms can be considered. The focus here is on making it more effective, i.e. on the factors that enhance its working. It is related to the 'game' the actors play when they are seeking the optimum result from their discordant interaction. It is the game in which the initiator, or compeller, seeks a way to establish the highest level of his own expected utility of compellence, and the highest level of his opponent's expected utility of compliance. The combination of high expected utility of compellence and high expected utility of compliance will enhance the chance of successful compellence. The target, conversely, seeks ways to enhance the expected utility of resistance for himself and of resignation for the compeller, so that the combination of a high expected utility of resistance and a high expected utility of resignation will enhance the chance of successful resistance. The goal, from the point of view of the compeller — i.e. of the one that has to decide whether or not to choose compellence as a strategy — is twofold: 1) increase the expected utility of compellence and compliance, and 2) reduce the expected utility of resistance and resignation. Bringing these expected utilities to an absolute maximum and minimum level would be equal to one hundred percent successes in the strict context of the compellence action.

To affect the expected utility levels, certain conditions must be fulfilled. This forms the core of the compellence problem. It is where compellence 'fails': not because it would — in essence — be wrong to choose compellence as a strategy, or because compellence would not have the potency to bring the desired result, but because its application was hindered by lack of needed preconditions. Central here, is the issue of the price (which is, incidentally, also an inherent aspect of the strategic choice). Assuming that success of compellence is a

21 Satisfactory here means that it can be less (or more) than the initiator originally desired. Concessions, or compromises, or possible new preferences, developed by the parties during the process can influence the final outcome, which does not necessarily mean that this outcome becomes unsatisfactory.

scarce commodity, the desire to acquire that commodity should be high, in order to justify the price that it will cost.

In sum

It can be concluded that the choice for compellence as a strategy and the execution of this strategy are difficult to detach. The effectiveness of coercive actions has an impact on the choice of compellence as a strategy. If, under the given circumstances, the limits to which coercive actions are exposed considerably affect the expected level of success in a negative way, the choice for compellence may not be obvious (and must be reconsidered). In other words, the potential for a proper execution of coercive actions is a prerequisite for choosing compellence as a strategy. However, it would be wrong to draw conclusions about the effect of coercive actions based on the results of an improper strategic choice. Therefore, the negative effects of the coercive actions are secondary to the negative effects of the strategic choice.

2b.5 Judgment of Success

Now that the notions 'success' and 'failure' are understood better, the question can be asked how to judge the degree of success. There are two sides to that question. The first orientation usually concerns the way 'outsiders' assess the level of success of (ex post) evaluated cases of compellence. It is all about the questions of what factors brought success in the past and whether the level of success was satisfactory. For scholars or politicians, who study the issue to find 'lessons learned', the answer to those questions probably determines whether a particular strategy will be taken into account when 'other' decision makers (i.e. different from those involved in the examined case) consider a future course of action for themselves. The objective of this research is to avoid making a choice in the future for a strategy that only offers a limited chance to achieve the desired result.

The second orientation concerns the way an involved party's leadership assesses, or should assess the level of success of their actions. This assessment of an actor involved takes place ex ante for the potential success of his action, but also ex post for the actual success. The ex ante orientation affects the leadership's ability to enhance the level of success of a planned operation. This means that the actor concerned is interested in the factors that will bring him the best result, or increases his chances of success. After all, it is only logical that decision makers want to know — prior to engaging in an action — what the probability of success is, i.e. what the success factors are. In finding the best line, the decision makers will probably make use of 'lessons learned' from historical cases. The importance of ex post evaluation of the success rate of cases of compellence by the involved compeller lies in the first place in the account (democratically elected) compellers have to give to their constituencies.

The Eye of the Observer; 'Failure Cases' Overstressed

A closer look at the former orientation – the 'outsider's' assessment – shows that researchers face a practical problem, which produces a major weakness in the way they can draw conclusions from their empirically collected data. This weakness has hardly ever been an issue of consideration in the discussed literature about compellence. It therefore deserves special attention.

In this context, it should be noted that — in order to be graded by 'outsiders' as 'successful', or as 'failing' — cases of compellence must, in principle, have to come into the open and

therefore get public attention. It should, however, also be recognized that "compellence diplomacy, as many other parts of diplomacy, mostly takes place in an atmosphere of secrecy" [7: 139], as Andres so aptly remarks. Opposing parties often choose to avoid an open confrontation out of fear of an escalating conflict. Furthermore, they often wish to compromise rather than to seek confrontation, particularly when no vital interests are at stake. Finally, they also often strive for a win-win solution, or want to avoid losing face or prestige. They can achieve these results better in a process of secret negotiations. Holsti adds to that "Since such interactions [based on simple persuasion] seldom make the headlines, we often assume that most relations between states involve the making or carrying out of threats." [122: 157] Thus, the level of success and failure of compellence attempts during secret negotiations remains hidden for the external observer and it cannot be evaluated. Consequently, empirical research can only cover a part of the subject.

So, most of the measurable examples of success and failure deal with the situations in which the actors could not achieve success during the secret phase of diplomacy. What remains are the more complicated cases. They are often those cases that have to be published. This assertion is based on the fact that seeking public attention is part of the diplomatic process — after secret diplomacy has not brought the desired result. This also has considerable consequences for the reliability of data collected through empirical research, in particular with regard to the contestability of the selection of cases that can support conclusions about relationship between the indicators that can be used to predict which side will win (ex ante assessment), and which side actually wins (ex post assessment). This contestability is exactly what Andres proves in his dissertation. [7: 145-149] He states that the indicators that predict whether a state will win a dispute before it becomes public also tend to predict which side will win after the dispute becomes public. He demonstrates that the chance of success after a conflict becomes public is, almost by definition, smaller than the chance of failure. The corollary is that — when considering the whole spectrum of compellence — the chance that failure will come to the attention of the public is greater than the chance that success will be known. Thus, as Andres concludes, the majority of the cases available for empirical observation overstress failure.

Note 10: Example of 'Overstressed Failure Case': Arab-Israeli War of 1967

An example of a (secret) case of compellence that (probably) only came into the open because it failed, is the course of the Arab-Israeli war of 1967. After the Israeli deterrence to prevent the Egypt blockade of the Straits of Tiran had failed, Egypt implemented the blockade on May 22, 1967. We know the outcome that, subsequently, Israel successfully executed a preemptive attack on the neighboring Arab states. However, not much would have been known about the (secret) diplomatic efforts to compel Egypt into raising the blockade prior to the Israeli attack, if this secret diplomacy had been successful.

We now know – with hindsight – that, in the two weeks between May 22 and June 5, when Israel attacked, the USA summoned Egypt and warned against offensive actions, if it did not lift the blockade. Moscow also exerted pressure on Egypt. For several reasons – according to George [97: 126-159] mainly as result of miscalculation – these (secret) compellence acts did not bring the desired result. Did, however, these coercive acts had impressed Egypt sufficiently to back down – probably, following good diplomatic practice, allowing Egypt to save face – the case would have gone down in history as a minor diplomatic incident, hardly worth studying in detail.

The Eye of the Beholder; Coming Away Unharmed

The following paragraphs will explain why the ex post orientation on 'real' success or failure is actually in the eye of the beholder, i.e. the decision maker, and even more important, his constituency. It was demonstrated that, in reality, concerning the relation between the initial objective and the ultimate result, 'limited success' is actually unavoidable, since it is caused by the inherent unruliness of actual practice, which hardly ever allows for one hundred percent success. However, a second element blurs the relation between the initial objective and the ultimate result. It relates to the practice of political action.

It must be recognized that, in practice, political intercourse is mostly a matter of bargaining in which compellence can be one of the strategic tools. [22] The theory of bargaining departs from the assumption that an objective (or demand) stated by the 'initiator' is negotiable, and is therefore usually exaggerated. The real objective, particularly the 'breaking point' [23], is lower than the stated objective. The 'initiator's' whole aim is to hoodwink the opponent, who, in this case, is an outsider. As a result, the opponent will hardly ever know whether the 'initiator' actually met his 'real' objective, or how far the result was away from the breaking point, even when the negotiations were concluded successfully. The 'initiator' is the only one who knows his actual level of success. [24]

In this context it should furthermore be recognized that the ex post judgment of the level of success of compellence is particularly relevant in the relation between decision makers (the leadership of a community) and their 'subjects'. Particularly in a democratic society, the leadership's subjects exercise control over the decision maker's actions. In other words, an ex post evaluation can also serve to call decision-makers to account. However, in a way, these subjects are also 'outsiders', when they judge the actions of their leaders. Projecting now the 'blurred' value of the real objective of the leadership on the position of the subjects of the bargaining decision maker, it becomes clear that these subjects also have to take into account the exaggeration of the initially stated objective. Like the other party's negotiators, these subjects will never know for sure whether their leadership met their 'real' objective. This leaves the constituents no choice but to judge the outcome based on their own objectives. As a result, a decision maker can 'fake' success, even if he actually had to accept a result lower than his breaking point (which would mean that, in fact, it is a failure) as long as the result satisfies his constituency. This means that, ultimately, in a democratic society, the people determine whether their leaders' coercive attempts have been successful or not. In the last instance, it also means that, as long as a decision maker can satisfy his constituency and gets away with his explanation of his success rate vis-à-vis his constituency, the negotiation can be called a success.

Consequently, the major element of consideration for outsiders researching historical compellence cases of democratic societies has to be the way the concerned parties' constituencies

22 We also have to recognize that – even when the actual form of the bargaining process (initially) implies pressure for 'unnegotiable' demands – this is exactly what characterizes the process. In other words, even when a compeller's official (initial) statement suggests that no bargaining space exists, this hardly ever reflects reality.

23 The 'breaking point' represents the value of the outcome of a bargaining process short of which the outcome is unacceptable. It is the minimum value a negotiator wants to obtain from the bargaining process.

24 This implies that, ideally, inquiries into the 'objective' success rate of compellence vis-à-vis the initial objectives should include the innermost feelings of the decision makers involved. However, it is highly doubtful whether that is a realistic aspiration.

assessed the success. [25] Furthermore, as the section on 'The Eye of the Observer' shows, failure cases tend to be overstressed. It is therefore better to exercise restraint when judging conclusions from empirical research into the success and failure rate of compellence cases – including conclusions about the factors that influence those rates.

2b.6 Conclusion

The discussion in this section on success and failure shows that success (and failure) can have many faces and many gradations. It also became clear that the effects of compelling actions are secondary to the effects of the strategic choice. In other words, success or failure in the context of compellence primarily depends on making the proper strategic choice, i.e. choosing the right means for the aspired objective. In essence, it can be concluded that judgment of (the satisfactory result of) compellence should focus, ex ante, on the degree to which the signs are favorable. Ex post, the focus should be on the question whether the signs were favorable, indeed. If they were, and the result was still not satisfactory, the question is what went wrong. Was, for instance, not enough done to let the relevant elements manifest themselves to an adequate extent? Or, was it just a matter of bad luck? Particularly, where the signs were ambiguous, was it justifiably assumed that they were favorable enough to choose compellence as a strategy to deal with the situation? If the signs were not favorable, why was the decision to apply compellence taken at all?

In sum, the question is not so much whether or not compellence is successful per se; it is more whether of all the available political options compellence is (ex ante) or was (ex post) the most promising in the eyes of the compeller. That is why, eventually, the findings of this section cause the search for success (and failure) per se to be abandoned in this study. Conversely, there is a strong emphasis on the relative chance of success in compellence cases. That is to say, that a compellence strategy is successful when it enhances the chance of the successful application of compellence to the level where it brings a result that is ultimately satisfactory in the eye of the beholder, i.e. the decision maker, and – in democratic societies – his constituency. In the following sections, the conditions that are relevant for the achievement of a satisfactory result will be discussed. They are mainly derived from the preponderant compellence school of thought.

2c Threat and Opportunity

A notion that occupies the center of the compellence debate is 'threat'. Everyone agrees that the basis for a compellence strategy lies in the threat of using force. For instance, the definitions of armed suasion and compellence, given in section 1d.3 are based on Byman and Waxman's description of – what they call – 'coercion'. [41: 1] Both definitions explicitly mention "the use of threatened force". George and Simons write, "Coercive diplomacy is essentially a diplomatic strategy, one that relies on the threat of force rather than the use of force to achieve the objective". [93: 2] They distinguish several types of threat and contend, among others, that these threats should be very well signaled in the ultimatum delivered to the opponent. [93: 29-42] George's book, written in 1974 with Richard Smoke, refers to the

25 Whether the constituents are right or wrong, or whether they are biased by certain circumstances is essentially irrelevant. It is the consituents' ultimate judgment that counts. This also implies that neither the success rate in relation to the objectives initially expressed by the decision makers, nor the success rate in relation to the 'actual' objectives of the decision makers have much relevance.

use of 'pure' threat in 'classic' warfare for coercive purposes. They deal with the pattern of limited warfare that evolved after the exhaustion of the Thirty Years' War. In this war, they say,

> The threat of inflicting high costs played at least as great a role as their actual infliction. [. . .] The threat to go to war and, ***once at war***, to endanger by maneuvers was an important part of the game. The ultimate goal was the capture of a fortress or a town; but the game was often decided, almost bloodlessly, by a skillful maneuver into a superior position. [Emphasis added] [92: 13]

Much is also written about the conditions that have to be fulfilled by the threat. Most authors agree that a threat should be powerful and potent, as well as credible. George and Graig assert that "threats must be credible and sufficiently potent in the eyes of the opponent—that is, pose a level of costs and risks that he regards of sufficient magnitude to overcome his motivation to challenge the defending power's position." [104: 185] Throughout his book *Arms and Influence* [222] Schelling, for instance, formulates the following conditions with relation to threat for successful compellence. The threat must be powerful, i.e. noncompliance is costly. The threat must be perceived to be credible, i.e. the coercer must demonstrate to have both the capability and the will to actually carry out the threat. In order to establish a powerful and credible threat, an asymmetrical balance of power is needed. Furthermore, escalation dominance of the coercer is important. However, consensus is lacking with regard to the focus of the threat. Should it be a terror and punishment-oriented threat, aimed at objects the opponent values most, for instance, population centers, as asserted by men like Douhet [73], or 'the industrial web', as asserted by the Air Corps Tactical School [108] prior to World War II? Should it be a denial threat, aimed at attacking the adversary's strategy, as asserted by Pape [199]? Or, could the use of force to 'incapacitate' enemy leaders and paralyze enemy war making bring success, as asserted by Warden [266]? Among others, these alternatives are the subject of Hinman's Cadre paper. [119] Furthermore, Byman and Waxman consider these options as 'coercive mechanisms' to manipulate adversary decision making. [41: 48-86]

With respect to the threat, it must be recognized that that essentially both deterrence and compellence aim at the threat of (the application of) 'limited force'. This is widely appreciated by the writers concerned. [Schelling, George et al. Byman et al. Jakobsen, Schulz] The relation between compellence and deterrence, and the association of deterrence with nuclear weapons (nuclear deterrence is indeed a well-researched issue) sometimes leads the discussion away from that fact and blurs the exact meaning of the expression 'limited'. Nevertheless, the threat of limited use of force is a crucial part of the concept of compellence. In addition, the potential use of limited force forms an integral part of it. Inducing a feeling of danger in the mind of the opponent is inherent to compellence. In other words, the compeller deliberately creates a crisis for the 'target'. But, by doing so, the compeller takes the risk of potential escalation to an undesired high level of force, unless he has clear escalation dominance (also in the eyes of his opponent). This creates a kind of crisis for himself. Essentially, what is meant by 'limited force' is 'as little force as possible', or better still 'just enough force to achieve the objective'. The process of employing 'just enough' force is one of the 'arts' of compellence. Both the compeller's and the target's elements of crisis have to be controlled and managed. That is probably why people such as George and Simons consider the application of compellence a crisis management act. [93 : 115, 97]

What is underexposed in the existing literature is the composite elements of a threat. Another lacuna is the omission to mention the threat's antipole: the opportunity to intervene. There is no attention for the fact that, in an interaction between two opposing players, they

both try to neutralize the threat imposed on them by their opportunity to intervene. A reason for neglecting the 'opportunity dimension' of the compellence process could be that not enough attention is paid to the deterrence-compellence interaction, i.e. to counter-compellence, as will be explained in section 2h, on 'Counter-Compellence; Deterrence-Compellence Interaction' on page 44. Furthermore, the focus of most writers is on two sub-items of threat and opportunity (benefits and costs), not on threat and opportunity as a whole.

Ultimately, this part of the compellence debate shows that the factor 'threat' deserves serious attention. The existing literature provides several indications concerning the conditions that have to be fulfilled by a threat. It should be recognized that we are always talking about a threat that implies just enough force to achieve the objective. Particular notice should go to the constituent components of a threat. Furthermore, this study adds the factor 'opportunity' as the threat's antipole.

2d Interests at Stake

Another important issue under consideration concerns the interests at stake. All authors on the subject of compellence recognize its importance. George and Graig see the weighing of one's interests, and assessing how important they are, as the start of the process of compellence. The next step, they say, is "to formulate and convey to the opponent a commitment to defend those interests. [. . .] The validity of a given commitment is directly related to its possessing a demonstrable or reasonable relationship to the maker's real national interests." [104-193] What they say is, in essence, that the interests at stake form the actor's triggers to act and determine the likelihood of occurrence of opportunity and threat. Jakobsen [134-7] builds a part of his theory on the nature of the threatened interests. He recognizes four levels of interest: vital, strategic, stability, and moral/ideological interests. This hierarchy of interests, according to Jakobsen, indicates the level of choice a compeller has to get involved. He relates what he calls 'patterns of interests' to each other, creating so-called 'will-producing' patterns. Other writers also distinguish between levels of interests, calling them – like Treverton [252] – 'narrow security interests' and 'broader interests'. George relates an asymmetry of interests between parties to an asymmetry of motivation. [92, 93] In sum, there is a consensus about the fact that the 'balance of resolve' is in the coercer's favor when the intrinsic stakes at issue are more important to him than to the target. Sometimes implicitly, most scholars also seem to agree that the higher the opponent's value of the disputed issue, the more difficult it is to compel him. Finally, as Schelling formulates it, compellence "[. . .] also requires that our interests and our opponent's not be absolutely opposed." [222: 4] This could imply that, in case of an extreme unbalance of interests, successful compellence will be very difficult.

What is lacking in the existing documentation is further details of the notion 'interests'. No mention is made of the fact that a dispute concerns two distinctive elements, a ***'desired'*** and a ***'rejected'*** situation, or status quo. They can be, but are not necessarily, opposites. This study contends that to measure the value of the disputed issue the difference between the desired and the rejected status quo needs to be assessed. This is the subject of the discussion in the section on the 'Benefits of Intervention (R&R and D&F)' on page 102. Furthermore, this study asserts that – for both actors in a compellence process – the perceived value of submission (for giving in) is linked to the perceived value of the rejected status quo. For the target, the perceived value of submission is also linked to the perceived value of the desired status quo. This is the subject of the discussion in the section on the 'Advantages of Submis-

sion' on page 106. Not discussing these aspects makes it rather difficult to determine the concrete effect of the value of the interests on the chance of success in a specific case.

Eventually, this part of the compellence debate shows that the interests at stake 'drive' compellence cases. They appear in various forms, each with a specific value. This study will add two 'faces' of interests to the arguments derived from the existing literature: the 'desired' and the 'rejected' status quo.

2e Vulnerability and Proficiency

In the existing literature, little explicit attention goes to the role of vulnerability in the compellence process. Moreover, the focus is mostly on the vulnerability of the target to the compeller's threat and not the other way around. This is one of the signs of a neglect of countercompellence, as will be discussed in section 2h. There are some leads. Pape, for instance, deals with vulnerability, but confines himself to military vulnerability, which refers, as he says, to "leader's expectations of being able to take or hold the disputed territory with military force." [199: 51] Byman, Waxman, and Larson relate the compeller's 'escalation dominance' [38: 30-36] and the opponent's 'pressure points' to the target's vulnerability. [41: 44-46] George, in his book with Graig [104] and with Simons [93], as well as Jakobsen [134] mentions the adversary's fear of escalation as one of his vulnerabilities. However, as a separate issue vulnerability is virtually neglected, let alone that its composition receives attention.

As a result, it is also not surprising that the authors neglect a second notion that is important in this context. It concerns the antipole of vulnerability, and this second notion is introduced in this study under the denominator 'proficiency'. Where vulnerability has a negative characteristic, proficiency is positive. Vulnerability regards the way an actor is susceptible to his opponent's actions, i.e. to a threat. Proficiency, on the other hand, refers to an actor's capability to execute an action himself, or – in other words – the degree to which an actor is able to exploit the opportunity he has to execute an action. This study also contends that the proficiency to exploit the opportunity and the vulnerability to a threat are each other's complements. This means that the higher the proficiency, the lower the vulnerability, and the other way around. This complementary relation is the subject of the discussion in the section on 'Complementary Relation between Probabilities' on page 106.

This study contends that vulnerability as well as proficiency is composed of three elements. Firstly, concerning the vulnerability, each actor has a kind of 'inherent' (in)capability to counter the threat – his 'proneness' to the threat. Also concerning the proficiency there is an inherent capability to exploit the opportunity – the 'susceptibility' to the opportunity. Secondly, the actors have a certain level of motivation to act or react: their 'will'. Thirdly, they both possess a strategic potential either to act or to react. Most of the time, the attention in the existing literature goes to the latter two constituent parts of vulnerability (and of proficiency): 'will' and 'strategic potential'.

2e.1 Proneness (to Threat) and Susceptibility (to Opportunity)

No reference to the first two notions ('proneness' and 'susceptibility') could be found in the existing literature. So, these notions are introduced in this study in the sections 6a.4, on the' Proficiency to Intervene' on page 107, and 6a.5, on the 'Vulnerability to the Threat' on page 108. There, also the details with respect to the relation between these three elements are discussed.

2e.2 'WILL' TO ACT, AND REACT

In both cases — i.e. in proficiency and vulnerability — the factor 'will' is involved. In essence, this factor depends on and can be seen as equal to 'motivation'. The existing literature profoundly covers motivation. For instance, the dependence of motivation on issues such as societal support, constitutional conditions, and personal preferences of the decision makers is often mentioned. Sandole introduces not less than 23 variables in – what he calls – "a multilevel framework and pre-theory of violent conflict and war", that almost all have an impact of the motivation of an actor. [219] Kegley and Raymond also mention several variables that affect motivation, arranged under the headings 'societal pressure', 'institutional impediments', and 'individual obstacles and biases'. In this context, they see, for instance, the political culture, the public opinion, and interest groups as important elements of societal pressure. [152]. Byman, Waxman, and Larson discuss, in the context of 'domestic constraints' several consequences of, for instance, public support on the motivation of decision makers. [38: 59-85] Freedman pays much attention to the need for 'asymmetry of motivation' for successful compellence. [82] Also George and Simon touch on this issue of "relative motivation of the two sides." [93: 15] Finally, as mentioned above, Jakobsen even introduces the phrase 'will-producing' patterns, which in his opinion can either be interest-driven, government-driven or domestic pressure-driven. [134-7] Overall, the factor motivation attracts much attention in the existing literature, and there is hardly any disagreement about the position it takes in the process of compellence.

However, little attention goes to the fact that, in case of an 'imposed' defensive action, the factor 'will' can be expected to be stronger than in the case of a 'voluntary' offensive action. This means that in the context of the factor 'will', as part of the vulnerability (i.e. the will to counter the threat) a certain level of 'will enhancement' appears. Consequently, the 'will' of the target to resist is probably of a relatively high level, compared to the 'will' of the compeller to compel. However, compellence has the characteristics of a process. Thus, the initiator, although at the start involved in a 'voluntary' action, must seriously consider the opponent's counter-actions. Against those counter-actions the initial 'attacker' will have to defend himself. This, then, becomes an 'imposed' action. This 'backfiring-effect' will probably also enhance the 'will' of the initial attacker to oppose the counter-actions of his adversary. De Wijk refers to this phenomenon when he states "interference in other countries can lead to risks for the own territory." [272: 306] Thus, it is safe to infer that the 'will enhancement factor' has an impact on the level of vulnerability of both actors involved. This study will take 'will enhancement' into account, as will be explained in section 7c.4, on 'Calculating the Vulnerability to the Threat (R&R)'.

In sum, the existing literature provides ample handles to deal with the factor motivation or 'will'. The lack of attention for the will enhancement in case of imposed defensive actions will be redressed in this study.

Note 11: Relation between 'Interests at Stake' and 'Motivation'

With his approach, Jakobsen indicates that there is a relation between the factor 'motivation' and the 'interests at stake'. In this study these two 'conditions' have been separated, i.e. the factor 'will' is classified under 'proficiency' and 'vulnerability', and is not directly related to the 'interests at stake'. However, it is very well understood that no absolute borderline exists between all the factors that play a role in the compellence process. The main reason for distinguishing between motivation and interests is that – despite their interrelation – both have independent 'drivers' and play an independent role in driving some values of the compellence process.

For instance, the 'drivers' of the interests at stake include rather 'absolute' issues, like property, territory, or survival. Eventually, these issues are independent of the kind of preferences that nor-

mally produce different levels of motivation. In addition, interests at stake directly affect what an actor wants to achieve and thus relate to the impact of the act to accomplish that achievement.
The 'drivers' for motivation, on the other hand, are more related to personal preferences or institutional settings, which are independent of the interests at stake. It could be said that motivation proper is driven by some fundamental characteristics related to phenomena like (national) character, culture, etc. Motivation directly affects why an actor wants to achieve something, independent of the value of the pursued issue in itself. Rummel relates motivation to needs, drives, or instincts, such as the drive for power, the need for achievement or status. [218 :28] Ultimately, motivation relates to the probability that an actor will act to accomplish an achievement.

It is reasonable to assume that in the course of a process the feedback from the results of acts that intend to accomplish a particular achievement affects the actual motivation of the involved actors. This implies, as said, that it is difficult to make a sharp distinction between motivation and the interests at stake all the time. Nevertheless, conceptually there are sufficient differences to justify keeping them separated.

2e.3 STRATEGIC POTENTIAL TO ACT AND REACT

The third element of vulnerability and proficiency is the strategic potential. A myriad of publications pay attention to this element. It is probably the best covered aspect in the compellence literature. Most authors more or less agree that strategic potential depends on external factors, like international support, as well as on the value of (internal) political and military conditions.

External (International) Conditions

International conditions are seen as enabling elements. There is a consensus about the impact of conditions, such as international approval and support. The influence of commerce, coalitions, third party threats and isolation of the parties is also generally recognized. Byman, Waxman, and Larson, for instance, pay considerable attention to the advantages and the disadvantages of 'coercion and coalitions'. [38: 106 and 41: 152-174] Broadly speaking, they recognize that "on the one hand, coalition building enhances the potency and credibility of coercive threats by shoring up the coercer's domestic potential support [by lending them added legitimacy: 38: 87], combining the military and economic resources of various coalition members, and helping to isolate the adversary. On the other hand, coalition building may erode the coercer's potency and credibility as decision makers try to accommodate the sometimes conflicting priorities of various coalition members with respect to the use of force" [41: 152] And "the adversary even gains ways to offset or counter coercive threats if it can further divide the coalition through escalation or half-hearted concessions." [38: 88] Freedman agrees with this point of view on "the problems faced by coalitions of states in acting coercively, because of divergent interests and risk-taking propensities, and the extent to which apparently vulnerable targets of coercion can reinforce their position through finding sources of external support." [82: 14] Sandole [219] as well as Kegley and Raymond [152] also mention several international conditions that can affect compellence processes, such as economic relationships, defense relationships, polarization among states, and international legal norms. George and Simons also stress the importance of international support and mention it as one of the "conditions that favor coercive diplomacy." [93 : 288]

It can be concluded that the importance of international conditions is recognized in the existing literature. The available sources provide sufficient leads for a proper accommodation of this issue in the model to be developed.

Internal Conditions

The relevant internal conditions can be subdivided into political and military conditions.

Political Conditions

Political conditions primarily relate to the capability to initiate an (offensive or defensive) action. The existing literature that directly deals with compellence does not pay much attention to general political conditions that have to be met for successful compellence. It is, however, reasonable to assume that certain internal political characteristics would favor or harm the successful execution of a compellence strategy. Byman, Waxman and Larson mention ´domestic constraints on coercion´. [38 :59-85] They pay particular attention to the constraints caused by the democratic system. Some of these constraints have their roots in the level of public support, etc. [26] But they also mention the influence of some institutional factors, like internal 'checks and balances'. In the more general literature on international relations theory, more can be found with respect to political conditions that will have an impact on the way actors behave towards each other in an international setting, and thus on the successful execution of a compellence strategy. Schulz, for instance, refers to "Emmanuel Kant's observation that a republican political system makes it difficult for state leaders to wage war [. . . because of] the constraining effects of democratic institutions [. . .]. For an autocratic leader, on the other hand, waging war is 'the easiest thing in the world to do'."[225 :13] In other words, elements, such as the decision rules that apply in a state system, affect the political posture of a state. There is hardly any disagreement in the literature over the fact that, as Holsti states, "Some types of nations may be more prone than others to the use of force as an instrument of foreign policy." [122 :269] Nations in which a (neo)realist worldview dominates tend to be less reluctant to use force than nations with (neo)liberalism as their dominant worldview. [31, 178, 181, 194, 261] Although also the majority of the realists – "who defend their refusal to accept a moral account of international relations on the basis that moralism undermines a prudential approach to war prevention" – [. . . support the] premise that 'peace' is a desirable state of affairs," [31: 129] the realists of the past supported the classic idea that "conflict is an intrinsic and inevitable aspect of social change,"[178: 5] and consequently show less interest in the 'ethics of force.' On top of that, the general values and norms as they are the standard in a particular society – including the level of devotion to the rule of (international) law, etc. – are a component of, what Kegley and Raymond call, the 'funnel of causality' of making international policy decisions. [152 :11-18]

Bargaining Attitude. In the literature that typically discusses compellence most attention goes to the elements of the bargaining attitude of the compeller towards the target, as a branch of politics. Almost all writers from the preponderant compellence school of thought mention as components of bargaining one or more of the following: an ultimatum, a demand, a deadline, signals, a threat, and rewards. [27] Depending on the weight of each of these

26 As explained before, amplifications and impediments of the same kind also affect the factor 'motivation'. This underlines the statement made in Note 11 that "no absolute borderline exists between all the factors that play a role in the compellence process." As is the case for the motivation and the interests at stake, there is sufficient conceptual difference between motivation proper and internal political characteristics to treat them as separate issues.

27 In order to avoid confusing it with the 'reward' in the section on 'Reward & Risk (R&R) Orientation' on page 51), this study denotes the kind of reward meant here (also called 'carrots') as 'compensation'.

components in the applied strategy, a kind of ultimatum is defined. Particularly George and Simons [93], emphasize the political condition that has to be fulfilled in the form of the ultimatum delivered to the opponent. They distinguish between a full and a 'tacit' ultimatum, an incremental approach ('gradual turning of the screw'), and a 'try and see' approach. Schelling [222], George and Graig [104], and Horowitz and Reiter [125] all stress the importance of expressing a clear and unambiguous demand in the ultimatum during the bargaining process. Treverton explicitly mentions the ability to assess compliance with the demands, i.e. the adversary's compliance should be "clearly visible, not subjective, and arguable". [252: 12]. In the work of Schelling, of George and Smoke [92], George and Graig, George and Simons, Jakobsen [134], Freedman [82], Treverton as well as of Byman et al. [38] a clear plea is made to table a powerful, potent and credible threat during the bargaining process, i.e. backed up with sufficient political feasibility and military capability. Schelling, George and Smoke, and Jakobsen also underline the importance of a clear deadline as part of the ultimatum presented during the negotiations. George, both in his work with Graig and Simons, emphasizes the sense of urgency that should be imposed on the opponent. Schelling, as well as George and Simon, mentions the fact that an adversary should be given sufficient time to comply. George, with Graig and Simons, advises to seek persuasion, and not to force an adversary into compliance. With Freedman he stresses the use of 'just enough' force, as discussed on page 34. As Schelling does, George and Simons, Jakobsen, and Byman et al. plead for the avoidance of a 'zero-sum' approach. They advise to seek a win-win situation, one that might provide the opponent with a chance to save face. George and Simons, as well as Jakobsen advise to accompany threats by clear rewards, i.e. to compensate the 'stick' with 'carrots'. Schelling and Jakobsen explicitly mention the need to give the adversary assurances that the initial demands will not be followed by additional ones later on, after the initial demands have been met. Byman et al. advises to discuss the consequences of incomplete compliance during the bargaining process. George and Simons add to that the exact formulation of the terms of settlement. George and Simons, Jakobsen, Freedman and Treverton all underline the importance of the use of proper communication (signals) towards the opponent, both in word and in action. They stress the significance of open communication channels, of the conveyance of commitment to the interests at stake, and of signaling the resolve to secure these interests.

All in all, the existing literature provides a whole range of advice that should be given consideration during the bargaining process in order to demonstrate a strong (offensive) political posture towards the opponent (and eventually also towards other 'actors' in the process, such as constituents and foreign parties). However, entirely in line with the neglect of coercive countermeasures in the existing literature, only sparse attention goes to defensive strategies. The defensive political conditions (to oppose an action) are primarily related to the capability to avert or deter that action. Consequently, the deterring aspects of the opponent's political conditions are almost entirely omitted. Fortunately, most of the factors with relevance for the offensive political posture can also be used as factors for the defensive political posture. They only have to be placed in their 'defensive' context. For instance, where the offensive approach needs a clear deadline for compliance with the demands, the defensive equivalent would be a clear 'trip wire' that indicates the moment or condition that an opponent has crossed the line of acceptable behavior.

In conclusion, since the political conditions, particularly the bargaining conditions seem to be the best-covered part of the compellence debate, an abundance of information is available as a basis for the development of the model in this study. However, some of the aspects de-

scribed as part of offensive conditions will have to be converted into aspects of defensive conditions.

Military Conditions

Another aspect of the capability to act or react concerns the military conditions. They represent the actor's capability to execute an action, particularly to stimulate and improve the effect of that action. It is in the context of the military conditions, that the difference between offensive and defensive capabilities is obvious. The character of a party's military strategy, doctrine as well as his means, can be typically offensive or defensive. Mostly, however, the military conditions are both offensive and defensive, with some emphasis on either of the two. In the existing literature, particularly writers with a military background make (sometimes extensive) reference to the military condition. [28] The non-military scholars hardly pay attention to the details of the military execution of the political objectives. This could be because, in essence, the military element of compellence is rather straightforward. The most important choice is for the military capability that produces the best effect. However, as Byman, Waxman, and Larson conclude there "is a tendency for planners to define success as destroying a target rather than as inducing the desired behavior."[38 :48] In that context it is interesting to see the advent of the idea of 'effects-based operations' that – according to the most prominent advocate of that concept, USAF Major General Deptula – is an operational concept that focuses principally on effects rather than only on aggregate destruction to achieve military objectives. [69: 7]. However, as some argue, this is not so much a new operational model [16] as a 'revival' of, or a refreshed emphasis on a time-honored practice. It implies that there is a need for the military to focus on 'centers of gravity'. Byman and Waxman explicitly mention the need to seek out an adversary's 'pressure points': "those points that are sensitive to the adversary and that the coercer can effectively threaten." [41: 44]

A consensus is lacking on the most effective military strategy, as was mentioned in section 2c above that deals with 'Threat and Opportunity'. The discussion in this context does in fact focus on the question which of the centers of gravity is the most promising. Some authors stress the strategy aimed at punishment, but there is disagreement on what the subject of the punishment should be, the population or the assets the opponent values. Other writers, particularly Pape [199] emphasize the importance of denying the opponent the capability to exploit his own strategy. Among them, Warden [266] in particular pins much faith on 'decapitation', implying that the opponent's leadership is the primary target of military actions. Of course, some also consider a combination of the strategies as well as a strategy aimed at endangering the long-term security of the opponent, such as the survival of the nation or the regime [see Mueller: 186].

Eventually it can be concluded from the compellence debate that the military conditions that need to be taken into account are pretty straightforward. However, it must be recognized

28 In the context of military doctrine and military means, it is remarkable that 'Airpower-oriented' writers dominate the discussion. Particularly from students of the Air University's School of Advanced Air and Space Studies (SAASS), "the US Air Force graduate school for airpower and space power strategists", several theses are available dealing with the issue of compellence. Many of them stress the fact that the unique nature of Airpower – particularly its ability to concentrate its power to hurt directly on the chosen targets – supports compellence strategy. Although there is little to be said against this observation, the one-sided look at Airpower sometimes creates the risk of overlooking other useful options.

that, whatever the strategic choice, the military strategy, doctrines, and means should be tailored to the political objective. The model used in this study will provide a tool to show that whenever an actor fails to tailor his military conditions to meet his political objectives, it reduces his chances of success and, eventually can even lead to failure.

2f Credibility

Almost all available documentation [38, 41, 82, 90, 92, 93, 94, 95, 96, 97, 134, 222, 252] considers the issue of 'credibility'. Most writers even see credibility as the most important condition for successful compellence. The level of credibility is mostly defined as the product of an actor's 'capability' and 'will', i.e. the equivalents of the 'will' and 'strategic potential' mentioned as part of the proficiency in the previous two sections (2e.2 and 2e.3). Schelling, for instance asserts that a threat must be perceived to be credible, i.e. the coercer must demonstrate to have both the *capability* and the *will* to actually carry out the threat. [emphasis added; 222: 36-43; 97] George and Graig write, "There are two independent dimensions of credibility. First, the deterring power must convey to the opponent that it has the *will* and resolution to defend the interests in question; second, it must possess *capabilities* for doing so." [emphasis added; 104: 185] Byman, Waxman and Larson distinguish between the compeller's "credibility to carry out military strikes, and also the credibility of its commitments." [38: 49-50] Obviously, they also refer to (military) capability and to the will, as implied in the compeller's commitment.

With many other scholars, they concentrate on credibility, as equivalent to, what was previously denoted as the compelling party's proficiency to exploit the opportunity. However, a closer look at the matter shows that not just the proficiency, but also the vulnerability is a part of 'credibility'. After all, even if an actor has the will and the capability to exploit the opportunity, but nonetheless does not show sufficient will and capability to oppose the threat, this probably induces his opponent to conclude that opposition might be worthwhile. In essence, it can even be inferred that credibility depends on the total body of variables, and on their contribution towards the expected utility of intervention as well as of submission. After all, it can be said that the value of the issues at stake contributes to the credibility. Because of this argumentation, this study does not use credibility as an independent factor in the model. Credibility is supposed to permeate the whole process of compellence.

2g Uncertainty, Intelligence, and Signaling

The importance of uncertainty is clearly recognized in the existing literature. Rarely reference is made to the well-known Clausewitzian 'fog of war'. However, implicitly the authors seem to apply to compellence processes von Clausewitz' dictum that "[e]verything in war is very simple, but the simplest thing is difficult. [. . .] Countless minor incidents – the kind you can never really foresee – combine to lower the general level of performance, so that one always falls short of the intended goal." [51 :119] Most authors acknowledge that knowledge ('intelligence') of the opponent's capabilities and intentions has a major impact on the (un)certainty of the estimate that parties make of their chances. Byman, Waxman, and Larson, for instance, pay extensive attention to "intelligence and estimation challenges." [38: 43-8] They found that their "cases studied illuminate the need for sophisticated understanding of the adversary regime's objectives, decision-making apparatus, and the ways in which it will react to certain forms of threat." [38 :44] Also Schelling recognizes the danger of uncertainty in a crisis. He refers to Roberta Wohlstetter's study of Pearl Harbor, which "dissected the problem of intelligence evaluation in a crisis, [and] has recently pointed out the crucial

interaction between intelligence and response." He quotes her, saying, "We can improve the chance of acting on signals in time to avert or moderate a disaster [. . .] so that our response may fit the ambiguities of our information and minimize the risks both of error and of inaction." [222 :237] Schulz devotes a complete chapter to (incomplete and asymmetric) information and signaling, in which he even concludes that "[e]ven if [. . .] uncertainty is not a necessary condition for war, it is at least a contributory condition." [225: 56] He obviously sees uncertainty not only as a complicating element during the development of a conflict, but also as one of the sources of conflict. The least that can be inferred is that, particularly at the start of the process, the lack of knowledge can be considerable, and thus have a major impact on the calculations. As a result it may be a serious source of erroneous decisions.

Related to uncertainty is the issue of 'crosswise appreciation', which means that parties do (or should) not base their decision on their own estimate, but on what they expect their opponent's to be. In section 4a and 4a.1, a detailed explanation will be given of the way both parties have to balance the estimation of their own circumstances with the expected estimation of the opponent. This crosswise appreciation results in a total of sixteen estimates, eight of which play a role in determining whether the conflict will continue, compellence or resistance succeeds, or the conflict comes (temporarily) to a halt in a stalemate. Hardly any of the discussed authors take this phenomenon, complicating indeed, into consideration. George touches on the subject when he writes, "It is not enough that the policymaker feel confident that he has conveyed a threat of punishment for noncompliance with his demand that is potent and credible enough to convince the opponent to comply. Rather, it is the *target's* estimate of the credibility and potency of the threat that is critical." [emphasis in the original; 95: 13-14] It seems that also quite some policy makers tend to neglect the importance of focusing on the opponent's appreciation of the circumstances, instead of their own. Those policy makers are often even victims of mirror imaging, due to the defective empathy with the opponent's perception of reality.

In the literature, not much attention is given to the fact that there is, in essence, also ambiguity about the level of self-knowledge of the actor involved. Sagan, in chapter 4 of George and Simon's book, touches on the issue, when he considers the issue of intelligence assessment. He writes, "Statesmen using such strategies [i.e. compellence] should attempt to make accurate evaluations of an adversary's motives, perceptions, and values. Yet considerable uncertainty usually exists because an adversary's motives, perceptions, and values are often unclear to the actors themselves, are sometimes inconsistent, and are always subject to change, deception, and manipulation." [93: 57] It is reasonable to assume that the divergence between the maximum and the minimum level of knowledge about one's own qualities is less extreme than in the case of knowledge about the opponent. Nevertheless, especially with regard to certain human characteristics — for instance, the level of public support within a society for the decisions of the leadership — errors in appreciation are anything but unthinkable. Therefore, the level of self-knowledge has to be taken into account as well. The question of knowledge and uncertainty gets particular attention in section 3b.1, on 'Uncertainty and Risk Attitude' on page 54, in the section on 'Calculating Uncertainty' on page 114, and in section 7d, on the transfer 'From Conditions of Uncertainty to Conditions of Risk' on page 120 and also in Note 27 on 'The Complexity of Rating the Level of Knowledge' on page 123.

In sum, in the compellence debate there is agreement on the fact that a lack of knowledge or intelligence produces uncertainty, which can be detrimental to the development and outcome of a conflict. This study contends that uncertainty leads to estimates diverging in out-

come between a particular maximum and minimum. This study also contends that crosswise appreciation – for the greater part neglected in the compellence debate – is the core of the decision-making and the key to answering the question of the probable outcome of a conflict that involves compellence. Ignoring it results in a high level of misperception, false expectations, wrong decisions, and eventually a considerable risk of undesired continuation of conflicts. Therefore, considerable attention goes to it. Finally, this study will also consider the level of self-knowledge of the actor involved.

2h Counter-Compellence; Deterrence-Compellence Interaction

The existing literature hardly gives coercive counter actions the attention they deserve. On the contrary, most theories mention counter-compellence more as a side effect than as an issue of the utmost importance. Particularly the dynamics that result from counter-compellence are by and large ignored. Jakobsen touches on the subject when he describes the prospect of military success. He asserts that the exchange within the context of armed suasion in fact consist of persuasive actions, on the one hand, and dissuasive actions on the other. Consequently, his advice is to subdivide conflicts into separate and distinct compellence-deterrence exchanges. [134: 7] This conclusion confirms what was said at the end of the discussion in section 1d.5 on page 14 about the 'Deterrence-Compellence Interaction'.

Only Byman et al. seems to consider the element of counter-compellence of such importance that they deal with it explicitly. They write, "Adversaries are not passive . . . and they regularly try to turn the tables on the coercion power. In so doing, they in effect coerce the coercer, imposing costs and threatening to impose more, until the initial coercer backs down from its demands." [39-5] In contrast to Byman et al. Pape, for instance, is one of the scholars who seem to deny the dynamics of the compellence process. He appears to take for granted whatever the compeller does. He even considers only the target's estimate of his value of resistance. In *Bombing to Win*, [199] he asserts that concessions by the state being compelled occur when the value of its resistance is smaller than zero (irrespective of the value of his compliance, and irrespective of the compelling party's values). Mueller provides a useful contribution by the addition of the target's considerations concerning his value of compliance. [187] But, he too still focuses on the target, and consequently offers only his calculation for answering the question "resist or comply." He ignores the part of the dynamics of the process of interaction between two parties that ensues from the combination of the estimates of both parties. After all, considering the effects of the target's potential counter-actions, the compeller has to choose as well, whether to "compel or resign." This demonstrates that, as in any form of political intercourse, compellence and counter-compellence take place in a dynamic process in which action leads to reaction, etc. The elements of each of the phases of this process are continuously subject to change. The vitality of this process is a major complicating factor when analyzing compellence. Consequently, denying the existence can only result in a meager explanation of its elementary characteristics.

2i War Avoidance; War Initiation and War Termination Related

Finally, a flaw in the existing literature is that the higher purpose of the researchers who study compellence often is war avoidance. In this context, their focus is on the causes of wars, especially on how wars arise and develop: war initiation. Their aim is to find ways to remove the reasons for its inception. Standing on the threshold between compellence and war, the researchers often wonder whether the action (compellence) worked — i.e. whether escalation into war was avoided — or failed. Indeed, the question is relevant whether escala-

tion into war could have been avoided. However, this focus on war initiation diverts the attention from another, equally important question. Particularly when it is accepted that many wars end because one party submits without suffering a crushing defeat (i.e. when coercion in war is successful), it is also profitable to know why the surrendering party did not capitulate in an earlier phase. It is better then to focus on finding out how and why wars end at a certain time, and under certain circumstances. Goemans "links the causes of war termination to the causes of war." He asserts that the causes of war initiation point directly at the causes of war termination. "Before the war both sides have a higher expected utility of fighting than for settlement. For a war to end, however, both sides must have a higher expected utility for the available settlement than for continued fighting. Therefore, for a war to end, for at least one side either the expected utility of fighting or the expected utility of settlement must change. [S*ic*]" [101 : 20]

This means that it is useful to consider the causes of war termination and find out which elements changed over time and caused the war to end. It is also useful to see if (and how) the elements that cause the war to end can be advanced in time. This probably provides an insight into the decision-making process, and the elements that make a decision maker change his mind. Comparing an early phase of a conflict (where the party that eventually loses does not seem to be impressed by the (threatening) gestures of his opponent yet) with the closing phase (where he is obviously impressed) can help to explain the difference in variables causing either continuation of the conflict or surrender.

It is possible to start at the end of the conflict and set the scene there and then work back (in time) regularly asking the questions, "why was the end result not achieved in that earlier phase," and "how did the conditions differ?" There is a good chance that the information collected in this way contains the most crucial elements, the 'success factors'. In essence, this approach is taken in the discussion with respect to the case of Iraq in the sections on the 'Using the Model to Investigate the Transition from Period-2 to Period-3' on page 155, on 'Experimenting with Adaptation of Conditions' on page 158, and the counterfactual thought experiments starting on page 158.

2j Conclusions of the Compellence Debate

Taking all these arguments together, it can be concluded that the compellence debate revolves around the question of success and failure. Most of the conditions that affect the level of success are sufficiently covered in the preponderant compellence school of thought. However, the approach in the existing debate is mainly qualitative and based on empirical research. Although most conclusions are plausible, some elements remain vague and some of the arguments leading to the conclusions seem to be based on 'intuitively' correct premises. In addition, some arguments do not get much attention in the existing literature. In sum, this might be the reason why in the existing literature some findings deviate from others.

In essence, the contention is expressed here that many of the lacunas identified can be attributed to the lack of a systematic approach. As a result, there is no crystal-clear answer to the question which identified factors are critical success factors, and which factors are of subordinate importance. Consequently, it is difficult to concentrate the discussion on the key question, i.e. what should be done, or omitted to make compellence work? Nevertheless, and despite the absence of a comprehensive theory of compellence, the predominant compellence school of thought has provided sufficient clues for the development of a system of thoughts about compellence that can serve – with the addition of particular elements, and

the refinement of certain factors – as a basis for a quantitative model for analysis. The following part of this study covers the development of this system of thought on compellence and provides a quantitative model for analysis.

FROM PHENOMENON TO CONCEPT

This book contains an exposition and various applications of a mathematical theory of games. The theory has been developed by one of us since 1928 and is now published for the first time in its entirety. The applications are of two kinds: On the one hand to games in the proper sense, on the other hand to economic and sociological problems which, as we hope to show, are best approached from this direction.

Preface to First Edition of
"Theory of Games and Economic Behavior"
by John von Neumann,
and Oskar Morgenstern

3. *Introduction to the Frameworks*

Part I has set the scene. The problem and the direction in which to seek a solution have been identified. The discussion that has already taken place in this context in the preponderant compellence school of thought has been described and the perspective towards the judgment of success and failure has been established. It now is time to concentrate on the primary purpose of this study: the construction of a framework for the analysis of compellence in order to find the elements that contribute most to the success of the process. This demands a rather methodical and structured approach. Consequently, it will not suffice to describe compellence as a phenomenon. For the creation of a framework, a conversion of compellence as a phenomenon to compellence as a concept is needed. This part of the study deals with that conversion. It considers the essential characteristics of the compellence process, and 'translates' them into the building blocks of the framework for analysis. In other words, a qualitative description of the compellence process serves as starting point for the identification of the constituent components, which are subsequently brought together in a model for quantitative analysis. As such, this part forms the centerpiece of this study.

It consists of five chapters. In the first chapter, the most elementary components of the frameworks for analysis are introduced. They are the three levels of analysis that drive the study (denoted as 'tiers'). It also sheds a light on some points of particular interest. It intends to prepare the reader for the detailed descriptions as provided in the following three chapters of this part. The last chapter presents an actual calculation of an example case with the use of the framework.

Note 12: Graphical Representation of the Two Frameworks

The end of this chapter (page 63 and page 64) contains the graphical representation of the two frameworks for analysis presented in this study. Their reproduction there intends to facilitate the explanation of the most important elements of the models as discussed in this chapter. The other chapters of this part of the study elaborate on the details.

3a Three-Tier Model

A considerable amount of reliable data about compellence can be gathered from previous research. However, it presents these data rather randomly. To use them in a model requires a method for organizing them and determining their mutual relation. Obviously, the basis for this must be looked for in the working of the compellence process, i.e. in the essential characteristics of compellence. A closer look at the problem shows that the essential characteristics of compellence can best be examined by dividing the compellence process into three parts. These parts correspond to three levels of analysis, or three tiers.

- The highest level of analysis – denoted as the upper-tier – considers the decision-making of the actors involved on the strategic option they have to choose. Here, the actors weigh up the pros and cons of the options and then choose one of them. In the context of compellence, only two options are considered: to 'intervene' and to 'submit' (as will be explained in Note 13 this is in game-theory language: to 'defect' and to 'cooperate'). The pros and cons find expression in the expected utility of the two options under consideration. In other words, the actors base their decision on their assessment of the expected utility of the two options.

- The middle level of analysis – the middle tier – describes the actors' appraisal of the expected utility of the two options they use at the upper tier. In other words, at the middle tier the 'calculation' [29] of the relevant factors that compose the utilities takes place.
- The lower level of analysis – the lower tier – orders the elements that drive the appraisal at the middle tier. These elements are composed of a huge quantity of conditions or variables.

In the following sections, the proceedings at each of the tiers will be introduced. Together they visualize a framework, the modeling of which has been the main subject of this study. The basic elements for the modeling have been gathered from several sources in various (scientific) disciplines. This will be explained in the detailed description provided in the following three chapters.

3a.1 The Upper Tier

As said above, the upper tier concentrates on the decision-making. It can safely be asserted that what happens at this level is the pivotal part of the process. For that reason, it is justified to deal with it first, although the decision-making is actually the last part of the compellence process. The following section introduces how this study deals with this decision-making process.

It starts from the assumption that – reduced to its essence – a compellence process revolves around the question which option or strategy two opposing decision makers have to choose. For the compeller the questions are, "is it wise to compel", or "will it be better to resign"? For the target, the questions are, "is it more advantageous to resist", or "is compliance more profitable"? In other words, the central question for both parties is, "which of the available options brings the highest utility"?

The choice described is initially based on what the two actors expect to get in return for applying either of the two available strategies: defect and cooperate (for compellence cases this means intervention and submission) . This depends on, what is called, the expected utility of these strategies. However, this basic choice for the most attractive strategy does not necessarily provide the highest chance of success. After all, the degree of success depends also on the actions of the opponent. To consider that, at the upper tier the expected utilities of the available strategies are used as basic variables in order to show their relative impact on the chance of success.

Game Theory as Auxiliary

Seeking a method to explain this potential level of success, the principles and methods of game theory provide an excellent starting point. It can elucidate the relative impact of perceived utilities on the probable outcome of a process that concerns (conflicting) interests. It can take into account that two parties each choose an option (strategy). It then can 'predict' the most likely outcome (scenario). In other words, game theoretical methods can relate the expected utilities of the strategies available to the actors in such a way that the combination of strategies they will most likely choose can be deduced from it and with it the most likely

29 The actors in a compellence process seldom, if ever, make an explicit (mathematical) 'calculation' as the one presented in this study. Mostly, they intuitively come to a judgment. However, this study actually 'computes' the expected utilities.

scenario that will follow. That is why some principles and methods of game theory are applied as auxiliary to this level of analysis. In a practical sense, at the upper tier the perceived utilities of the — so-called — 'pure' strategies of the two players (intervention and submission) are entered in the basic forms of presentation of game theory, the decision tree and the payoff table. From that, the probable outcome can be assessed. Chapter 4, particularly section 4b on 'Applying Game Theory as Auxiliary to Upper Tier', describes the details.

Note 13: Use of Specific Terms in this Study as Equivalent to 'Defect' and 'Cooperate'

In game theory, the type of 'game' that dominates this study is called a 'two-player two-strategy' game. In general, the terms used in game theory for the two opposite strategies in this type of game are to 'defect' and to 'cooperate'. For the purpose of the specific use of game theory in support of this study, the application of specific terms is advisable. That is why I use an adaptation to the terminology. As equivalent of the general notion 'defect', I use the expression 'intervention', and for 'cooperate', the expression 'submission'. Besides, it is advisable to differentiate between the meaning of 'intervention' and 'submission' for the compeller and the target. When the compeller chooses intervention, he decides to compel. Intervention for the target means that he decides to resist. When the compeller chooses submission, he decides to resign. Submission for the target means that he decides to comply with the demands of the compeller. That is why, unless applied in a general sense,

I use, to cover the notion	***'intervention'***,
- for the compeller,	*the term* ***'compellence'***
- for the target,	*the term* ***'resistance'***.
I use, to cover the notion	***'submission'***
- for the compeller,	*the term* ***'resignation'***
- for the target,	*the term* ***'compliance'***.

3a.2 THE MIDDLE TIER

The basis (i.e. the input) for the decision-making at the upper tier is the actors' appreciation of the expected utility of their options (intervention or submission). So, what is needed for the analysis at the upper tier is the value of the expected utility of intervention and the value of the expected utility of submission, as assessed by both players. The middle level of analysis deals with the details of this process of expected utility specification.

The middle tier forms the bridge between the upper tier and the lower tier considerations. It concerns weighing up ('computing') the variables organized at the lower tier in such a way that conclusions can be drawn concerning the value of the relevant expected utilities needed at the upper tier. In other words, the middle tier considerations discuss the way the value of expected utilities can be established, using the upper tier analysis as focal point, and the lower tier as starting point.

In order to specify the elements that determine the expected utilities, this study investigates two different approaches. Both approaches aim to explain how actors in the process come to the appreciation of the value of their options (intervention and submission). The two orientations are called the Reward & Risk (R&R) orientation and the Desirability & Feasibility (D&F) orientation. Chapter 5 (section 5b and section 5c) discusses the details of these two orientations. What follows is a short introduction.

Reward & Risk (R&R) Orientation

The R&R orientation treats 'intervention' and 'submission' as different issues. The characteristics of 'intervention' are derived from treating it as the execution of an *action*, while those of 'submission' are derived from treating it as the acceptance of a situation or *status quo*. Zooming in on the characteristics of intervention and submission, the following can be seen.

- Intervention is perceived as an action directed towards what is called in economic literature the acquisition of a maximum 'return on investment'. In that context, the size of the return (mostly denoted as 'reward') and the size of the 'risk' of that investment have to be considered. Where an opportunity generates the positive aspect of an interaction (the reward), a threat generates the negative aspect (the risk). The principles of reward and risk assessment in the economic literature suppose, for both the reward and the risk, two elements: an impact and a probability. They are the impact and the probability of exploiting an opportunity (for the reward), on the one hand, and of countering an opposition or a threat (for the risk), on the other. In other words, the reward is the product of the impact and the probability of an opportunity. The risk is the product of the impact and the probability of a threat.

  Applying this principle to a compellence process, the rewards associated with intervention and the risks associated with the opposition to the intervention need to be considered. As can be inferred from Figure 3 on page 63, in essence, the probability of exploiting the opportunity is related to the proficiency to intervene, while the probability of countering the opposition is related to the vulnerability to the opposition. Figure 3 also shows that a complementary relation is assumed between the proficiency and the vulnerability. The building blocks of the impacts consist of the benefits and costs. The building blocks of the probabilities consist of the will to intervene for the probability of intervention (or the will to counter the threat for the probability of countering the threat), the susceptibility to the opportunity (or the proneness to the threat), and the offensive (or the defensive) strategic potential. In the last instance, the *reward minus the risk* is considered as the criterion for the **expected utility of intervention**.

- Submission, for its part, is perceived as the acceptance of a (undesired) status quo with particular advantages and disadvantages. Advantages and disadvantages of a situation are not characterized by an element of probability. That is why the value of advantages and disadvantages follow from a direct combination (addition or subtraction) of elements. The straightforward *difference between the advantages and disadvantages* is considered as the criterion for the **expected utility of submission**.

Desirability & Feasibility (D&F) Orientation

The D&F orientation takes another approach. Here it is assumed that 'intervention' and 'submission' can be treated as similar issues, each with its own desirability and feasibility. Actors base their choice on the desirability and feasibility of their options (intervention and submission). The desirability is considered as the basic element of this approach (analogous with the factor 'impact' in the R&R orientation), influenced, as a factor of 'probability', by the feasibility. In other words, the feasibility is a parameter (the 'probability') that determines the degree of influence (of 'impact') of the desirability on the utility of intervention or on the utility of submission. This means that the relation between the desirability and the feasibility is not – as in the R&R orientation – the difference between the two. Consequently, the **expected utility of intervention** as well as **the expected utility of submission** in de D&F orientation is considered as the *product of their desirability and their feasibility*.

Due to the analogy of the 'desirability' (in D&F) with the 'impact' (in R&R) and of the 'feasibility' (in D&F) with the 'probability' (in R&R), the D&F orientation can essentially use the building blocks from the R&R orientation. This implies, as Figure 4 shows, that also this approach uses the benefits and costs, the will to act and react, the susceptibility to the opportunity, the proneness to the threat, and the offensive and defensive strategic potential.

3a.3 THE LOWER TIER

Chapter 6 discusses the details of the analysis at the lower tier. The following sections provide a short introduction. The variables that form the input for the calculations of the expected utilities at the middle tier can be considered as dependent endogenous variables, also called 'determinants' here. The value of these determinants is set by an abundance of exogenous variables identified in the existing literature about compellence. The lower level of analysis discusses how to organize these exogenous variables in order to support the relevant endogenous variables. In other words, the lower tier provides the variables that form the input for the determinants at the middle tier. Social science and the science of International Relations, but also the existing literature on compellence, provide some starting point for executing this ordering.

Composition of Determinants at Middle Tier by Variables from the Lower Tier

Eventually, as shown in Figure 3 on page 63, and in Figure 4 on page 64 this study recognizes the following composition of the determinants at the middle tier.

- The benefits of intervention are composed of
  - the value of the desired status quo,
  - the offered concessions,
  - – for the compeller – the value of the rejected status quo.
- The costs resulting from the own intervention (occurring in the R&R orientation) are composed of
  - the offered compensation,
  - the direct (offensive) costs.
- The costs of intervention (occurring in the D&F orientation) are composed of
  - the damage,
  - the offered compensation,
  - the direct (offensive and defensive) costs.
- The costs resulting from the opponent's intervention (only occurring in the R&R orientation) depend on
  - the damage,
  - the direct defensive costs.
- The will to intervene depends on
  - the individual,
  - societal,
  - institutional motivation of the actor.
- The will to counter the opposition depends on the same variables, but is expected to be greater than the will to intervene. That is why it is increased by a 'will enhancement factor'.
- The susceptibility to the opportunity mainly depends on the actor's
  - exposure to the opportunity.

- The proneness to the threat is mainly dependent on the actor's
  - exposure to the threat.
- The strategic potential relates to
  - the actor's internal political strategy,
  - his military strategy, doctrine and means (In case of the offensive strategic potential, it concerns the offensive strategy, etc.; in case of the defensive strategic potential, it concerns the defensive strategy, etc.),
  - the external (enabling) aspects.
- The advantages of submission depend on
  - the value of the rejected status quo,
  - the received concessions,
  - – for the target – the value of the desired status quo.
- The disadvantages of submission depend on
  - the previously suffered damage,
  - the previously defrayed costs of action,
  - the received compensation.

3b Points of Particular Interest

In the process of creating the frameworks for analysis, three aspects are of particular interest. The first concerns the uncertainty related to assessing the values of variables and the role played by the actors' risk attitude in that context. Furthermore, the measurability, calculability, and affectability of the variables deserve attention. Finally, something must be said about the way the variables are rated in this study.

3b.1 Uncertainty and Risk Attitude

The implementation of a compellence strategy is not without problems. After all, a major part of the decision-making process consists of weighing variables that determine the value of intervention and submission. The final choice for either 'strategy' depends, in essence, on the balancing of the value of the strategies. The value of the strategies ensues from the value of the relevant variables. Consequently, the reliability of the variables has an impact on the reliability of the weighing, and therefore on the quality of the decision. It would be convenient if the variables used in the process of compellence were all fixed and unambiguous. However, it must be taken into account that the rating of the variables is open to (often great) uncertainty. Consequently, the values of the expected utilities are not univocal. That is why part of the weighing of the variables cannot be based on unambiguous information, but depends on an appraisal (or judgment) of available data. The section on 'Uncertainty from Source to Destination' on page 55 will give some details with regard to the sources of this uncertainty. Overall, this discussion proves that the factor uncertainty – that permeates the entire process – deserves special attention when calculating the variables in the framework. In this study this is done by the introduction of a minimum and a maximum value for the regarded variables. The level of this minimum and maximum value depends on the ex-

pected degree of knowledge of the actors. [30] In case of a high degree of knowledge, the difference between the minimum and maximum will be limited. In case of a low degree of knowledge the difference will be considerable.

However, what is needed is more than an indication of the level of (un)certainty. In the last instance, not so much the level of uncertainty is of interest, but what the actors are expected to do with this uncertainty. After all, even though under conditions of uncertainty, actors need to determine which course of action they have to take. Thus, they have to determine which value of the considered variable they actually use when making a decision. The actors' actual appreciation of the expected utility, and with it, their ultimate decision, will depend on their prudence, or risk-acceptance. In other words, actors base their appreciation on the level of risk they wish to take. Therefore, risk acceptance is an important factor in the compellence process. Moreover, risk assessment is imbued with uncertainty. That is why in the calculation of the variables at the lower tier a combination of an uncertainty and a risk-acceptance grading is used. Section 7d on page 120, which deals with the transfer 'From Conditions of Uncertainty to Conditions of Risk', will explain this. It shows why and to what degree the participants in the process can come to conclusions that deviate considerably.

Note 14: Normative Judgment of Uncertainty in Risk Assessment

Cranor states: "There are many more uncertainties in risk assessment than in more settled scientific areas. Of course, cutting-edge science has many uncertainties, but because of the contentious nature of many risk assessment issues, the significance of the uncertainties will probably be magnified. [And] . . . because of the response to uncertainties . . . risk assessment is substantially permeated with normative judgements." [62] Indeed, at the heart of compellence lies the judgment by individuals of the value of the data involved. Judgment, by definition, has a substantial 'normative' dimension. In the present case, most of the factors that contribute to the assessment of variables contain a high level of interpretability. In essence, almost all elements of the estimate that do not concern 'fixed' data (like concrete costs of deploying military forces) are subject to a kind of 'reliability factor'. So, the value of non-fixed data has to be interpreted. The level to which interpretation is needed depends on the availability of 'hard' information. The more 'hard' information is available, the more conclusions can be based on those facts, and less on appraisal of 'soft' facts and on opinion or belief. Particularly in the case of compellence, parties act as opponents, eager to deceive each other. Consequently, there will often be a lack of reliable information. It is obvious that this can make the difference between failure and success, between defeat and victory. The divergence in the outcomes of estimates, resulting from the uncertainty factor, is one of the most important causes of 'unexpected' effects of an action.

Uncertainty from Source to Destination

In the context of a compellence process, several kinds of information are involved. As the discussion about crosswise appreciation in section 4a on page 65 will show, the information a decision maker has about his opponent is the most important.-Since game theory is an important tool in this study, it is worth noting that Von Neumann and Morgenstern write, "[W]e have placed considerations concerning the danger of one's strategy being found out by the opponent into an absolute central position." [191: 147] It indicates that knowledge of the opponent, and the reliability of that knowledge, is important for the outcomes of processes using game theory. In particular it shows the importance of the information exchange

30 Actually, the level of knowledge corresponds to the level of certainty.

between parties concerning their strategic posture. This information exchange has certain characteristics, which will be discussed next.

Information travels from a source, through a transmission medium to a destination. It may be assumed that the information, considered on its own merits, is fixed. That is to say that, in the last instance, something is good, bad, true, or wrong, or something in between. The sender can manipulate the true value of the issue. Furthermore, whether the person at the end of the line properly understands the true value of the issue also depends on interferences, or noise, that occurs during the process of information exchange. Finally, a receiver can make mistakes while interpreting the information at hand. [31] This can be compared this with the 'transmitter', the 'medium', and the 'receiver' from telecommunication technology. In the following paragraphs, the classification in 'source', 'medium', and 'destination' will be used. The issue will be approached from the perspective of the receiver at the destination end of the line, who is interested in his opponent's conditions.

Uncertainty at the Source; Intelligence, Deception and Signaling

Acquaintance with the opponent's conditions can stem, for instance, from intelligence gathering, but also from any well-intended advice given by the opponent (signaling). It would be ideal if the opponent were willing to provide good and reliable information about his conditions. However, usually an actor will need to gather his own intelligence. It is obvious that, in case the intelligence gathering capability is insufficient, there will be a high level of uncertainty. This implies that actors in the compellence process need to pay considerable attention to their intelligence gathering capability.

- The Factor Time

The reliability of information must be seen in the context of the factor time. It is obvious that the reliability factor tends to increase over time, when the actors have taken some kind of action. It is not surprising that during the original estimation quite some information is lacking. Consequently, the valuation of the opponent's conditions cannot be based on an attribution of reliable data, but it depends on an appraisal of the underlying variables. In the compellence process this original estimation concerns the valuation the target has to make, before starting with the initial action that sets the process going. After all, the assumption is that the compeller reacts to a reprehensible deed of the target. Next, the compeller reacts to the target's action. As soon as the compeller has made this first move, the target has more information at his disposal, because, in executing his first action, the compeller had to 'show (some of) his cards'. Then it is known, for sure, whether the compeller has decided to compel or to resign. Consequently, the element of 'probability', for that aspect, is no longer relevant. It means that the target can partly narrow down the expected utilities, and less has to be left to appraisal. This makes it easier for the target to direct his initiatives. During the course of the process, this shift from appraisal to attribution of data occurs increasingly.

- Signaling, Deception and Bluffing

Related to the factor time, but particularly connected to the way actors use signals to deceive each other, some additional considerations are relevant. After all, although the reliability of the information seems to grow over time, it also depends on the kinds of signals exchanged between the players. Indeed, signals can be used to inform but also to deceive.–Conse-

31 Under consideration here is the difference between – what is called –ontological reality and epistemological reality.

quently, there is a great danger in taking for granted what the opponent signals. It must be recognized that manipulation by deception has much to do with the fact that ambiguity is part of diplomacy, and can never be precluded totally. As Andes phrases it:

> It should be recognized that diplomacy is fraught with deception. It is often difficult to observe the mechanisms a particular state used to affect the outcome of a dispute, since these tools are often purposefully concealed. Furthermore, diplomats make official statements for strategic effect and consequently these statements are often unreliable." [7: 139]

One of the main objectives of deception is bluffing. It intends to induce, in the perception of the opponent, an image of circumstances that are more favorable to the bluffing party than they really are. Thus, the bluffer tries to seduce his opponent into taking a decision that is – in fact – incorrect, but that is advantageous for the bluffer. If the bluffer is successful, the result will be more suitable for the bluffer than it would otherwise be.

Note 15: 'Anteriority', 'Preliminarity', 'Transitivity', Signaling, and Bluffing

Since game theory deals – among others – with games like poker and bridge – in which deception and signaling, and particularly bluffing, are main features – it is worthwhile to consider what this theory has to say about those features. Von Neumann and Morgenstern [191: 51] pay explicit attention to these phenomena and – for their explanation – introduce the notions of 'anteriority' and 'preliminarity', and relate them to another notion of 'transitivity' and then to 'signaling'. Subsequently, they deal with 'bluffing'.

As already discussed in section 1e.2 on 'Rational Choice' on page 16, transitivity determines the level to which logical (rational) choices can be made. Transitivity exists when it can be asserted of (for instance three) 'things' (call them x, y, *and* z*) that 'if* x *comes before* y, *and* y *comes before* z, *then* x *comes before* z*'. Transitivity can be related to values that determine the choice in favor, or against a specific issue. It may be assumed that when an actor is seeking the issue with the highest value, he will settle for issue* z *when he knows (only) two relations: 'issue* $x <$ *issue* y*', and 'issue* $y <$ *issue* z*', plus he knows that the relation is transitive. Afterall, the transitivity determines that 'issue* $x <$ *issue* z*'. In other words, transitivity makes it clear that issue* z *has the highest value. The lack of transitivity would have made this choice impossible.*

Anteriority, as used by Von Neumann and Morgenstern can be seen as "just prior to." So, it is easy to understand that anteriority possesses the property of transitivity. In the context of games, anteriority is the chronological ordering of the moves. (The principle of anteriority is particularly easy to understand in relation with time: Anteriority exists since 07.00 hrs is prior to 09.00 hrs, and 09.00 hrs is prior to 11.00 hrs, and it can be asserted, based on these two observations that 07.00 hrs is prior to 11.00 hrs.)

Preliminarity, in the view of Von Neumann and Morgenstern is about knowledge. Regarding the way preliminarity and anteriority are related, Von Neumann and Morgenstern write that preliminarity implies anteriority, but need not be implied by it. The difference is that preliminarity need not be transitive. To show what they mean, they explain that there exist games in which preliminarity is equivalent to anteriority, i.e. where the player who makes the move is informed about the outcome of the choices of all anterior (previous) moves. Chess is such a game of 'perfect information', i.e. the outcome of the choices of all anterior moves is visible to all on the board. On the contrary, Poker and Bridge are two games where anteriority does not imply preliminarity, since the player who makes the move is not informed about everything that happened previously.

It is the absence of transitivity that is most relevant in the context of making a choice during a move. It is connected to the fact that the value of the visible result of the opponent's choice does not unambiguously signal the opponent's intentions.

According to Von Neumann and Morgenstern, "[The] concept of preliminarity . . . and its relationship to anteriority [. . .] gives occasion to various combinatorial possibilities." [191: 51] It concerns variables involved, but also whether or not a player is informed about the other player's strategy. Von Neumann and Morgenstern contend that poker and bridge "show that intransitivity of the relationship of preliminarity corresponds to a very well known component of practical strategy: to the possibility of 'signaling' [. . .] a device which (indirectly) relays information." [191: 53-4] Von

Neumann and Morgenstern's assertion implies that the intransitivity of preliminarity complicates the signaling. In other words, games characterized by preliminarity that does not carry transitivity, demand special attention for the appreciation of the meaning of signals. They differentiate between two kinds of signaling. The first they call 'direct signaling'. It concerns posting up the other party, i.e. providing reliable information. The second is 'inverted signaling', meaning misleading or deceiving the opponent. [32]

An inherent part of almost all 'games', which uses the combination of time and signaling, is 'bluffing'. It is one of the best-known examples of inverted signaling. It is based on the intransitivity of preliminarity. In the context of, for instance, poker, Von Neumann and Morgenstern write the following. "[A] player with strong hand is likely to make high bids and numerous overbids since he has good reason to expect that he will win. Consequently, a player who has made a high bid, or overbid, may be assumed by his opponent — a posteriori! — to have a strong hand. This may provide the opponent with a motive for 'passing'. However, since in the case of 'passing' the hands are not compared, even a player with a weak hand may occasionally obtain a gain against a stronger opponent by creating the (false) impression of strength by a high bid, or by overbid, thus conceivably inducing his opponent to pass . . .This maneuver is known as 'bluffing'." [191: 188]

Uncertainty Caused by the Transmission Medium

The information, available from the source, 'travels' to the destination. Three 'carriers' of information are important: the diplomatic services, the intelligence services, and – to a certain extent – the press. Indeed, one of the tasks of these services is to avoid being deceived by the source (the opponent) when gathering their information.

Then, their main duty is to analyze the data and provide it to the decision makers. Numerous pitfalls exist that can lead to an erroneous conclusion of the data analysis. To mention two, the information can be incomplete, forcing the analysts to fill in the gaps based on their 'best judgment'. It is obvious that this system of 'best judgment' is failure prone. The information can also be excessive, which forces the analysts to remove the redundant and superfluous elements. This requires the skill to separate the wheat from the chaff, i.e. to recognize what is essential and what is of secondary importance.

Part of the problem of a decision maker is that he is very dependent on these analysts, and is hardly able to recognize mistakes made. Of course, a decision maker can go directly to the source and try to verify the information. Then, however, he is himself subject to the same pitfalls the analysts face. In other words, a decision maker – almost by definition – has to assume that a particular level of unreliability remains. This means, in summary, that there is always a residual quantity of inherent and unavoidable uncertainty resulting from the medium that transports the information from the source to the destination.

Uncertainty at the Destination

The last cause of uncertainty depends on the decision makers themselves. In this context, it should be acknowledged that compellence has to take into account that opponents are living beings, and that behavioral elements of compellence dominate the total concept. Conse-

32 Of no concern is the fairness of 'inverted signaling'. Von Neumann and Morgenstern consider signaling 'fair' as long as it follows the rules of the game. Observe, for instance, that 'signaling' is considered to be perfectly fair in Bridge if it is carried out by actions, which are provided for by the rules of the game. For instance, it is correct for two cooperating players to agree — before the play begins (!) — that an 'original bid' of two trumps 'indicates' a weakness of the other suits. But it is incorrect — i.e. 'cheating' — to indicate a weakness by an inflection of the voice at bidding, or by tapping on the table, etc.

quently, as de Rivera writes in his book *The Psychological Dimension of Foreign Policy*, a study on compellence needs to "deal with how individuals and nations construct their own definitions of the situation and thus form their own individual 'worlds', . . . [and] how these 'worlds' interact to produce new situational definitions." [216: 18] This means that a study on compellence would have to take into account such determinants of decision making as (mis)perception and stimuli.

- (Mis)Perception

In *Perception and Misperception in International Politics*, Jervis warns his readers that, concerning perception, there are too many variables. "Decision makers are faced with a large number of competing values, highly complex situations, and very ambiguous information. The possibilities and reasons for misperceptions and disagreements are legion." [141: 31] Among these possibilities for misperception, a distinction can be made between concrete and fluid situations. Indeed, perceptions of concrete, factual situations — like an enemy's order of battle in a war situation — influence a decision and thus determine the outcome of a process. However, the subject of this assessment is rather fixed, limiting the chance of misperception. Nevertheless, a proper assessment of such a true situation can still be very complicated.

However, compellence is primarily about the behavior of an opponent, which is much more fluid. The chance of misperception is accordingly higher. However, an actor in the compellence process has not much choice. One way or another, he has to make a decision and base that decision on his perception of how his opponent will behave. As Jervis writes, "If he is to decide intelligently how to act, a person must predict how others will behave. If he seeks to influence them, he needs to estimate how they will react to the alternate policies he can adopt. . . . [But] no bit of behavior is self-explanatory or has only one plausible implication for the actor's future conduct. We must try to understand why the other acted as he did." [141: 32-33] Even worse, "although we might think that the actor can always accurately predict his own behavior, this is not true. [For instance,] decision makers may not know how they will behave in the frequent cases when world politics outruns their imagination." [141: 54] In other words, not just an opponent's behavior is subject to misperception; an actor can even misperceive elements of his own behavior. Add to that what was previously said about deception and bluffing and it becomes clear how difficult it is to perceive properly how an opponent acts or reacts under certain circumstances. Therefore, the danger of misperception in the context of compellence is huge, even without complications that result from the structure of the decision-maker's psyche. It can be imagined what happens when additional psychological factors are taken into account, like cognitive inconsistency, self-fulfilling prophesies, irrational expectations, and excessive and premature cognitive closure, to mention just a few of the sources of misperception Jervis discusses in his book.

To indicate the importance of perception, reference can be made to the expression repeatedly used in the context of nuclear deterrence: "Deterrence is in the eye of the beholder." There is no reason to assume that the same would not apply to compellence. That means that perception is a predominating element of compellence, a factor that imbues all other facets of the concept. In other words, even if a reasonably all-embracing concept of information gathering can be established, it still is likely that reality will regularly bring surprises.

- Stimuli, Preferences and Risk Attitude

It is obvious that, in an atmosphere of uncertainty, risks are involved. Furthermore, an actor's sensitivity to risks drives the way he reacts to uncertainty. His risk-attitude has an impact on his interpretation, or judgment of information, particularly when it is unreliable. It is

related to the nature of his mindset, i.e. to his subjective attitude towards the decision-making process. It concerns stimuli like biases, optimism, or pessimism that shape an actor's preferences. As a result, it is safe to assert that the appreciation of data is highly affected by the actor's preferences. It is, of course, difficult, if not impossible, for an actor to circumvent his own preferences. That is why it is worthwhile for him to identify his own preferences as well as possible, and investigate whether they could have an undesired side effect on the decision-making process. Furthermore, an actor should try to be well aware of his risk attitude. This demands a high level of self-knowledge. It is not only about the decision maker's individual self-knowledge. What is also relevant here is knowledge of, for instance, societal, and institutional conditions that shape the preferences and the risk attitude of the actor's total community, which will unavoidably have an impact on his own behavior.

3b.2 Measurability, Calculability, and Affectability of Variables

The assumption on which the models in this study are based is that human behavior is — to a certain extent — measurable and even calculable. Furthermore, it is assumed that sufficient variables that determine social phenomena can be influenced by human intervention. These assumptions are not unconditionally supported within the world of social sciences. The use of an ordinal scale of measurement is reasonably widely admitted. Referring to utilities, Vollebergh and Vromen write, "In a utility function only an ordinal scale has been applied, and the numerical values in a utility function have a restricted meaning. Each utility function is satisfactory, as long as the order of merit of the preferences between the options is preserved. This also means that all that can be read from a utility function is the preference or indifference order of an actor."-[205: 53]

The use of a cardinal scale of measurement is often challenged. However, Vollebergh and Vromen also write, "The two founders of the game theory, Von Neuman and Morgenstern, have developed a procedure to formulate a utility function for choices under risk. This utility function is based on a cardinal utility scale. So, Von Neumann and Morgenstern's utility function does not only provide information about the preference-order of individuals, but also about the strength (or weakness) of their preference." [205: 57] Von Neumann and Morgenstern themselves write,

> Historically, utility was first conceived as quantitatively measurable, i.e. as a number. Valid objections can be and have been made against this view in its original, naive form. It is clear that every measurement—or rather every claim of measurability—must ultimately be based on some immediate sensation, which possibly cannot and certainly need not be analyzed further (such as the sensations of light, heat, muscular effort, etc., in the corresponding branches of physics). In the case of utility, the immediate sensation of preference—of one object or aggregate of objects as against another—provides this basis .
>
> [. . .]
>
> All this is strongly reminiscent of the conditions existent at the beginning of the theory of heat: that too was based on the intuitively clear concept of one body feeling warmer than another, yet there was no immediate way to express significantly by how much, or how many times, or in what sense. [. . .] The historical development of the theory of heat indicates that one must be extremely careful in making negative assertions about any concept with the claim to finality. Even if utilities look very unnumerical today, the history of experience in the theory of heat may repeat itself, [. . .]. [191: 16-17]

Promising advances have been made during the last half century with the application of quantitative methods to social phenomena. Several practical cases have demonstrated the

feasibility of the calculability of utilities. Indeed, some reservations are appropriate here. In a process with a social character, as compellence undeniably is, caution is required in quantifying issues in absolute terms. Nevertheless, there is sufficient justification for following Von Neumann and Morgenstern in their assumption that the subject of this study (expected utility) can be considered as quantitatively measurable, i.e. as a number, the same way as the natural phenomenon of heat.

Besides the measurability and calculability of social phenomena, there is the question of affectability, or impressionability of the variables. Among the authors of studies oriented on similar sciences, like microeconomics, there is considerable diversity of opinion regarding which variables in the calculus may be affected. Concerning compellence, for instance, Pape asserts, "Benefits are not usually manipulatable by the [compeller]." [199: 16] Furthermore, he considers raising the costs of continued resistance (in his view principally by exploiting civilian vulnerability) "likely to be trivial compared to the territorial interests at stake." [199 :17] Mueller, on the other hand, has adopted the position that more than the normally accepted amount of variables is subject to change as result of human intervention. Therefore, it can be concluded that probably some data are more impressionable than others are. This will have to be taken into account when discussing the measures that the players can take to change the course of events.

In sum, the lesson to be learned here is that some caution is called for. It seems to be safe to agree to the measurability, calculability and affectability of the variables involved in the process of compellence. However, it also seems to be justified to apply numbers with prudence. This should be kept in mind when judging the merits of the numbers used in the following part of the study.

3b.3 THE RATING OF VARIABLES

Table A: Ratings and Their Meaning

• Minimum	-	0
• Very Low	-	1
• Low	-	2
• Marginal	-	3
• Moderate	-	4
• Average	-	5
• Firm	-	6
• Substantial	-	7
• High	-	8
• Very High	-	9
• Maximum	-	10

This study rates the values of items according to the following system. When inserting the estimated values, the range between 'minimum value' and 'maximum value' is subdivided into ten portions, represented both by terms and by numbers. The 'minimum' rating (0; zero) is assigned when – in fairness – no lower level is conceivable (i.e. the number 0 indicates a rating of zero percent); the 'maximum' rating (10; ten) when no higher level is conceivable (i.e. the number 10 indicates a rating of one hundred percent).

The schedule in Table A gives the relation between the terms and the numbers. Although, as the descriptions indicate, the values have an *ordinal nature* their equal distribution over the scale (from 0 to 10; i.e. from 0% to 100%) offers the possibility to treat them as *cardinal numbers*. This use of cardinal numbers is also imperative to allow for the kind of calculations used in this study. [33] Consequently, the use of cardinal numbers is an

33 For that matter, by adopting this approach, this study follows the logic also used by Von Neumann and Morgenstern. [191: 15-31]

inherent element of the model used in this study, and calculations made with the associated numbers will provide absolute outcomes. [34]

3c Summary

This chapter has introduced the primary purpose of this study: the construction of a framework for the analysis of compellence in order to find the elements that contribute most to the success of the process. The most elementary components of two frameworks were introduced and two diagrams, containing these components, were provided to give an overview of the pattern of thought that drives the coming description of the frameworks for analysis. The three levels of analysis that drive the study were explained, and some light was shed on certain points of particular interest. As such, this chapter has prepared the reader for the detailed descriptions that will follow in the other chapters of this part.

34 However, this introduces an additional reason to exercise some prudence when judging the merits of the outcomes.

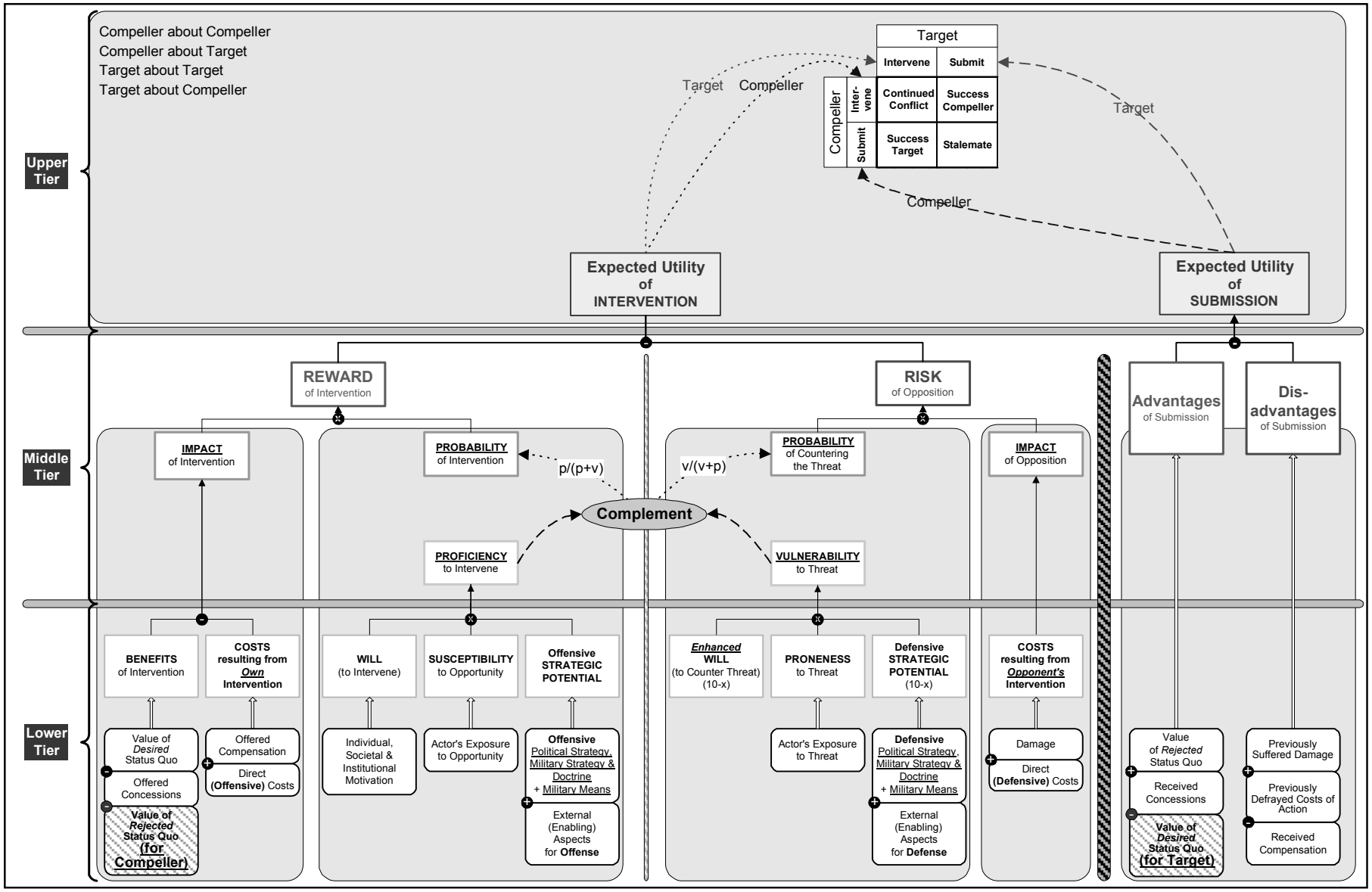
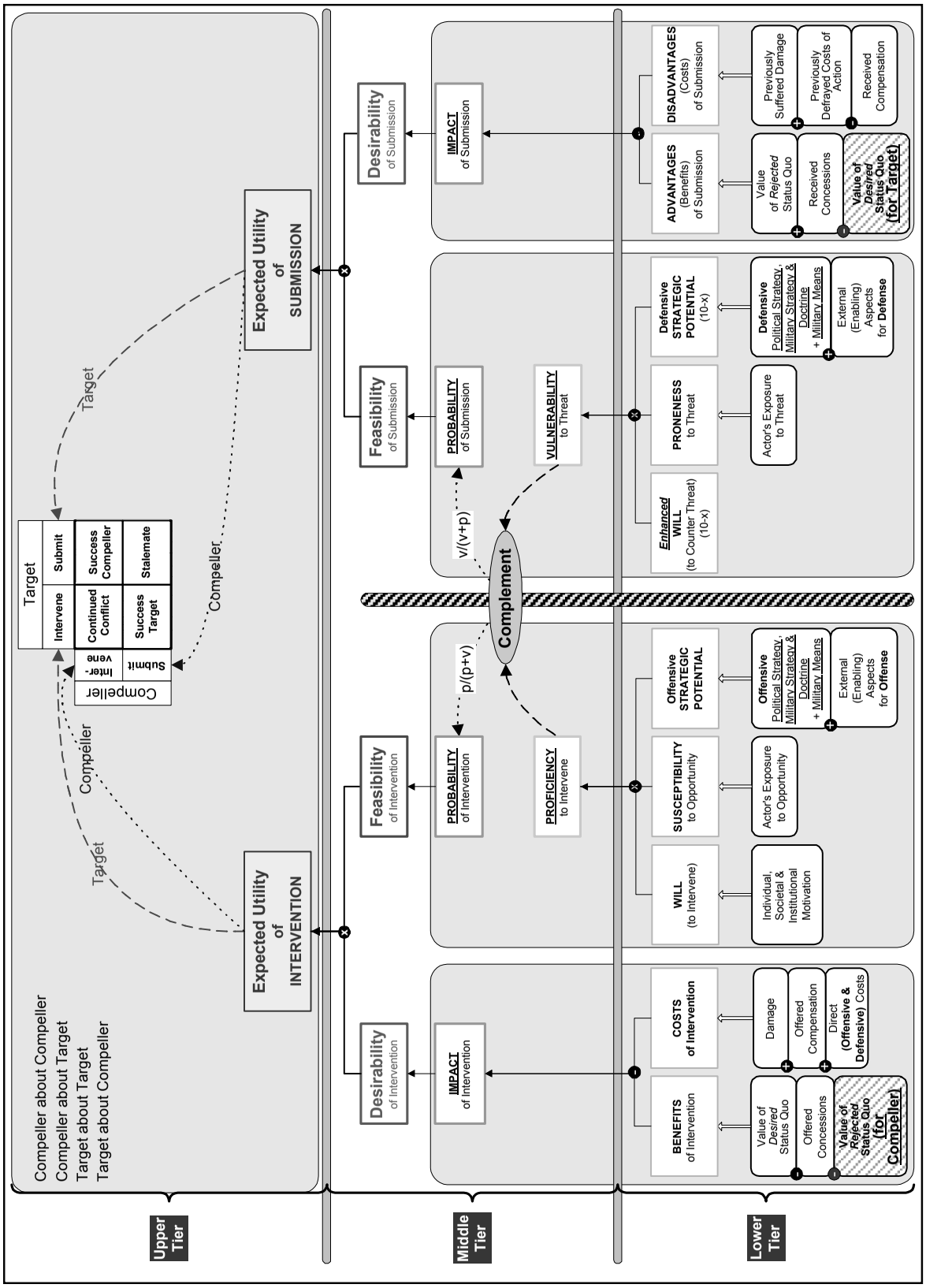


Figure 3: Reward & Risk Diagram

Figure 4: Desirability & Feasibility Diagram



4. *Upper Tier: Decision-Making*

This chapter discusses the issues relevant at the upper tier, i.e. issues that directly concern decision-making. To start with, it must be noted that ultimately the compeller wants to bring about a change in the target's behavior. So, the compeller wants the target to decide to display a 'better' conduct. To that end, the compeller has to weigh his options to bring about the decision he desires of the target. Then, the compeller makes a strategic choice for one of his options. The level of success depends on the correctness of this strategic choice. [35] The same mechanism applies for the target. He wants the compeller to decide to display a 'better' conduct. Therefore, the quintessence of the compellence process is a mutual desire to change each other's decision-making.

To start from the perspective of the compeller, to make the above-mentioned strategic choice between available options, he considers the expected utilities of compellence and resignation. In a 'simplified approach', a higher chance of successful compellence awaits the compeller when the utility that comes from compellence is higher than the utility that comes from resignation. In other words, in the eyes of the compeller the degree of potential success depends in the first place on the relation between the utilities that he expects to obtain from compellence and from resignation.

However, the compeller also has to reckon with the opposition of the target. After all, the compeller's chance of success also depends on the reaction of the target. If the target decides to resist, compellence is not successful. The foundation of the target's strategic choice is his appreciation of his own expected utilities. Therefore, the compeller's degree of potential success also depends on the expected utilities the target obtains from – in the target's case – resistance and compliance.

In sum, this means that, in the 'simplified approach', the foundation of the kind of process under consideration is that both parties choose, and later on execute, a strategy based on their assessment of the utility of their own intervention, and submission, as well as the utility of their adversary's intervention and submission. For the parties involved, it is not always easy to appreciate their own utilities. The judgment of the utilities of the opponent is even more complex. Furthermore, one of the additional difficulties is that both parties are considering these developments during an ongoing, fluid process.

4a Crosswise Appreciation

Unfortunately, the issue is even more complicated than that. The above-mentioned 'simplified approach' only covers part of the problem. It involves, what can be called, the 'direct appreciation' of the situation by the parties. What this approach does not allow for is that also the opponent's appreciation of the situation determines the success. Therefore, the opponent's judgment must be taken into account. From the perspective of the compeller, for instance, it is not only of interest what the compeller himself thinks of the utility of his and the target's intervention and submission for successful compellence. For successful compellence, the target has to submit. This implies that – from the perspective of the compeller – *ultimately it is the target's decision that determines whether compellence succeeds or not*. Conse-

35 The discussion in section 2b.6 on page 33 shows that the question is not so much, whether or not compellence is successful per se. The question is more whether compellence is (ex ante) — of all the available political options — the most promising in the eyes of the compeller.

quently, to make a judgment of the potential success rate of compellence, the compeller has to take into account what he expects that the target thinks of the circumstances. And, for the target these circumstances will concern the utilities of his own (the target's) options, as well as the utilities of the compeller's options. This also holds good for the target, who has to take into account the compeller's appreciation of the circumstances.

In sum, an important aspect in the process concerns an actor's estimate of *his opponent's assessment* of his own (i.e. the actor's) and his opponent's circumstances. In other words, both parties estimate their opponent's assessment of their own intervention and submission, as well as their opponent's assessment of his (the opponent's) own intervention and submission. In this study, this is called 'crosswise appreciation'. The result of this crosswise appreciation on the total process of compellence is, without any doubt, one of the most complicated aspects of the process. After all, the actors can only have a limited degree of certainty about the correctness of their estimates. And, uncertainty will influence the assessment of the actors and thus lead to unreliable judgments. This can result in an outcome that does not correspond with the actor's wishes. [36] For that reason, the following paragraphs will elaborate on this subject.

Let us first look at the (amount of) combinations of estimates that result from the ´direct appreciation´ of the parties, as well as from the ´crosswise appreciation´. To that end it must be understood that, in essence, the compeller estimates and balances the perceived expected utility provided by his intervening action, and the perceived expected utility provided by his submission (backing-off), both as he assesses them ('direct appreciation'), and as he expects that his opponent (the target) assesses them ('crosswise appreciation'). By the same token, the target estimates and balances the perceived expected utility of counter-action and the perceived expected utility of submission (giving in), both as he assesses them ('direct appreciation') and as he expects his opponent (the compeller) to assesses them ('crosswise appreciation'). This implies that each actor (the ***compeller*** and the ***target***) can make four ***estimates***, each concerning his own or his opponent's ***assessment*** of two aspects: ***expected utility of intervention***, and ***expected utility of submission***. Consequently, 16 (8 x 2) estimates must be considered, as listed in Table B on page 67.

Note 16: 'Direct' and 'Crosswise' Appreciation in a Continuous Process.

An actor also has to consider the consequences of his appreciation. In other words, he not only has to regard his appreciation on its own merits. He also has to contemplate the next question: what will be the result, if I accept this particular appreciation, and what if my appreciation is incorrect? In essence, this indicates that these ('direct' and 'crosswise') appreciations take place in a continuous, dynamic process of appreciation, action, renewed (adapted) appreciation, etc. In other words, ultimately, at a certain point in time, an action is needed, and the actor then has to base his decision on his prevailing appreciation. In a way, he will worry about potential mistakes in the next phase of the process.

Clearly, this is part of the uncertainty mentioned, which is an essential element of the subject under consideration and will be dealt with later in this study.

36 The impact of this uncertainty and the way the frameworks of this study accommodate this uncertainty, is subject of discussion in section 7d on page 120 about the transfer 'From Conditions of Uncertainty to Conditions of Risk'. It is obvious that the level of uncertainty is highly influenced by the degree of knowledge. Particularly the level of knowledge is subject to the phenomenon of crosswise appreciation. Note 27 on page 123 discusses the complexity of establishing the level of knowledge.

Table B: Direct & Crosswise Appreciation [37]

Direct Appreciation					
1a	Compeller's estimate of		Utility of **Compellence**	(Compeller's *Intervention*)	- **[C-Cpl]**
1b	" "		Utility of **Resignation**	(Compeller's *Submission*)	- **[C-Rgn]**
Crosswise Appreciation					
2a	Compeller's estimate of	Target's assessment of	Utility of **Compellence**	(Compeller's *Intervention*)	- **[C-T-Cpl]**
2b	" "	" "	Utility of **Resignation**	(Compeller's *Submission*)	- **[C-T-Rgn]**
Direct Appreciation					
3a	Compeller's estimate of		Utility of **Resistance**	(Target's *Intervention*)	- **[C-Rst]**
3b	" "		Utility of **Compliance**	(Target's *Submission*)	- **[C-Cly]**
Crosswise Appreciation					
4a	Compeller's estimate of	Target's assessment of	Utility of **Resistance**	(Target's *Intervention*)	- **[C-T-Rst]**
4b	" "	" "	Utility of **Compliance**	(Target's *Submission*)	- **[C-T-Cly]**
Direct Appreciation					
5a	Target's estimate of		Utility of **Resistance**	(Target's *Intervention*)	- **[T-Rst]**
5b	" "		Utility of **Compliance**	(Target's *Submission*)	- **[T-Cly]**
Crosswise Appreciation					
6a	Target's estimate of	Compeller's assessment of	Utility of **Resistance**	(Target's *Intervention*)	- **[T-C-Rst]**
6b	" "	" "	Utility of **Compliance**	(Target's *Submission*)	- **[T-C-Cly]**
Direct Appreciation					
7a	Target's estimate of		Utility of **Compellence**	(Compeller's *Intervention*)	- **[T-Cpl]**
7b	" "		Utility of **Resignation**	(Compeller's *Submission*)	- **[T-Rgn]**
Crosswise Appreciation					
8a	Target's estimate of	Compeller 's assessment of	Utility of **Compellence**	(Compeller's *Intervention*)	- **[T-C-Cpl]**
8b	" "	" "	Utility of **Resignation**	(Compeller's *Submission*)	- **[T-C-Rgn]**

4a.1 Relevance of the Sixteen Estimates

The sixteen estimates do not all have the same significance. In the context of making a choice for intervention or submission, only half of them – those originating from crosswise appreciation – have relevance. The other half – those originating from direct appreciation – are 'only' relevant to initiatives to 'make it work'. An explanation of this statement follows.

Estimates with Relevance to the Strategic Decisions

As has been indicated before, what is relevant for the compeller's decision whether to intervene (compel) or submit (resign) is his assessment of the viability of compellence as a method to *make the target change his mind* and alter the target's behavior. After all, the target's reaction determines whether compellence is successful (the target decides to comply) or not (the target decides to resist). The incentive for the target's changed behavior is what he (the target) thinks of the situation at hand. The compeller's perception of reality per se is irrele-

37 For the sake of economy the expressions are coded as follows:
- the ***Compeller*** as **C**,
- the ***Target*** as **T**,
- the expected utility of intervention by the compeller: ***Compellence*** as **Cpl**,
- the expected utility of submission by the compeller: ***Resignation*** as **Rgn**,
- the expected utility of intervention by the target: ***Resistance*** as **Rst**, and
- the expected utility of submission by the target: ***Compliance*** as **Cly**.

vant for the target's decision. In other words, whether the target changes his mind or not does not depend on what the compeller thinks (i.e. the compeller's 'direct appreciation' of the situation), but on what the target thinks. Thus, the compeller has to find out what the target's perception of reality is. He has to make a 'crosswise appreciation' of the target's estimate and base his decision on this appreciation.

In sum, ultimately, the decision of the compeller whether compellence is a viable option will not be based on his own ('direct') assessments, but on his estimate of the target's assessments ('crosswise appreciated'). In other words, of primary relevance for the compeller's strategic decision are his crosswise-appreciated estimates. [38] The same applies to the target. As with the compeller, the target's decision depends on what he expects that the compeller is going to do. So, ultimately, the strategic decision of the target is based the crosswise-appreciated estimates. [39]

Estimates with Relevance to Initiatives to 'Make It Work'

From the previous discussion, it is clear that the direct-appreciated estimates are irrelevant for the primary decision of the compeller. [40] As for the target, in the context of making a decision for intervention and submission, the direct-appreciated estimates are also irrelevant. [41] Bearing these estimates in mind can, however, help the actor make the process 'work' in his favor. After all, these four estimates reflect his conviction of his own as well as of his opponent's conditions. As such, they represent the basis for what he thinks needs to be changed in order to bring success. That is to say, a difference between how the compeller expects that the target estimates the issues and how the compeller himself estimates those leads up to the following. Either the compeller has to adjust his own estimates (his own conviction), or he has to take actions in order to make the target adjust his estimates. Particularly the latter actions are part of the process to make compellence 'work'. [42] It is related to the discussion about 'Success OF (the Application of) Compellence' on page 29.

Note 17: Actors' Estimate of Reality; Two Points of View

From the perspective of the actor, in this context the actor's estimate of 'reality' – i.e. of what he (the actor himself) expects of his own and of the opponent's utilities – is relevant. In essence, two points of view need consideration.

The first concerns the assumption that the actor discovers a major difference between his own estimate and what he expects of the opponent's estimate. Assuming, furthermore, that this difference is to the actor's disadvantage, the actor needs to take initiatives of any kind to try to change the variables that have determined the opponent's assessment. These actions are primarily aimed at changing the opponent's perception. Actions needed to change the opponent's perception are rather complicated. It has to do with the convincing signaling of values of conditions to the opponent. Anyhow, the actor should try to make his own estimates as best he can. The issue of uncertainty, discussed in section 3b.1 on page 54, demonstrates that this is no easy matter.

38 In Table B numbered: **2a** (coded as: **C-T-Cpl**), **2b** (**C-T-Rgn**), **4a** (**C-T-Rst**), and **4b** (**C-T-Cly**).

39 In Table B numbered: **6a** (**T-C-Rst**), **6b** (**T-C-Cly**), **8a** (**T-C-Cpl**), and **8b** (**T-C-Rgn**).

40 In Table B numbered: **1a** (**C-Cpl**), **1b** (**C-Rgn**), **3a** (**C-Rst**), and **3b** (**C-Cly**).

41 In Table B numbered: **5a** (**T-Rst**), **5b** (**T-Cly**), **7a** (**T-Cpl**), and **7b** (**T-Rgn**).

42 To clarify this, we can think of a situation in which the compeller is (initially) convinced that the target does not have sufficient means to resist. When he expects that the target does not hold the same opinion (i.e., when he expects that the target thinks that he has sufficient means) the compeller can react in two ways. He either reconsiders his own idea (and also decides to assume that the target has sufficient means for resistance), or he takes those actions necessary to convince the target that indeed his means for resistance are insufficient.

The second point of view is related to the assumption that the actor does indeed discover no difference between his own estimate and what he expects of the opponent's assessment, but that the opponent's assessment is (simply) to the actor's disadvantage. Here also, the actor needs to take initiatives of any kind to try to change the variables that have determined the opponent's assessment. However, the emphasis is on the actual adaptation of the conditions, and less on changing the opponent's perception. [43] *Actions needed to change unfavorable conditions can be complicated as well. Obviously, it also requires a proper assessment of the conditions. And this also has to be done in a situation of uncertainty. In addition, after adjustment, the adapted conditions need convincing signaling to the opponent as well. On top of that, the actor faces the question of affectability of the relevant condition. It could very well be that the considered condition cannot, or only with great difficulty be adjusted. One can imagine that the opponent's desired status quo, for instance, is not easy to change. Furthermore, most adaptations are not free of charge. There is a price involved. The question is whether the actor is able to pay that price.*

4a.2 SEQUENCE OF ESTIMATES, FOUR POTENTIAL CONFLICT OUTCOMES (SCENARIOS)

One of the objectives of this study is to find the elements that determine the conflict outcome. As will be demonstrated next, there is a relation between the conflict outcome and the sequence of the estimates. It may be assumed that the compellence process proper starts with the estimation of the situation by the compeller. [44]

In this initial phase of the compellence process proper, in order to decide whether to compel or to resign, the compeller makes two estimates:

- the target's assessment of the expected utility of compellence (i.e. the consequences for the target when the compeller chooses compellence), [45] and
- the target's assessment of the expected utility of resignation (i.e. the consequences for the target when the compeller chooses to submit, and thus compellence does not take place). [46]

At the same time, the compeller also estimates,

- the target's assessment of the expected utility of resistance (i.e. the consequences for the target when the target chooses to resist) [47], and
- the target's assessment of the expected utility of compliance (i.e. the consequences for the target when the target chooses to submit, and thus abandons resistance). [48]

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43 It should be noted in advance that, in the last instance, the two points of view mentioned coincide, since the ultimate objective of both actors is to manipulate the circumstances so that they favor their own position.

44 We have to recognize, however, that the process of compellence proper starts on the supposition that the initial action of the target took place because the deterrent posture of the compeller did not suffice to withhold the target from taking that action. In other words, each compellence process has a 'preliminary phase' (prior to the compellence process proper) in which the target decides to take an action (that later on proved to be unacceptable for the compeller). It is this intolerable behavior of the target the compeller has to reverse through the process of compellence.

45 2a in Table B: **C-T-Cpl**.

46 2b in Table B: **C-T-Rsg**.

47 4a in Table B: **C-T-Rst**.

48 4b in Table B: **C-T-Cly**.

It is assumed that, based on that combination of four estimates, the compeller decides to compel. This means that he, weighing up the pros and cons, considers compellence an option worthwhile. His pattern of actions will correspond with this decision.

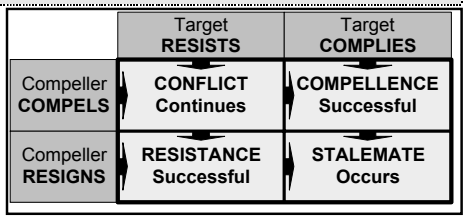
The target takes cognizance of the compeller's pattern of actions and thus of the compeller's decision to compel. The target then has the choice whether or not to take counter-actions. [49] Now assume that the target does not (immediately) give in to the compeller's demands (does not comply with the compeller's demands). This means that the target, weighing up the pros and cons, considers resistance a worthwhile option. As it was the case with the compeller, this weighing up pros and cons consists of a combination of four estimates by the target:

- of the compeller's assessment of the expected utility of compellence, [50]
- of the compeller's assessment of the expected utility of resignation, [51]
- of the compeller's assessment of the expected utility of resistance, [52]
- of the compeller's assessment of the expected utility of compliance. [53]

Scenarios: Continued Conflict, Successful Compellence or Resistance, and Stalemate

When, as described in the previous paragraphs, the compeller decides to compel and the target decides to resist there is a continued conflict. It means that both parties have decided that it is worthwhile to continue their intervening actions based on their estimate of the circumstances (crosswise appreciated!). This situation will continue as long as both parties estimate that they still have a chance to 'win'. During the process, circumstances will change until finally one party gains the upper hand. If the change in circumstances works out badly for the target, he may decide to comply. Then, the compeller 'wins', i.e. compellence succeeds. If the compeller resigns, and thus the target 'wins', resistance succeeds. It is, however, possible that the process ends with a (temporary) stalemate. It implies that both parties estimate that there is no use in a (continued) confrontation, since they both think that – given the conditions – submission should be their preferred option. In essence, this means that both the compeller and the target accept the status quo of that moment.

Figure 5: Potential Conflict Outcomes (Scenarios)



49 The central point of the target's position is that he threatens with counter-actions (resistance) of a kind that should deter the opponent from taking intervening action. In essence, the target tries to deter the compeller. This means that the exchange within the context of compellence, actually consists of persuasive (compelling) actions, on the one hand, and dissuasive (deterring) actions on the other. This idea is in line with Jakobsen's advice to subdivide conflicts into separate and distinct compellence-deterrence exchanges. [134: 7]

50 6a in Table B: **T-C-Cpl**.

51 6b in Table B: **T-C-Rsg**.

52 8a in Table B: **T-C-Rst**.

53 8b in Table B: **T-C-Cly**.

These combinations of options – which can also be called 'strategies' – are used in game theory. Game theory visualizes these strategy combinations by putting them in a so-called payoff matrix. When the four discussed 'strategies' are put in a matrix, the result is as shown in Figure 5.

The rows represent the choice of the compeller for a strategy (i.e. to compel or to resign); the columns represent the choice of the target (i.e. to resist or to comply). Each of the four blocks of the matrix represents the outcome of a combination of two chosen strategies, i.e. the four potential scenarios.

4b Applying Game Theory as Auxiliary to Upper Tier

4b.1 Some Elements of Game Theory

Below, the result of applying game theory as auxiliary to the upper tier is discussed, using the above considerations. Prior to that, this section discusses some elements of game theory in order to establish the relation between compellence and game theory as used in this study. In this context, it should be realized that compellence has the characteristics of a dynamic decision-making process. Game theory is the science discipline that has this process as its main focus. It intends to explain strategic behavior in human society, and is specifically developed to provide an insight into competitive dynamic interactions. In game theory, 'games' have always been a metaphor for more serious interactions in human society. In these serious interactions, as in games, the individual's choice is essentially a choice of a strategy. The outcome of the interaction depends on the strategies chosen by each of the participants. In game theory, the outcome depends not only on the actor's own strategies, but also directly on the strategies chosen by others. The aim is to maximize the profit that results from a process, as perceived by a group of interacting decision makers. In game theory, one credits one's opponent(s) with both rationality and a desire to win, and that he plays to ensure the best outcome for himself. From what was discussed in the previous part of this study it can be deduced that these aspects of game theory are exactly what needs to be considered when dealing with decision-making in the context of the compellence process. This study is thus open to the analysis of game theory.

Since Von Neumann and Morgenstern introduced game theory in the second quarter of the twentieth century, much has been written about its principles and many forms of application have been tested. Details about its principles and application can be found in a myriad of documents. [26, 27, 28, 67, 87, 147, 172, 189, 191, 205, 209, 223, 233, 255, 277] For the purpose of this study two elements are singled out here from the existing literature. They relate to the way game theory approaches decision-making in its most elementary form, and the way game theory comes to a solution of a game. [54]

54 In its most elementary form, game theory assumes that two players (player A and player B) have a choice between two strategies. The two strategies are mostly diametrically opposed, such as the most commonly used choice between ***'cooperate'*** and ***'defect'***. Each player attaches a particular value to his two strategies. This means that they expect a certain utility from choosing for cooperation and for defection. This study uses game theory based on this 'two-person, two-strategy game'.

Note 18: Waiving Direct Use of Game Theory

This study assumes that the ultimate decision of both actors whether to defect or cooperate is made in two steps.
First they determine which of their strategies promises to generate the highest utility. [55] Initially they will be inclined to choose this strategy. However, they also (try to) determine the most profitable strategy of their opponent. Assuming next that the actors will initially choose the strategy with the highest utility, both actors investigate which scenario (outcome) will most likely occur.
The second step concerns the ultimate decision, which depends on the mentioned outcome (expected scenario). When the predicted most likely scenario satisfies the actors, the initial choice will be implemented. However, when the predicted scenario is not satisfactory in the eyes of the actors, one can expect them to adapt certain conditions in order to enhance their chance of success. In essence this process continues until the actors either expect a satisfactory result or reach the conclusion that success is unattainable whatever steps they take to improve the situation.

As described in the following sections, this study uses the method in which utilities of strategies as perceived by the actors determine the most probable outcome. The value of these utilities is assessed as described in chapter 5 and chapter 6. The result fits in with the assumptions mentioned.
As an alternative but very different approach, the choice could have been made, for instance, to use particular techniques to establish the utility of scenarios. By applying game theory, these utilities could have been used then to determine the most probable decision of the actors. However, this approach was abandoned. On top of the fact that preliminary calculations demonstrated the need for, what in game theory is called, 'coordination games', the main reason for this choice is the quintessential objective of this study, i.e. the search for factors that affect the successrate of compellence. It was judged that this objective is better served by determining the value of the utilities of the strategies (intervention and submission), using tools provided by the theory of (micro) economics.

Game theory provides tools that can give an insight in the decision-making process mentioned in Note 18. Two specific methods to present games are used in this study. The first method is the 'decision tree'; the second method is the 'payoff table', or 'payoff matrix'. Their essentials and the way they will be used in this study will be explained below.

4b.2 Determining the Actors' Perception of the Most Likely Outcome (Scenario) Using a Decision Tree

Note 19: Arbitrary Rating of Example Case

In the course of the discussion that follows, an example case is used. This case is not related to any known situation. The rating of the variables is arbitrary, although I have pursued some logic and not inserted random numbers.

The 'decision tree' is also called the extended form of game theory. The decision tree pictures the sequence of the moves in the game and thus has a dynamic character. The focus of the decision tree is on the course as well as the result of the game. It specifies the evolving information gathering of the players. In other words, it shows how in a kind of sequence of events, the consequences of decisions materialize. That is why a decision tree is very useful to investigate the details of the process and how the outcomes of the actors' thinking process come about.

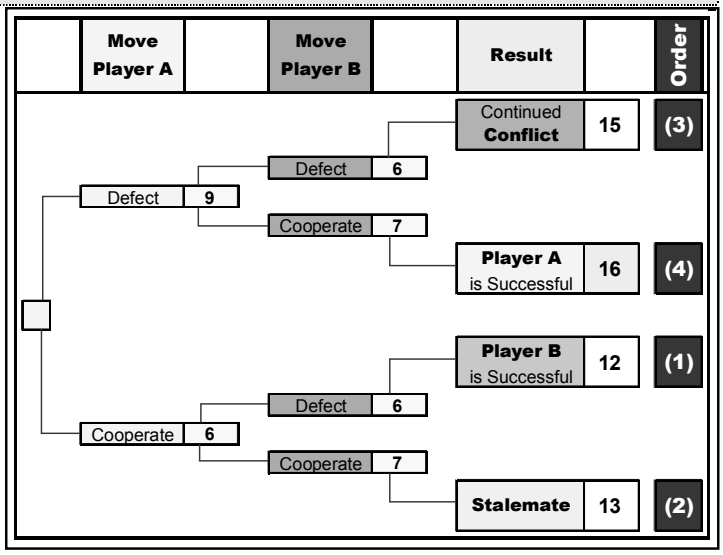
55 As follows from chapter 5 and chapter 6, this utility is affected by the opponent's expected actions, but not by his choice for any strategy.

Player A's View

Figure 6 shows the decision tree from player A's perspective. Reading the diagram from left to right, it is clear (in the left column) that in his move, player A has the choice between 'defect' and 'cooperate'. Here it is assumed that the utility of defection is *very high*, and of cooperation *firm*. In other words, the value of defection is at level 9 and of cooperation at level 6. So, it is logical that player A will decide to defect. Next, player B has an equal choice. The utility of defection is assumed to be *firm* (level 6) and of cooperation *substantial* (level 7). So, it is logical that player B will decide to cooperate.

When both players defect, the conflict will continue. When player A defects and player B cooperates player A is successful. When player A cooperates and player B defects, player B is successful. Finally, when both players choose to cooperate, the game ends in a stalemate. Just following simple logic, given the expected payoffs in this example, and given the principle of utility maximization by the players, as said, player A will choose for defection and player B for cooperation. Thus, based on the presented information, the solution of this game is success for player A. [56]

Figure 6: Example of Decision Tree (Player A's View)



Following an arithmetical approach, it is clear that, given the values of the players' choices, the value of the continued conflict (the sum of the player A's and player B's payoff in case of defection) is 15. The value when player A is successful is 16, and when player B is successful, it is 12. Finally, the value of a stalemate is 13. The right column gives the order of these results, starting with the number 4 for the highest ranking, and so down to the number 1 for the lowest ranking. In this example the arithmetical outcome is success for player A, followed by a continued conflict, then a stalemate, and finally success for player B.

The decision tree does, however, not give a full insight into all the elements that dictate the choices that have to be made on the occasion of a move. Furthermore, and equally important, the decision tree shows the perspective of one observer only. This can be one of the players, but it can also be an outsider. In the example in Figure 6, the assessment of the values could be done by player A. This means that in his eyes – given the expected payoffs for himself and what he expects as payoffs for player B – he (player A) will be successful. The question is whether player A's appreciation is correct. In any case, also player B will make an assessment.

56 Essentially, 'success for player A' here represents the highest ***combined utility*** of both players, or even better the ***highest attainable combined utility*** of both players.

Player B's View

It could very well be that player B expects other payoffs. Then the outcome player B expects would also be different. But player B's appreciation is one of the factors that determine the actual outcome of the process. After all, it is the ***expected result*** of player A, transformed into player A's action plus the ***expected result*** of player B, transformed into player B's action that dictate the ***actual result***. This implies that an insight into both players' assessments is needed. In other words, to see what the two players expect of the game, two separate decision trees are needed.

Figure 7: Example of Decision Tree (Player B's View)

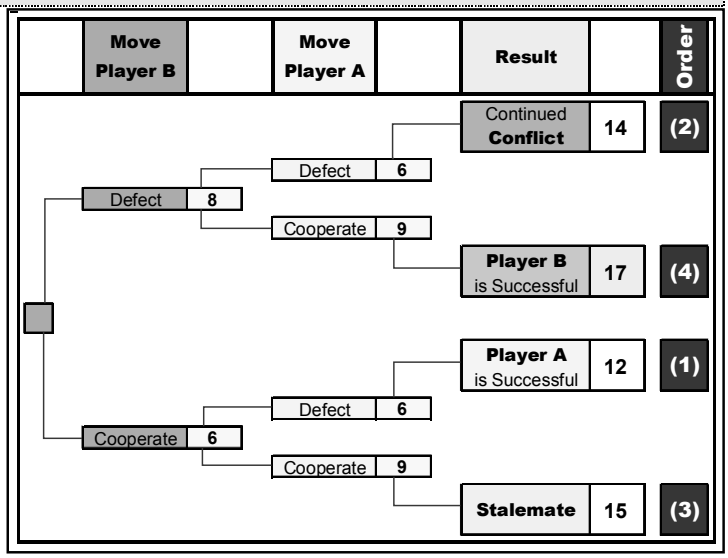


Figure 7 gives an example of the second decision tree showing the way player B could perceive the situation. Given the different utilities he expects for himself and for player A, the result is also different. Clearly, player B does not expect that player A will be successful, but counts on his own success, i.e. 'success for player B' here represents the ***highest attainable combined utility*** of both players. Furthermore, he places a stalemate at the next level, followed by a continued conflict. At the bottom of the list, he positions success for player A.

Compact Format of Decision Trees

Figure 8: Compact Format of both Players' Decision Trees

	Move Compeller			Move Target			RESULT		Order
Compeller's Estimate	Compel	9	+	Resist	6	=	15	Continued **CONFLICT**	(3)
	Compel	9	+	Comply	7	=	16	Successful **COMPELLENCE**	(4)
	Resign	6	+	Resist	6	=	12	Successful **RESISTANCE**	(1)
	Resign	6	+	Comply	7	=	13	**STALEMATE**	(2)
	Move Target			**Move Compeller**			**RESULT**		**Order**
Target's Estimate	Resist	8	+	Compel	6	=	14	Continued **CONFLICT**	(2)
	Resist	8	+	Resign	9	=	17	Successful **RESISTANCE**	(4)
	Comply	6	+	Compel	6	=	12	Successful **COMPELLENCE**	(1)
	Comply	6	+	Resign	9	=	15	**STALEMATE**	(3)

The decision trees in Figure 6, and Figure 7, in essence only contain the addition of particular numbers. Consequently, they can also be reproduced in the format as given in Figure 8. The schedule at the top corresponds to Figure 6, and the one at the bottom to Figure 7. Player A is here replaced by 'compeller', and player B by 'target'. This format is more compact than the full decision tree, but contains all relevant information. That is why this format will be used in the remainder of this study.

4b.3 Determining the Most Likely Combined Outcome (Scenario) Using a Payoff Matrix (Seeking the Equilibrium Point)

The advantage of the use of a decision tree is that it shows the factors that lead to the result during the moves. However, even having both decision trees at one's disposal, will not give a quick insight into the combination of the expected outcomes (by player A and by player B). Since it is this combination that dictates the ultimate actual outcome (the solution) of the game, another method is required.

Figure 9: Example Payoff Matrix

		Player B	
		DEFECT	COOPERATE
Player A	DEFECT	*(15)* , *(14)* 3 , 2	*(16)* , *(12)* **4** , *1*
	COOPERATE	*(12)* , *(17)* *1* , **4**	*(13)* , *(15)* 2 , 3

For the purpose of getting a quick insight into the combination of the expected outcomes, the second mechanism provided by game theory, the payoff matrix, is more appropriate. It has a static character. It gives an insight into the elements that dictate the choices that have to be made on the occasion of a 'move' during the 'game'. The 'payoff matrix' is also called the strategic or normal form of game theory. Its focus is on the result of the process. A 'two-person, two-strategy game' can be diagrammed in a two-row by two-columns matrix as shown in Figure 9. As can be seen, each of the four cells is filled with two numbers, separated by a comma. The first (left) number represents the expected payoff to player A (also called the row player), and the second (right) number is the payoff to player B (the column player). Cardinal numbers that correspond with the value of a particular choice can be inserted. Mostly, however, ordinal numbers are used. [57] In the example matrix, for instance, the results (in cardinal numbers) coming from the two decision trees in Figure 6 and Figure 7 are inserted as small italic numbers in parentheses. They are then 'translated' into ordinal numbers and presented in the gray areas beneath those cardinal numbers. When both choose 'Defect' (top-left box) as their strategy, the payoff has the ranking number 3 for player A and 2 for player B. When player A chooses 'Cooperate' and player B chooses 'Defect' (bottom-left box), the payoff for A has the ranking number 1, and for player B the ranking number is 4, etc.

Solution of a Game; Equilibrium Point in a Payoff Matrix

As mentioned above, the most interesting question is, of course, how the solution of a game comes about. The crux is to find out which strategy gives the best (possible) solution when two players have 'defect' and 'cooperate' as alternative strategies. Game theory searches for rational outcomes of games. That is why it is useful to dwell a while on the way game theory determines these rational outcomes.

Game theory looks for strategies that are 'in balance', based on a rational choice by the players. [58] These, so-called, equilibrium strategies concern the most likely common choice of the two players. [59] It is said that two strategies are in equilibrium if neither player gains by

57 The ordinal numbers generally range from 4 to 1 (where the number 4 means 'best', or 'highest payoff', 3 means 'next best', 2 means 'next worse', and 1 means 'worst'). Since the ranking number 4 corresponds with the highest expected payoff, this number is presented in bold. The ranking number 1 (the lowest payoff) is presented in italics.

58 An explanation of what is meant by 'rational choice' is given in section 1e.2 on page 16.

59 Note that this is not necessarily the optimum choice.

changing his strategy unilaterally. The outcome corresponding to two strategies in equilibrium is defined as the equilibrium point. [60] Rational players should adopt the equilibrium strategies and the outcome is the payoff associated with the equilibrium point — the value of the game. By playing his equilibrium strategy, a player will get at least the value of the game.

Note 20: Minimizing Opponent's Payoff

By playing his equilibrium strategy, a player can also stop his opponent from getting more than the value of the game. This is of interest if a player is motivated to minimize the opponent's payoff, as, for instance, in a zero-sum game, in which one player wins what the other loses, i.e. the winner takes it all.

Conceptually, the decision makers' objective can be twofold. On the one hand, they can try to get the highest expected utility for themselves. But, on the other hand, they can try to deny that to the opponent (i.e. make him get the lowest expected utility). If the own expected utilities are (almost) equal, the latter option (minimizing the opponent's expected utility) can be of interest. This is a point of consideration when serious doubt exists about the own expected utility. When, for instance, considerable doubt exists about the own utilities — i.e. when the difference between the lowest and the highest expected utility is substantial — then it is justifiable to assume that the compeller will choose the option that has the lowest expected utility for the target. (Details about the uncertainty factor will be discussed in section 4d on page 84.) The assumption underlying this situation of (extreme) uncertainty is that no other tools exist for the actor (the compeller in this example) to reduce the level of suspense. When the circumstances allow the reduction of suspense, by taking specific actions, the actor can be expected to take these specific actions first and then come to a decision, based on information that is more reliable. (This is one of the subjects under consideration at the lower-tier.) Thus, the compeller's choice for a strategy that produces the minimum expected utility for the target is a sign of 'weakness' to make provisions for sufficient reliable information. Every actor can be expected to seek ways to avoid this. Consequently, it is safe to infer that an actor will only focus on reducing his opponent's expected utilities, when, despite specific actions, he is not able to collect sufficient reliable information. Particularly when the initiator has a risk-taking attitude while the opponent is known for his risk-avoidance, this approach of choosing the opponent's minimum may yield a better result than choosing his own maximum. In all other cases, however, it is safer to choose the strategy that promises to yield the highest own expected utility. Based on these observations, and following the principles of rational choice, it can be expected that in the context of compellence both parties, most of the time, seek to maximize their own expected utility.

Dominant Strategies

When a player has a strategy that dominates the other available strategies (a strategy that clearly offers the highest payoff) this strategy is called a dominant strategy. It means that for that player the choice for that strategy always produces the highest expected utility, regardless of the choice of the opponent. The combination of strategies that contain only dominant strategies (one for each player) is called the equilibrium of dominant strategies. [61]

60 There may be more than one equilibrium point. In a two-person zero-sum game, they will have the same payoff. In a two-person, non-zero-sum game, equilibrium points need not have the same payoff. Furthermore, one equilibrium point may be more attractive to both players than another.

61 For those who are familiar with the best-known game, the celebrated Prisoner's Dilemma: to confess, there, is a dominant strategy for both players. Consequently, the combination of both players' confessing strategy is the equilibrium point.

Nash Equilibrium; Finding 'Stable' Choices

Games have by no means only dominant strategies. So, there is a need for a solution for games without dominant strategies. Nash has provided a solution for finding equilibrium of strategies in a game without dominant strategies. He focuses on finding – so-called – 'stable' choices. A combination of choices is 'unstable', when for at least one of the players it is profitable to change his strategy unilaterally. Conversely, when none of the players has an interest in changing his choice unilaterally, this combination of choices is considered to be 'stable'. It is called a ´Nash equilibrium´. In other words,

> *if there is a set of strategies with the property that no player can benefit by changing his strategy while the other player keeps his strategy unchanged, then that set of strategies and the corresponding payoffs constitute the Nash Equilibrium.*

The core of Nash' analysis is best described by the expression: 'no regrets on hindsight'. Nash' approach emphasizes so-called 'equilibrium points'. These are outcomes where the players have no regrets. Make a 'postmortem' analysis after the game. Go to each player in turn and ask him if he would have done things any differently given how the other player(s) played. If everybody is happy with the way they played, then the outcome is an equilibrium point. This study will use Nash' principle of a stable choice to find a 'solution' for the games concerned.

Figure 10: Example Payoff Matrix ('Pure' Nash Equilibrium)

		Player B	
		DEFECT	COOPERATE
Player A	DEFECT	3 , 2	**4** , *1*
	COOPERATE	*1* , **4**	2 , 3

How can the Nash equilibrium be attained? In the example presented in Figure 9, for convenience copied in Figure 10, the solution, or equilibrium point, is in the top left-hand box, i.e. both players choose to 'defect'. This solution can be found by looking at the other options first. Assume that both players initially considered 'cooperating' (bottom right-hand box). In that case player A would acquire a payoff ranked as 2 (two) and player B as 3 (three). For both players these payoffs clearly are not the highest payoff possible. Consequently, they will try to shift to another strategy that offers a higher payoff. If player-A then considered changing his strategy to 'defect', he would either get a payoff ranked as 4 (four; top right-hand box), if player-B did not change his strategy, or get a payoff ranked as 3 (three; top left-hand box) if player-B also changed his strategy into 'defect'. The first (top right-hand box) obviously is the most attractive change for player A. However, player B will lose considerably if he sticks to 'cooperate' and thus will also change to 'defect'. This means that, when player A changes his strategy from 'cooperate' to 'defect' he does indeed improve his situation, but actually 'invites' (or forces) player B to also change his strategy. The result will be the top left-hand box.

The same reasoning holds for player B. He will be tempted to change his strategy to 'defect', thus improving the ranking of his payoff from 3 (three) to 4 (four). If player A did not change his strategy, the result would be as given in the bottom left-hand box. However, then player A's situation would deteriorate (from 2 to 1). Consequently, player A will also change his strategy to 'defect'. This means that, also when player B changes his strategy from 'cooperate' to 'defect' he does indeed improve his situation, but actually 'invites' player A to also change his strategy. The result will be the top left-hand box.

Either way, both players are better off changing their strategy from 'cooperate' to 'defect'. The outcome or solution of the game will thus be the top left-hand box, which means a continuation of the conflict. This is what was already concluded based on logical reasoning at the end of the section which describes the 'Decision Tree' on page 72.

Figure 11: Calculating the Equilibrium Point

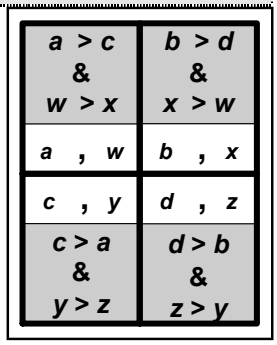


Figure 11 gives a simple method to find the equilibrium point. The characters ***a***, ***b***, ***c***, and ***d*** represent the row-player's payoff. The characters ***w***, ***x***, ***y***, and ***z*** represent the column-player's payoff. The method assumes that equilibrium exists (in one of the four squares of the payoff matrix) when both player's are not better off when they change their strategy. In other words, it assumes that the payoff in that square is higher than the alternative for both players. Thus,

- the top left-hand box of the matrix is the equilibrium point when a > c AND w > x (a and c, as said, being the payoff for the two alternative strategies of the row-player, and w and x being the payoff for the two alternative strategies of the column-player);
- the top right-hand box is the equilibrium point when b > d AND x > w;
- the bottom left-hand box is the equilibrium point when c > a AND y > z,
- the bottom right-hand box when d > b AND z > y.

The (highlighted) outcome (Conflict) in Figure 20 on page 83 is calculated using this method. [62]

Note 21: 'Pure' versus 'Mixed' Nash Equilibrium; Model only produces 'Pure' Nash Equilibrium

The kind of equilibrium described above is called a 'pure' Nash equilibrium. In game theory 'proper' not all games have a pure Nash equilibrium. In the absence of a pure Nash equilibrium one can search for a so-called 'mixed' Nash equilibrium. Nash discovered that all games have at least one 'mixed' Nash equilibrium. The properties of a mixed Nash equilibrium are explained in Annex C.

This Annex also gives an explanation why the method used in this study (discussed in section 4c) (almost) ***exclusively produces games with a pure Nash Equilibrium****. It indicates that in the used model (almost) always one of the strategy-combinations takes a dominant position. This symptom follows directly from the way the model 'calculates' the value of the strategy-combinations, i.e. the results of the actors' estimates of the value of their own and their opponent's action. As section 4b.2 starting at page 72 described by doing so, the model follows the logic generally used in game theory when creating a decision tree.*

The next section adds – what is called – a 'mutual relations diagram'. This diagram helps to appreciate the relative value of the results equated with each other. It is presented next to the payoff matrices in the remainder of this study.

62 It is useful to note that these methods of calculation – in theory – can result in more than one Nash equilibrium. (see also Note 21).

4c The Use of Game Theory Tools to Present Strategic Choices

The mentioned tools provided by game theory can now be applied to the decision-making process that takes place in the context of compellence. To start with, it must be recognized that, at the end of the process, parties have to decide whether "to compel, or resign" (for the compeller), or "to resist, or comply" (for the target). In game theory terminology, the focus is on choosing between ***four pure strategies*** (two for each participant): Compel & Resign – Resist & Comply. The result (or outcome) will be one out of ***four strategy combinations***, as already described in section on 'Scenarios: Continued Conflict, Successful Compellence or Resistance, and Stalemate' on page 70 and Figure 5 on page 70, and, here, once more shown in the basic payoff matrix for compellence (Figure 12).

Figure 12: Compellence; Basic Payoff Matrix with Four Strategy Combinatrions and Four Outcomes

	Target **RESISTS**	Target **COMPLIES**
Compeller **COMPELS**	**CONFLICT** Continues	**COMPELLENCE** Successful
Compeller **RESIGNS**	**RESISTANCE** Successful	**STALEMATE** Occurs

4c.1 Strategic Choices

The assumption is that parties primarily seek to maximize their own expected utility, and do not necessarily seek to minimize their opponent's expected utility. Consequently, the most likely outcome of the process is the strategy combination with the highest expected utility for both parties. With that in mind, the following sections provide examples of strategic choices as the compeller and the target make them. It concerns a step-by-step approach, using the decision tree as a basis for the explanation of the two actors' considerations. In it the full sequence of considerations is explained. It makes an explicit distinction between the compeller's and the target's choices. By doing so, it provides a mode to explain how an analyst could evaluate the two player's considerations and decisions, and what would be the most likely outcome of the process, given the circumstances. To that end, after the whole sequence of strategic choices has been described, the data will be inserted in a payoff matrix. Finally, also the factor uncertainty – as accommodated by the actors' risk-acceptance attitude – will be incorporated.

Compeller's Perspective

Figure 13: Compact Format of Compeller's Decision Tree

	Move Compeller			Move Target			RESULT		Order
Compeller's Estimate	Compel	9	+	Resist	6	=	15	Continued **CONFLICT**	(3)
	Compel	9	+	Comply	7	=	16	Successful **COMPELLENCE**	(4)
	Resign	6	+	Resist	6	=	12	Successful **RESISTANCE**	(1)
	Resign	6	+	Comply	7	=	13	**STALEMATE**	(2)

First, the compeller's perspective, which considers the elements that determine his strategic choice. From the previous discussion, it can be inferred that the choice is based on the expected payoffs of the chosen strategies. [63] The payoffs are related to the utilities the compeller expects from choosing the strategies. It is assumed that the data for the compeller correspond with those presented in the first compact decision tree of Figure 8 on page 74. [64] For convenience, this compact decision tree is copied in Figure 13.

63 Since that strategic choice is made using crosswise appreciation, the reader should be aware of the fact that we are dealing with the compeller's estimate of the target's assessment, not the compeller's estimate proper.

64 Once again, this part of the study only intends to explain the working of the model. That is why an example case is used here, and values are arbitrarily assigned to the strategies.

Calculating the Payoffs

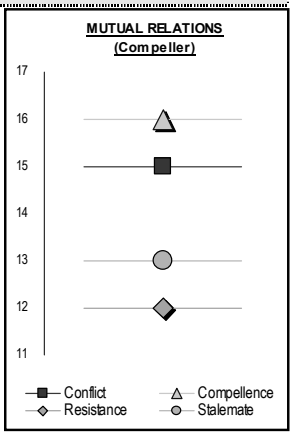
Eventually, the compeller concludes that he (the compeller) will be successful. This can be inferred from comparing the strategies is an order of merit of potential outcomes, with

- at the top (with value **16**) successful compellence (i.e. compliance by the target);
- next (with value **15**) a continued conflict;
- then (with value **13**) a stalemate,
- at the bottom (with value **12**) successful resistance (i.e. resignation by the compeller).

Visualizing the Outcomes in a Mutual Relations Diagram

Figure 14: Compeller's Perspective; Example Mutual Relations Diagram

In the context of what follows, a diagram is introduced here that shows the scaled approximate mutual relation between the value of successful compellence, successful resistance, continued conflict, and stalemate. For the compeller's perspective described above, this mutual relations diagram would use a scale ranging from 16 to 12. In essence, it is a scaled representation of the outcomes from the decision tree. Consequently, the value of successful compellence is represented by factor 16, whereas the value of a continued conflict is represented by factor 15, the value of a stalemate by factor 13, and the value of successful resistance by factor 12 (see Figure 14)..



Target's Perspective

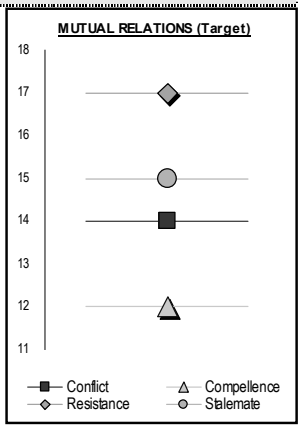
Figure 15: Compact Format of Target's Decision Tree

The same can be done for the target. Assuming that the data for the target correspond with those presented on page 74, the following order of merit of potential outcomes emerges (for convenience, the bottom part of Figure 8 is copied in Figure 15). The mutual relations diagram would look as shown in Figure 16.

	Move Target			Move Compeller			RESULT		Order
Target's Estimate	Resist	8	+	Compel	6	=	14	Continued **CONFLICT**	(2)
	Resist	8	+	Resign	9	=	17	Successful **RESISTANCE**	(4)
	Comply	6	+	Compel	6	=	12	Successful **COMPELLENCE**	(1)
	Comply	6	+	Resign	9	=	15	**STALEMATE**	(3)

Figure 16: Target's Perspective; Example Mutual Relations Diagram

- At the top (with value **17**) successful resistance (i.e. resignation by the compeller);
- then (with value **15**) a stalemate;
- next (with value **14**) a continued conflict,
- finally, at the bottom (with value **12**) successful compellence (i.e. compliance by the target).



Analyst's Perspective

Note 22: The 'Analyst's Perspective'

The calculations presented in the previous sections essentially show how the compeller and the target deal with their problem of making a proper strategic decision. They do this under circumstances of imperfect information.

It is clear that the compellence process consists of a sequence of decision-making by two actors. First, the compeller takes a decision, and subsequently, the target decides how to react. When he chooses his strategy, the compeller is not acquainted with the strategy the target will choose. Conversely, the target knows which strategy the compeller has chosen. Consequently, at the moment of his strategic choice, the compeller is not aware of the result of the combined decisions of himself and the target, while the target is. Thus, the compeller has to make a decision exclusively based on his own appreciation of the circumstances (including the decision he expects of the target), while the target can also make allowance for the compeller's decision. In other words, the compeller cannot affect the ultimate outcome of the process, while the target can.

Furthermore, for the compeller and the target, the content of this information is not equally relevant. Here, it is necessary to make distinction between the appreciation of the compeller and the target, on the one hand, and their appreciation of the expected utility of their own utilities and their opponent's utilities on the other. The compeller must base his appreciation purely on his judgment of his own utilities and on his expectation of the target's utilities. Also for the target, the compeller's decision will hardly affect the values he (the target) assigns to his own utility of resistance and compliance. Conversely, the target can allow for the compeller's decision when he has to determine the value he expects of the compeller's utility of compellence and resignation. It speaks for itself that the target will estimate the compeller's utility of compellence to be higher when the compeller has chosen to compel than when the compeller has chosen to resign.

All in all, both actors eventually base their decision on their appreciation of the circumstances (their expected utilities), whether or not affected by their level of knowledge about their opponent's choice.

However, what is of real interest for the purpose of analysis is the actual outcome of the compellence process and the way this outcome materialized. This is called the 'analyst's perspective'. [65] *Essentially, the 'analyst's perspective' is an artificial perspective. It assumes that, with the advantage of hindsight or foresight, the analyst 'knows' the result of the compellence process as well as the reasons behind this result. In other words, the analyst's perspective presumes knowledge of the compeller's estimate (of the target's assessment) of the compeller's expected utilities, and the target's estimate (of the compeller's assessment) of the target's expected utilities. So, with the 'analyst's perspective' the process can be approached from a different viewpoint, allowing an analysis of the case under consideration.* [66]

In the case under consideration, based on the assumed values of the strategies of the compeller and the target, the analyst knows what the compeller and the target will decide. Here, an analyst does not need complex calculations to conclude that the conflict will continue. After all, both made a clear decision to 'intervene', and not to 'submit'. However, it may be presumed that not all cases are as clear-cut as this one. Furthermore, in the last instance, an analyst also wants to know whether, and to what extent, the outcome of the combined estimates of compeller and target is potentially ambiguous, and susceptible to manipulation. To

65 The expression corresponds roughly with the notion, introduced by Habermas [110], who speaks of 'observer's perspective' (Beobachterperspektive). Using Habermas' term, the opposite, the perspective of the compeller and the target, could be denoted as 'actor's perpective' (Teilnehmerperspektive).

66 We should be careful not to confuse this *artificial* analyst's perspective with the *actual* perspective an analyst (or outsider) can have on a particular compellence process. In the latter case, the analyst is subject to identical doubts and uncertainties as the actors. In other words, from this actual perspective, an analyst can make erroneous estimates and come to incorrect conclusions.

that end, an analyst is also interested in the ranking value of the other potential outcomes of a combined appreciation of both actors. The decision trees shown in Figure 13 and Figure 15 do not provide an insight into the combined estimates of the compeller and the target. Thus, what is needed is a decision tree that shows the combined appreciation of compeller and target.

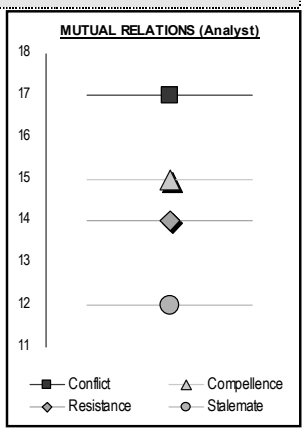
With his 'knowledge', an analyst can take the compeller's decision and directly combine it with the target's decision. [67] This combination of both actors' choice and the ensuing expected outcome has to take into account the fact that the compeller makes the first choice, and – after the compeller's choice has been made – the target makes his choice. The compeller's choice is based on the compeller's perspective, using his expected utility of compellence and resignation. The target bases his choice on his perspective, using his expected utility of resistance and compliance. So, with the luxury of hindsight, a new perspective can be presented by inserting the compeller's estimate (of the target's assessment) of the compeller's expected utilities (C-T-Cpl & C-T-Rsg), and the target's estimate (of the compeller's assessment) of the target's expected utilities (T-C-Rst & T-C-Cly) into the decision tree.

Figure 17: Compact Format of Analyst's Decision Tree

	Move Compeller			Move Target			RESULT		Order
Analyst's Estimate	Compel	9	+	Resist	8	=	17	Continued **CONFLICT**	(4)
	Compel	9	+	Comply	6	=	15	Successful **COMPELLENCE**	(3)
	Resign	6	+	Resist	8	=	14	Successful **RESISTANCE**	(2)
	Resign	6	+	Comply	6	=	12	**STALEMATE**	(1)

Figure 17 shows the result of that exercise with these 'known' data. It is obvious that the most probable outcome of the combined appreciation of both actors is a continuation of the conflict. The mutual relations diagram in Figure 18 shows that the outcome of this process is successively,

Figure 18: Analyst's Perspective; Example Mutual Relations Diagram

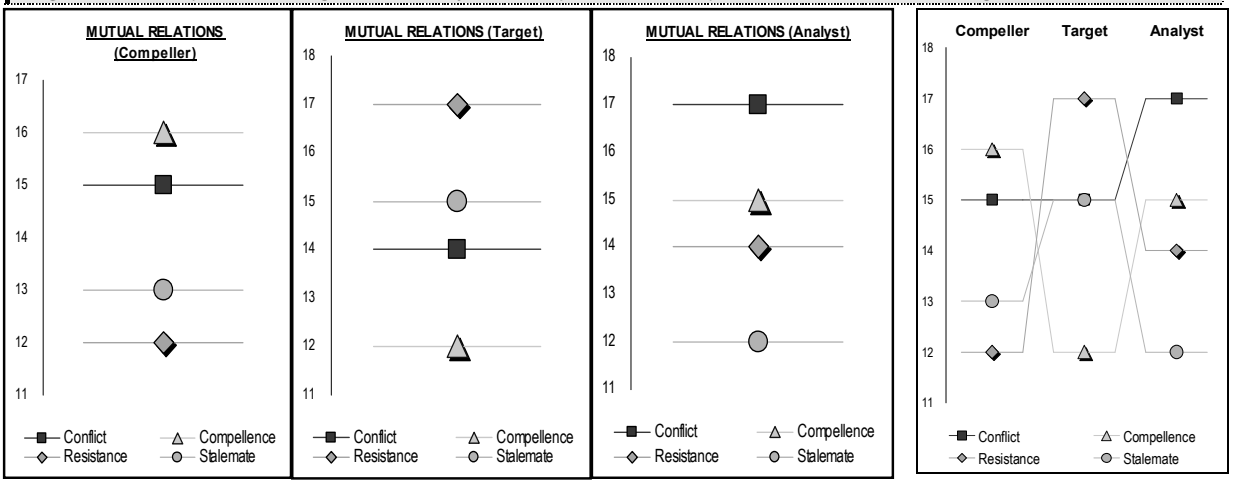


- at the top (with value **17**) a continued conflict;
- then (with value **15**) successful compellence (i.e. compliance by the target);
- next (with value **14**), successful resistance (i.e. resignation by the compeller),
- finally, at the bottom (with value **12**) a stalemate.

For the sake of clarity, and to show what the differences are between the compeller's, the target's and the analyst's perspective, Figure 19 shows a copy of the above presented mutual relations diagram of these three parties. The right-hand chart shows a combination of the three mutual relations. The latter chart will be used in the remainder of this study.

67 In essence, what is presented here is an alternative calculation of the process outcome as it is done when applying the Nash equilibrium to the game's payoff matrix. After all, when seeking the Nash equilibrium, also the combination of the compeller's estimate and the target's estimate is the driving factor. (see also section 4c.2)

Figure 19: Compeller's, Target's & Analyst's Perspective; Example Mutual Relations Diagram



4c.2 CALCULATING THE PURE NASH EQUILIBRIUM IN THE PAYOFF MATRIX

The previous considerations give an insight in the game theoretical 'thinking process' that ultimately leads to the outcome of the decision-making process. The results are presented in the analyst's mutual relations diagram. The more conventional way to calculate the outcome per se is finding the equilibrium point of the payoff matrix of the game. This has been described in section 4b.3 above. In order to establish a way to verify the correctness of the outcome provided by the analyst's mutual relations diagram both the mutual relations diagram and the payoff matrix are used in combination in this study.

Figure 20: Payoff Matrix with Highlighted Outcome

Payoff Matrix using *Cardinal* and Ordinal Values

			Target	
			RESIST (i.e. to resist compeller's pressure to comply with his demands)	COMPLY (i.e. to comply with compeller's demands)
			CONFLICT	Compellence
Compeller	COMPEL	(i.e. to compel target into compliance)	*(15)* *(14)* 3 , 2	*(16)* *(12)* **4** , *1*
	RESIGN	(i.e. to accept that target does not comply with demands)	*(12)* *(17)* *1* , **4**	*(13)* *(15)* 2 , 3
			Resistance	Stalemate

Figure 20 shows the payoff matrix for the example case under consideration. It shows the estimated result from the perspective of the compeller and the target as found in Figure 13 and Figure 15 in cardinal numbers (small italics, in parentheses) and in ordinal numbers (separated by a comma). The compeller's estimate is on the left (before the comma), and the target's estimate on the right (after the comma).

As has been explained, two strategies are in equilibrium if neither player gains by changing his strategy unilaterally. These two strategies come in pairs, one for each player. The equilibrium point is on the intersection of two pure strategies. It is the most probable outcome of the game. In the section on the 'Nash Equilibrium; Finding 'Stable' Choices' on page 77 the logic of finding the equilibrium point was discussed. It was found for the given example that the top-left box (implying a continued conflict) represents this equilibrium point. Figure 20 illustrates

this by highlighting (bold characters and shaded background) the term 'conflict' above the top-left box of the matrix. [68]

4d Impact of Uncertainty

Due to the factor uncertainty, a person who makes an assessment expects that the value of the issue considered is somewhere between two extremes. In other words, uncertainty implies the presence of a gap between the minimum and the maximum expected value of the variable considered. The level of uncertainty determines the size of the gap, or the 'bandwidth' of the variable. The exact value of the issue at stake can lie everywhere between the extremes of that bandwidth, the minimum and the maximum value. [69] The impact of uncertainty can be explained by referring to the examples used in the section on the 'Compeller's Perspective', starting on page 79. For reasons of economy, only the compeller's considerations will be discussed.

First the potential deviation and the fact that each expected utility is represented by at least two values (numbers or expressions), the 'min', and the 'max' value is discussed. [70] Assume that the data given in the section on the 'Compeller's Perspective', on page 79 represent the maximum value of the estimates of the compeller. Assume, furthermore, that variance in the compeller's expected utility for compellence has a bandwidth of three (3; i.e. the value of compellence ranges from max. 9 to min. 6), and for resignation of two (2; ranges from max. 6 to min. 4). Moreover, assume that the target's expected utility for resistance deviates has a bandwidth of two (2; range from 6 to 4), and for compliance of four (4; range from 7 to 3). In quantitative terms, at the maximum level, the data will be equal to the previous schedule of the compeller (Figure 6). This means that – as stated in the section on the 'Compeller's Perspective' – at the maximum level, the probability of successful compellence is 16, of a continued conflict 15, of a stalemate 13, and of successful resistance 12. At the minimum level, the probability of a continued conflict is 10, of successful compellence 9, of successful resistance 8, and of a stalemate 7. Using these numbers, two compact decision trees can be constructed, one for the maximum, and one for the minimum values. These compact decision trees are given in Figure 21.

Figure 21: Compeller's Compact Decision Trees with Maximum and Minimum Values

MAX	Move Compeller			Move Target			RESULT		Order
Compeller's Estimate	Compel	9	+	Resist	6	=	15	Continued **CONFLICT**	(3)
	Compel	9	+	Comply	7	=	16	Successful **COMPELLENCE**	(4)
	Resign	6	+	Resist	6	=	12	Successful **RESISTANCE**	(1)
	Resign	6	+	Comply	7	=	13	**STALEMATE**	(2)

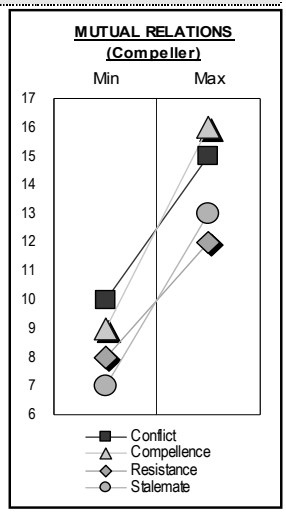
MIN	Move Compeller			Move Target			RESULT		Order
Compeller's Estimate	Compel	6	+	Resist	4	=	10	Continued **CONFLICT**	(4)
	Compel	6	+	Comply	3	=	9	Successful **COMPELLENCE**	(3)
	Resign	4	+	Resist	4	=	8	Successful **RESISTANCE**	(2)
	Resign	4	+	Comply	3	=	7	**STALEMATE**	(1)

68 Note that the terms 'Compellence', 'Resistance', and 'Stalemate' are not in bold and not in a shaded box.

69 In case of data with a considerable bandwidth, a decision based on the assessment of these data starts to have the characteristics of a gamble.

70 The way in which the exact divergence will be considered and calculated is the subject of the discussion at the lower-tier.

Figure 22: Compeller's Mutual Relations Diagram with Maximum and Minimum Value



The chart in Figure 22 pictures the development of each outcome in the range from minimum to maximum in a mutual relations diagram. It shows at a glance that at the min-level 'conflict' dominates, and the value of 'stalemate' is the lowest, 'compellence' and 'resistance' are positioned in between. At the max-level, the values of 'compellence' and 'stalemate' do, however, move upwards sharply, where the value of 'conflict' and 'resistance' ascends less. The result is that at the max-level 'compellence' dominates, followed by 'conflict', 'stalemate', and then 'resistance'. Assuming that these values determine the choice of the actors, it is clear that it makes a big difference whether an actor considers the minimum or the maximum value. Consequently, the factor uncertainty has a major impact on the decision-making within a compellence process.

One of the problems is that this mutual relations diagram still only shows the mutual relation between the potential outcomes at the extreme ends of the scale. In other words, the schedule shows the relations when all outcomes are set at the minimum or maximum level. It demonstrates the 'bandwidth' of the outcomes as result of uncertainty, and thus shows the intensity of the uncertainty problems the decision makers face when making a choice. As such, it adds something to the other representations (decision tree and payoff matrix). It shows the impact of applying conditions of uncertainty to the model. In chapter 7, section 7d, on page 120 a method is introduced to deal with this 'problem'.

4e Compilation of Upper-Tier Considerations

Summarizing the findings from the upper-tier, it can be concluded that the process of decision-making can be explained by using some principles and techniques derived from game theory. It was demonstrated how game theory provides an insight into the interrelation between the strategies under consideration in the process of compellence. By rating the expected utility of the four available 'pure' strategies (***Compellence***, ***Resignation***, ***Resistance***, and ***Compliance***), it became possible to arrange the four possible strategy combinations (scenarios) in order of probability (***Continued Conflict***, ***Successful Compellence***, ***Successful Resistance***, and ***Stalemate***).

When the factor uncertainty is added, a 'min' and a 'max' value for each estimate must be taken into account. Depending on the reliability of the available information, the difference between min and max can be great. Consequently, the participants in the process can come to conclusions that deviate considerably. Based on their prudence, or risk-acceptance, they can choose to take a value somewhere between the extremes as a driver for their decision.

The inputs and outcomes of the process can be presented in several ways. The use of decision trees and payoff matrices can give a quick insight into the strategy combination with the highest probability of success. Additional convenience for most of the cases comes from a chart, called the mutual relations diagram that shows the relative values of the four potential strategy combinations at a glance.

Ultimately, the input for the upper tier consists (per actor) of two variables that form the focal point of the middle tier and thus need closer consideration. They are:

1) Expected Utility of Intervention,
2) Expected Utility of Submission.

5. *Middle Tier: Expected Utilities*

The upper level of analysis concentrates on the decision-making (the concluding part) of the process. In chapter 3 it was stated that the lower level concentrates on 'ordering the variables' and that the middle level provides the linking pin between the upper and the lower level of analysis. In the same chapter also two ways of thinking were introduced to answer the question how the appreciations of the expected utilities that drive the decision-making process materialize. There, the Reward & Risk (R&R) orientation was broadly explained, together with the Desirability & Feasibility (D&F) orientation. This chapter discusses those separate orientations in detail in order to find values for the expected utility of intervention and of submission, needed to 'feed' the game-theoretical calculations of the upper tier. The ideas presented are based on an examination of several sources from methodology.

5a In Search of a Method

The above-mentioned conclusion that the R&R and the D&F orientation were workable methods was based on the examination of several sources from methodology. The initial focus of this research was on the R&R orientation. Below, a short description is given of the most important findings of this examination

Since it seemed that the main thrust of this study's research lay in the direction of statistical analysis, [71] an attempt was made to fit the whole compellence process into the well-known tool for statistical research, SPSS (originally: "Statistical Package for Social Sciences", now: "Statistical Product and Service Solutions") [129]. After all, SPSS intends to assist scholars in organizing data in order to solve social problems. And compellence is undoubtedly a social problem. However, the methodology of SPSS proved inadequate for the purpose of this study, mainly because its emphasis is on presenting the results of a large quantity of collected data and not so much on organizing data. Other statistical tools for social research were also examined [45, 115]. This survey yielded some information about the use of cardinal and ordinal numbers, as well as about the rating of variables. Furthermore, it provided an insight into the meaning of hypothesis testing and graphical presentations of data. Nevertheless, no 'handle' could be found to cover major parts of the process of compellence.

Three areas of analysis stood out, and will be discussed in more detail next. They are first, 'probability theory', and second 'risk analysis'. The third area of analysis can be derived from the world of business management. It concerns three (partly interrelated) methods, the 'cost-benefit analysis', the 'return on investment analysis', and the 'portfolio theory'. Although none of these methods of analysis proved to be applicable in its entirety, or would cover the complete process considered, parts were very useful, particularly for molding the mindset. As will become clear later on, a combination of principles and elements of each approach is incorporated in the models of this study.

71 This was the case before the choice was made to use game theory as the method to present the decision-making process.

5a.1 PROBABILITY THEORIES

In seeking a methodical approach to compellence, there is an intuitive realization that part of the solutions must be found in the realm of probability theories. [72] After all, two central questions govern the thinking about compellence. The first concerns the probability of success for compellence as a strategy, i.e. what is the probability of making the right strategic choice. The second question concerns the probability of the successful execution of compellence, more precisely, what is the probability of executing compellence properly. That is why also in the related compellence literature [187, 199] there is some attention for probability theory. Consequently, also for this study elements of probability theory have been examined.

Probability theories refer to the methods developed by famous writers, such as Pascal, Bernouilli, Laplace, Gould, and Bayes. Although complicated in its elaboration, it seems to be simple in its principle. According to Laplace, "Probability theory is nothing but common sense reduced to calculation". Much of it deals with statistical problems. However, one of the complicating factors is that no agreement exists on the method that should be applied when determining the probability of certain phenomena. Jaynes expresses part of that problem when he writes, "I was impressed by the fact that everyone who has written about the fundamentals [of probability theory] has a very ready way of resolving all the famous paradoxes; but that no two people have done this in the same way." [140: 2] Zou calls this "not the least dangerous trap." One easily ends up, he says, "in a dispute whether or not to use methods developed by Pierre-Simon Laplace, and Daniel Bernouilli in the 18th century," [282] or more in particular methods developed by Thomas Bayes, which, according to Jaynes, "generations of statisticians have held to be nonsense" [140: vi]. [73] Elaborations on probability theories also show a much greater complexity of the issue than suggested by Laplace's quote above.

Furthermore, when examining the essence of each of the theories, none of them proves to be of value to cover the whole process of compellence. Nevertheless, the study of probability theories is of service to certain issues at hand. One – relatively simple – element is most striking. It concerns the complementarity of the probability of success and of failure, as considered in section 2b.2 on 'Success and Failure; Complementary Issues' on page 26. It says that success and failure are related in such a way that, when the chance (or probability) of success grows with, say, *factor x*, the chance of failure decreases with the same *factor x*, and

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72 Although their focus is not primarily on 'probability' as such, also complexity theory and chaos theory cover part of the ground under consideration, here. After all, looking at the compellence process, one can recognize a phenomenon with a complexity and with elements of chaos that could be the subject of these theories. And, as Sandole writes, complexity theory has become the "overarching framework for theorists and researchers in […] fields using mathematics and computer simulations, emphasizing holistic synthesis instead of atomistic analysis and focusing on dynamic processes instead of static content, in their efforts to deal with 'messy' non-linear processes – discontinuities." [219] However, it was considered to be beyond the scope of this study to use the elements of complexity theory.

73 An important aspect of the scientific disputes on 'risk' and 'probability' concerns the usefulness in the context of social sciences, the systematic study of human behavior. For instance, as Freudenburg writes in an article, "Persons with physical or biological science background often express surprise at the presence of social scientists in risk assessment [and the related element of 'probability'], wondering how such 'non-technical' fields could possibly contribute to the accurate assessment of risks." [83]

the other way around.[74] This principle can very well be applied in the calculations in this study.

5a.2 Risk-Analysis

As is the case with 'probability', 'risk' is also intuitively felt to be an aspect that needs attention. After all, compellence as a strategy is imbued with elements of risk. Furthermore, when dealing with probabilities of success and failure, the probable 'fortune' of success, but also the probable 'risk' of failure can be recognized. Consequently, a study that regards aspects of probability also needs to examine the elements that drive risk. This may also be the reason why most of the sciences that pursue probabilities likewise pay attention to risk assessment, etc. In other words, there is obviously a relation between probability theory and the theory of risk (analysis). As for the principle of risk assessment, two very distinct approaches can be found in the literature. The first is coded here as 'safety orientation', and the second is coded as the 'profit orientation'.

Safety Orientation

Examining the literature on risk-analysis, risk-management, and risk-control [50, 62, 70, 83, 246], it seems that it is 'pure' risk-assessment theories. It tends to focus on a certain kind of risk, viz. on situations where danger (safety) is involved. Avoiding, containing, or controlling risks under (often extreme) hazardous circumstances is the main objective of assessments, here. The focus is on accidents, safety studies, risk reduction, risk management, or disaster control. In this 'safety-oriented' risk assessment, positive aspects of the situation (benefits) are not discussed, and, in fact, even non-existent. The risks involved are involuntary, i.e. associated with activities that happen without prior consent or knowledge. They are mostly acts of nature and other disasters. So the event itself is uncontrollable and one can only try to limit its negative effect. The assessment aims at calculating the probability and finding ways to reduce the chance of occurrence. In other words, this kind of assessment is probabilistic in nature. Here, when the term 'risk' is used, it even functions as a synonym for probability. Development of measures to reduce the probability of major environmental disasters as result of industrial activities belongs to this category. The keyword here is 'exposure' to a threat and the ways to limit this exposure.

Essentially, this approach does not satisfy the needs in this study. However, the information that can be drawn from these methods is very helpful and useful to build a mindset for the consideration of risks. In fact, this approach offers certain handles to tackle the problem of explaining the elements of risk in a rather simple way. For instance, the "Hogeschool Gent" offers its students a simple, but very insightful method for the evaluation of risks. It is based on the NEN EN-1050, Safety of Machinery. In their pamphlet "How to make a risk analysis" [75] [50] the student is taken by the hand, and made aware step by step of the sequence of investigations necessary to come to an assessment of a risk. The pamphlet identifies the factors

74 In formal terms: "the probability of an event {P(A) [A ∩ U]: A is part of U} is the quotient of the amount of favorable results for A, in n trials, on the one hand, and the amount of all possible results U, on the other." So, in formula: $P(A) = n(A) / n(U)$. The impossible event has a probability of 0; the certain event has a probability of 1. The sum of the two outcomes is 1. In a process with binomial distribution, i.e. a process that only involves two outcomes (success or failure), $P^{Success} = 1 - P^{Failure}$, and consequently $P^{Failure} = 1 - P^{Success}$. This implies that, if the chance of outcome one (success) is, for instance, ¼, the chance of outcome two (failure) will be ¾ (1-¼).

75 In Dutch: "Hoe maakt men een risicoanalyse".

involved in risk and their mutual relation. It describes risk as a combination of two factors: Chance (or Probability) and Effect (or Impact). These two main factors will be used later in this chapter when applying 'risk' to the middle tier.

Profit Orientation

The second category of risk assessment concerns voluntary risks, i.e. those risks associated with activities that people decide to undertake. Both the event itself and its effects are more or less controllable. This category of risk management concerns the preparation of risky operations, i.e. operations with uncertainty. The aim is to limit the negative elements, and enhance the positive elements of that operation. The assessment seeks to predict whether the operation is worthwhile. Its focus is on optimizing the process. Unlike the safety orientation, here not only 'risk', but two elements – 'risk' and 'reward' – are involved. Key words are 'probability', and 'impact', plus, as a factor that regulates the probability and the impact, 'control' or 'exploitation.' This, so-called, 'decision theoretical treatment of risk' maintains, according to Thompson and Dean,"that the utility or value of a choice to a decision maker is a function of the relative value of potential outcomes. The decision maker's desire for each potential outcome must be discounted by its probability to calculate utility, producing an expected value for each choice that could be compared and ranked with the expected value of other options."[246] This 'risk and reward'-oriented approach is business and management-oriented. Quite some business consultancy is done by making use of this approach. Often very practical methods and procedures are offered to enhance the rewards and limit the risks.

This orientation has a closer relation with the compellence process than the former, the safety orientation. After all, in a compellence process, the actors seek a certain return of their action, but, at the same time, face the risk of failure. It should be noted that, again, the two main factors are probability and impact.

5a.3 Business Management

In the 'profit-oriented' approach to risk there are elements that deal with profit-maximizing decisions in a competitive market - subject to the realm of business management. Business management has the advantage of using a methodical approach. In other words, there is an incentive to consider business management theories when seeking a methodical approach towards compellence strategies. Three elements proved to be worthwhile: the cost-benefit analysis, the return on investment theory, and the portfolio theory.

Cost-Benefit & Return on Investment Analysis

In those occasions in the compellence debate where a methodological approach is provided, often (derivations of) cost-benefit analysis is used. After all, the subject under consideration concerns two parties that need to make costs in order to acquire certain benefits. Thus, the basic idea of using a cost-benefit approach is worth further consideration.

The term Cost Benefit Analysis (CBA) has no precise definition beyond the implication that both positive and negative impacts are summarized and weighed against each other. In other words, CBA estimates and totals up the value of benefits and costs of a project to establish whether it is worthwhile. It originated with Jules Dupuit, a French engineer who wrote an article on this economic accounting in 1848. The practical development came as a result of a US Federal Act that was issued in 1936. In the 1950s, economists started to formal-

ize this method for measuring benefits and costs in support of decision-making. CBA is widely used for planning and decision support. The objective is to understand the net effect of a decision.

An approach very closely related to CBA is 'Return On Investment' (ROI). Again, there is no well-defined meaning of this term. In essence, it means that decision makers evaluate the investment potential by comparing the magnitude of expected gains to the investment costs. Furthermore, there are many ways to calculate ROI. A 'simple' ROI is frequently derived as the 'return' from an action divided by the costs of that action. So, in essence, ROI is a kind of CBA that produces a percentage-like outcome.

Both CBA and ROI focus on making a choice between two actions, mostly investments. Ceteris paribus, the investment with the higher difference between benefits and costs or the higher ROI is the better investment. That is why both approaches can be confined to the consideration of benefits and costs. As a result, in a 'pure' CBA only two components, the 'benefits' and the 'costs' are recognizable, the first being positive (and can be considered as the result of success), and the second negative (and considered as the result of failure). Like CBA, ROI also only considers the costs and benefits of an action. Both approaches ignore the element of chance, which is not implied in the notions 'costs' and 'benefits' per se. The discussion below will show that considering the factor 'chance' or 'probability' is of the utmost importance when dealing with those elements that constitute the expected utility of an action. In other words, an analysis that does not incorporate the factor 'probability' does only part of the job. That is why both CBA and ROI are not likely to cover the issue under consideration. Consequently, finding a kind of analysis that includes a probability factor is required. [76]

Portfolio Theory

A theory that deals with benefits and costs, but adds the factor probability is the portfolio theory, originally introduced by Markowitz in his paper "Portfolio Selection," which appeared in the 1952 *Journal of Finance*. De Giorgi characterizes Markowitz's model as follows, "This model is useful to guide one's intuition, and because of its simplicity it is also commonly used in practical finance decisions." [99: 1] Portfolio theory explores how investors construct portfolios in order to optimize expected returns for a given level of market risk, in this theory denoted as 'volatility'. In other words, the theory considers risky investments and explores what might be the optimal portfolio based upon those possible investments. People who use the portfolio theory, indeed, focus on the 'risk'-element of their actions (mostly making investments or financial market transactions). But they expect to be compensated for this risk with the 'return on investment.' [77] Therefore, portfolio theory provides a broad context for understanding the interactions of 'reward' and 'risk'. Its mathematics is used extensively in financial risk management.

The linking pin between the 'reward' and the 'risk' is the probability of occurrence of either in the considered investments. Seeking an 'optimal' portfolio of investments, investors con-

76 In essence, that is what Pape does in his often quoted formula from *Bombing to Win* [199]. Although he starts to say that "[s]uccess or failure is decided by the target state's decision calculus with regard to costs and benefits", he then adds "'the probability of attaining these benefits", and "the probability of suffering these costs".

77 Liang Zou observes, "[. . .] a reward is conventionally measured as the expected return [. . .] on investment [. . .]." [282: 3]

sider, for any level of market risk (volatility), all the portfolios, which have that volatility and select the one with the highest expected return. For any expected return, they consider all the portfolios, which have that expected return and select the one with the lowest volatility. The probability that a portfolio with a particular volatility has a particular return and the probability that a portfolio with a particular return has a particular volatility ultimately determines the choice for a certain 'optimal' portfolio.

The essence of portfolio theory is its diversification of investments. The basis for this diversification lies in the proper distribution of risk over the investment portfolios involved. Because of its focus on the diversification of investments, portfolio theory as a whole cannot cover the total process of defining the utility of action. However, what the portfolio theory shows is that the 'reward' and 'risk' of an action are interrelated, and that the probability aspect is what establishes this relation.

5b Characteristics of Reward & Risk (R&R) Orientation

5b.1 Intervention and Submission

Before discussing the utilities of intervention and submission in the R&R orientation, it is useful to dwell briefly on the characteristics of intervention and submission, as they will be used in this orientation. It has to do with the fact that in the R&R orientation *intervention* is related to an *action*, and *submission* to a *status quo*. This distinction has consequences, particularly because the factor probability plays a different role in each.

Let us first consider the events that define the decision-making process. In this context, it should be recognized that in case of a conflict (two) parties are considering interests that obviously are endangered. They are contemplating taking action to safeguard these endangered interests. It is useful to note that these interests are related to two distinct situations: the situation as it is at a certain moment, the Status Quo Ante (SQ^A), and the situation that arises after a particular event has taken place, the Status Quo Post (SQ^P). In case of a compellence process, the compeller and the target make a(n) (explicit) valuation of stakes (interests) by comparing these two situations. Assuming that they conclude that the difference between the two constitutes a danger to their interests (i.e. the event that took place between SQ^A and SQ^P has a negative impact on their interests), they then decide upon the action needed to correct or neutralize that danger.

Here, there is obviously a sequence of events. First, a status quo is estimated, followed by an action and possibly a reaction. This leads to a new status quo that, for its part, can lead to a follow-up action, etc. This distinction between a 'status quo', on the one hand, and an 'action', on the other, is relevant because of some different and particular properties that characterize them. The most peculiar one in this context is the factor 'probability'. This is explained below.

Submission: the Assessment of a Status Quo

In essence, a 'status quo' is identical for both parties. In other words, the ontological value of the considered 'status quo' is equal. However, the value of a 'status quo' reflects an appreciation. Thus, the perceived value of the same 'status quo' for both parties may vary. In other words, the epistemological value of the considered 'status quo' may diverge. It is also peculiar that the expected utility of a 'status quo' is 'solely' based on an appreciation of the situation at hand. The chance that a situation takes place does not depend on something

from within the situation itself. Consequently, in the context of appreciating the value of a 'status quo', the element of 'chance' or 'probability' is irrelevant. [78] That is to say, the only relevant factors are the advantages and disadvantages of the SQ^A, on the one hand, and the SQ^P, on the other. Thus, in evaluating the interests at stake, the only question concerns the magnitude of the estimated difference between advantages and disadvantages of the SQ^A and the SQ^P. [79]

It should now be realized that submission, in the context of a compellence process, means that the submitting actor decides to accept the status quo he rejects (whether it is the SQ^A or the SQ^P for that actor). [80] Consequently, the expected value of submission can be determined by 'solely' considering the advantages and the disadvantages of the rejected status quo.

Intervention: the Assessment of an Action

Contrary to the 'status quo', the potential 'actions' are not identical for both parties. Each party considers its own specific 'action' in pursuit of its objective. On top of that, and also contrary to the 'status quo', an 'action' can succeed, or fail. Thus, what is typical of an 'action' is the probability that the 'action' will bring the desired result (for convenience mostly called the 'chance of success'). It implies that an 'action' has a certain chance of success and of failure. [81] The expected utility of an 'action' is determined by the relation between the chance of getting a positive outcome (success), and the risk of getting a negative one (failure). And, the chance that an 'action' succeeds or fails depends on something from within the 'action' itself. Consequently, in the context of appreciating the value of an 'action', not only the benefits and the costs of that 'action', but also the element of 'chance' or 'probability' are relevant.

An 'action' is usually considered successful when the positive outcome outweighs the negative outcome, i.e. when the net expected utility of the 'action' is positive. However, in the context of the subject under consideration in this study, it should be recognized that the intention of the 'action' is to close the gap between a rejected and a desired status quo. [82] The difference between them equals the interests at stake. So, not only should the net expected utility of the 'action' be positive, the level of expected utility of the 'action' should, in principle, also cover the level of the interests at stake.

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78 It should be noted that it is hardly common practice to talk about success and failure in the context of a situation. If it is necessary to bring the term probability into play, it can be said that the probability of a 'situation' is 100%.

79 Peculiar for compellence is, furthermore, that the appreciation of the SQ^P has two variants. The value of the SQ^P in the preliminary phase — when an ex ante estimate is made — (the a priori appreciation) is not necessarily equal to the estimated value after actions have taken place (the a posteriori appreciation). The a priori appreciation of the expected utility of the SQ^P represents only what is thought of its value. The a posteriori appreciation combines this initial ('felt') value, with the concrete results of the action (for instance the concessions made). The need to make this distinction will become clear when dealing with assigning values to the variables at the lower tier.

80 The section dealing with the 'Benefits of Intervention (R&R and D&F)' on page 102, will explain how the SQ^A and SQ^P are (oppositely) related to the rejected and desired status quo of the compeller and the target.

81 This depends on certain variables, related to the uncertainty aspects that will be dealt with later

82 The section on the 'Benefits of Intervention (R&R and D&F)', starting on page 102, provides details of the meaning of these two notions.

5c Characteristics of Desirability & Feasibility (D&F) Orientation

The second way of thinking, the D&F orientation, starts from a different perspective than the R&R orientation. The main difference with the R&R orientation is that in the D&F orientation both intervention and submission are not treated as different but as identical entities. In other words, in the D&F orientation, intervention and submission have the same basic characteristics. The utility of intervention and submission are regarded here as the relation between the purpose of doing something and the level to which it can be performed in a practical manner. In other words, the assumption is that the appreciation of the expected utilities of intervention as well as of submission is based on what the actors consider desirable and feasible.

5c.1 Desirability & Feasibility

What is the value of desirability and feasibility, and how are they related? In other words, what is needed is, first of all, a method to determine the value of the desirability and the feasibility and, secondly, a method to determine the relation between the desirability and the feasibility. Unfortunately, this approach is not well documented in the existing literature. Consequently, further specification of the constituent parts of the expected utilities can only be done based on plausibility and logical reasoning.

Value of Desirability and Feasibility

Central to the D&F orientation are the interests at stake. Intervention and submission are two options to achieve these interests. Both options contain two aspects: desirability and feasibility. It can be argued that the desirability aspect is focused on the incentive, with a primarily emotional basis. The feasibility aspect, on the other hand, is directed at the substance, with a primarily practical basis. In other words, desirability concerns triggers and determination, and feasibility concerns means and capability. More to the point is the argumentation that the desirability concerns, and actually determines, the result, or product, while the feasibility concerns the path to the result, or the production. In other words, considering the value of desirability and feasibility, it is clear that the desirability bears some resemblance to a 'product', which can be characterized as a situation. The feasibility, on the other hand, bears some resemblance to a 'production', which can be characterized as an action. Here, fortunately, there is a resemblance, in two aspects, between the D&F orientation and the R&R orientation. On the one hand, the resemblance between the product-character of the desirability, and, what is described as a 'situation' under the R&R orientation shows that this is an issue that is related to the 'impact', and is composed of elements such as advantages and disadvantages, or benefits and costs. Consequently, when seeking a way to determine the value of desirability, the focus is on the difference between benefits and costs. On the other hand, the production-character of the feasibility shows that it is an issue that implies an element of 'probability'. Consequently, when seeking a way to determine the value of feasibility, the focus is on aspects such as opportunities and impediments.

Relation between Desirability and Feasibility

To explain the relation between the desirability and the feasibility, it is useful to recognize that the 'desirability' bears some resemblance to the 'demand' and the 'feasibility' to the

'supply' in the supply and demand theory. [83] The supply and demand theory holds that demand and supply are related through the price mechanism. [84] When the demand of a commodity equals the supply of that commodity, acquisition will follow. When the level of supply increases, the probability of purchase grows proportionally. When the level of supply decreases, the probability of buying shrinks proportionally. Consequently, when it is assumed that the demand is a more or less fixed constant, the supply can be considered as the parameter, which determines the level to which the demand is reflected in the price. In the D&F orientation, the desirability and feasibility are also related through the utility of intervention or of submission. Although this may not always be the case, it is reasonable to assume that the desirability is a more or less fixed constant. It can be considered as the determining value of the utility. Regarding the resemblance of the desirability to the demand and of the feasibility to the supply, the feasibility can be considered as the parameter, or coefficient, which determines the level to which the desirability is reflected in the utility. This fits in with the previous assertion that the feasibility can be characterized as the probability of intervention and submission. Thus, it seems to be safe to assert that the feasibility of intervention equals the probability of exploiting the opportunity as described under the R&R orientation. Similarly, the feasibility of submission is equal to the probability of countering the threat as described under the R&R orientation. With desirability as the 'value' of the concerned commodity, and the feasibility as the 'probability' of its occurrence, it can safely be concluded that the expected utility of intervention in the D&F orientation is the product of the desirability and the feasibility of intervention, and the expected utility of submission is the product of the desirability and feasibility of submission. [85]

5d R&R and D&F Orientation, Differences and Similarities

From the given descriptions, it can be inferred that the main difference between the two orientations is that the R&R orientation differentiates between the basic design of intervention and submission, while the D&F orientation treats them as equal entities. From that the inherently different composition of intervention and submission follows, as described in section 5b.1 on page 92 and section 5c.1 on page 94. Furthermore, the descriptions given show that the factor 'probability', as used in the R&R orientation, corresponds to the factor feasibility, as used in the D&F orientation, and can be considered identical. Consequently, the basic components in the R&R and the D&F orientation are in essence identical: both 'impact' and 'probability'.

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83 The main problem when applying the supply and demand model to the issue under consideration here is that supply and demand theories – in principle – deal with related goods, which are each other's substitutes or complements. In other words, the principle of supply and demand relates to the question which of two goods is to be produced when the goods, one way or the other, are some kind of alternative. Intervention and submission are what could be called, exclusive complements. They are related, but surely are not alternatives. As will follow from the description, it can nevertheless be helpful to apply some of the principles of supply and demand theory to explain the desirability and feasibility orientation.

84 This was explained in the course of dealing with 'Diminishing Marginal Utility' on page 25.

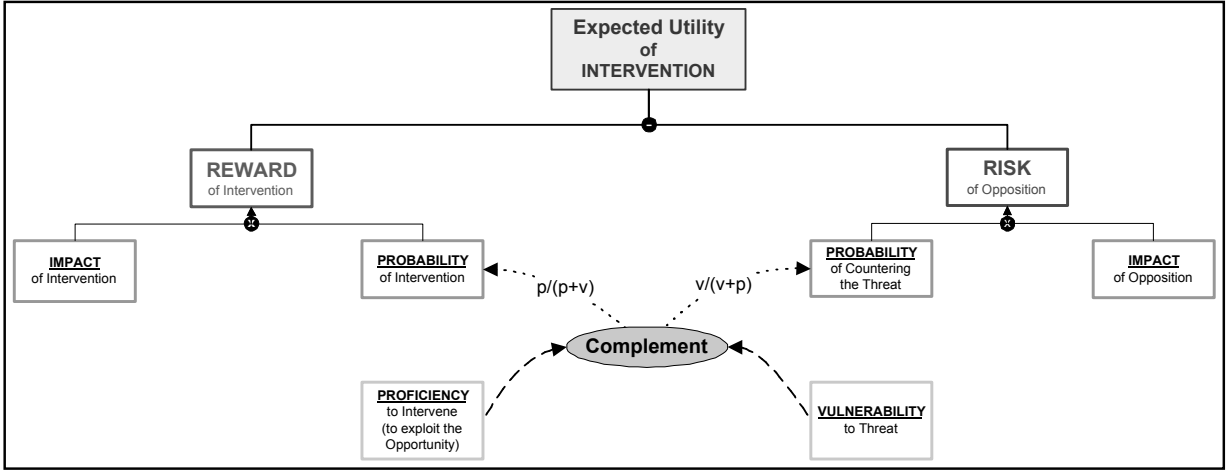
85 One can also explain this relation between desirability and feasibility from the perspective that the expected utility of an action that is completely needless (demand c.q. desirability is naught), is zero. It is also reasonable to assume that, even if there an incentive exists, there is little use in starting an action, if it cannot lead to a desired end result because it is not feasible. I.e., there is little use in pursuing an unachievable objective. From that we can conclude that the expected utility of an option that is either superfluous (not desirable; desirability is zero) or unattainable (not feasible; feasibility is zero) is nil.

5e Assessing Expected Utilities in the R&R Orientation

Based on the assumptions discussed above, attention can now be paid to the four expected utilities, which form the input for the decision-making process; two for each actor (intervention and submission). The compeller's expected utilities consist of 'compellence' and 'resignation', whereas the target's expected utilities consist of 'resistance' and 'compliance'. To begin with the R&R orientation, it is called to mind that above, for the R&R orientation, a distinction was made between 'action' and 'situation' (status quo). Compellence and resistance are both actions. Conversely, the two cases of submission (resignation and compliance) in fact correspond with a situation, or status quo.

5e.1 UTILITY OF INTERVENTION [86]

Figure 23: Middle Tier Diagram of Expected Utility of Intervention (R&R)



Treating intervention as an action, it has now become possible to look for the elements that determine the expected utility of intervention. This means that the utility of compellence for the compeller and the utility of resistance for the target are considered. Figure 23 is a graphical representation of the following considerations.

As stated, intervention can be seen as an investment in order to acquire a profit. Thus, the appreciation of the expected utility of intervention corresponds to the appreciation of the 'return on investment'. It has been recognized that the outcome of an investment has a positive and a negative aspect. The positive aspect can be described as the profit, denoted here as the **reward**. The negative aspect of the outcome of an investment can be described as the loss, in this study denoted as the **risk**. The expected utility of the investment – thus, the expected utility of intervention – is ultimately composed of the reward minus the risk.

The reward can be related to (what can be called) the **opportunity** the actor has when making the investment. In the same fashion, the risk can be related to the **threat** the actor faces when making the investment. In the context of a compellence process, where in essence the risk follows from the opponent's counter-actions, the reward depends mainly on the actor's own action, while the risk depends mainly on the opponent's action. In the last instance, an investment – and thus its components, reward and risk – has a result, an effect, or an **im-**

86 The description that follows contains a structured approach to a process that, in practice, is mostly executed with a high level of intuition. This means that, in the 'real world', the elements mentioned will not always be subject to such well-considered contemplation as provided here.

pact. The impact of the reward concerns the (desired) effect, a latent advantage of a profitable event (here called an opportunity). The impact of the risk concerns the (undesired) effect, latent danger of a hazardous event (a threat).

However, it is not just the impact of an action that counts. As has been described before, the value of an action is also determined by the **probability** that the reward and the risk actually materialize. Thus, both the reward and the risk are a combination of two factors: probability, and impact. The probability of intervention (of exploiting the opportunity) and the probability of countering the threat can be considered as a quotient that determines to what extent the impact is reflected in the reward and the risk. So, reward assessment can be defined as a comprehensive estimate of the probability and the impact of a profitable event and risk assessment as a comprehensive estimate of the probability and the impact of a threatening event.

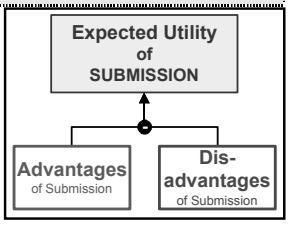
Complementary Relation between Probabilities

As has been explained, the probability of intervention and the probability of countering the threat depend on the proficiency to intervene (to exploit the opportunity), on the one hand, and the vulnerability to the threat, on the other. The proficiency and the vulnerability are essentially separate variables. However, the exact value of both probabilities is related. In fact they are each other's complements: the higher the probability of exploiting the opportunity, the lower the probability of countering the threat, and the other way around. Thus, to determine the size of both probabilities, the proficiency and the vulnerability should be combined and brought into a complementary relation. The mathematical transformation of this principle is that the probability of countering the threat is equal to v/(v+p), and the probability of exploiting the opportunity is equal to p/(p+v). Here, 'v' is the value of the vulnerability, and 'p' is the value of the proficiency. Figure 23 shows this mathematical notation for the complementary transformation from proficiency and vulnerability to probability of intervention and the probability of countering the threat.

5e.2 UTILITY OF SUBMISSION

The second assessment that actors make, besides the expected utility of intervention, concerns the expected utility of submission. This means that the utility of resignation for the compeller and the utility of compliance for the target are considered. Some details will be discussed in section 6a.3 starting on page 106. Figure 24 is a graphical representation of the following considerations.

Figure 24: Middle Tier Diagram of Expected Utility of Submission (R&R)

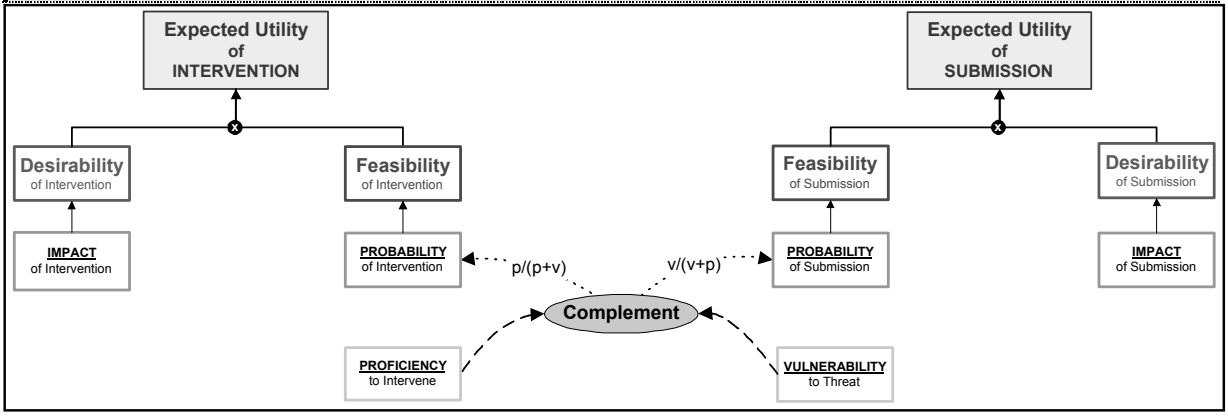


As has been explained, a status quo or situation is not characterized by elements of probability, etc. The value of a situation depends on advantages and disadvantages. In other words, the expected utility of a status quo is based 'solely' on an appreciation of the advantages and disadvantages of the involved status quo. Therefore, at the middle level the statement that the expected utility of submission is 'simply' *the difference between the advantages and disadvantages of submission* suffices.

5f Assessing Expected Utilities in the D&F Orientation

Now, also for the D&F orientation, the four expected utilities, which form the input for the decision-making process, two for each actor (intervention and submission) can be considered. Due to the similarity between the basic components of intervention and submission, assumed in the D&F orientation, intervention and submission can be regarded under the same heading, one for desirability, and one for feasibility. Figure 25 is a graphical representation of the following considerations.

Figure 25: Middle Tier Diagram of Expected Utility of Intervention and Submission (D&F)



5f.1 Desirability of Intervention and of Submission

Based on the above description, it may be expected that the desirability of intervention corresponds to the impact of the intervention. As section 6a.1 on page 102 will show, this is the difference between the benefits and the costs, and it thus forms the criterion for the profit that can be gained from intervention. For the desirability it can be said that the higher the potential profit, the higher the degree to which the concerned actor will desire this profit. For the same reason, it may be expected that the desirability of submission corresponds to the impact of submission, i.e. similar to the difference between benefits and costs.

5f.2 Feasibility of Intervention and of Submission

Section 5c.1 on 'Desirability & Feasibility' on page 94 explains that the **feasibility** of intervention and of submission can be considered elements of probability, a quotient that determines to what extent the desirability is reflected in the regarded utility. There is no reason to assume that in the D&F orientation – different from the R&R orientation – the probability of intervention and the probability of countering the threat would not depend on the proficiency to intervene, on the one hand, and the vulnerability to the threat, on the other. Consequently, the relation between the feasibility of intervention and of submission in the D&F orientation is identical to the complementary relation between the probabilities in the R&R orientation.

5g Compilation of Middle-Tier Considerations

With respect to the middle tier two different approaches are introduced: on the one hand, the risk and reward (R&R) orientation, and, on the other, the desirability and feasibility (D&F) orientation. To find the expected utility of intervention in the R&R orientation, it is best to join in with the ideas used in the world of business to define the return on investment, using elements of 'pure' risk assessment, either with a safety, or with a profit perspec-

tive. This approach leads to a classification of the expected utility of intervention into a 'reward' and 'risk' element, as the positive and negative parts of that utility. Both parts can be subdivided into the 'impact' of intervention and the 'probability' of intervention. The D&F orientation leads to a classification of the expected utility of intervention and of submission into a 'desirability' and 'feasibility' element. The desirability corresponds to the 'impact' of either intervention or submission, while the feasibility corresponds to the 'probability' of either intervention or submission. In both the R&R and the D&F orientation, the 'probabilities' are considered complementary issues.

In the final conclusion it can be said that the bottom line of the middle tier contains, for the R&R orientation, six variables and, for the D&F orientation four. They are coded here as the determinants of the compellence process. They are, for the R&R orientation: the impact of intervention, the impact of opposition, the advantages of submission, the disadvantages of submission, the proficiency to intervene, and the vulnerability to the threat. For the D&F orientation, they are: the impact of intervention, the impact of submission, the proficiency to intervene, and the vulnerability to the threat. From the description given in this chapter it can be concluded that the impact of submission in the D&F orientation is identical to the combination of advantages of submission and disadvantages of submission in the R&R orientation. Furthermore, as will be demonstrated in the following chapter, the proficiency to intervene and the vulnerability to the threat are identical in both orientations.

Ultimately, this results in the following five determinants 'residing' at the middle tier.

1) Impact of Intervention,
2) Impact of Opposition (in the R&R orientation)**,**
3) Impact of Submission (in the D&F orientation; equals the value of 'submission' in the R&R orientation)**,**
4) Proficiency to Intervene,
5) Vulnerability to the Threat.

The composition of these five determinants needs closer consideration. That is why they form the focal point of the lower tier's ordering of variables in the following chapter.

6. Lower Tier: Ordering Variables

At the middle tier, variables are identified that contribute to the value of reward, risk, desirability and feasibility, which are the constituent parts of the expected utility of intervention and submission in the two different (R&R and D&F) orientations. These endogenous variables are coded in this study as the determinants. These determinants have to be 'filled' with independent variables. The scholars that have previously written about the subject of compellence have essentially provided almost all independent variables needed. Annex B gives a complete list of all the variables with reference to the description given by the authors concerned. The ordering and organization of these variables [87] is based on the description given by the concerned authors adapted by the considerations given in this chapter.

Note 23: Helpful Hints from Literature

The existing literature on compellence provides some clues for the organization of the variables. However, no one looks at the process of compellence in the way described in this study. Consequently, some additional pointers are needed, particularly to create a link with the determinants at the middle tier. Two sources, both on risk analysis, offer some handles to help appreciating the essentials of 'vulnerability' and 'proficiency', and of 'probability' and 'impact'.

COBRA

As for 'vulnerability', a useful tool is presented by the C & A Security Risk Analysis Group. In their so-called COBRA (Consultative, Objective and Bi-functional Risk Analysis) this group offers a range of risk analysis, consultative, and security review tools. In the "Introduction to Risk Analysis" [70], they explain the interrelated elements of risk analysis methodologies. They assert, "Most qualitative risk analysis methodologies make use of a number of interrelated elements."

*Among them are **Threats**, the things that can go wrong or that can 'attack' the system. Threats are ever present for every system.*

*Furthermore, there are **Vulnerabilities**, which make a system more prone to attack by a threat or make an attack more likely to have some success or impact.*

*Of particular interest are the remarks made about **Controls**, the countermeasures for vulnerabilities. There are four types:*

*- **Deterrent** controls reduce the likelihood of a deliberate attack.*
*- **Preventative** controls protect vulnerabilities and make an attack unsuccessful or reduce its impact.*
*- **Corrective** controls reduce the effect of an attack.*
*- **Detective** controls discover attacks and trigger preventative or corrective controls.*

This description shows that four elements can have an impact on the degree to which the vulnerability of an actor can be controlled (and thus reduced). The focus of the COBRA approach is on negative risks. Consequently, the emphasis is on vulnerability. However, we have seen that the positive equivalent of vulnerability is the proficiency to exploit the opportunity. With that in mind, it is easy to find, from the COBRA approach, corresponding elements that help to control (i.e. enhance) the degree of proficiency.

87 In reality, the actors in a compellence process rate these exogenous variables, then combine, and order them so that they determine the value of the determinants. However, the reader should be aware that in this study the explanation of variables and their relation is done in a systematic and well-considered way. In practice, it may be assumed, that actors will not approach the problem so methodically. They come to the result described in this chapter intuitively.

HOGESCHOOL GENT
Above, in the section on the 'Safety Orientation' on page 89, we mentioned the pamphlet of Hogeschool Gent, which offers students a convenient method for the evaluation of risks. The pamphlet describes risk as a combination of chance (or probability) and effect (or impact). It then breaks down these two elements and asserts that, using these factors, the level of risk can be determined for any latent danger.
Probability *is understood to mean the combination of three ideas:*
- the ***likelihood of occurrence*** *of the (dangerous) situation,*
- the ***exposure*** *(both the frequency and the duration) to that situation,*
- the potential to ***avert*** *or* ***reduce*** *the damage.*
Impact *also depends on three factors:*
- the ***nature*** *of what is protected,*
- the ***gravity*** *of the potential damage,*
- the ***scale*** *of the potential damage.*

Again, it should be noted that the pamphlet's focus is on negative risks. Thus, the emphasis is on negative impact. Nevertheless, there is sufficient reason to assume that we can apply a positive equivalent of the factors mentioned to a positive impact.

6a Assigning Exogenous Variables to Determinants

The way the assignment of the independent exogenous variables to the determinants of the middle tier is done in this study, is described in the following sections. [88] Figure 26 on page 103 provides a graphical representation of the ordering of variables, in the R&R orientation, as well as in the D&F orientation. [89]

6a.1 Impact of Intervention (R&R and D&F)

When attempting to determine the composition of the impact of intervention, the previously discussed hints from existing literature can be helpful tools. Here, the above-mentioned ones are particularly relevant. Both R&R and D&F orientation start from the assumption that the impact of intervention is composed of an element of benefits and an element of costs. However, as will be explained below, the benefits can only be considered as identical elements. For the costs, this is different, because of the deviations in characteristics of the R&R and the D&F orientation.

Benefits of Intervention (R&R and D&F)

Prior to discussing the details of the benefits of intervention, some words must be devoted to the characteristics of two components of the benefits: the status quo the two actors desire and the status quo they reject. What is considered here is the existing situation in which the target has already brought about an undesired change, i.e. for the compeller, certain interests are at stake. As was done at the start of the section on 'Submission: the Assessment of a Status Quo' on page 92, this situation is labeled here as the Status Quo Ante (SQ^A).

88 The author is aware of the subjective character of his judgment. He is, however, convinced that his estimates represent reality very well and are thus justifiable as a basis for further calculations.

89 As concluded earlier, some aspects are common in the R&R and the D&F orientation. These aspects will be discussed under a single heading. Where there is a difference, this will be stated and explained.

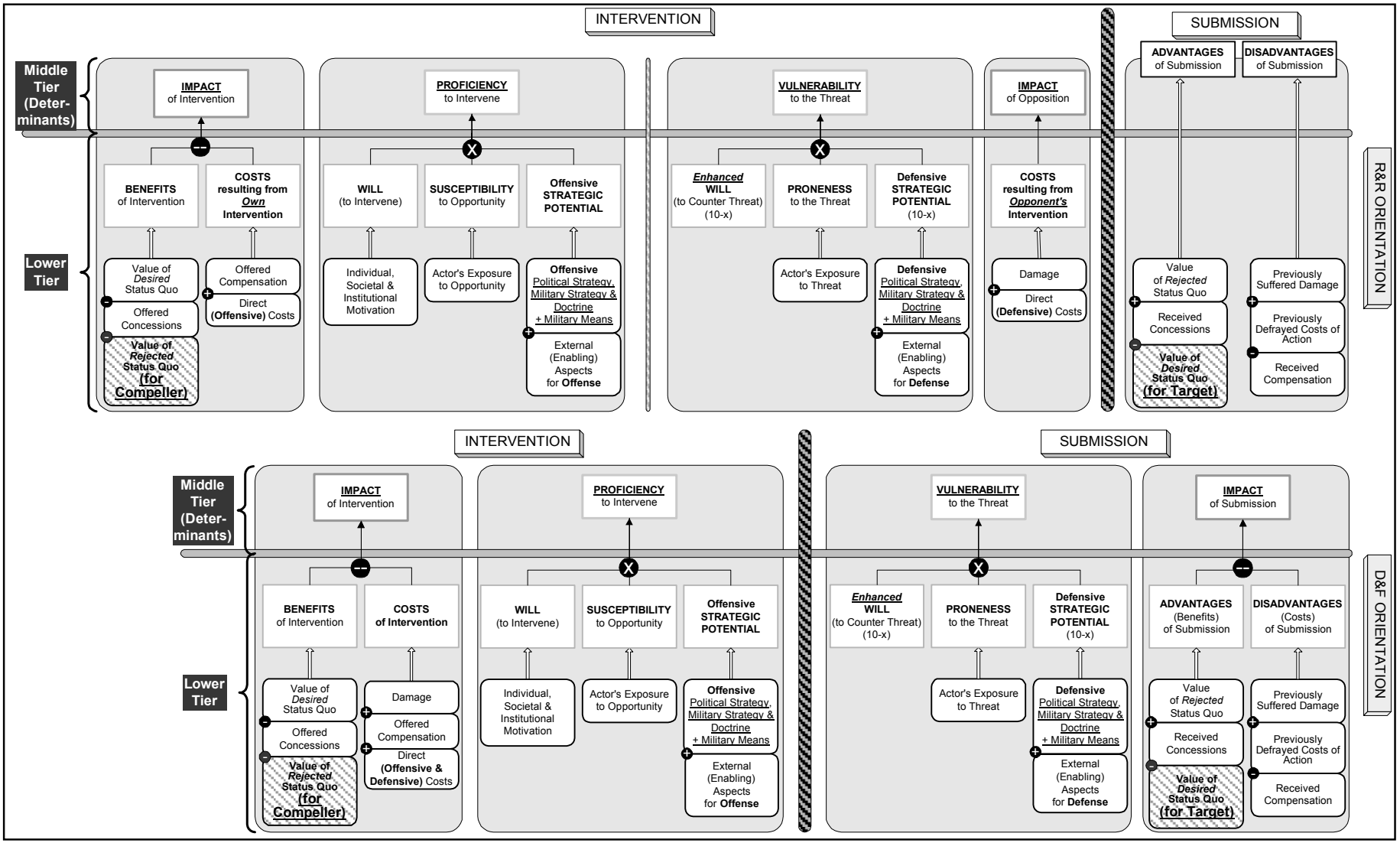


Figure 26: Lower Tier Diagram of Variables (R&R and D&F)

It can be expected that, from the perspective of the compeller, the disadvantages of the SQ^{A} are greater than the advantages. That is why he rejects it, and why this situation is also labeled as the compeller's 'rejected status quo' (C's SQ^{Rej}). His objective is to secure his interests. This constitutes his incentive to undertake some action (compellence). Conversely, it may be expected that, in the target's perception, the advantages of the SQ^{A} outweigh the disadvantages. That is why, for the target the SQ^{A} is the desired situation (T's SQ^{Des}). Opposed to the compeller's SQ^{Rej} is the situation the compeller desires, i.e. the compeller's 'desired status quo' (C's SQ^{Des}). The target rejects this situation. It is the situation the compeller intends to create by applying compellence, i.e. this situation comes after the compeller's actions and is labeled as the Status Quo Post (SQ^{P}). [90] The target, who does not want to be forced by the compeller's actions to reverse the situation, considers this SQ^{P} as his rejected status quo (T's SQ^{Rej}). In short, the SQ^{A} is the compeller's SQ^{Rej} and the target's SQ^{Des}, and corresponds to the situation when the compeller begins to contemplate his compellence. The SQ^{P} is the compeller's SQ^{Des} and the target's SQ^{Rej}, and corresponds to the ideal situation, after compellence has fully (100%) succeeded.

Based on these considerations the following reasoning leads to the definition of the benefits of intervention for the compeller. The compeller starts an action to acquire certain results. The positive result the compeller aspires for corresponds with the profits of this action. His aspiration is to force the target into making concessions, and reverse the existing status quo (the compeller's SQ^{Rej}) to the compeller's SQ^{Des}. In other words, what the compeller can gain by his action is the transfer from the SQ^{Rej} to the SQ^{Des}. Consequently, the basic value of the benefits of compellence corresponds to the difference between the compeller's SQ^{Des} and SQ^{Rej}. For the target, the benefits of intervention are different. He does not want a change of status quo. He wishes to maintain the SQ^{A}, his SQ^{Des}. Consequently, the basic value of the target's benefits of intervention corresponds (only) to his SQ^{Des}. [91]

This basic value of the benefits of intervention is directly affected by those factors that demonstrate a reduction in the aspiration of the actor. In this context it must be recognized that the process of compellence mostly concerns negotiations. In the course of the negotiations, the actors may be willing to make certain concessions. In the last instance, these concessions diminish the benefits that the actors could obtain from the action. That is why the concessions the compeller offers to make have to be subtracted from the basic value of the benefits.

In summary, for the compeller, the benefits of intervention are composed of two elements, the value of the desired and the value of the rejected status quo. The difference between the two (SQ^{Des} minus SQ^{Rej}) constitutes the basic value of the compeller's benefits. For the target, the SQ^{Rej} is not relevant. In the last instance, concessions made diminish the benefits that the actors could obtain from the action. That is why the (offered) concessions have to be subtracted from the basic value of the benefits.

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90 This Status Quo Post may be – but not necessarily is – equal to the situation as it was prior to the moment the target took the unwanted action.

91 Since the combined use of the terms 'status quo ante' (SQ^{A}), 'status quo post' (SQ^{P}), 'desired status quo' (SQ^{Des}), and 'rejected status quo' (SQ^{Rej}) may lead to confusion, I will use only the expressions desired status quo (SQ^{Des}) and rejected status quo (SQ^{Rej}) in the remainder of this study.

Costs Resulting from Own Intervention in R&R Orientation

The costs correspond to the expenses of the action. They can be direct costs, such as the expenditures of the deployment of military forces, but also indirect costs, such as societal costs. The costs of the action are all self-induced. The basis for the R&R orientation is the reward of intervention versus the risk of opposition. That is why a distinction is made between factors related to the actor's own intervention and factors related to the opponent's counter-action. Consequently, the actor's own costs resulting from intervention (his costs of offensive actions) are separated from the costs resulting from defensive actions. The latter are discussed under the costs resulting from the opponent's counter-action (see section 6a.2 below). In other words, here, under the impact of intervention, only the costs ensuing from the actor's offensive actions are included. On top of these expenses directly related to the action, the actor can make a different kind of costs: the compensation offered to the opponent for submission. In the literature they are often denoted as the 'rewards', or the 'carrots', the antipole of the 'stick'.

In summary, the costs resulting from the actor's own intervention in R&R orientation are, for both the compeller and the target, the sum of the costs of the actor's offensive actions and the offered compensation.

Total Costs of Intervention in D&F Orientation

In the case of the D&F orientation, the focus is not only on the actor's own action. The impact of intervention is regarded here from the perspective of the entire body of offensive and defensive actions. Consequently, the costs of intervention encompass both offensive and defensive elements. As in the R&R orientation, offered compensation also contributes to the costs. On top of that, in the D&F orientation, the (potentially) inflicted damage resulting from the opponent's counter-actions is considered to be directly related to the intervention and thus needs to be taken into account as part of the costs of intervention.

In summary, the total costs of intervention in the D&F orientation are, for both the compeller and the target, the sum of the costs of offensive as well as of defensive actions, the offered compensation, and the inflicted damage.

Note 24: Concessions and Compensation

In real terms, the desired status quo is often composed of two elements. The first element is the 'firm' part and represents the true demands of the actor. This part is subject to concessions. The second element has more to do with what the actor prefers in addition. It can be considered the 'soft' part. Here, the opposing party could exert some influence by offering compensation. Equally, the rejected status quo is composed of two elements. The 'hard' part concerns the elements the actor seriously repudiates, and is subject to concessions. The 'soft' part regards additional elements to which the actor is averse. It can be subject to the opponent's compensation.

6a.2 Impact of Opposition in R&R Orientation

In the R&R orientation the impact related to the risk concerns the opponent's action. The impact of the opponent's action – like the impact of the actor's own action – in a formal sense has a positive as well as a negative element: benefits and costs. That means that, besides the obvious costs, the benefits related to the opponent's action, i.e. the benefits resulting from the opponent's intervention should be considered as well. However, it is also obvious that the occurrence of such benefits has a very theoretical character. Consequently, they will be ignored in this study. The impact of opposition, then, equals the costs resulting from

the opponent's intervention. On the one hand, there are those costs that can normally be described as the damage inflicted by the opponent's action. On the other hand, there are the costs of neutralizing the opponent's action, i.e. the costs of defensive actions.

In summary, for both the compeller and the target, the impact of opposition in the R&R orientation is the sum of the damage and the costs of defensive actions.

6a.3 Impact of Submission in D&F Orientation (Utility of Submission in the R&R Orientation)

The impact of submission that determines the desirability of submission in the D&F orientation is equal to the entire expected utility of submission in the R&R orientation. The value is the difference between the advantages and the disadvantages.

Advantages of Submission

Submission means that the involved actor is forced to accept the status quo he initially rejected. Consequently, although it will probably not satisfy him, the positive aspect of submission basically corresponds to the value attached to the SQ^{Rej}. It can be considered as the 'remaining' advantage, after submission. In other words, the basic element that contributes to the advantages of submission is equal to the expected utility of the SQ^{Rej}.

However, to be forced into submission does not mean the same for the compeller as for the target. It can be compared with the discussion regarding the basic value of the benefits of intervention in section 5b.1 on 'Intervention and Submission' on page 92. The compeller, indeed, is forced to accept the rejected situation as it is. Thus, for the compeller, the basic value of the advantage of submission is equal to the value of the SQ^{Rej}. The target, conversely, is forced to accept retrogression from the desired into the rejected situation. It is possible to say that submission for the compeller means doing nothing, while for the target it means doing something. This means that what the target can lose as a result of his action is the transfer from the SQ^{Des} to the SQ^{Rej}. Consequently, the value the target expects from this action, i.e. the intensity of the incentive to comply, actually equals the value of his SQ^{Rej} minus the value of his SQ^{Des}. [92] One additional factor is relevant for the advantages of submission. It concerns the potential concessions offered by the opponent. Consequently, when determining the advantages of submission, the value of these received concessions should be added.

In summary, for the target, the advantages of submission are composed of two elements, the value of the rejected and the value of the desired status quo. The difference between the two (SQ^{Rej} minus SQ^{Des}) constitutes the basic value of the target's advantages of submission. For the compeller, the SQ^{Des} is not relevant. In the final instance, concessions made diminish the advantages that the actors could obtain from submission. That is why the (received) concessions have to be added to the basic value of the advantages.

Disadvantages of Submission

Assuming that compellence is a process, the considerations regarding intervention or submission take place continuously. This implies that later on in the process, the actors take into

92 Since the result will normally be a negative value, this indicates that compliance for the target normally has a higher (negative) impact than resignation has for the compeller.

account previous events. When, at such a moment, an actor accepts submission, he still carries the burden of the previous period, i.e. after submission, the submitter is still facing some 'remaining' costs. Consequently, the previously suffered damage and the previously defrayed costs of action need to be taken into account as disadvantages of submission that depress the final impact/expected utility of submission. Furthermore, the opponent can consider decreasing the disadvantages of submission by offering some compensation. This means that the potential compensation or 'carrots' received from the opponent can be subtracted from the disadvantages of submission.

In summary, the disadvantages of submission, for both the compeller and the target, are the sum of the previously suffered damage and the previously defrayed costs, minus the received compensation.

6a.4 PROFICIENCY TO INTERVENE

When attempting to determine the composition of the proficiency to intervene, the hints from existing literature discussed above can be helpful tools. Here, particularly those on page 101 and 102 are relevant. The proficiency to intervene can be considered as the product of three main factors, coded here as the susceptibility to the opportunity, the will to intervene, and the offensive strategic potential. The product of will and offensive strategic potential determines the extent to which the susceptibility can contribute to the proficiency to intervene. In other words, motivation and strategic potential can be considered as parameters of susceptibility. [93] The three main factors can be described as follows.

- **Susceptibility to Opportunity** is the basic value on which the proficiency to intervene rests. It is, more or less, inherently linked to the actor. It concerns a kind of 'basic ability' to acquire any result from the action, or the actor's inherent sensitivity to the opportunity. This factor, in fact, determines whether there will be an opportunity at hand. It actually determines the degree to which the actor can exploit his proficiency and shapes the conditions under which the actor has to start his intervening actions. Susceptibility is primarily based on the actor's exposure to the opportunity.
- **Will to Intervene** corresponds to the motivation of the actor to acquire the issue at stake and it ensues from national motivational aspects. It ranges from 'no' will (zero) to maximum will. It is the factor that determines the degree to which the susceptibility can be given expression. Consequently, it can be expressed as a percentage. It is composed of three internal (national) aspects: the individual (of the leadership), the societal and the institutional motivation.
- **Offensive Strategic Potential** concerns the capability to exploit (enhance) the opportunity. It consists of three main parts. The first is the actor's capability to initiate an action — primarily an internally oriented political issue. The second is the capability to execute that action, as well as to stimulate and improve the effect of the action — primarily a military oriented issue. The third aspect is based on the external factors that can be considered as enabling aspects. In the context of initiating an action, the capabilities under consideration are of an offensive nature.

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93 As a variance on this contention that motivation and strategic potential can be considered as parameters of susceptibility, it is also possible to say that the susceptibility – as a proficiency quotient – determines the degree to which the will to act and the offensive strategic potential will actually find expression in proficiency enhancement.

- The (internal) political component is the main indicator with regard to the potential to initiate an action. It is based on the kind of political posture, chosen by the actor, so on the kind of political strategy. This follows from the kind of internal political aspects as discussed in the section on 'Political Conditions' on page 39. Furthermore, the capability to initiate actions is affected by the actor's bargaining attitude (or negotiating attitude). This is extensively described in the existing literature. Some of the factors that determine it are the quality of the demand made to the opponent, the deadline set for compliance accompanying an ultimatum, the quality of the signals towards the opponent used to communicate intentions, and the quality of both the 'carrots' (compensation for compliance) and the 'stick' (the threat).
- The military component concerns the capability to execute the action, as well as stimulate and improve the effect produced by the action. This military component of the capability to act is based on, what can be seen as, the military software and hardware. The chosen military strategy and the applied military doctrine can be rated among the military software. The military hardware is constituted of the available military means.
- The external enabling factors are, among others, determined by the international conditions. Of particular importance is the support given by external parties to the offensive actions. This support ensues from the international relations the actors maintain.

In summary, the proficiency to intervene is the product of the susceptibility to the opportunity, the will to intervene, and the offensive strategic potential.

6a.5 VULNERABILITY TO THE THREAT

The actor's vulnerability to the threat is the antipole of his proficiency to intervene. Hence, the constituent parts are very similar to those of the factor proficiency. However, since it concerns the capabilities to oppose the opponent's action, the elements are of a defensive nature. The vulnerability is also composed of three elements coded here as the proneness to the threat, the will to counter the threat, and the defensive strategic potential.

- The **proneness** is also, up to an extent, inherently linked to the actor. The proneness of the actor (to the threat or opposition) is the basis for his vulnerability. Like the susceptibility to the opportunity, the proneness to the threat concerns a kind of 'basic sensitivity' to the opponent's actions. It actually determines the degree to which the actor's vulnerability can be exploited by his opponent. In other words, the proneness – as a vulnerability quotient – determines the degree to which the other two components of the vulnerability (the will to oppose the threat and the defensive strategic potential) will actually contribute to vulnerability reduction. Proneness shapes the conditions under which the actor has to start his response to his opponent's actions. It is primarily based on the actor's exposure to the threat.
- Broadly speaking, the **will to oppose the threat** is almost equal to the will to act. However, a will enhancement factor may be expected in case of a threat instead of an action of own free choice. After all, people are normally more motivated to counter a threat than to impose a threat on someone else. In section 2e.2 on the 'Will' to Act, and React' on page 37, this was called the 'backfiring effect'. Furthermore, the (enhanced) will to counter the threat or oppose the adversary is a factor that reduces the proneness (while, conversely, the factor 'will' enhances the susceptibility in case of the proficiency).

- The **defensive strategic potential** represents the capability to oppose the threat, so it reduces the proneness (where the offensive strategic potential enhances the susceptibility in case of the proficiency). The focus here is on the deterrent posture of the actor. That is why, regarding the defensive strategic potential, under the defensive bargaining attitude, the factor 'quality of the deadline', (which is a component of the offensive bargaining attitude) must be replaced by the factor 'quality of the tripwire', indicating the threshold that has to be passed for the actor to start his opposing actions. As such, this trip wire has to be signaled to the opponent. The external enabling factors for defense are usually higher than those for offense.

Special attention is required for the fact that both the 'will' to oppose the threat and the defensive strategic potential *reduce* the level of vulnerability; so, the higher the 'will' and capability, the lower the vulnerability. It could also be said that the factor (enhanced) 'will' as well as the factor defensive strategic potential diminish the level to which the proneness is reflected in the vulnerability. In other words, the vulnerability is inversely proportional to the 'will' and the capability to oppose the opponent's response.

In summary, the vulnerability to the threat is the product of the proneness to the threat, the inverse value of the enhanced will to oppose the threat and the inverse value of the defensive strategic potential.

6b Compilation of Lower-Tier Considerations

In this chapter, the variables that contribute to the determinants of the middle-tier have been discussed. It explains interrelation of the variables. Ultimately, all this comes down to the following eighteen variables that need to be validated and then inserted in the framework for further computation.

1) Desired Status Quo,
2) Rejected Status Quo,
3) Offered Concessions,
4) Received Concessions,
5) Offered Compensation,
6) Received Compensation,
7) Motivation (or Will),
8) External Enabling Factors for Offense,
9) External Enabling Factors for Defense,
10) Exposure to the Opportunity,
11) Exposure to the Threat,
12) Offensive Strategic Potential,
13) Defensive Strategic Potential;
14) Costs of Offensive Actions,
15) Costs of Defensive Actions,
16) Potential Damage,
17) Previously Suffered Damage,
18) Previously Defrayed Costs.

7. *Calculating the Framework*

7a Introduction

With the given relations between variables, and the criteria for decision-making, calculations can be made which present the probable outcome of the conflict under consideration. The basis for the calculation is formed by four computations, relating to the crosswise appreciation of both actors of their own and their opponent's conditions. They are the calculations based on the estimates numbered 2a and 2b, 4a and 4b, 6a and 6b, as well as 8a and 8b in chapter 4, section 4a. Each calculation provides a value for the expected utility of intervention and a value for the expected utility of submission:

- the compeller's estimate of the target's assessment of the compeller's expected utilities of intervention (compellence) and submission (resignation): C-T-Cpl, and C-T-Rsg;
- the compeller's estimate of the target's assessment of the target's expected utilities of intervention (resistance) and submission (compliance): C-T-Rst, and C-T-Cly;
- the target's estimate of the compeller's assessment of the target's expected utilities of intervention (resistance) and submission (compliance): T-C-Rst, and T-C-Cly;
- the target's estimate of the compeller's assessment of the compeller's expected utilities of intervention (compellence) and submission (resignation): T-C-Cpl, and T-C-Rsg.

In this chapter the calculations are presented and explained step-by-step, starting with the input of the variables, followed by the actual calculation of the data at the lower, middle and upper tier. The inserted variables come from an artificial (example) case. In the calculation, the factor uncertainty and the risk acceptance are taken into account. Finally, the outcomes are presented in order to provide tools to analyze the case.
The total process can be accommodated in mathematical formulae, one for the utility of intervention and one for the utility of submission. These formulae, for both the R&R- and the D&F orientation, are given in Annex D.

7b Assigning Variables

Note 25: Method of Rating the Variables

Before giving an example of an actual calculation of the framework, some words need to be said about the rating of the variables. After all, in the last instance, the variables regarded here need to be rated one way or another. It is well appreciated that scoring the variables, i.e. determining the value of each variable, could be done by the use of mechanisms up to high levels of sophistication.

Such a mechanism would, for instance, take into account that the individual elements that determine a certain variable sometimes can also be related to other variables. It is not difficult to understand that the same factors that have an impact on the motivation of the actors also influence political decision-making. The quality of the threat, for instance, which determines the bargaining attitude and thus the actor's strategic potential, depends partly on the same elements that also determine part of the public mindset, relevant for the actor's motivation. Such sophisticated mechanisms would probably even take into account that feeding back results of certain developments to aspects that take place earlier on in the process would produce a dynamism of its own in determining the values of the variables. For instance, a high level of self-confidence of the leadership of a party may enhance the credibility of that leadership in the eyes of the public, which can lead to greater public support, and thus to a higher level of self-confidence of the leadership. This phenomenon can boost the morale and the motivation to a higher level than could be expected without considering the effects of the feedback.

Such a mechanism could also imply the kind of intersubjectivity normally required in a scholarly context. It could, for instance, use interviews and surveys among experts in the field of diplomacy and politics who have dealt with compellence cases in practice. Their judgment on both the value of the variables and on the probable outcome of an investigated compellence process could be very useful.

However, this study will not use such a sophisticated mechanism when scoring the variables. This decision is based on the judgment that this fine-tuning of variables does not add sufficient value to the entirety of the model to justify the considerable additional effort. After all, the model is supposed to be a prototype designed to explain the working of compellence strategy and the rating of variables in this study serves no other purpose than to demonstrate that it could work.

Furthermore, ultimately, the whole system explained in this study implies that there will come a moment that a decision maker who intends to use the system has to assign certain values to certain variables. Whether it is the actor or an analyst, the personal appreciation of the situation, as it is assessed at that specific moment, prevails. Such decision makers can, indeed, use sophistication in this process of assigning values to variables. They could also use surveys among participants, etc. This would probably enhance the quality of their decision. Most of the time, however, they will use rough estimates.

For these reasons, the author of this study considers it justifiable to limit the assignment of values to rough estimates of the variables, based on a list of considerations that arise from the properties of the variables, as mentioned in Annex B. This is considered to suffice for the purpose of this study: explaining the working of compellence.

Note 26: Arbitrary Rating of Variables in Example Case

As was already stated in Note 19 on page 72, the example case used in the course of the discussion that follows is not related to any known situation. The rating of the variables is arbitrary, although some logic has been pursued and random numbers have not been inserted.

7b.1 INPUT OF VARIABLES

The process of calculation starts with the insertion of the variables at the lower tier that contribute to the determinants at the middle tier. The relevant variables can be read from the diagram in Figure 26. For each of the four computations (mentioned in section 7a), a total of 38 independent variables have to be inserted. They are 1) the desired and 2) the rejected status quo, 3) the offered and 4) the received concessions, 5) the offered and 6) the received compensation, the 7) individual, 8) societal and 9) institutional motivational aspects, 10) the external enabling aspects for offense and 11) for defense, 12) the exposure to the opportunity and 13) to the threat, 14) the offensive as well as 15) the defensive political considerations, 16) the offensive as well as 17) the defensive military strategy, 18) the offensive as well as 19) the defensive military doctrine, 20) the offensive as well as 21) the defensive military means, 22) the costs of offensive as well as 23) defensive action, 24) the potential damage, 25) the previously suffered damage and 26) the previously defrayed costs, 27) the level of certainty about the own capabilities, 28) about the own intentions, 29) the exposure, 30) the external enabling factors, 31) the opponent's capabilities, and about 32) the opponent's intentions, 33) the level of certainty about the quality of the demands, 34) the deadline, 35) the signals, 36) the threat, 37) the reward, and of 38) the trip wire.

Nine variables will be calculated from the inserted data. They are successively 1) motivation/will, 2) offensive as well as 3) defensive strategic potential, 4) offensive as well as 5) defensive political strategy, 6) offensive as well as the 7) defensive bargaining attitude and 8) the offensive as well as 9) defensive military strategy and doctrine.

Furthermore, a value must be assigned to both actors' risk acceptance attitude, indicating the degree to which they are willing to take risks. Finally, the maximum uncertainty devia-

tion must be determined. In this study the latter is set at 2½ as a standard. This implies that the maximum uncertainty bandwidth is set at 5 (five) as a standard.

7b.2 COMPACT LIST OF INSERTED VALUES

Figure 57 in Annex B on page 192 shows an example of a complete list of rated variables. This extended list of inserted values contains data that are not all relevant for making an analysis of the process. That is why an abstract of inserted values is given in a separate compact list, as the one provided in Figure 27.

Figure 27: Example of Compact List of Inserted Values

Example CONDITIONS	Compeller's Assessment of Target's Estimate of Compeller's Conditions	Difference with PrevPer	Target's Assessment of Compeller's Estimate of Compeller's Conditions	Difference with PrevPer	Target's Assessment of Compeller's Estimate of Target's Conditions	Difference with PrevPer	Compeller's Assessment of Target's Estimate of Target's Conditions	Difference with PrevPer
Desired Status Quo	**8**	**2**	**7**	**1**	8		**6**	*-2*
Rejected Status Quo	**2**	*-2*	**3**	*-1*	3		**4**	**1**
Offered Concessions	0		0		0		0	
Received Concessions	0		0		0		0	
Offered Compensation	**0**	*-1*	**0**	*-1*	0		0	
Received Compensation	0		0		0		0	
Motivation	**7**	*-1*	5		**8**	**1**	**7**	**1**
External Enabling Factors for Offense	7		7		3		2	
Exposure to Opportunity	6		5		4		3	
Offensive Strategic Potential	**7**	*0*	**7**	*0*	**7**	*-1*	**6**	*0*
External Enabling Factors for Defense	8		8		4		3	
Exposure to Threat	2		3		5		6	
Defensive Strategic Potential	**7**	**0**	**7**	*0*	**5**	**0**	**4**	**0**
Costs of Offensive Action	1		**2**	**1**	**2**	**1**	**3**	**1**
Costs of Defensive Action	1		**2**	**1**	**2**	**1**	**3**	**1**
Potential Damage	1		**1**	**1**	**3**	**1**	**5**	**2**
Previously Suffered Damage	0		0		0		0	
Previously Defrayed Costs	**1**	**1**	**1**	**1**	**2**	**1**	**2**	**1**
Certainty about Own Capabilities	8		8		8		8	
Certainty about Own Intentions	**8**	**1**	**8**	**1**	**8**	**1**	**8**	**1**
Certainty about Exposure	**8**	**1**	**8**	**1**	7		7	
Certainty about External Enabling Factors	7		7		7		7	
Certainty about Opponent's Capabilities	**8**	**1**	**8**	**1**	**8**	**1**	**8**	**1**
Certainty about Opponent's Intentions	**6**	**2**	**6**	**2**	7		7	
RISK ACCEPTANCE ATTITUDE	Target		**7**	**1**	Compeller		**5**	*-1*

In this figure the description of the rating and the underlying data of the main conditions are omitted. This produces a more compact list. One particular element is added. It takes into account that compellence concerns a process with consecutive phases with differing conditions. Consequently, a rating is needed for the situation during each of these phases. The addition concerns an indication that a change of the variable took place, compared to the rating during the previous phase. This is done by highlighting those variables that are rated higher or lower than the previous period. Furthermore, to the right of the given rating the difference compared to the previous period is given (numbers in *italics* indicate a negative value). [94] Thus, it is possible to see at a glance which variables may have had an impact on the changed outcome of the process.

7c Example Actual Computation

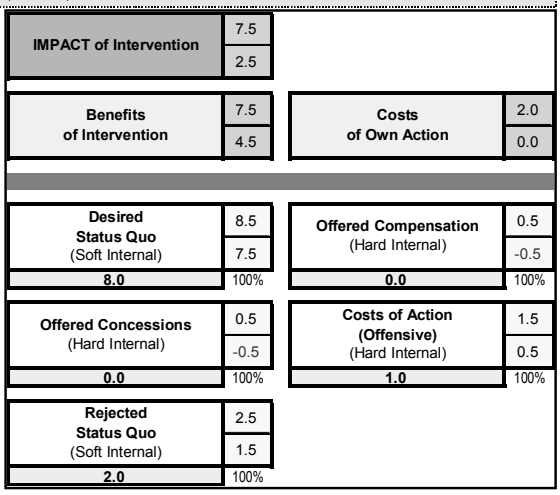
With these data the framework can be computed. For this purpose a spreadsheet is used. In the following sections, the calculations will be explained one by one. This example will be restricted to the calculation as it will take place in the R&R orientation. The calculation in the D&F orientation will follow the same logic. Furthermore, this calculation will only concern

94 For 'calculated' values, the numbers are rounded off. Consequently, when the number zero (0) is shown, this indicates that there is a difference compared to the previous phase, but that this difference is less than one half (½).

the compeller's estimate of the target's assessment of the compeller's conditions. The calculation of the other three estimates in the R&R orientation follows the same logic. Ultimately, this will lead to two times four outcomes, for both the compeller and the target: the expected utility of compellence, of resignation, of resistance and of compliance.

7c.1 CALCULATING THE REWARD OF INTERVENTION (R&R)

Figure 28: Example of Calculation of Impact of Intervention (R&R)



First, the calculation of the impact of intervention. The data are inserted in a spreadsheet. The discussion in the previous chapters has shown that the impact of intervention is composed of the benefits of intervention, minus the costs of own action. The benefits of intervention for its part is based on the desired status quo minus the offered concessions and (for the compeller) minus the rejected status quo. The costs of own action is based on the sum of the offered compensation and the costs of own offensive actions.

The rating of the five conditions (in Figure 28, below the bar) is derived from the inserted variables. In this example, the desired status quo is rated as *high* (level 8), the offered concessions as *minimum* (level 0), the rejected status quo as *low* (level 2), the offered compensation as *minimum* (level 0), and the costs of own offensive actions as *very low* (level 1). These numbers are given below the description of the condition they refer to.

Calculating Uncertainty

Figure 28 shows some additional numbers to the right of each condition. These numbers refer to two aspects of the calculation, viz. the calculation of uncertainty, and the calculation of the relative impact of the variables. This will be discussed next.

Figure 29: Uncertainty Related Aspects

Max Deviation	2.5	
Hard		
Internal (Own Capabilities)	8	0.5
External (Exposure)	8	0.5
Opponent (Capabilities)	8	0.5
Soft		
Internal (Own Intentions)	8	0.5
External (Enabling Factors)	7	0.75
Opponent (Intentions)	6	1

In the lists of inserted variables (Figure 27) data are provided concerning the levels of certainty the two actors are facing. It will be explained in the section about 'Uncertainty Related Factors' on page 122 that a distinction can be made between hard and soft 'certainties', and that they can concern internal, external and opponent related issues. In the middle column of Figure 29 the rating of these six certainty factors is reproduced from Figure 27 (compeller's assessment of target's estimate of compeller's conditions). The right column of Figure 29 contains the actual impact of the middle column's value on the condition under consideration. The way this number is calculated and the way it was incorporated in the diagram of Figure 28 are discussed next.

As has been explained, when calculating the effect of uncertainty on the concerned variable, it is assumed that there exists a maximum deviation as result of uncertainty. [95] As a rule, the maximum deviation in this study is set at level two and a half (2.5). For the *desired status* quo as given in Figure 28 the estimated value is high (level 8). As Figure 28 shows, it is considered to be subject to soft internal certainty. Thus, the middle column of Figure 29 indicates that the certainty factor of soft internal issues is high (level 8). With these facts at hand, uncertainty can be calculated as follows.

In case of **FULL knowledge**, the value of the variable concerned is fixed; no deviation exists. In the example the value of the desired status quo would then be fixed at level 8. In case of **NO knowledge**, whatsoever, the maximum deviation prevails. This means that the value of the variable concerned will range from the value of the initial estimate (in the case of this example the initial estimate of the value of the desired status quo is at level 8), *minus* the maximum deviation (fixed at 2.5), on the one hand, to the value of the initial estimate, *plus* the maximum deviation, on the other. In the example the maximum would then be (8 **+** 2.5 =) 10.5 and the minimum would be (8 **–** 2.5 =) 5.5.

Values in between full and no knowledge set the variance at a *percentage* of the maximum deviation, according to the *uncertainty* factor concerned. In other words, the basis is the uncertainty factor, which is the inversed value of the certainty factor (i.e. in the example, 10 **–** 8 = 2). This means that the value of the considered variable is 20% of the maximum deviation higher or lower than the inserted value. 20% of the maximum deviation of 2.5 equals 0.5. [96] As a result, the two values that will be used are (8 **–** 20% * 2.5 **=** 8 **–** 0.5) 7.5 (minimum), and (8 **+** 20% * 2.5 **=** 8 **+** 0.5) 8.5 (maximum). In other words, in this example the variable is scored between the minimum of level 7.5 and the maximum of level 8.5. These two numbers are given in Figure 28 to the right of the condition, the maximum value (8.5) at the top, and the minimum value (7.5) at the bottom. The same method has been applied to the other four conditions. As result of the uncertainty factor the value of the *offered concessions* ranges from -0.5 to 0.5, of the *rejected status quo* from 1.5 to 2.5, of the *offered compensation* from -0.5 to 0.5 and of the *costs of own offensive action* from 0.5 to 1.5.

Next, the minimum and the maximum value of the *benefits of intervention* can be established by calculating the value of the *desired status quo*, minus the *offered concessions*, and minus the *rejected status quo*. This is done for the minimum by subtracting the highest value of the offered concessions and of the rejected status quo from the lowest value of the desired status quo (7.5 **–** 0.5 **–** 2.5 = 4.5). For the maximum, the highest value of the desired status quo is reduced with the lowest value of the offered concessions and the lowest value of the rejected status quo (8.5 **–** (-0.5) **–** 1.5 = 7.5). [97] This means that the value of the benefits of intervention ranges from 4.5 to 7.5.

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95 The assumption in this study is that – starting from a fixed value of a particular condition (rated by the participants of the process) – the uncertainty the participants take into account manifests itself by an equal deviation from that rated value upwards and downwards. It is intended to represent the 'practical' line of reasoning of someone who makes an estimate under conditions of uncertainty. He assigns a value to his estimate and takes into account that the exact value can be plus or minus a particular margin. This margins will, as a rule, be symetrically distributed (normal distribution). A lopsided distrubution will be very exceptional.

96 The value of the exact deviation can be found in the right column of Figure 29. In this example case it ranges from 0.5 (when the certainty is at level 8) to 1 (when the certainty is at level 6).

97 Because the values can be negative – and subtracting a negative value means adding that value, which leads to a higher total value – some caution is required here. The spreadsheets used to calculate the model in this study cover this problem.

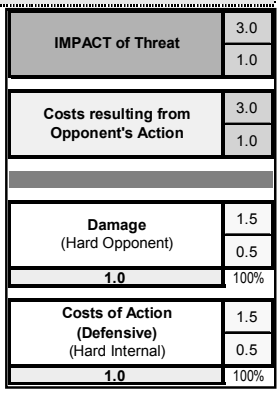
The value of the *costs of own action* is calculated in a similar fashion leading to a maximum value of 2 and a minimum value of 0. From that, the difference between the benefits of intervention and the costs of own action can be calculated, resulting in a maximum value of the *impact of intervention* of (maximum value of benefits minus minimum value of costs: 7.5 – 0 =) 7.5, and a minimum value of (minimum value of benefits minus maximum value of costs: 4.5 – 2 =) 2.5. Consequently, Figure 28 shows that the value of the impact of intervention ranges from 2.5 to 7.5 as a result of taking into account the uncertainty factor.

Relative Contribution of Variables

The information presented in the above paragraphs sometimes shows a relation between (sub) variables. Most of the time – as is the case in the calculation of the impact of intervention – this is a simple addition, or subtraction. However, particularly when the addition of more variables is involved, the questions arises what the relative contribution is of the each of the separate elements to the total of the variable concerned. This means that there is a need to assign a percentage of contribution to these variables. In the case of the calculation of the impact of intervention, all variables are assumed to contribute to their full extent to the computation. That is why below the given numbers (for minimum and maximum value of the condition) the percentage is set at 100%. As will be seen later (for instance, when dealing with the motivational conditions in section 7c.3 on 'Calculating the Proficiency to Exploit the Opportunity (R&R)' on page 116), this will not always be the case. In Annex B, which discusses the Variables, a detailed account is given of the percentages of the relative contribution assigned to the concerned variables.

7c.2 Calculating the Impact of the Threat (R&R)

Figure 30: Example of Calculation of Impact of Threat (R&R)



The impact of the threat is directly derived from the costs resulting from the opponent's action (for the compeller these are the costs resulting from the target's resistance). Two elements determine the value of the costs resulting from the opponent's action: the damage the opponent's action (potentially) creates and the costs that have to be made for the execution of defensive actions. In the example, the damage as well as the costs of defensive actions is rated as *very low* (level 1). The damage is subject to the hard certainty factor regarding the opponent (according to Figure 29, set at level 8). Thus, the deviation is 0.5. As a result of uncertainty, the maximum value of the damage will be 1.5, and the minimum value 0.5. The costs of defensive actions are subject to the hard internal certainty factor (according to Figure 29, also set at level 8). Thus the deviation is also 0.5. As result of uncertainty, the maximum value of the costs of defensive actions will be 1.5, and the minimum value 0.5. So, the sum of the damage and the costs of defensive actions are – at the maximum level –3, and – at the minimum level –1. Consequently, the impact of the threat ranges from 1 to 3.

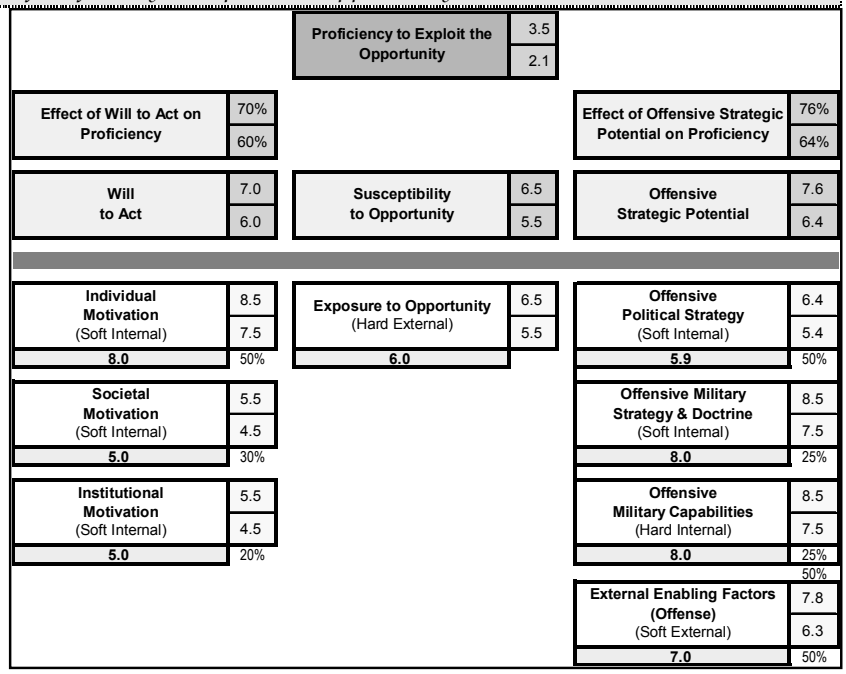
7c.3 Calculating the Proficiency to Exploit the Opportunity (R&R)

The next issue under consideration is the proficiency to exploit the opportunity. It is composed of three elements: the will to act, the susceptibility to the opportunity and the offensive strategic potential. The calculation assumes that the basic value of this issue is the sus-

ceptibility. Its impact on the proficiency is influenced by the other two elements. Consequently, the proficiency is the susceptibility multiplied by the value of the offensive strategic potential as a percentage, as well as the will to act as a percentage. In the example, as shown in the left-hand part of Figure 31, the maximum value of the proficiency is 6.5 (susceptibility) * 76% (strategic potential) * 70% (will) = 3.5, and the minimum value is 5.5 * 64% * 60% = 2.1.

The susceptibility to the opportunity depends mainly on the actor's exposure to that opportunity. It is subject to the hard external certainty factor. As a result, the susceptibility to the opportunity ranges from a maximum of 6.5 to a minimum of 5.5.

Figure 31: Example of Calculation of Proficiency to Exploit the Opportunity (R&R)



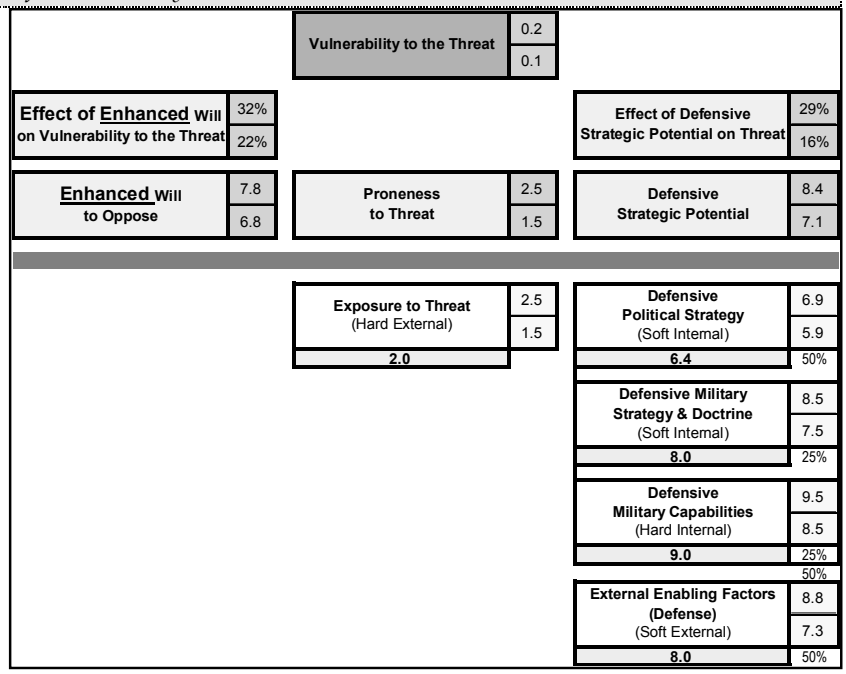
The will to act is composed of three elements, the individual motivation of the leadership, the societal motivation, and the institutional motivation. Due to the uncertainty involved (all three elements are subject to the soft internal certainty factor), the individual motivation ranges from 7.5 to 8.5, and the societal motivation as well as the institutional motivation from 4.5 to 5.5. Here, the relative contribution of the variables to the end result is relevant. This means that this study assumes that the three elements do not contribute equally to the total value of the will to act. Each attributes to a certain extent to the total value of the factor 'will'. The essence of this relative contribution is that the separate elements add a certain percentage to the variable concerned, leading to a total of 100%. The assumption is that the individual motivation contributes up to 50% to the value of the will, while the societal motivation contributes 30% and the institutional motivation 20%. Thus, the total value of the will to act ranges from a maximum of 7 to a minimum of 6 (50% * 8.5 + 30% * 5.5 + 20% * 5.5 = 7, for the maximum value, and 50% * 7.5 + 30% * 4.5 + 20% * 4.5 = 6, for the minimum value).

The offensive strategic potential is assumed to be based on two main elements, which each contribute up to 50% to the final value. The first is the political and military strategic aspects and the second the external enabling factors for offensive actions. The latter is subject to the soft external certainty factor and ranges from a maximum of 7.8 to a minimum of 6.3. The strategic aspect can be divided into three main components, the offensive political strategy, the offensive military strategy and doctrine, and the offensive military capabilities. The former two are subject to the soft internal certainty factor, and the latter to the hard internal certainty factor. The three components do not contribute equally to the total value of the political and military aspects. Offensive political strategy is supposed to contribute up to 50%, offensive military strategy and doctrine up to 25%, and the offensive military capability also up to 25%. The right-hand part of Figure 31 shows that – using these considerations – ulti-

mately, the value of the offensive strategic potential ranges from a maximum of 7.6 to a minimum of 6.4.

7c.4 CALCULATING THE VULNERABILITY TO THE THREAT (R&R)

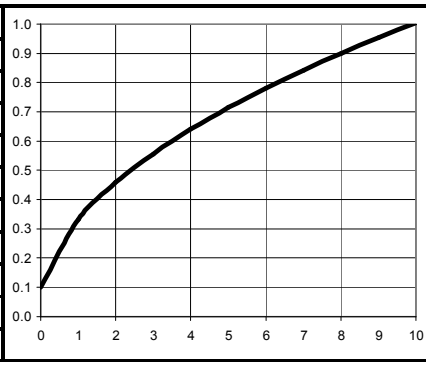
Figure 32: Example of Calculation of Vulnerability to the Threat (R&R)



The calculation of the vulnerability to the threat follows the same logic as the calculation of the proficiency to exploit the opportunity. The basic elements are also identical: the proneness to the threat imposed by the opponent, the will (to oppose the action on the opponent), and the defensive strategic potential. As with the susceptibility, the proneness depends mainly on the exposure to the threat. The defensive strategic potential is essentially composed of the same elements that contributed to the offensive strategic potential, although it refers to the equivalent defensive factors. Similarly, the will to oppose the opponent's action ties in with the will to act. However, it is assumed that the motivation to oppose a threat is higher than the motivation to initiate an action oneself.

Figure 33: Schedule of Will Enhancement

Will		Will Enhancement	Enhanced Will
0	0.10		0.10
1	0.33		1.33
2	0.46		2.46
3	0.56		3.56
4	0.64		4.64
5	0.71		5.71
6	0.78		6.78
7	0.84		7.84
8	0.90		8.90
9	0.95		9.95
10	1.00		11.00



Furthermore, it is assumed in this calculation that the will enhancement is not linear. The lower the basic value of the will, the higher the enhancement, related to the original value. This non-linear character of the factor will is computed by employing a semi-exponential function, using the square root of value of the factor will as a basis. Figure 33 shows, in a list as well as in a graph, the will enhancement and the resulting enhanced will, dependent on the value of the original will. [98] In the example, the original value of the will (to act) is set between 6 and 7. In its enhancement appearance it is set between 6.8 and 7.8. [99]

98 The absolute enhancement at the minimum level is lower than at the maximum level. As a percentage, however, the enhancement at the minimum level is higher than at the maximum level. The lower the basic value, the higher the percentage of the enhancement. The maximum will enhancement is set at 1.

Also deviating from the calculation of the proficiency is the actual contribution of the three components (will, proneness and defensive strategic potential) to the total value of the vulnerability. In this context the negative meaning of the factor vulnerability must be recognized. Indeed, its basic component, the proneness, also has a negative connotation. Contrary to the calculation of the proficiency, the will and the strategic potential do not increase the contribution of the proneness to the vulnerability, but reduce it. This has been accommodated in the calculation by using the inverse value of the enhanced will and of the defensive strategic potential and by transposing these inversed values into the percentage that determines the actual contribution of the proneness to the vulnerability. In the example, the maximum level of proneness is 2.5. The minimum level of reduction through the factor will is 21% (10 – 7.9 = 2.1) and through the factor strategic potential 16% (10 – 8.4 = 1.6). As result, the minimum level of vulnerability is 0.1 (1.5 * 21% * 16%). The maximum level of reduction through the factor will is 32% (10 – 6.8 = 3.2), and through the factor strategic potential 29% (10 – 7.1 = 2.9). As a result the maximum level of vulnerability is 0.2 (2.5 * 32% * 29%).

7c.5 CALCULATING THE PROBABILITIES (R&R)

Figure 34: Example of Calculation of Probabilities (R&R)

Probability of Intervention	99% 90%	Probability of Countering the Threat	10% 1%
Proficiency to Exploit the Opportunity	3.5 2.1	Vulnerability to the Threat	0.2 0.1

The proficiency to exploit the opportunity in combination with the vulnerability to the threat creates the probability of intervention and the probability of countering the threat. As has been explained in the section on the 'Complementary Relation between Probabilities' on page 97, the mathematical transformation of this principle of complementarity shows that the probability of countering the threat is equal to $v/(v+p)$, and the probability of exploiting the opportunity is equal to $p/(p+v)$, where v = the value of the vulnerability, and p = the value of the proficiency. In the example before us, the maximum value of the probability of exploiting the opportunity results from the formula: $p^{max} / (p^{max} + v^{min})$ and equals 99% (3.5 / 3.5 + 0.1 = 3.5 / 3.6 = 0.99). The minimum value of the probability of exploiting the opportunity results from the formula: $p^{min} / (p^{min} + v^{max})$ and equals 90% (2.1 / 2.1 + 0.2 = 2.1 / 2.3 = 0.90). Since the probability of countering the threat is the complement of the probability of exploiting the opportunity, this probability of countering the threat ranges from the maximum of 10% (100% - 90%) to the minimum of 1% (100% - 99%).

7c.6 CALCULATING THE UTILITY OF INTERVENTION (R&R)

With the available data, it is now possible to calculate the utility of intervention. First the maximum and minimum value of the reward and the risk of intervention can be calculated by multiplying the value of the impact by the percentage of the probability. This results in a value of the reward of intervention ranging from 7.4 to 2.2 and of the risk of intervention from 0.3 to 0.0. The value of the expected utility of intervention follows from the subtraction of the value of the risk from the value of the reward. The outcome is a value of the expected utility of intervention that ranges from a maximum of 7.4 to a minimum of 1.9.

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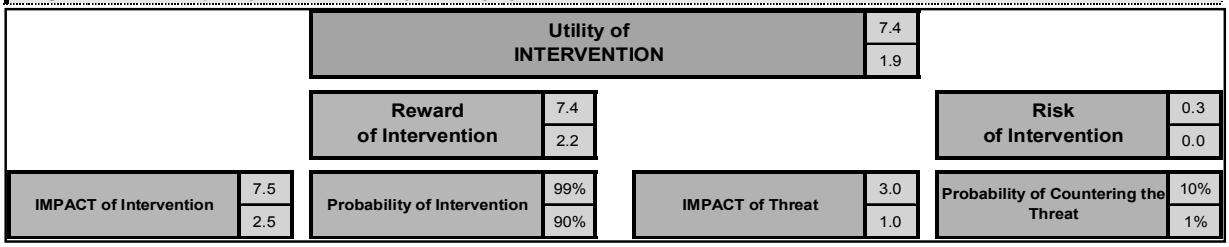
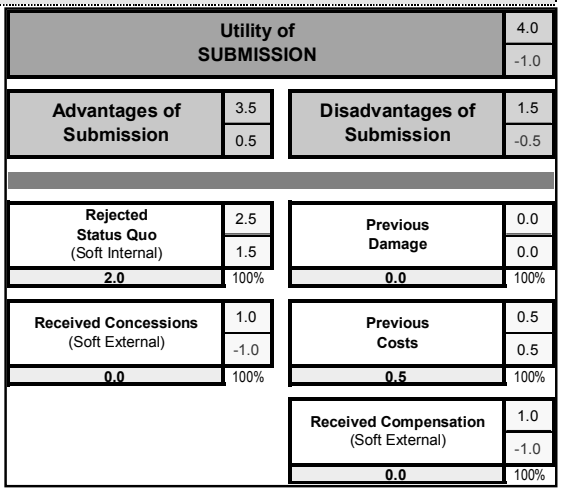
99 A deviation results from rounding off the underlying numbers.

Figure 35: Example of Calculation of Utility of Intervention (R&R)



7c.7 CALCULATING THE UTILITY OF SUBMISSION (R&R)

Figure 36: Example of Calculation of Utility of Submission (R&R)



In the R&R orientation calculating the expected utility of submission is far less complicated than calculating the expected utility of intervention. Actually, it is a straightforward addition and subtraction. The advantages of submission are formed by the addition of the rejected status quo and the concessions the actor expects to receive. The disadvantages are composed of the previously suffered damage, plus the previously defrayed costs, minus the compensation the actor expects to receive. What is peculiar about the disadvantages is that the previously suffered damage and the previously defrayed costs are actual facts. In other words, they are known variables. Consequently, these data are not subject to the certainty factor (it could also be said that they are subject to full certainty). The calculation yields a value of advantages of submission that ranges from 3.5 to 0.5 and a value of disadvantages of submission that ranges from 1.5 to -0.5. These two values have to be subtracted to find the value of the expected utility of submission, which ranges, from a maximum of 4 to a minimum of -1.

7d From Conditions of Uncertainty to Conditions of Risk

What has been established now is the value of the utility of intervention and of submission. However, due to the factor uncertainty, both values are expressed by two numbers, the minimum and the maximum expected value. Unfortunately, knowing that uncertainty exists in a compellence process and that this uncertainty is affected in several ways, and even knowing the exact magnitude of the uncertainty, is only half the problem. What is needed is knowledge of the concrete impact this has (or can have) on the outcome of the process. In the last instance, a decision maker will determine whether – in his opinion – his action will probably bring success. In other words, despite the recognized uncertainty, he will use a mechanism to convert the uncertain data into facts that can be used to determine this probability of success. In this context, his risk-taking attitude is the dominant factor.

According to Bueno de Mesquita, " 'Risk taking' refers to the **probability of success** that a decision maker **demands** before pursuing a course of action." [emphasis added][35: 33] Risk-taking is a personal choice, related to the preferences of the decision maker. A risk-acceptant leader values the chance of a positive outcome so much that he accepts a lower probability of success before pursuing his course of action. Risk-averse leaders, on the con-

trary, demand a high probability of success. Anyhow, risk-acceptance and risk-aversion both assume that the actors involved have a particular 'demand' concerning the probability of success. It could be said that they use the mechanism of risk-acceptance or risk-aversion to create an (artificial) 'knowledge' of the probability of success before they arrive at a decision. " 'Uncertainty', on the other hand", writes Bueno de Mesquita, "refers to the degree to which the probability of success of a course of action is unknown." [35: 33] What has been discussed above shows that the exact probability is located within a bandwidth, the size of which represents the level of uncertainty. But no confidence can exist whether it is situated in, for instance, the low or the high end of the bandwidth.

From this it can be concluded that risk-taking is connected to uncertainty through the process in which an actor – in a situation of uncertainty – attaches a particular degree of probability to success and failure in order to determine whether it is acceptable for him. This means that, in order to apply his risk-taking preference to a choice, a decision maker has to eliminate the elements of doubt, even if this creates an artificial certainty. He has to attach 'true values' to uncertain elements prior to taking a decision. It implies that no decision is possible without the (artificial) elimination of uncertainty. The basis for this elimination of uncertainty is the actor's degree of optimism or pessimism. When attaching true values to uncertain elements, the actor can choose between emphasizing those elements that bring him advantage, or those that are disadvantageous. Assuming that profitable elements score high and harmful elements score low is a sign of optimism. Conversely, a pessimistic actor tends to give low scores to advantageous and high scores to disadvantageous matters. Optimism can be directly related to risk-acceptance, while pessimism can be related to risk-avoidance. In contemplating the elements that drive the decision, the example of how risk-taking affects the judgment of the value of the reward and the risk in the R&R orientation may prove useful. The 'reward' can be regarded as profitable, and the 'risk' (its counterpart as a component of the expected utility of intervention), as harmful. Likewise, 'intervention' (compellence and resistance) has a positive connotation and 'submission' (resignation and compliance) a negative one. Attaching higher scores to 'reward' and 'intervention' is thus a sign of expanding optimism and attaching higher scores to 'risk' and 'submission' is a sign of a higher degree of pessimism. Consequently, in the compellence process, a risk accepting actor will give a high score to the variables that enhance 'reward' and 'intervention', while the risk-avoiding actor will give a high score to the variables that enhance 'risk' and 'submission' (and, conversely, a low score to the variables that reduce them).

It is safe to assume that the compeller's preference (in order of priority) is successful compellence, stalemate, continued conflict, and successful resistance. For the target the preference starts with successful resistance, followed by stalemate, continued conflict, and finally successful compellence. A high risk-acceptance level would mean choosing values that emphasize an outcome that is higher on this priority list – and act accordingly. Using that as a guidance, it can be recognized that the factors that determine successful compellence are the expected utility of compellence and the expected utility of compliance. Where the compeller's preference goes to successful compellence, he can be expected to estimate these utilities rather high in case of optimism, i.e. in case of a relatively high risk-acceptance. Successful resistance is determined by the expected utility of resistance and of resignation. A risk-taking compeller will estimate those utilities as relatively low. Identical considerations can be applied to all outcomes and for both actors. Consequently, by attributing a certain level of risk acceptance to the actors, it becomes possible to examine where on the range between min and max they will probably be when judging the elements of preference or of disfavor.

Thus, the probable value of the preferred (or rejected) expected utility as well as the outcome can be specified. [100]

7d.1 Consequences of Knowledge for Uncertainty

The previous sections have demonstrated the pivotal role of uncertainty in the implementation of a compellence strategy. There were also clear indications about the significance of knowledge in shaping the degree of uncertainty. The issue of knowledge is rather complicated, particularly when it concerns a crosswise appreciation. It is called to mind that, in the context of crosswise appreciation, there are two variances: the compeller's estimate of the target's assessment, and the target's estimate of the compeller's assessment.

Uncertainty Related Factors

Table C: Uncertainty Related Factors

- HARD ISSUES
  - Hard Internal
    - Offered Concessions
    - Offered Compensation
    - Costs of Intervention (Offensive & Defensive)
    - Military Capabilities (Offensive & Defensive)
  - Hard External
    - Exposure to Opportunity
    - Exposure to Threat
  - Hard Opponent
    - Damage
- SOFT ISSUES
  - Soft Internal
    - Rejected Status Quo
    - Motivational Aspects
    - Political Strategy (Offensive & Defensive)
    - Military Strategy (Offensive & Defensive)
  - Soft External
    - External Enabling Aspects (Offensive & Defensive)
  - Soft Opponent
    - Received Concessions
    - Received Compensation

In the context of knowledge, two basic variances exist: knowledge about 'hard' and knowledge about 'soft' issues. Hard issues refer to things that, one way or another, can be measured in a rather exact sense. They have a certain 'visibility' and are less often subject to appreciation with doubt. They are mainly related to capabilities. Soft issues, on the contrary, are rather difficult to measure and often subject to doubt and other emotions like skepticism. They are mainly related to intentions. Obviously, hard issues are easier to assess than soft issues. Furthermore, 'internal' and 'external' issues can be distinguished as subcategories. Internal issues concern things that are of the actor himself, like his own capabilities and intentions. External issues, on the contrary, are things that exist or happen outside the actor's sphere of interest, such as the level of exposure to the threat and opportunity, and external enabling factors. A specific position is taken by the third subcategory, knowledge about the opponent. In essence, this is also an external issue. However, since it concerns aspects like the opponent's capabilities and intentions, this category is particularly subject to manipulation

100 In this study, the impact of risk taking is applied to the values of the expected utilities. In other words, the impact of risk acceptance is only considered at the end of a longer process. During this process particular variables are used, which may have been subject to risk acceptance as well. A more detailed approach would calculate each of these variables separately in an earlier phase of the calculation. For instance, the benefits of intervention have a positive connotation. Thus, already in the phase of settling the value of these benefits the mechanism of calculating the impact of risk acceptance to these benefits could be applied. However, for reasons of economy, this has not been done.

by the opponent. In total, six variances can be discerned: knowledge about hard internal issues, about hard external issues, about hard issues concerning the opponent, about soft internal issues, about soft external issues, and about soft issues concerning the opponent. Each category has its own level of knowledge, and thus creates its own degree of certainty or uncertainty. Particular variables can be arranged under each of these categories. It means that these variables are subject to a particular level of knowledge and of uncertainty. The list given in Table C provides an indication, showing which kind of knowledge affects the level of certainty of the value of that variable. Assuming, for instance, that the degree of knowledge concerning soft external issues is lower than the degree of knowledge concerning hard external issues, the conclusion is that the level of uncertainty about external enabling aspects is higher than the level of uncertainty about the exposure to opportunity and threat. [101]

Note 27: The Complexity of Rating the Level of Knowledge

As has been explained in section 7b on page 111, rating the variables is a matter of judgment, with a high level of subjectivity. To objectify the judgment, several sophisticated mechanisms can be applied. However, we always need to be aware of the complication that derives from the fact that value of the conditions mentioned must be judged by the actors of the process, partly through crosswise appreciation. This is particularly true for the way actors (have to) deal with knowledge (i.e. how actors – and consequently also analysts – (have to) validate the kinds of knowledge involved). That is why some separate consideration is justified of two particular aspects of the rating of the level of knowledge. They are both actors' self-knowledge, and both actors' knowledge of their opponent (their intentions, i.e. their mindset and way of thinking, and their capabilities). [102] *Validating these two kinds of knowledge is not a straightforward process of judging one single variable. On the contrary, several distinct elements play a role. In the discussion below this process will be explained.* [103]

SELF-KNOWLEDGE

With regard to self-knowledge a distinction can be made between two versions, the ***Target's*** *Self-knowledge and the* ***Compeller's*** *Self-knowledge. So, we have to consider the* ***Compeller's*** *Estimate of the* ***Target's*** *Assessment of the* ***Target's*** *condition of Self-knowledge, and the* ***Compeller's*** *Estimate of the* ***Target's*** *Assessment of the* ***Compeller's*** *condition of Self-knowledge.*

- *The* ***Compeller's*** *Estimate of the* ***Target's*** *Assessment of the* ***Target's*** *Self-knowledge.*

In this estimate, basically, three elements of consideration are involved:

1) the compeller's estimate,
2) the target's assessment,
3) the target's self-knowledge.

The basic subject of consideration is the target's self-knowledge. However, the target's assessment of it, as seen through the eyes of the compeller, is of interest. Thus, in essence, the question here is what the compeller thinks about the target's ability to know himself. In all fairness, the latter can be considered as one (single) capability of the target. As a result, the three elements can be reduced to two: the compeller's estimate of the target's self-knowledge. It indicates how well the compeller expects the target to know himself. This is the least complex aspect of the appreciation of the knowledge issues.

101 It is worthwhile to note that a major part of the variables mentioned concerns the actor's perception of what – in the future – will materialize. For instance, what is called 'received concessions' actually means what concessions the actor expects to receive from the opponent in the future, i.e. after this part of the process is completed.

102 In what follows, intentions and capabilities are considered as similar issues.

103 The discussion concentrates on the estimates made by the compeller. However, the same reasoning applies to the target's estimates.

- *The **Compeller's** Estimate of the **Target's** Assessment of the **Compeller's** Self-knowledge.*

In this estimate, basically, again three elements of consideration are involved:

1) the compeller's estimate,
2) the target's assessment,
3) the compeller's self-knowledge.

The question here is what the compeller thinks about the target's ability to identify the compeller's self-knowledge. This does not provide an opportunity to reduce the elements, so as: the compeller's estimate of the target's assessment of the compeller's selfknowledge. As far as the complexity of the appreciations is concerned, this is as complex as all other appreciations that follow from the crosswise appreciation.

KNOWLEDGE OF INTENTIONS AND CAPABILITIES

- *The **Compeller's** Estimate of the **Target's** Assessment of the **Target's** Knowledge of the **Compeller's** Intentions/ Capabilities.*

Here, four elements of consideration are involved:

1) the compeller's estimate,
2) the target's assessment,
3) the target's knowledge,
4) the compeller's intentions/ capabilities.

However, the target's assessment of the target's knowledge can be combined into one single element. Thus, in essence, the question here is what the compeller thinks about the target's ability to know the compeller's intentions/capabilities. As a result, the four elements can be reduced to three: the compeller's estimate of the target's assessment of the compeller's conditions. The reduction to three elements of consideration makes this as complex as all other appreciations that follow from the crosswise appreciation.

- *The **Compeller's** Estimate of the **Target's** Assessment of the **Compeller's** Knowledge of the **Target's** Intentions/Capabilities.*

Here, again, four elements of consideration are involved:

1) the compeller's estimate,
2) the target's assessment,
3) the compeller's knowledge,
4) the target's intentions/capabilities.

The question here is what the compeller thinks about the target's ability to know the compeller's ability to identify the target's intentions/capabilities. Here, no opportunity exists to reduce the elements, so as: the compeller's estimate of the target's assessment of the compeller's knowledge of the target's intentions/capabilities. This is obviously the most difficult aspect of the appreciation of the knowledge issues. It demands a sharp understanding of what exactly is going on when actors try to appreciate each other's knowledge.

7d.2 Calculating Impact of Uncertainty and Risk Acceptance (R&R)

In the above sections 7c.6 and 7c.7, the expected utilities of intervention and submission as they result from the compeller's estimate of the target's assessment of the compeller's expected conditions were calculated (C-T-Cpl and C-T-Rsg). The results were presented in Figure 35 on page 120 and Figure 36 on page 120. It provided a maximum and a minimum outcome. Following the same procedure, the other two estimates of the compeller and the four estimates done by the target can be calculated. Each of these calculations will yield a maximum and a minimum value. Figure 37 shows the compeller's and the target's maximum and minimum estimates, as calculated. [Note that the risk acceptance attitude of the compeller is (arbitrarily!) set to ***average*** (level 5) and of the target to ***substantial*** (level 7)]. It is composed of two elements. The upper half shows the compeller's calculation of values, about himself and about the target. The lower half shows the target's calculation of values about himself and about the compeller.

Concentrating on the compeller's calculation (the upper half of Figure 37), to the right of the expression 'MAX' a number presents the maximum value of (the compeller's estimate of the target's assessment of) the compeller's expected utility of intervention (compel = 7.4), the compeller's expected utility of submission (resign = 4), the target's expected utility of intervention (resist = -1.2), and the target's expected utility of submission (comply = -0.5), successively. To the right of the expression 'MIN', the minimum value of these utilities (compel = 1.9; resign = -1.0; resist = -3.8, and comply = -4.5) is presented.

Figure 37: Example Calculation of Values of Outcomes: Compeller & Target about Compeller & Target

Calculation of Values: COMPELLER about Compeller & Target

	Compeller's Risk Taking Attitude			5
	Compeller's Estimate of			
	Target's Assessment of the Combination of			
	Compeller's Conditions		Target's Conditions	
	Compel	Resign	Resist	Comply
MAX	7.4	4.0	-1.2	-0.5
	5.8	**0.5**	**-3.0**	**-1.7**
MIN	1.9	-1.0	-3.8	-4.5

Calculation of Values: TARGET about Compeller & Target

	Target's Risk Taking Attitude			7
	Target's Estimate of			
	Compeller's Assessment of Combination of			
	Compeller's Conditions		Target's Conditions	
	Compel	Resign	Resist	Comply
MAX	3.6	5.0	6.7	-3.5
	-0.0	**4.2**	**5.9**	**-6.8**
MIN	-0.8	0.0	2.0	-7.5

The 'min' and 'max' values prove that there is a particular level of uncertainty concerning the involved utility. However, as was discussed in the previous chapters, there is a need to find out what value the concerned actors 'use' when they prepare their decision. This depends on the actors' risk-acceptance, or risk-taking attitude. Based on that risk-taking attitude, the used value eventually lies somewhere between the minimum and the maximum value. Figure 37 shows the results of calculating the actors' risk-acceptance attitude in between the 'min' and the 'max' rows (in bold characters: compel = 5.8; resign = 0.5; resist = -3.0, and comply = -1.7). The same calculation has been made for the target, shown in the lower part of Figure 37.

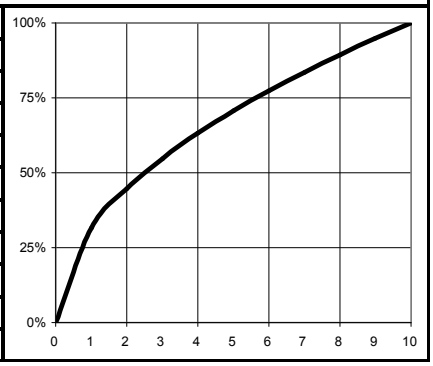
In the following, the explanation on how the results of calculating the actors' risk acceptance attitude come about is given. In the actual calculation the fact that risk taking is related to positive or negative value of the issue under consideration has to be taken into account, as has been explained in section 7d on the transfer 'From Conditions of Uncertainty to Conditions of Risk' on page 120. A high level of risk acceptance results in emphasizing the positive aspects, while a low level of risk acceptance results in emphasizing the negative aspects. In other words, concerning issues with a positive connotation, risk-embracing people tend to accept a value that is closer to the minimum (the negative side), while risk-avoiding people tend to accept only a value that is closer to the maximum (the positive side). Concerning issues with a negative connotation, risk-embracing people tend to accept a value that is closer to the maximum (which is the negative side, here), while risk-avoiding people tend to accept only a value that is closer to the minimum (which is the positive side, here). This phenomenon is incorporated in the calculation.

It should be realized, that risk acceptance is not a linear issue. The earlier part of risk is taken more easily than the later part. Similar to what was discussed on the levels of success, there is a gradually diminishing willingness to take risks. In short, people tend to be willing to take more risk when the issue at stake is limited than when the issue at stake is great. As was done with the computation of the will enhancement, this phenomenon is dealt with in the calculation by using a semi-exponential function, with the square root of value of the

risk-taking attitude as a basis. [104] Figure 38 shows, in a list, as well as in a graph, the percentages of the difference between the maximum and the minimum of the expected utility dependent on the value of the risk-taking attitude.

Figure 38: Schedule of Consequences of Risk Taking Attitude

Value of Risk Taking Attitude	Percentage of Difference between **Maximum** and **Minimum** value of Expected Utility
0	0%
1	32%
2	45%
3	55%
4	63%
5	71%
6	77%
7	84%
8	89%
9	95%
10	100%



The actual calculation is done in the following way. The focus is on the compeller's estimate of the target's assessment of the value of compellence. As shown in Figure 37, the value (after taking into account the risk-taking attitude) is **5.8**. The minimum value is 2, and the maximum value is 7.4. The risk-taking attitude of (in this case the compeller) is set at average (level 5). Successful compellence, for the compeller, has a positive connotation. This means that he tends to emphasize the positive side (the maximum value) when his risk-taking attitude is low, and the negative side (the minimum value) when his risk-taking attitude is high. In fact, the compeller uses the minimum value of the expected utility (here 2) and adds to that the difference between the maximum and the minimum (here 5.4), multiplied by a factor that depends on his risk-taking attitude. In the case of an average risk-taking attitude (level 5), this factor is 71% (see the percentage mentioned in Figure 38). As result, the value added to the minimum value of the expected utility is 3.8 (71% * 5.4). Consequently, taking into account the risk-taking attitude of the compeller, he is supposed to assign the value of 5.8 (2 + 3.8) to the expected utility of compellence. The other estimates are calculated in a similar fashion.

7e The Outcome of the Example Case

What remain, after considering the impact of the actors' risk taking attitude, are eight values, four for each actor, concerning the expected utility of compellence, of resignation, of resistance, and of compliance successively. Figure 37 shows that the compeller's estimates are: compel = 5.8; resign = 0.5; resist = -3.0, and comply = -1.7. The target's estimates are: compel = 0.0; resign = 4.2; resist = 4.3, and comply = 0.6.

7e.1 Compact Decision Trees (R&R)

These values can be inserted into three compact decision trees, as presented in Figure 39. This method is introduced in the section on 'Compact Format of Decision Trees' on page 74. As has been explained, it concerns, at the top, the compeller's estimate, at the middle, the target's estimate, and, at the bottom, the analyst's estimate. In the column 'result', the results are presented as calculated and as rounded-off numbers. The rounded-off numbers will be used in the payoff matrix, but they also serve as the basis for the mutual relations diagram.

104 I.e. the level of risk taking corresponds to the square root of the value, positioned between min (level 0) and max (level 10). This implies that an average risk-taking attitude (i.e. level 5) would result in an estimate that would be at approximately 70% of the difference between the min and the max value.

Figure 39: Compact Decision Trees of Example Case

	Move Compeller			Move Target			RESULT			Order
Compeller's Estimate	Compel	5.8	+	Resist	-3.0	=	2.7	3	Continued **CONFLICT**	(3)
	Compel	5.8	+	Comply	-1.7	=	4.1	4	Successful **COMPELLENCE**	(4)
	Resign	0.5	+	Resist	-3.0	=	-2.6	-3	Successful **RESISTANCE**	(1)
	Resign	0.5	+	Comply	-1.7	=	-1.2	-1	**STALEMATE**	(2)

	Move Target			Move Compeller			RESULT			Order
Target's Estimate	Resist	5.9	+	Compel	-0.0	=	5.9	6	Continued **CONFLICT**	(3)
	Resist	5.9	+	Resign	4.2	=	10.1	10	Successful **RESISTANCE**	(4)
	Comply	-6.8	+	Compel	-0.0	=	-6.9	-7	Successful **COMPELLENCE**	(1)
	Comply	-6.8	+	Resign	4.2	=	-2.7	-3	**STALEMATE**	(2)

	Move Compeller			Move Target			RESULT			Order
Analyst's Estimate	Compel	5.8	+	Resist	5.9	=	11.7	12	Continued **CONFLICT**	(4)
	Compel	5.8	+	Comply	-6.8	=	-1.1	-1	Successful **COMPELLENCE**	(2)
	Resign	0.5	+	Resist	5.9	=	6.4	6	Successful **RESISTANCE**	(3)
	Resign	0.5	+	Comply	-6.8	=	-6.4	-6	**STALEMATE**	(1)

7e.2 PAYOFF MATRIX (R&R)

The method described in section 4c.2 on Calculating the Pure Nash Equilibrium in the Payoff Matrix', on page 83, can be used to insert the data from the decision trees into a payoff matrix. (Only the decision trees of the compeller and the target are relevant!) The left-hand part of Figure 40 presents the payoff matrix. The target is the column-player, and the compeller the row-player. The matrix demonstrates that, for the target, the choice to resist means, "to resist the compeller's pressure to comply with his demands", and the choice to comply means "to comply with the compeller's demands". For the compeller, the choice to compel means "to compel the target into compliance", and the choice to resign means "to accept that the target does not comply with the demands." The known four outcomes – (continued) conflict, (successful) compellence, (successful) resistance, and stalemate – are presented above and below the numbers. With the available data the outcome of this case: the Nash equilibrium can be established. In the example case the outcome will be a continued conflict.

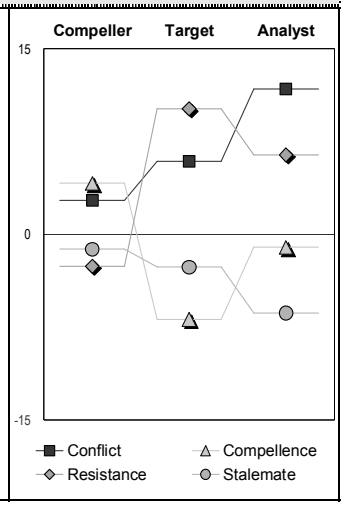
7e.3 COMBINED MUTUAL RELATIONS DIAGRAM (R&R)

The data from the calculation presented in Figure 39, also make it possible to create a combined mutual relations diagram for this example case. This presentation provides an opportunity to see at a glance the mutual relation between the outcomes as expected by the compeller and the target, as well as how an analyst would expect the outcomes to be related. Studying this diagram gives an insight into the potential to change the outcome in a particular direction. The right-hand part of Figure 40 presents this diagram. The main difference between the method for finding the Nash equilibrium from the payoff matrix and this mutual relations diagram is that the former only shows the most probable outcome of the game, while the latter also gives an indication of the relative value of the various outcomes. In other words, these data can demonstrate to what extent the most probable outcome exceeds the other potential outcomes. The following deliberations explore this idea in more depth.

The graph reveals that the compeller (see the left-hand column) expects compellence to have the highest utility. He attributes a slightly lower utility to a continued conflict. Quite at a distance further down he expects a stalemate, followed, at the bottom by the chance of successful resistance. The schedule also points out that the target (see the middle column) has a rather different perception of reality. He expects the utility of successful resistance to be the highest by far. In his view this utility is considerably higher than the compeller's appraisal of the utility of successful compellence. He attributes a substantially lower value to the utility of a continued conflict and a value that is even much lower to the utility of a stalemate. He places the utility of successful compellence far down at the bottom of the list.

Figure 40: Payoff Matrix and Mutual Relations Diagram of Example Case

			Target	
			RESIST (i.e. to resist compeller's pressure to comply with his demands)	COMPLY (i.e. to comply with compeller's demands)
			CONFLICT	Compellence
Compeller	COMPEL	(i.e. to compel target into compliance)	(3) (6) 3 , 3	(4) (-7) **4** , *1*
	RESIGN	(i.e. to accept that target does not comply with demands)	(-3) (10) *1* , **4**	(-1) (-3) 2 , 2
			Resistance	Stalemate



At one glance it becomes clear that the compeller and the target have totally opposite, and virtually incompatible, views of reality. For an analyst the combination of these two antipodal perspectives produces the picture of an unequivocally high chance of a continued conflict (see the right column). The chance of successful resistance is considerably lower and the chance of successful compellence is even far below that level. The chance of a stalemate is at the bottom of the list. In the final analysis, this picture reveals that quite some effort will be needed to change the perspectives of the two actors. In other words, in the example case, there will probably not be a simple way for the actors to influence their opponent's outlook on reality in order to reverse the situation to their advantage.

7f Summary

This chapter shows how the model provides the opportunity to insert data at the lower tier and — through the calculations at the lower and the middle tier, and the comparisons at the upper tier — to establish what the most probable outcome of the process be, given these data. The model takes into account such elements as uncertainty and the risk acceptance attitude of the players.

Repeating this procedure with adapted data as they are expected to apply during the successive phases of a conflict creates an insight into the evolution of the process, either in favor of the compeller, or in favor of the target. Furthermore, when considering a case, the application of the model to the circumstances at hand will provide an insight into the initiatives actors can take to enhance their chance of success. Conversely, it will show which initiatives are potentially prone to failure.

ANALYSIS AND VALIDATION

[W]e have no opinon on the Arab-Arab conflicts, like your border disagreement with Kuwait. I was in the American Embassy in Kuwait in the late 1960s. The instruction we had during this period was that we should express no opinion on this issue, and that the issue is not associated with America. James Baker has directed our official spokesman to emphasize this instruction.
[. . .]
We can see only that you have deployed massive troops in the south.
[. . .]
And for that reason, I received an instruction to ask you, in the spirit of friendship, not confrontation, regarding your intentions.

US Ambassador to Iraq, April Glaspie,
to Saddam Hussein
during a 2-hour meeting
in Saddam's office on 25 July 1990.

(from Dilip Hiro's "Desert Shield
to Desert Storm")

8. *Analysis of Baseline Scenarios*

Given certain conditions, the outcome of a compellence process can be calculated, with the method provided. Some insight can be established whether the process is likely to end in successful or failing compellence (equal to successful resistance), or that the result will be a continued conflict or a stalemate. This outcome of the case is, of course, one of the most important findings of the process. However, it is surely also useful to investigate some of the reasons behind the outcome. After all, one of the points of interest is the question which measure might bring another – preferably better – result. With the information available, some additional conclusions can be drawn. This chapter deals with these additional conclusions and offers a tool for the analysis of compellence cases.

8a Sensitivity Analysis; Two Baseline Scenarios

As said, the main point of interest in this study concerns the effects of changes in individual variables on the total outcome of the process. By identifying those effects the most influential or critical (success or fail) factors can be found. A method of analysis that helps to find those critical factors is called a 'what if', or 'sensitivity' analysis. The best-known method of sensitivity analysis is the so-called spider diagram. Furthermore, a what is called 'relative impact diagram' is developed and introduced in this study.

8a.1 Spider Diagram

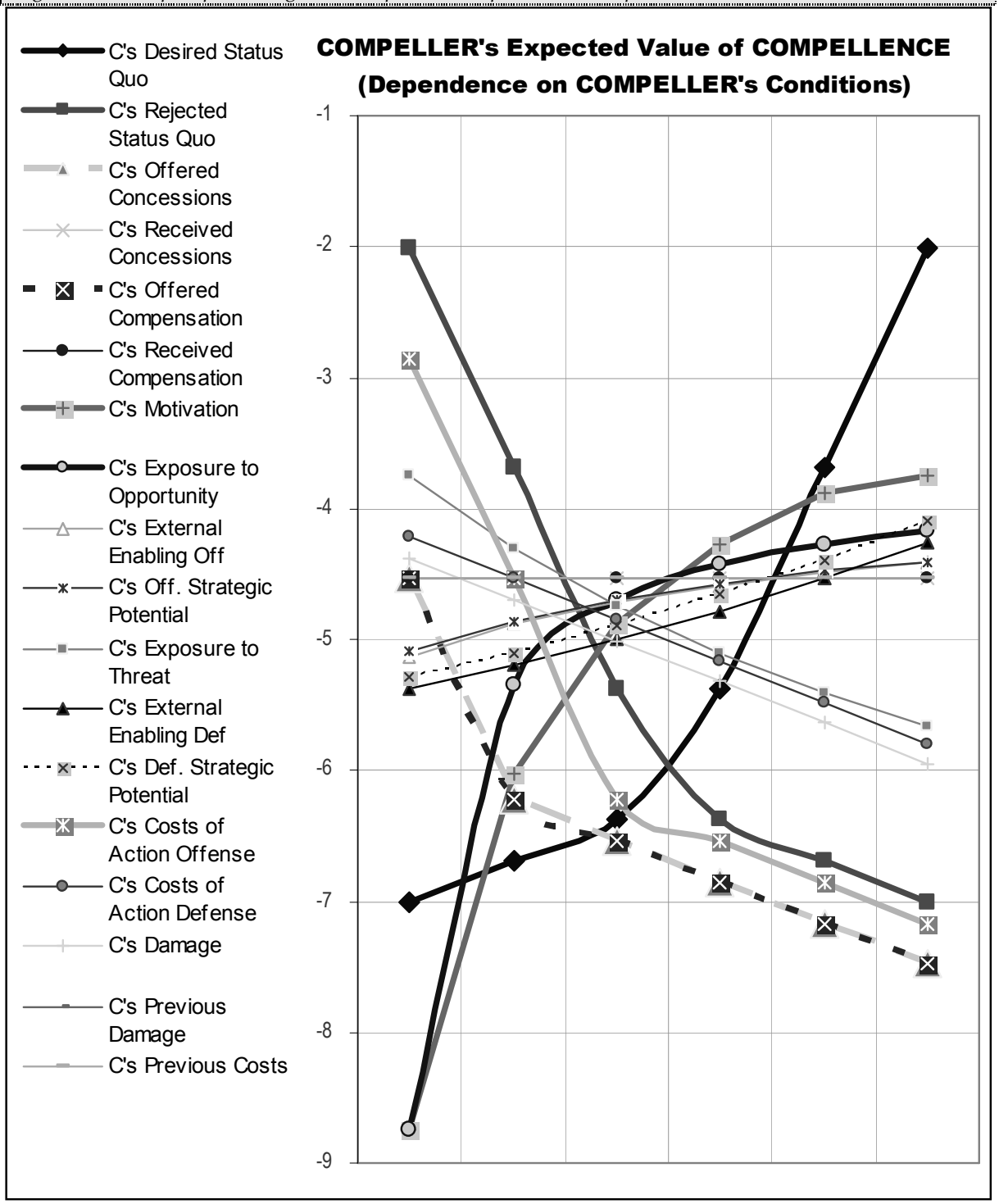
In essence, a spider diagram provides insight into the effect of changing the value of one particular variable while keeping the other variables at their original level (ceteris paribus). In other words, the variables are varied one at a time from minimal to maximal, with the other variables set at their base case values. The effect of these changes on the total outcome can be measured and presented in a chart. Figure 41 gives an example of such a spider diagram. The spider diagram refers to the way the expected value of compellence depends on the compeller's conditions (as seen through the eyes of the compeller). The conditions used as input for this example are equal to the example in chapter 7. In other words, this spider diagram can be used to analyze the example case discussed in chapter 7 in more detail.

The formulae given in Annex D serve as the basis for this analysis. In the chart the horizontal axis contains values, which can be assigned to the variables, ranging from minimum (level 0) to maximum (level 10). For each value of the variable concerned (i.e. from 0 to 10), the relevant formula is calculated. The vertical axis represents the values of the outcomes of the formula, also ranging from minimum to maximum (in this example from -1 to -9). The chart itself shows the development of the formula outcomes, depending on the change in level of each considered variable.

The steepness of a line in the spider diagram indicates how sensitive the considered outcome (in this case the chance of successful compellence) is to changes in that variable, given the conditions of the base case. In other words, the steeper a line, the higher the sensitivity of the outcome is to a change in that variable. For instance, in the example, a change in C's SQ^{Rej} (starting in the left-hand column at the top, *level -2*) has a higher – negative – impact than a change is C's Exposure to the Threat (starting in the left-hand column third from the top, *level -3.75*). An upward line (acclivity) indicates a positive effect whereas a downward line (declivity) indicates a negative effect on the outcome. In the example a higher value of C's SQ^{Rej} has a negative impact – showing a downward line. A higher value of C's SQ^{Des}

(finishing in the right-hand column at the top, *level* -2) has a positive impact – showing an upward line.

Figure 41: Example Spider Diagram (Compeller's Perspective on Compellence and Resistance)



We can now ponder on a deliberate change in those variables that seem to affect the desired outcome the most. It concerns the variables with the steepest lines in the spider diagram. In the example diagram bold lines highlight some results that stand out. It concerns (acclivity) the compeller's SQ^{Des}, his motivation, and his exposure to the opportunity, and (declivity) his SQ^{Rej}, his offered concessions and offered compensation, and his costs of offensive ac-

tions. These lines are relatively steep, which means that a change in one of these conditions will – ceteris paribus – have a relatively high impact on the value of compellence. The figure shows, for instance, that the value of compellence increases considerably more when the compeller increases his motivation than when he increases his defensive external enabling factors or his defensive strategic potential. Thus, for the compeller, trying to raise his motivation is more worthwhile than raising his defensive external enabling factors or his defensive strategic potential.

Note 28: Example: Impact of Changes in C's SQ^{Rej} on Expected Value of Compellence

For example, assume we want to know the impact a change in C's Rejected Status Quo (SQ^{Rej}) has on the compeller's expected value of compellence (ceteris paribus). [105] *The curve that starts in the upper left-hand corner of the graph represents C's SQ^{Rej}. We can see that, when the value of C's SQ^{Rej} is minimal (level* ***0*** *on the horizontal axis) the calculation of the formula for the expected value of compellence gives an outcome of minus two (****-2*** *on the vertical axis). In other words, when all the other variables are set at their base case values and we set the value of C's SQ^{Rej} to* ***0****, the compeller's expected value of compellence is* ***-2****.*

When all the other variables are not altered and kept at their base case values, and we change the value of the SQ^{Rej} successively to ***2****,* ***4****,* ***6****,* ***8****, and* ***10****, the expected value of compellence changes successively to* ***-3.7****,* ***-5.4****,* ***-6.4****,* ***-6.7****, and* ***-7****. The conclusion of this example is that – given the base case values of the other variables – a positive change in the value of C's SQ^{Rej} results in a negative change of the expected value of compellence. In other words, the higher the value of C's SQ^{Rej}, the lower the expected value of compellence.*

Clearly, not all lines are straight. This means that, in the case of a curved line, a change in the condition (variable) concerned from one value to the next (for instance, from **2** to **4**) does not have the same impact on the value of compellence as a change from another value to the next (for instance, from **6** to **8**). Looking at the line associated with the factor motivation – changing that condition from *very low* (level **1**) to *low* (level **2**) has a greater influence than changing that condition from *firm* (level **6**) to *substantial* (level **7**). In a practical sense this means that, when – again using the example of the factor motivation – the basic value is *very low* (level **1**) it is more attractive to try to enhance the motivation than when the basic value is *firm* (level **6**). In the example, the opposite is the case for the desired status quo. When the basic value of the SQ^{Des} is limited, a minor increase only brings about a limited improvement in the value of compellence. When, on the other hand, the basic value of the SQ^{Des} is above average, an increase will result in quite a rise in the value of compellence.

For each element of the model a separate spider diagram can be made. As said, the given diagram shows the expected utility of compellence. However, what can, for instance, also be produced is a spider diagram for the probability of exploiting the opportunity or countering the threat, for the reward and the risk, for the expected utility of the action as a whole, but also of the combination of an actor's action and of his opponent. In the context of this study the values of compellence and of resistance are the most relevant.

105 Since the objective of this chapter is to find out what changes in the variables raise the chance of successful compellence, the focus is on the extent to which variables affect the chance of successful compellence. That is why the diagrams only show the degree of compellence enhancement, i.e. to what extent the variables enhance compellence. It is obvious, by the way, that the opposite changes would raise the chance of successful resistance.

8a.2 RELATIVE IMPACT DIAGRAM

As the diagram presented in Figure 41 shows, particularly when there is a large amount of variables, a spider diagram tends to become cluttered. Some of the details are difficult to recognize. Furthermore, a spider diagram only provides insight into the impact of the variables on the separate outcomes (for instance, on compellence or resistance). It does not show the relationship between the separate outcomes. As a result, after realizing the influence of a variable on one of the outcomes (for instance, on successful compellence) we still need to look at the effect of that variable on the other outcome. After all, that other outcome could be more affected by the examined change, and this could very well neutralize the impact on the first outcome. If, for instance, a change in one variable favors compellence as well as resistance, and the latter effect were stronger than the first, a change in that variable would ultimately favor resistance. Therefore, the compeller should avoid this change.

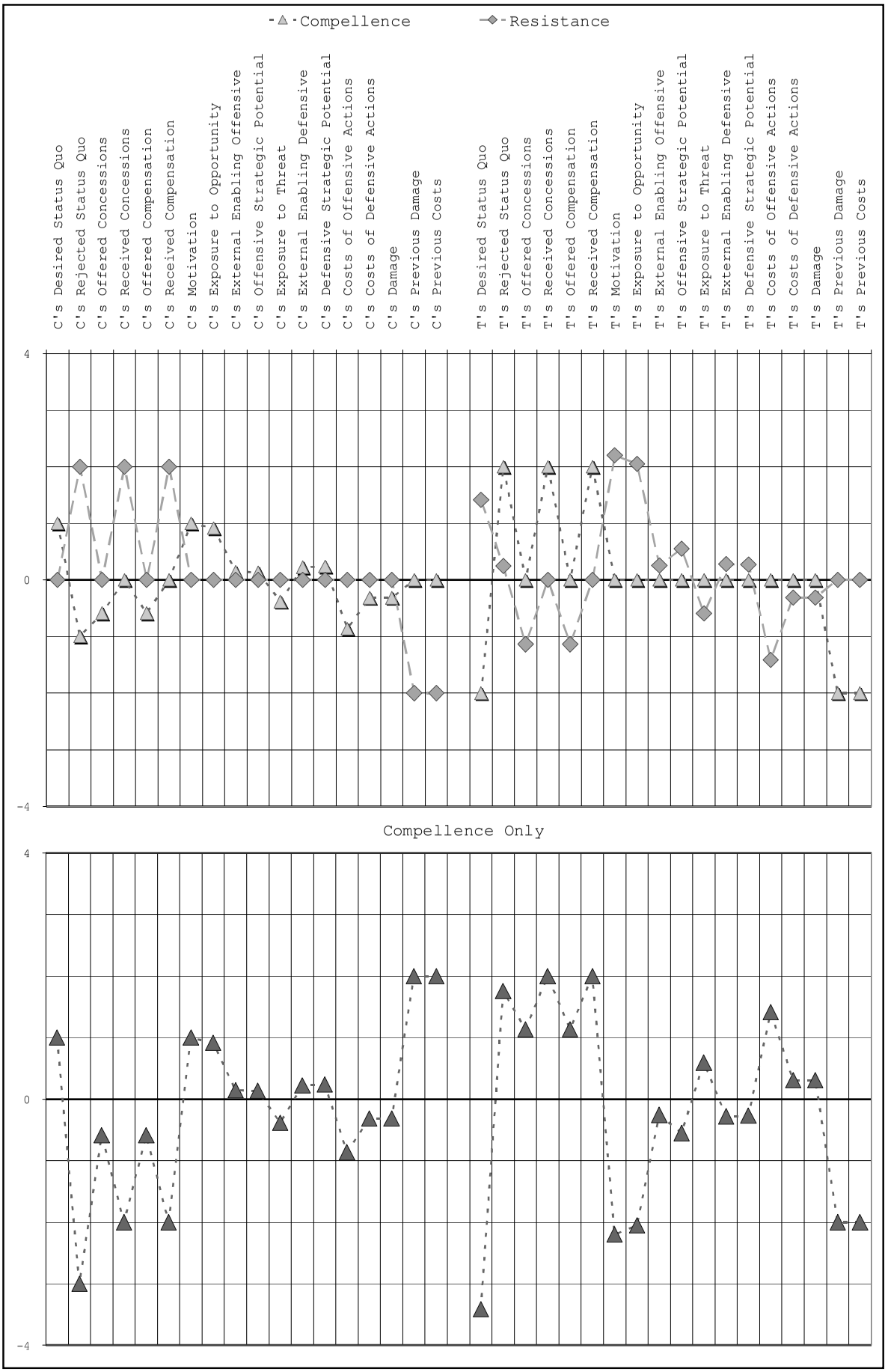
To overcome this deficiency of the spider diagram, this study introduces – what is coded as – a 'relative impact diagram', in which the gradient of a line in the spider diagram represents the degree of impact of the variable concerned. The higher the gradient, the higher the impact. The 'relative impact diagram' uses these gradients and relates them to each other. Thus, it provides a way of showing – as the name indicates – the relative impact of a variable on the issue concerned. As has been said, in the example a change in C's SQ^{Rej} has a higher – negative – impact than a change in C's Exposure to the Threat has on the expected value of compellence. By presenting this difference in a diagram, the respective conditions can be compared with each other, and shown at a glance.

So, the relative impact diagram contains per variable the value of the steepness of the 'impact line' of the spider diagram (in mathematical terms: the value of the tangent line). A **positive** value indicates that by **increasing** the value of the corresponding variable (condition) the value (the chance) of the mentioned result (compellence and resistance) **grows**. Conversely, by **decreasing** the value of that variable, the chance of the mentioned result **diminishes**. A **negative** value indicates that by **decreasing** the value of the corresponding variable the chance of the mentioned result **grows**, while an **increase** produces a **lower** result.

Figure 42a (top part) on page 135 shows the compeller's perspective of the relative impact on his own, and his opponent's conditions. The horizontal axis (on the left) presents 18 conditions of the compeller, and (on the right) 18 conditions of the target. The vertical axis presents the value of the tangent line (ranging from -4 to +4 here). Per condition, two symbols represent the value of, on the one hand, the compeller's chance of successful compellence (triangle) and, on the other, his opponent's chance of successful resistance (diamond).

Referring to the previous paragraphs, it now also becomes clear, for instance, that, indeed, C's SQ^{Rej} (second from the left) scores lower than C's Exposure to the Threat (eleventh from the left) when considering the impact on compellence. In other words, the gradient of C's SQ^{Rej} is more negative than the gradient of C's Exposure to the Threat. In practical terms this means that the diagram demonstrates that the – negative – impact of a change in C's SQ^{Rej} is higher than the – also negative – impact of a change in C's Exposure to the Threat.

Figure 42: Example Relative Impact Diagrams (Compeller's Perspective)



The process of compellence is driven by the estimates of two opposing parties. This means that two separate relative impact analyses are needed (one for the compeller, one for the target) to get a complete picture. [106] Since the estimate of the parties may differ, the resulting effects of changes in variables can reinforce or weaken each other. That is why the total result of both estimates is of interest as well, particularly to be able to see the potential overall impact at one glance.

Note 29: Result of Changing Conditions in the Relative Impact Diagram

*Taking C's SQ^{Des} (the far left condition on the horizontal axis of Figure 42a) as a reference, the diagram shows that the relative impact of a change in this condition is zero (**0**) with respect to resistance and one (**+1**) with respect to compellence.*

*Taking C's SQ^{Rej} (second from the left in Figure 42a) as reference, the diagram shows that the relative impact of a change in this condition is two (**+2**) with respect to resistance and minus one (**-1**) with respect to compellence.*

Using the meaning of changes in the variables (conditions), as mentioned above, this implies that increasing C's SQ^{Rej} enhances resistance (with a 'factor' 2) and reduces compellence (yet to a lesser degree: 'factor' 1). Conversely, diminishing C's SQ^{Rej} reduces resistance and enhances compellence.

Combining Impact on Compellence and Impact on Resistance

Ultimately, we are interested in the total impact of a change in a condition on the potential outcome. In this context, it should be noted that the chance of successful compellence also increases with the decline of the chance of success for resistance. In other words, it is necessary to examine the impact of variances in variables on the degree of success for compellence as well as on the degree of failure for resistance. It could be said that variances in variables that both enhance the chance of successful compellence and reduce the chance of successful resistance have a 'double' impact on the chance of successful compellence. In the calculation, the two values can be totaled. Figure 42b (bottom part) looks at these considerations. It presents the combination of the data from Figure 42a (top part). It shows that the total influence (of a change in a condition that, for instance, harms compellence, and favors resistance) on the chance of successful compellence is calculated as the sum of the two separate effects. In the example case, an increase in C's SQ^{Rej} negatively affects compellence (with a 'factor' 1) and positively affects resistance (with a 'factor' 2). In combination, the effect is a negative result for compellence (with a 'factor' 3).

The relative impact diagram as shown in Figure 42b with, what are called, compellence enhancement factors will be used as the basic relative impact diagram in the remainder of this study. The question now is whether some general conclusions can be drawn from the model concerning universal principles of compellence, such as generally prevailing critical success factors. To that end, the following section analyzes the model. The frameworks are used to analyze the outcome of two 'purely' theoretical cases.

106 Furthermore, whereas the player's estimates imply crosswise appreciations, it should be noted that the increase or decrease of the relevant variable concerns the opponent's assessment of that variable.

8b Examining Baseline-Scenarios

One of the main objectives of this study is to identify particular universal principles of compellence, or more precisely, to identify particular variables that in (almost) all circumstances, have a proportionally high impact on the chance of successful compellence. This chapter analyzes the frameworks aimed at finding these so-called critical success factors. The example case discussed in the previous chapter is based on specific conditions with differing values. The framework relates these conditions to each other, which results in specific outcomes of the process involved. One can imagine that the impact of a variance on the outcome depends not only on that variance, but also on the value of other, related, variables. This demonstrates that using a scenario with different values of variables does not make the assessment possible of the 'absolute' impact of a variance in a particular variable on the outcome. What must be done is to make the calculation independent of the value of the variables. Assigning the same value to all variables, and then changing the variables one by one makes this possible. This would mean applying the frameworks to some fictitious scenarios.

8b.1 Two Fictitious Baseline Scenarios

This section contains two fictitious baseline scenarios that are more or less universal. In the first baseline scenario the value of all variables is set to *average* (level 5). This scenario represents a 'perfect' setting for comparing the impact of variances in all the variables. However, this is indeed a very artificial scenario since it is, for instance, difficult to comprehend any scenario that has an identical desired and rejected status quo. Nevertheless, the advantage of this approach is that none of the variables has a disproportional impact on the outcome.

In the same chart of Figure 43, we find T's desired status quo (19th) three 'clicks' to the left. Table D shows the conversion of this fact: T's desired status quo occurs in the right-hand column (negative impact) at the 60% level ($^3/_5$ of 100%).The second baseline scenario compensates for the extreme artificialities of the first. It is based on approximately the same assumptions as the first (basically all variables are equal, level 5). However, it works on the basis that there is an incentive to act (i.e. there is a difference between the desired and the rejected status quo; *substantial* -level 7- and *marginal* -level 3-, respectively), and that no concessions are made (yet), and no compensation is given. Although still artificial, this scenario bears some resemblance to a situation that might occur in reality.

To find out which conditions have proportionally the highest impact on the chance of success, the following considerations use relative impact diagrams arising from a sensitivity analysis as introduced in section 8a. The findings from the sensitivity analyses are converted into tables in which the variables are ordered based on their degree of impact on the chance of successful compellence. The information regarding baseline scenario-I is provided in Figure 43 on page 138, together with Table D and Table E on page 139. Figure 44 on page 140, together with Table F and Table G on page 141, do the same for baseline scenario-II, successively showing the diagrams concerning the R&R and the D&F orientation. It can be read from the diagrams that, for instance, the outcome of baseline scenario-I is probably a stalemate, and of scenario-II it is successful resistance.

Figure 43: Outcome & Compellence Enhancement Factors; Baseline Scenario-I

Risk & Reward Orientation

			Target: RESIST (i.e. to resist compeller's pressure to comply with his demands)	Target: COMPLY (i.e. to comply with compeller's demands)
			Conflict	Compellence
Compeller	COMPEL	(i.e. to compel target into compliance)	*(-19) (-19)* *1 , 1*	*(-15) (-15)* 2 , 2
Compeller	RESIGN	(i.e. to accept that target does not comply with demands)	*(2) (2)* 3 , 3	*(5) (5)* **4 , 4**
			Resistance	**STALEMATE**

Desirability & Feasibility Orientation

			Target: RESIST (i.e. to resist compeller's pressure to comply with his demands)	Target: COMPLY (i.e. to comply with compeller's demands)
			Conflict	Compellence
Compeller	COMPEL	(i.e. to compel target into compliance)	*(-15) (-15)* *1 , 1*	*(-11) (-11)* 2 , 2
Compeller	RESIGN	(i.e. to accept that target does not comply with demands)	*(-6) (-6)* 3 , 3	*(-3) (-3)* **4 , 4**
			Resistance	**STALEMATE**

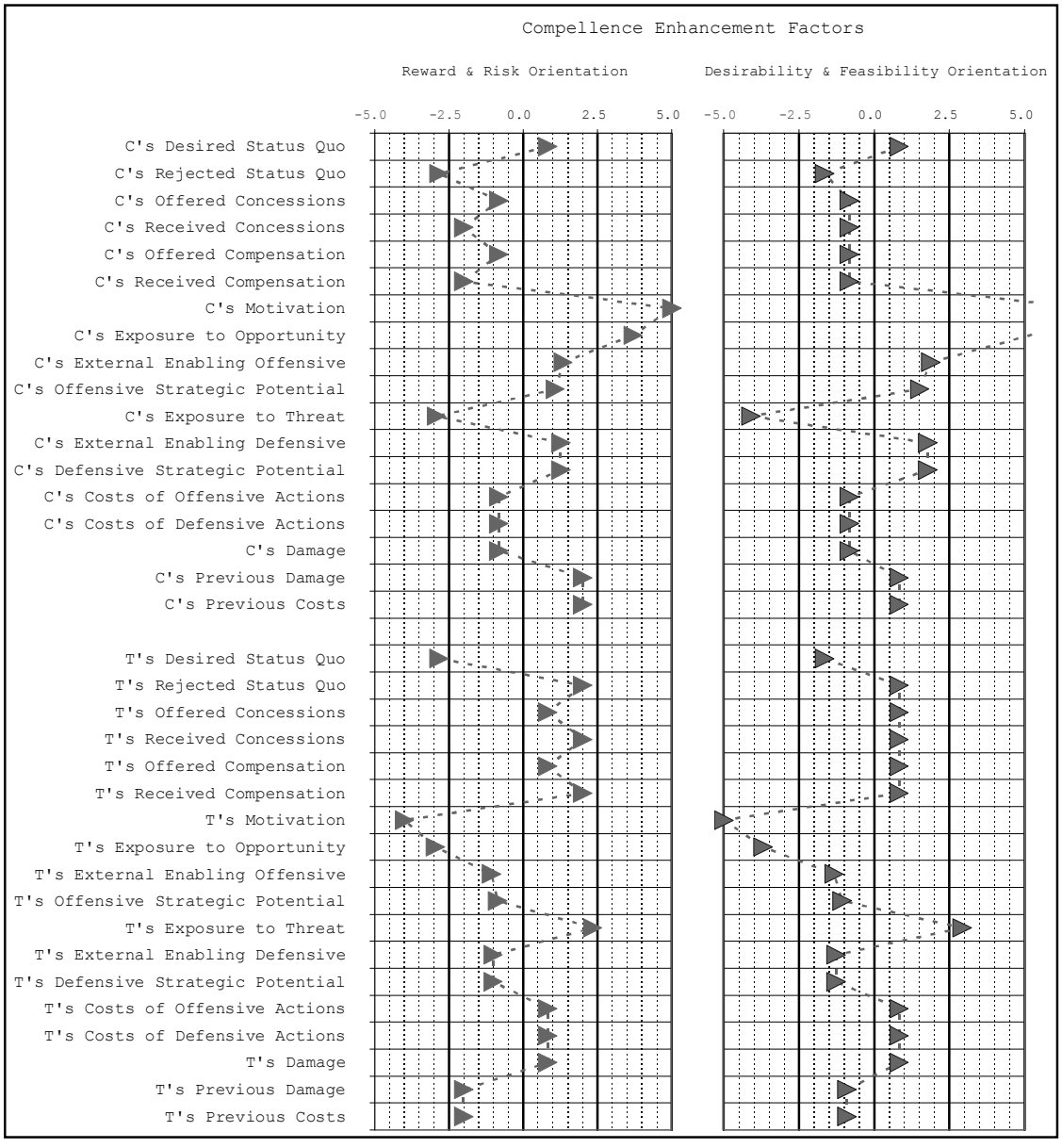


Table D: Impact on Successful Compellence; Baseline Scenario-I (R&R)

Positive Impact	Negative Impact
First Order Impact (on Successful Compellence) **(100%)**	
C's Motivation	
80% of first order impact	
	T's Motivation
70% of first order impact	
C's Exposure to Opportunity	
60% of first order impact	
	C's Exposure to Threat C's Rejected Status Quo T's Desired Status Quo T's Exposure to Opportunity
50% of first order impact	
T's Exposure to Threat	
40% of first order impact	
T's Rejected Status Quo T's Received Compensation T's Received Concessions C's Previous Costs C's Previous Damage	C's Received Compensation C's Received Concessions T's Previous Costs T's Previous Damage
30% of first order impact	
C's External Enabling Offensive C's Offensive Strategic Potential C's Defensive Strategic Potential C's External Enabling Defensive	
20% of first order impact	
C's Desired Status Quo T's Costs of Offensive Actions T's Costs of Defensive Actions T's Damage T's Offered Compensation T's Offered Concessions	T's External Enabling Offensive T's Offensive Strategic Potential T's Defensive Strategic Potential T's External Enabling Defensive C's Costs of Defensive Actions C's Costs of Offensive Actions C's Damage C's Offered Compensation C's Offered Concessions

Table E: Impact on Successful Compellence; Baseline Scenario-I (D&F)

Positive Impact	Negative Impact
First Order Impact (on Successful Compellence) **(100%)**	
C's Motivation	
70% of first order impact	
C's Exposure to Opportunity	T's Motivation
60% of first order impact	
	C's Exposure to Threat
50% of first order impact	
	T's Exposure to Opportunity
40% of first order impact	
T's Exposure to Threat	
30% of first order impact	
C's External Enabling Offensive C's Offensive Strategic Potential C's Defensive Strategic Potential C's External Enabling Defensive	C's Rejected Status Quo T's Desired Status Quo
20% of first order impact	
	T's External Enabling Offensive T's Offensive Strategic Potential T's Defensive Strategic Potential T's External Enabling Defensive
10% of first order impact	
C's Desired Status Quo T's Received Compensation T's Received Concessions T's Rejected Status Quo C's Previous Costs C's Previous Damage T's Costs of Defensive Actions T's Costs of Offensive Actions T's Damage T's Offered Compensation T's Offered Concessions	T's Previous Costs T's Previous Damage C's Costs of Defensive Actions C's Costs of Offensive Actions C's Damage C's Offered Compensation C's Offered Concessions C's Received Compensation C's Received Concessions

Figure 44: Outcome and Compellence Enhancement Factors; Baseline Scenario-II

Risk & Reward Orientation					Desirability & Feasibility Orientation				
			Target				Target		
			RESIST (i.e. to resist compeller's pressure to comply with his demands)	COMPLY (i.e. to comply with compeller's demands)			RESIST (i.e. to resist compeller's pressure to comply with his demands)	COMPLY (i.e. to comply with compeller's demands)	
			Conflict	Compellence			Conflict	Compellence	
Compeller	COMPEL	(i.e. to compel target into compliance)	*(-8) (-8)* 3 , 3	*(-14) (-14)* *1 , 1*	Compeller	COMPEL	*(-4) (-4)* 3 , 3	*(-8) (-8)* *1 , 1*	
	RESIGN	(i.e. to accept that target does not comply with demands)	*(-5) (-5)* **4 , 4**	*(-11) (-11)* 2 , 2		RESIGN	*(-2) (-2)* **4 , 4**	*(-6) (-6)* 2 , 2	
			RESISTANCE	Stalemate			**RESISTANCE**	Stalemate	

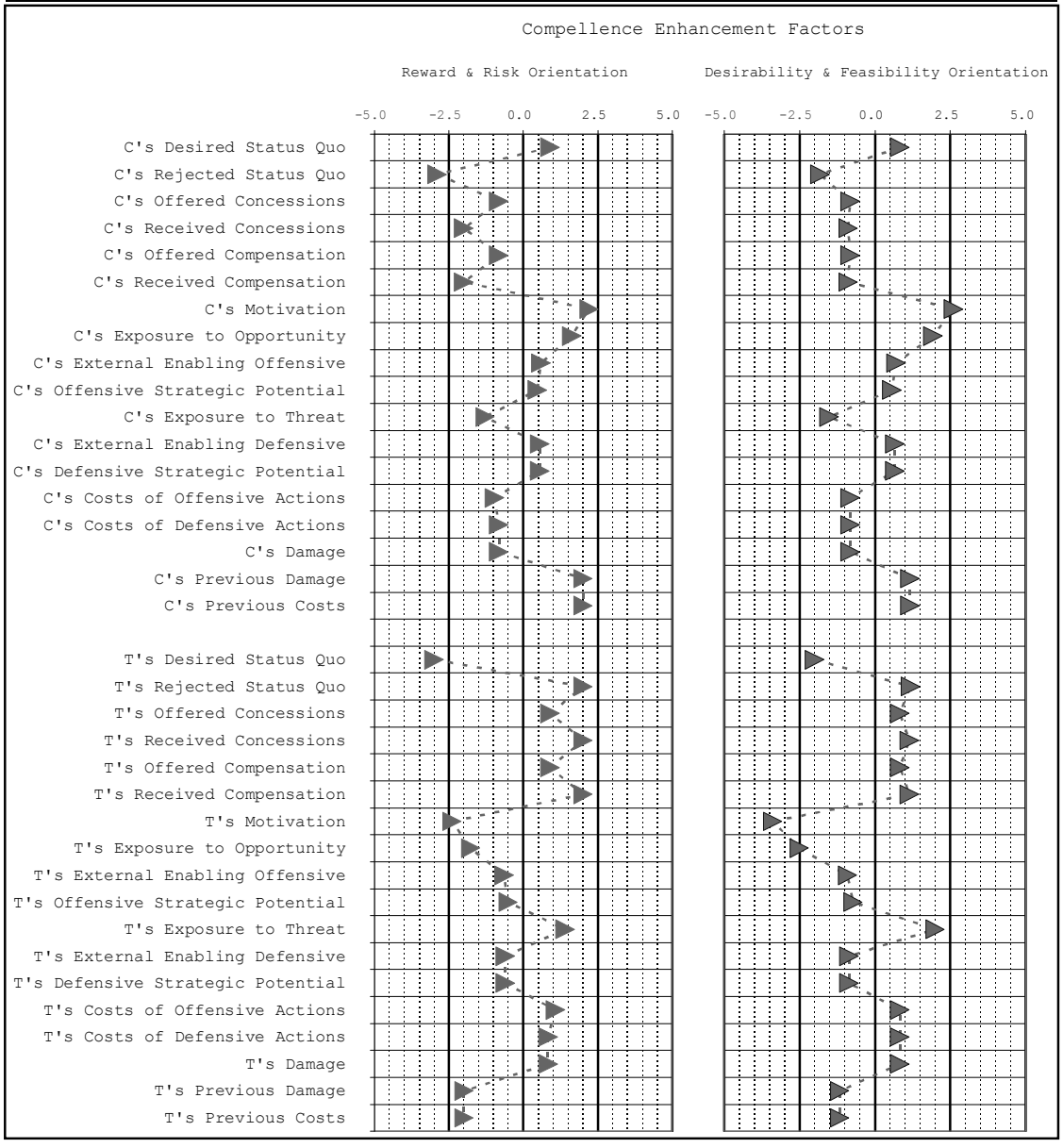


Table F: Impact on Successful Compellence; Baseline Scenario-II (R&R)

Positive Impact	Negative Impact
First Order Impact (on Successful Compellence) **(100%)**	
	T's Desired Status Quo C's Rejected Status Quo
80% of first order impact	
	T's Motivation
70% of first order impact	
C's Motivation C's Previous Costs C's Previous Damage T's Received Compensation T's Received Concessions T's Rejected Status Quo	T's Previous Costs T's Previous Damage C's Received Compensation C's Received Concessions
60% of first order impact	
	T's Exposure to Opportunity
50% of first order impact	
C's Exposure to Opportunity T's Exposure to Threat	C's Exposure to Threat
30% of first order impact	
C's Desired Status Quo T's Costs of Offensive Actions T's Offered Compensation T's Offered Concessions T's Costs of Defensive Actions T's Damage	C's Costs of Offensive Actions C's Costs of Defensive Actions C's Offered Compensation C's Offered Concessions C's Damage
20% of first order impact	
C's External Enabling Offensive C's External Enabling Defensive C's Offensive Strategic Potential C's Defensive Strategic Potential	T's External Enabling Offensive T's External Enabling Defensive T's Offensive Strategic Potential T's Defensive Strategic Potential

Table G: Impact on Successful Compellence; Baseline Scenario-II (D&F)

Positive Impact	Negative Impact
First Order Impact (on Successful Compellence) **(100%)**	
	T's Motivation
80% of first order impact	
C's Motivation	
70% of first order impact	
	T's Exposure to Opportunity
50% of first order impact	
T's Exposure to Threat	T's Desired Status Quo C's Rejected Status Quo
50% of first order impact	
C's Exposure to Opportunity	C's Exposure to Threat
30% of first order impact	
T's Rejected Status Quo C's Previous Costs C's Previous Damage T's Received Concessions T's Received Compensation C's Desired Status Quo T's Costs of Offensive Actions T's Costs of Defensive Actions T's Damage T's Offered Concessions T's Offered Compensation	T's Previous Costs T's Previous Damage C's Received Concessions C's Received Compensation C's Costs of Offensive Actions C's Costs of Defensive Actions C's Damage C's Offered Concessions C's Offered Compensation T's External Enabling Offensive T's Offensive Strategic Potential T's External Enabling Defensive T's Defensive Strategic Potential
20% of first order impact	
C's External Enabling Offensive C's External Enabling Defensive C's Offensive Strategic Potential C's Defensive Strategic Potential	

Note 30: Conversion of Compellence Enhancement Factors from Diagrams into Tables

I have used the following mechanism to convert the compellence enhancement factors presented in the diagrams into tables that are better surveyable than diagrams.

I have denoted the variables with the highest impact as variables with a 'first order impact' on the chance of successful compellence. This level is set to 100%. I have clustered the other variables, based on their impact and, in percentage related to the first order variables.

For instance, in the bottom part of Figure 43 the left-hand chart shows the compellence enhancement factors in the Reward & Risk orientation. Looking at C's motivation (7th issue from the top), we can see that this has relatively the highest score (five 'clicks' to the right). Next, for instance, C's previous damage (17th) and C's previous costs (18th), show that they both have a score of two 'clicks' to the right (positive). In Table D we find C's motivation in the left-hand column (positive impact) at the top (100% level), and C's previous damage and C's previous costs, also in the left-hand column, at the 40% level (2/5 of 100%).

8b.2 SUCCESS FACTORS

An examination of the information in more detail reveals that in both scenarios and in both frameworks, the factor *motivation* has a dominant position. [107] Furthermore, the factors *exposure to the opportunity*, and *exposure to the threat* can mostly be found at the higher end (top 50%) of the lists. Finally, in all but the D&F framework applied to scenario-I, the *target's desired status quo*, and the *compeller's rejected status quo* are at the higher end of the list, in the R&R orientation of scenario-I even at the very top.

8c Difference between the Frameworks

One can also observe that there is a remarkable difference between the position taken by *previous damage* and *previous costs*, *received concessions*, and *received compensation*, and the *target's rejected status quo* in, on the one hand, the R&R lists, and, on the other, the D&F lists. The factors mentioned score relatively high in the R&R approach, and low in the D&F approach, the difference being caused by a fundamental distinction between the two frameworks.

This fundamental distinction concerns the ***contrast*** between intervention and submission in the R&R framework, and the ***similarity*** between the two in the D&F framework. In the R&R framework, the expected utility of intervention is based on the fact that intervention is emphatically considered as the execution of an action, while submission is seen as the acceptance of a situation. Since an action and a situation are phenomena with very distinct characteristics, they are conceptually incommensurables. In the D&F framework, intervention and submission are considered from a wholly different perspective. Here, both are equal phenomena, differing only in degree of favorableness and of attainability with the actor involved. That is why the structure of intervention and submission in the R&R framework is different, while this structure in the D&F framework is comparable. That is also why in the R&R framework the issues that contribute to the expected utility of submission have a different impact on the latter than comparable issues that contribute to the expected utility of intervention have on this expected utility of intervention. The 'balanced' character of the D&F framework creates equal effects of comparable issues, while comparable issues in the R&R framework sometimes create deviant effects. In other words, an issue that occurs in the

107 One can explain the difference between the scenarios, since the relative effect of motivation also depends on the value of the impact (of intervention and submission/opposition), which differs in the two scenarios.

R&R framework under submission, with an equivalent under intervention, can differ in significance from that equivalent. This particularly causes a difference in the R&R framework between the effect of changes in the rejected, and (for the target) the desired status quo, as well as for offered concessions and compensation versus the effect of changes in received concessions and compensation. In the final analysis, it must be concluded that the two approaches are basically incomparable. That is why, ultimately, a choice has to be made between the two conceptual approaches to the problem of explaining the essentials of compellence.

8d Choice for R&R Framework

In essence, what follows could have been a reason for disposing of one of the approaches sooner. However, no deliberately choice was made between the two previously. This provided the possibility to discover particular opportunities concerning the explanation of compellence. I decided to demonstrate the whole process of searching for the best thinkable explanation of a complex phenomenon. This approach prevented the risk of deadlock in a particular direction or restraints by a particular way of thinking.

Attempting to make a choice at the end of this study, it has to be recognized that, as was stated, in the final analysis the two approaches are incomparable. This implies that making a choice between them is almost a mission impossible. To do so, in spite of this conclusion, it is helpful to observe that the documentation underlying the D&F orientation is primarily available in the context of the theory of supply and demand. The emphasis in this supply and demand theory is on the price mechanism and on determining indifference curves that are involved in that mechanism. The focus is on setting marginal rates of substitution equal to price rations. In essence, the attribution of this theory of supply and demand to the D&F framework is restricted to a particular way of thinking about desirability and feasibility, and does not imply a concrete contribution to the framework as such.

On the other hand, the theory that underlies the R&R orientation on the phenomenon of compellence can directly be transposed as an issue that looks at returns on investment. Indeed, some particular adaptations are necessary to apply this theory to the R&R framework. However, they concern only lower level aspects and not the concept per se. Furthermore, the documentation of the return on investment theory is rich. Finally, it can even be contended that the R&R approach implicitly also reckons with demand and supply arguments. After all, it may seem obvious that a return on investment approach also implies that actors have considered the feasibility and desirability of their action. Arguably, it is not just a coincidence that the R&R framework contains essentially the same elements as the D&F framework.

All in all, these considerations do not imply that the D&F orientation is false or useless. The examples of its use in this study, and the lessons that can be drawn from this use, show that the application of the D&F orientation is an effort worth making. In conclusion, however, it is more attractive to consider the R&R approach as the basis for future consideration rather than the D&F approach.

8e Findings of the Analysis of Baseline Scenario (R&R)

Limiting ourselves to the R&R framework from now on, we can see that the top of the list includes the ***motivational factors***, the ***target's desired status quo***, and the ***compeller's rejected status quo***, as well as the factors ***exposure to the opportunity***, and ***exposure to the threat***. Furthermore, the ***previous damage and costs***, as well as the ***received concessions and compensation***, and the ***target's rejected status quo*** belong to the factors with the highest effect.

These findings lead to a number of propositions. The first category of propositions concerns the critical success factors and the second category the important success factors. The third category concerns the relative impact of related variables. In these propositions, two issues are compared and an assessment is given of their mutual importance. Then, in the fourth category, two issues are contemplated on which a debate is going on in the existing literature. It concerns the question whether – in general – compellence by denial is preferable to compellence by punishment, and whether, in case of compellence, it is advisable to choose a gradual approach, or to demonstrate a rigorous attitude towards the opponent right from the start.

8e.1 Critical Success Factors

Based on previous observations it can safely be concluded that three categories of factors qualify as 'critical success factors' for compellence. The first two categories concern the target's desired status quo, and the compeller's rejected status quo, which are conditions that are rather difficult to influence. It concerns particularly the value of the target's desired status quo, which is the source of the conflict, i.e. what triggers him to act. It is, in a sense, inherently linked to his objective. It is obvious that the determination of the objective is solely in the hands of the target. Attempts to affect it touch on the very issue at stake for him. Apart from trying to influence the target's aspiration (a difficult task, indeed) nothing the compeller can do will have an effect on the target's desired status quo. Consequently, the affectability (through acts of the compeller) of the target's desired status quo is very limited.

The compeller's rejected status quo is related to the target's desired status quo, i.e. it depends on the target's aspiration when he started his rejectable action. After all, the compeller rejects what the target desires. Indeed, in the last instance, determining the value of his rejected status quo is in the hands of the compeller. However, by changing his desired status quo the target can influence the value the compeller will probably attach to his rejected status quo. Of course, this will require some indulgence on the part of the target. Nevertheless, it seems safe to assert that the affectability (through acts of the target) of the compeller's rejected status quo is reasonable. In sum, these considerations lead to the following two conclusions:

> *A compeller's attempts to affect the target's desired status quo have a large impact on the probability of successful compellence; however, its affectability is very limited.*

> *A target's attempts to affect the compeller's rejected status quo have a large impact on the probability of successful resistance, and its affectability is reasonable.*

The third category concerns both actors' motivation. Based on the information presented in Table D and Table E, it can be concluded that a change in motivational factors can potentially have a large impact on the probability of successful intervention. However, a special remark about motivation is called for. It must be remembered that the factor 'will' determines the actors' proficiency and vulnerability. This is done in direct relation (in the model as a mathematical product) with the susceptibility or the proneness, and the offensive or defensive strategic potential. Therefore, the other factors directly affect the ultimate influence of the factor 'will' on the proficiency and vulnerability, and with that on the utilities concerned. Consequently, the potential impact of motivational factors – although their score is at the top of the list in the baseline scenarios – is highly dependent of these other factors. So, only under the condition that the susceptibility and proneness, as well as the offensive and defensive strategic potential, are of a reasonable level, can the opponent's motivation also be considered a critical success factor. An actor can take numerous measures to enhance his own motivation, but also that of his opponent. It can be expected that influencing an opponent's motivation is more difficult. Nevertheless, as a rule, the affectability of motivation is expected to be considerable. Consequently, even though the impact of motivation on the degree of success also depends on other factors, there is sufficient support for the conclusion that

> *The combination of its potential impact and its affectability makes motivation the most attractive critical success factor for consideration when trying to enhance the chance of success in a compellence process.*

Summary: Critical Success Factors

In sum, critical success factors are therefore:

- ***the target's desired status quo;***
- ***the compeller's rejected status quo,***

and above all

- ***the motivation of both actors.***

8e.2 IMPORTANT SUCCESS FACTORS

From the previously shown tables it can be derived that the target's rejected status quo has a relatively high impact on the probability of successful compellence. Based on the reasons given in the discussion on that subject above, it can be concluded that its affectability (through acts of the compeller) is reasonable. Consequently,

> *A compeller's attempts to affect the target's rejected status quo have a considerable impact on the probability of successful compellence, and its affectability is reasonable.*

Besides the target's rejected status quo, six additional categories of factors (the previous damage and costs, as well as the received concessions and compensation, and the exposure to the opportunity and the threat) have a relatively high impact on the probability of successful compellence. They are denoted as 'important success factors'.

The fact that the compeller's 'exposure' factors shift from as high as 70% to as low as 50% of the first order impact between scenario-I and II indicates that their impact also depends on

the value of other variables. The same applies to the previous costs and damage, as well as to the received concessions and compensation that shift from 40% to 70%. That is why,

An actor's attempts to affect his opponent's as well as his own previously suffered damage and previously defrayed costs, received concessions and received compensation, as well as exposure to the opportunity and exposure to the threat, can have a considerable impact on the probability of successful intervention. However, this impact is context-dependent.

Summary: Important Success Factors

In sum, to the important success factors can be counted:

- ***the target's rejected status quo,***

and both actors'

- ***previously suffered damage,***
- ***previously defrayed costs,***
- ***received concessions,***
- ***received compensation,***
- ***exposure to the opportunity,***
- ***exposure to the threat.***

8e.3 Relative Impact of Related Variables

Besides the more or less 'absolute' value of certain factors, the analyst of compellence cases will be interested in the relative value of related variables. The following section discusses some relational issues, using the principles provided by the frameworks applied to the two baseline scenarios.

Compeller versus Target

One of the most interesting questions is, of course, whether the chances of compeller and target are similar in a compellence case, or that one of them has an advantage over the other. To answer that question Figure 43 that provides the resulting diagrams of baseline scenario-I can be studied. As the diagrams demonstrate, the result in those circumstances is an outcome with the highest chance of stalemate. After the stalemate as the most probable outcome comes successful resistance, followed by successful compellence, and continued conflict. Figure 44 gives the outcome diagrams of baseline scenario-II. As was the case when all variables were set at the same (average) level, it can be concluded that when the variables are set according to baseline-scenario-II, the most probable outcome will be continued conflict, then successful resistance, stalemate and, finally, successful compellence. In conclusion, it can be inferred from this discussion that in both baseline scenarios the probability of successful resistance ranks above the probability of successful compellence. In baseline scenario-II, the difference is even considerable. The lesson to be learned from this observation is that:

Overall, in a compellence process, targets have an advantage over compellers.

Profit versus Loss of Compensation and Concessions

The existing literature on compellence often refers to the advantages of offering compensation (rewards) to the opponent for submitting. The emphasis is then on the fact that this compensation should complement the threat involved in compellence. Little attention is paid to the question whether the costs involved in providing compensation present an (insurmountable) obstacle for doing so.

The positive impact of the opponent's received compensation on the probability of success, and the negative impact of the actor's offered compensation are, of course, relevant for the comparison of the profit and loss resulting from compensation. In both baseline scenarios, the former is larger than the latter, i.e. the positive effect of receiving compensation is larger than the negative effect involved in offering that compensation. In baseline scenario-I the difference is approximately 20%, while in baseline scenario-II the difference is even 40% of the first order impact. This observation provides sufficient arguments to support the proposition that the profit of offering the opponent compensation for his submission amply outweighs the loss involved.

Offering concessions also improves the chance of an opponent's submission. However, when concessions are made, this immediately affects the interests at stake. In other words, along with the profit, concessions also mean a loss. Thus, the question is whether the profit of granting concessions outweighs the loss. The tables demonstrate that there is no difference between the observation with regard to compensation and concessions. However, the fact should be kept in mind that concessions affect the very heart of the matter, the interests at stake. Consequently, despite identical results, an actor's willingness to make concessions may not be equal to his readiness to offer compensation. In other words,

> *The profit of offering the opponent compensation for submission as well as the profit of offering the opponent concessions amply counterbalance the loss involved. However, an actor's latitude for offering concessions may be more restricted than for offering compensation.*

Immediate Results versus Gradual Approach

Another debate in the existing literature concerns the advisability of choosing a gradual approach. In doing so, the compeller incrementally increases the pressure on the opponent. One of the strategies that features in this approach is, what George calls, 'gradual turning of the screw'. [95: 8] It is assumed that by gradually conveying a threat and incrementally carrying out that threat, at a certain moment in this process the balance will be tipped in favor of submission. It would be interesting to see what the frameworks can teach us in this respect.

It must be realized that an actor who gradually turns the screw intends to increase his opponent's level of potential damage gradually. However, this approach also implies incremental execution of some actions to emphasize the seriousness of the threat. These actions cause damage or costs to the opponent. As long as the damage and costs brought about by these actions have a lesser impact on the chance of an opponent's submission than the threat of damage, a gradual approach might bring the desired result. Such a careful approach surely has benefits, particularly when the danger of uncontrolled escalation exists. However, if the impact of previously caused damage and costs exceeds the impact of the threat of damage, a gradual approach had better be avoided. The question is therefore whether this – what is coded in the frameworks as – previously suffered damage and previously defrayed

costs are likely to be less than the level of threatened damage. The tables demonstrate that the previous damage and costs are considerably higher on the list than the actual threatened damage. Thus, their impact exceeds the impact of the actual damage. In other words, if nothing changes, except for the duration of a conflict, and therefore the mutual infliction of damage as well as the rise of costs, the chance of successful compellence decreases rather than increases, unless the damage and costs imposed by the target on the compeller would be exactly equal to the damage and costs imposed by the compeller on the target.

It could be argued that there is a way to circumvent this problem by proportionally increasing the level of threatened damage in order to counter-balance the previous damage and costs (all other conditions being unaffected). However, this would violate the basic principles of this gradual approach, which implies the combination of a gradual conveyance of the threat and an incremental execution. This observation even confirms the idea that – right from the start – it is better to display a rigorous attitude towards the opponent. Consequently, there are sufficient arguments to support the conclusion that,

> *Compellence strategies that imply the gradual increase of pressure on an opponent tend to be failure-prone.*

8f Summary

In order to examine the most important point of interest in this study – the effects of changes in individual variables on the total outcome of the process – two analytical tools are presented in this chapter. The spider diagram provides a detailed insight into the changes in individual variables. The relative impact diagram transforms the spider diagram into one overview, combining the impact of changes in variables on the value of compellence and resistance. These two analytical tools are applied to two baseline scenarios.

Some conclusions can be drawn concerning the relative effect of particular factors on the chance of successful compellence and resistance. Some remarkable differences between the two frameworks can also be observed in this respect. An explanation is given why the usage of the R&R framework is preferred. Then, based on the findings following from the application of the R&R framework some propositions are tested, concerning factors that dominate the question about success and failure, on the one hand, and a comparison of factors, on the other.

In summary, it can be concluded that the application of the framework to particular issues and questions that come up during the analysis of compellence processes helps to understand and explain the working of compellence strategies. It may be wondered whether the application of the model in real-life cases will provide a fair representation of reality. The next chapter of this study deals with this question in particular.

9. *Validation, Two Real-Life Cases*

9a Introduction

This chapter validates the framework provided in this study. To that end it will be applied to two real-life cases: the Serbian crisis from 1998 to 1999, and the Iraq crisis from 1990 to 2003. There are several reasons why the Serbian and Iraq cases have been chosen, one of which was to find cases that are easy to compare and assess. Consequently, the two opponents in each case should at least be (more or less) the same. Particularly the 'tipping points' should be constant. Furthermore, it is important to study cases that took place within a distinct time frame. The two chosen cases fulfill these conditions. Furthermore, both occurred in the post-Cold War era, in which compellence started to gain significance. They also show a high degree of constancy in political and military circumstances and they are both of regional importance. The fact that both cases concern the question of UN's collective security is also relevant. This also holds for the fact that both cases are 'questionable' interventions, and did not (always) have the support of the UN Security Council. Furthermore, in both cases the attempts to compel the target were done at supra-state level, concerning — to a greater or lesser degree — coalitions involved in a conflict by choice, not of necessity.

Finally, the two cases are so well-documented in popular as well as in academic literature, that there is little or no need to explain the circumstances and the development of these circumstances during the conflict. As a result, rating the variables that represent the circumstances will also need little or no clarification, and – in principle – the rating can be restricted to presenting a list of numbers that express that rating. Nevertheless, where applicable and necessary some introductory remarks will accompany the rating, although the clarification will, in essence, be confined to potentially disputable aspects. Particularly the first stages of the two conflicts will be discussed in some more detail, in order 'to set the scene'.

The two cases are quite dissimilar in duration. The Serbia case covers a period of less than two years, while the Iraq case covers 13 years. Indeed, the whole conflict in the Balkans took considerably longer than these two years. However, in this period the opposing parties changed. For instance, in the phase in which the Dayton agreements were 'forced upon' the parties in the Balkan conflict – partly by the use of a compellence strategy (among others through the strategic application of Airpower during operation 'Deny Flight') – not only the Serbian government was involved, but also official and unofficial parties in Croatia and Bosnia-Herzegovina. The 'target' in the case discussed in this study is clearly confined to Serbia, i.e. the Serbian government under the leadership of Milosevic. In essence, the case of Serbia is intended as a short introduction to the methodology. The Iraq case is dealt with in more detail and then used for further analysis.

This introduction justifies a remark with regard to the explicit use of compellence in these two cases. Compellence may not have been very explicit during all the phases of the two conflicts. However, as can be concluded from the considerations about compellence as a phenomenon, almost all armed conflicts contain compellence and deterrence elements. The Serbian, as well as the Iraq case – from the first confrontation till the end – show sufficient explicit compellence aspects to be used as examples.

9a.1 SNAPSHOTS IN TIME

The case studies follow the process of the parties' considerations as they evolved during those conflicts, and the related changes in the variables that took place. The variables reflecting the parties' most probable actual reasoning are inserted in the model and the outcome is compared with the real-life result of the process. The rating of the parties' most probable actual reasoning is done by the author of this study based on 'sound judgment' and derived from assessing the circumstances as described in the documentation available. With the given scores it will be examined how and why — at that moment in time — the chance of successful compellence or resistance increased or decreased.

Note 31: Method of Rating the Variables in the Two Real-Life Cases

I refer to Note 25 on page 111 about the method of rating the variables, in which I contend that I could score the variables, i.e. determine the value of each variable, by the use of mechanisms up to high levels of sophistication. This study will not use such a sophisticated mechanism. This decision is based on the conviction that this fine-tuning of variables does not add sufficient value to the whole of the model to justify the considerable additional effort.

I contend that, after all, the whole system explained in this study implies that at a certain moment a person who intends to use the system has to assign certain values to certain variables. Whether it is the actor or an analyst, the personal appreciation of the situation as assessed at that specific moment prevails and most of the time they will use rough estimates.
For that reason, I consider it justifiable to limit the assignment of values to rough estimates of the variables, based on a list of considerations arising from the properties of the variables as mentioned in Annex B.

Consequently, I base the ratings presented in the detailed description of the two cases (the case of Serbia in Annex E starting on page 213 and the case of Iraq in Annex F starting on page 235) on an interpretation of the prevailing circumstances, presented in those annexes. I am aware of the relatively subjective character of such a rating. Nevertheless, I think that the method used is a reasonable representation of reality.

The dynamics of the process are accommodated through a repetition of the moves. That means that a new calculation is made each time relevant changes took place in the circumstances and thus in the variables. These 'snapshots in time' are distinct moments that represent a certain state of affairs, and form the basis for the examination. Eventually, this leads to the outcome of the conflict, as it is known. From the perspective of counterfactual reasoning, in the analysis of the development of both cases, special attention is given to a moment in time – more specifically, to the difference between two periods – in order to find out whether particular changes in conditions would probably have produced other — preferably better, and maybe earlier — results. To that end, the principles of the sensitivity analysis are used.

9a.2 DESCRIPTION OF THE CASES

A detailed description of the two cases is given in Annex E for the case of Serbia and in Annex F for the case of Iraq. In these annexes it is explained why particular values are assigned to the conditions and how these values evolved during each conflict. The cases and their causes are placed in a historical context. Furthermore, the actors in each conflict are identified. Then – following the development of the conflict – the snapshots in time are discussed.

Both cases start with a so-called preliminary phase. This is the phase in which Serbia and Iraq concluded that it was opportune to start their 'reprehensible' actions. This phase is followed by the so-called conflict periods (three in the case of Serbia and six for Iraq). Each dis-

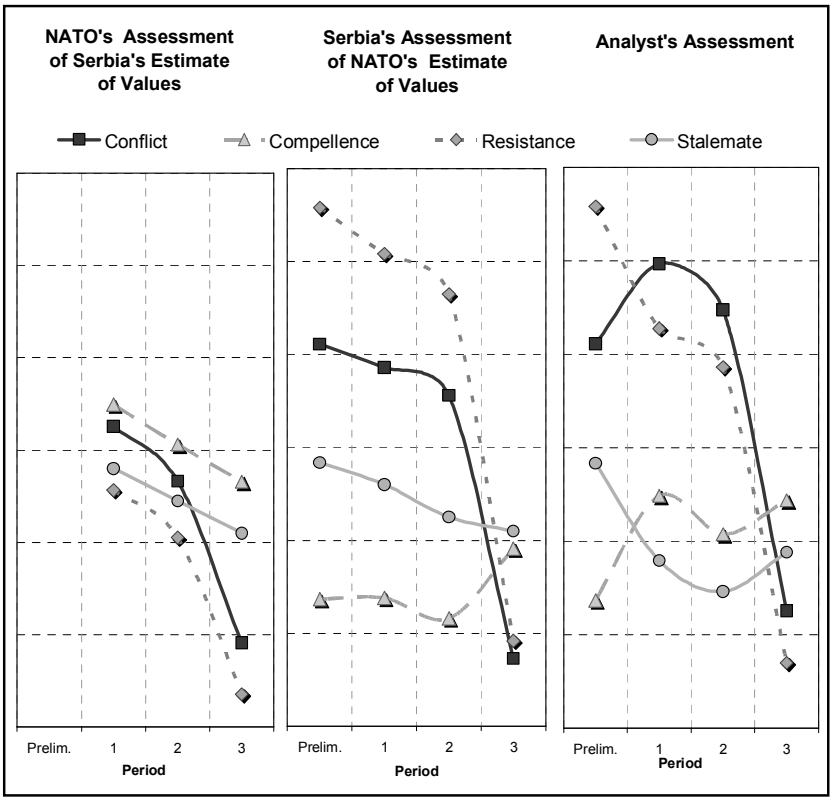
cussion starts with a short description of the circumstances during the phase or period under consideration. Next, the value of each condition is determined, based on 'sound judgment' of the given description of the circumstances. Finally, the outcome of the computation is assessed, using the payoff matrix and the mutual relations diagram for the given phase or period produced by the program of the framework.

9b The Case of Serbia

The case of Serbia covers the period from mid-1998 to 3 June 1999. It concerns the attempts of the North Atlantic Treaty Organization (NATO) to compel Serbia to reverse the invasion and stop the ethnic cleansing of Kosovo. The focus is on operation Allied Force in 1999, the first offensive military operation in the history of NATO. The result was a decisive victory for the allies. The operation forced the Federal Republic of Serbia (formally the Republic of Yugoslavia (FRY)) to withdraw its forces from Kosovo, end the ethnic cleansing of Kosovar Albanians, permit the unconditional return of refugees, and accept an international military presence in the province. Arguably, Operation Allied Force also compromised FRY President Slobodan Milosevic's ability to maintain power and ultimately resulted in his capture and imprisonment. The UN supported NATO's objectives, but disagreed with NATO's methods.

9b.1 SERBIA: SEQUENCE OF EVENTS

Figure 45: Serbia, Sequence of Events



The outcomes of the snapshots in time, discussed and computed in Annex E can be put on a timeline, demonstrating the sequence of events. The charts given in Figure 45 provide this insight into the sequence of events. It shows the assessment during each of the periods of the chances of continued conflict, stalemate, successful compellence, and successful resistance, as applied by the two actors. Furthermore, it shows the ex-post analyst's perpective. The left-hand chart shows NATO's assessment (of Serbia's estimate of the values of the

conflict outcomes), the middle chart Serbia's assessment (of NATO's estimate) and the right-hand chart the analyst's assessment. The latter actually corresponds with the real outcome of the conflict periods. [108]

NATO and Serbia

The left-hand chart shows that NATO's perception of the potential outcome was rather consistently in favor of successful compellence. Only in period-3, the value of continued conflict changes places with the value of stalemate. The downward trend of all lines is worth noting.

The chart of Serbia's estimate shows a different picture. Obviously, Serbia's firm belief in successful resistance continued from the start through period-2. Then, in period-3, whereas an upward shift of the value of successful compellence is recognizable, the value of successful resistance drops dramatically (and with it the value of continued conflict, and to a lesser extent, the value of stalemate). The chart shows that, eventually, the result is that Serbia expects (or hopes for) a stalemate in period-3.

Analysis

In Note 22 on page 81 it was explained how the combined assessment of the compeller and the target lead to – what the author calls – the 'analyst's perspective'. From this analyst's perspective, the outcomes show a rather whimsical course (see the right-hand chart of Figure 45). Starting with the first relevant period (period-1) a steady decline in the value of successful resistance is visible. In period-3 the relative chance of successful compellence grew, mainly at the cost of the chance of successful resistance. It can be concluded that in the time of period-3 the balance had indeed tipped from continued conflict as the outcome to successful compellence. Obviously, this was not so much the result of an increase in the value of successful compellence, [109] but more of a steep decline in the value of successful resistance (particularly as it was perceived by Serbia). What evidently happened was that Serbia's perception of the conditions favoring successful resistance worsened. [110]

Conclusion

Annex E provides the arguments that have led to the rating of the variables. It can now be investigated whether the outcome as a result of inserting these variables in the model matches with the actual result. What follows from Annex E is that, at the start of Operation Allied Force, NATO was facing a determined Serbian opponent that had quite a different perception of reality than NATO. NATO initially also underestimated the seriousness of Serbia's interests at stake. NATO indeed threatened Serbia with substantial potential damage. The charts in Figure 45 show that, given the other circumstances, the threat, and initially even the actual application of force by air strikes, obviously did not compel Serbia. [111]

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108 In the preliminary phase, only Serbia made an assessment. Since NATO's assessment is lacking in this phase, the analyst's assessment is equal to that Serbian assessment.

109 After all, the value of successful compellence dropped in the perception of NATO as well as that of Serbia.

110 This fits in with the common sense argument that a higher chance of successful compellence does not necessarily have to come from improvement of compellence-amelioration, but can also result from resistance-deterioration.

111 The attitude of the UN towards the case probably partly caused this. After all, the UN – in declaratory terms – applauded NATO's threats as a supportive element in its negotiations with

Only after NATO gave 'proof' of its determination to end the issue on its terms [112] did Milosevic start to see that he was facing a blind-alley situation. Then, after NATO showed some empathy, and made some concessions and offered compensation to allow Milosevic to save face, he gave in, although reluctantly. From the analyst's view, it can be concluded that, eventually, the actions taken by NATO to affect Serbia's perception had worked out fine. Therefore, although NATO did not achieve all its objectives, obviously the effort was worthwhile. After all, Milosevic gave in on the most important issue, namely, withdrawal from Kosovo. In essence, this is also what the framework demonstrates. The conclusion is therefore that application of the framework to the Serbia case provides a reasonable reproduction of the developments of the compellence process, and gives an insight into the mechanisms that drove that process.

9c The Case of Iraq

The case of Iraq concerns the period from 1990 to 2003, roughly covering three timeframes. The first one concentrates on the attempts of a Coalition, led by the USA, to compel Iraq to reverse the invasion of Kuwait and to accept the destruction of its weapons of mass destruction. The main focus here is on operation Desert Storm. The second concentrates on the period between the end of Desert Storm and the preamble to the 'conquest' of Iraq by a similar Coalition in 2003. In this timeframe, among others, Operation Desert Fox took place in December 1998. The final timeframe concerns Operation Iraqi Freedom in 2003. The initial result of Desert Storm was the compliance of Iraq with the demands to withdraw its troops from Kuwait and accept weapons reductions. In the phase between Desert Storm and Iraqi Freedom, Iraq rebelled more and more against the inspections that supervised the weapons reductions. The situation deteriorated and eventually led to Iraqi Freedom, which ended with the overthrow of the regime of Saddam Hussein and the – de facto – occupation of Iraq by the Coalition forces.

9c.1 IRAQ: SEQUENCE OF EVENTS

We can also put the outcomes of the snapshots in time of the Iraq case, as produced in Annex F, on a timeline, demonstrating the sequence of events. Figure 46 shows such a sequence of events. As in the case of Serbia, the left-hand chart concerns the Coalition's assessment (of Iraq's estimate of the values of the conflict outcomes). The middle chart shows Iraq's assessment (of the Coalition's estimate). The right-hand chart represents the analyst's assessment, the latter actually corresponding with the real outcome of the conflict periods.

In the preliminary phase only Iraq made an estimate. The following four phases show that the Coalition was consistent in its belief that successful compellence would be the most probable outcome, even though sometimes only marginally. Essentially, only in period-2 (at the end of Operation Desert Storm) there are major deviations. The data for period-6 (at the start of Operation Iraqi Freedom) show that the Coalition's belief in a successful outcome

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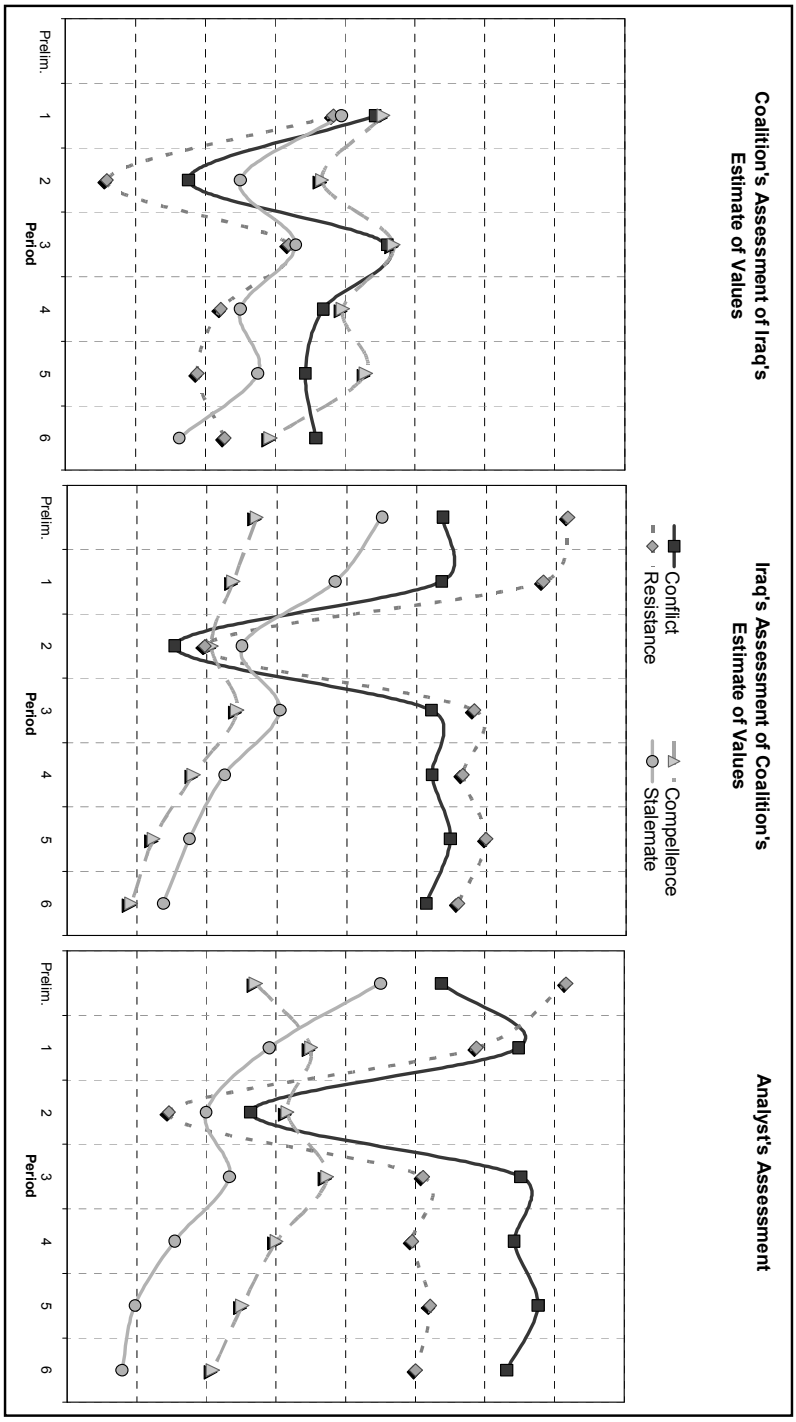
Milosevic, but at the same time clearly signalled that it would not support the actual implementation of those very threats. Knowing that unanimity was needed among the permanent members of the Security Council and furthermore aware of the support of one of these members (Russia), there is every reason to believe that Milosevic did not think that NATO's threats were very serious.

112 If need be without explicit UN authorization.

Figure 46: Iraq, Sequence of Events



had vanished. For Iraq, the perception of success or failure was almost completely the opposite. Except in period-2, where the chance of successful resistance dropped dramatically, Iraq also consistently believed in its own success. This course of the process explains why only in period-2 compellence was successful, while during the other periods the conflict continued.

One of the conclusions that can be drawn from the outcome of period-6 (continued conflict) is that the Coalition clearly saw a decline in its chances of success, while it expected Iraq to have a better chance of successful resistance than before. In essence, this means that the Coalition's actions against Iraq during Iraqi Freedom cannot have been intended to compel, but to vanquish Iraq.

The most remarkable conclusion that can be drawn from the analyst's assessment is that between period-1 and period-2, as well as between period-2 and period-3, a complete change occurred in the situation. Whereas in period-1 and period-3 continued conflict dominates, followed by the chance of successful resistance, and then by the chance of successful compellence, in period-2 successful compellence dominates, and resistance is completely at the bottom. [113]

113 As in the case of Serbia, again the sequence of events shows that successful compellence was not so much the result of an improvement in the chances of compellence per se, but more of the deterioration of the chances of successful resistance.

Using the Model to Investigate the Transition from Period-2 to Period-3

This raises the question what exactly happened in the transition from period-1 to period-2, but what is even more interesting is what happened between period-2 and period-3. From the perspective of the Coalition, one could wonder 'what went wrong', and whether that could have been avoided. The model we developed allows us to investigate what conditions changed in the transition from period-2 to period-3, and what their effect was on the outcome, i.e. what changes had the highest impact and should therefore have been avoided (or reversed). For that purpose, an overview can be used of the impact of the enhancement factors. We can produce relative impact diagrams (as explained in section 8a.2 on page 134) of conflict period-2. Figure 47 provides two relative impact diagrams of period-2. The left-hand section of the chart shows the impact of the conditions (mentioned in the middle) on the success of compellence (Iraq's assessment of Coalition's estimate), and the right-hand section of the chart shows the success of resistance (Coalition's assessment of Iraq's estimate).

Figure 47: Iraq, Period-2:Impact of Factors on Compellence and Resistance

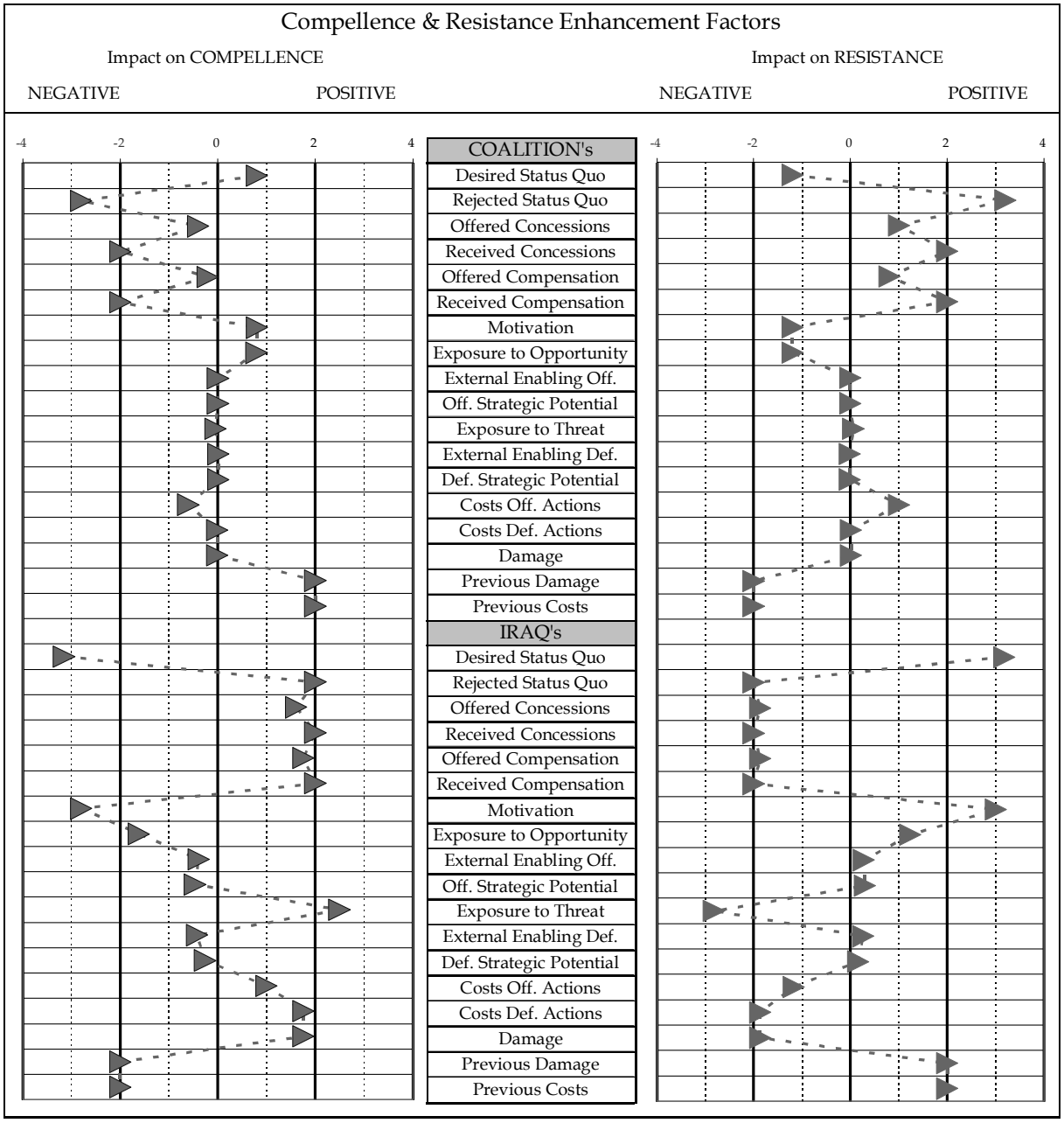


Table H: Iraq Period-2, Impact of Factors on Compellence and Resistance (Sorted by Order of Impact)

IRAQ's Assessment of COALITION's Estimate of Impact on COMPELLENCE		COALITION's Assessment of IRAQ's Estimate of Impact on RESISTANCE	
Positive Change has **Negative Impact on COMPELLENCE**	Positive Change has **Positive Impact** on **COMPELLENCE**	Positive Change has **Negative Impact on RESISTANCE**	Positive Change has **Positive Impact on RESISTANCE**
In Order to Enhance **COMPELLENCE**		In Order to Enhance **COMPELLENCE**	
Value must be ***REDUCED***	Value must be ***ENHANCED***	Value must be ***ENHANCED***	Value must be ***REDUCED***
First Order Impact (on Successful Compellence)			
Iraq's Desired Status Quo			**Coalition's** Rejected Status Quo
			Iraq's Desired Status Quo
90% of first order impact			
Coalition's Rejected Status Quo			**Iraq's** Motivation
Iraq's Motivation			
80% of first order impact			
	Iraq's Exposure to Threat	**Iraq's** Exposure to Threat	
60% of first order impact			
Coalition's Received Concessions	**Coalition's** Previous Damage	**Coalition's** Previous Damage	**Coalition's** Received Concessions
Coalition's Received Compensation	**Coalition's** Previous Costs	**Coalition's** Previous Costs	**Coalition's** Received Compensation
Iraq's Previous Damage	**Iraq's** Rejected Status Quo	**Iraq's** Rejected Status Quo	**Iraq's** Previous Damage
Iraq's Previous Costs	**Iraq's** Received Concessions	**Iraq's** Received Concessions	**Iraq's** Previous Costs
	Iraq's Received Compensation	**Iraq's** Received Compensation	
	Iraq's Costs of Def. Actions	**Iraq's** Offered Concessions	
	Iraq's Damage	**Iraq's** Offered Compensation	
	Iraq's Offered Compensation	**Iraq's** Damage	
		Iraq's Costs of Def. Actions	
50% of first order impact			
Iraq's Exposure to Opportunity	**Iraq's** Offered Concessions		
40% of first order impact			
		Coalition's Desired Status Quo	**Iraq's** Exposure to Opportunity
		Coalition's Motivation	
		Coalition's Exposure to Opportunity	
		Iraq's Costs of Off. Actions	
30% of first order impact			
	Coalition's Desired Status Quo		**Coalition's** Costs of Off. Actions
	Coalition's Motivation		**Coalition's** Offered Concessions
	Coalition's Exposure to Opportunity		**Coalition's** Offered Compensation
	Iraq's Costs of Off. Actions		
20% of first order impact			
Coalition's Costs of Off. Actions			
10% of first order impact			
Coalition's Offered Concessions			**Iraq's** Off. Strat. Potential
Coalition's Offered Compensation			**Iraq's** Ext. Enabling Off.
Iraq's Off. Strat. Potential			**Iraq's** Ext. Enabling Def.
Iraq's Def. Strat. Potential			
Iraq's Ext. Enabling Off.			
Iraq's Ext. Enabling Def.			
<1% of first order impact			
Coalition's Exposure to Threat	**Coalition's** Off. Strat. Potential	**Coalition's** Off. Strat. Potential	**Coalition's** Exposure to Threat
Coalition's Damage	**Coalition's** Def. Strat. Potential	**Coalition's** Def. Strat. Potential	**Coalition's** Damage
Coalition's Costs of Def. Actions	**Coalition's** Ext. Enabling Off.	**Coalition's** Ext. Enabling Off.	**Coalition's** Costs of Def. Actions
	Coalition's Ext. Enabling Def.	**Coalition's** Ext. Enabling Def.	**Iraq's** Def. Strat. Potential

Through the method explained in Note 30 on page 142, the charts given in Figure 47 can be converted into a table, as shown in Table H on page 156. This table shows to what extent changes in the various conditions affected the outcome of the process. The two columns on the left correspond with the left-hand part of the chart in Figure 47. This means that it is Iraq's assessment of the Coalition's estimate of the impact of the mentioned conditions on the chance of successful compellence. As mentioned in the heading, the left-hand column in Table H shows the conditions of which a positive change has a negative impact on compellence. Consequently, in order to enhance the chance of successful compellence, the value of these conditions must be reduced. The other three columns give identical information. The

heading of each column mentions the kind of impact and the action needed to enhance the chance of successful compellence.

Table H shows that the following conditions are of special relevance to the success of compellence or resistance (100% to 80% level) and are therefore called 'high-end' conditions.

- *Iraq's Desired Status Quo*: a positive change has a negative impact on compellence,
- *Coalition's Rejected Status Quo*: a positive change has a negative impact on compellence,
- *Iraq's Motivation*: a positive change has a negative impact on compellence,
- *Iraq's Exposure to the Threat*: a positive change has a positive impact on compellence.

Furthermore, several conditions – those at the 60% and 50% level – may affect the chance of successful compellence or resistance to an 'above average' degree. These conditions have a 'mid-level' impact. [114]

Figure 48: Iraq, Conditions Period-3, Compared with Period-2

	Case of Iraq: Conflict Period-3											
(After Desert Storm)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with previous period	**COMPELLENCE** Enhancement of Coalition's Conditions	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	**COMPELLENCE** Enhancement of Coalition's Conditions	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	**COMPELLENCE** Enhancement of Iraq's Conditions	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with previous period	**COMPELLENCE** Enhancement of Iraq's Conditions
Desired Status Quo	8			7	*-1*		7		-100%	6	*-1*	-100%
Rejected Status Quo	2		-90%	3	**1**	-100%	3		**60%**	4	**1**	**60%**
Offered Concessions	0	*-1*		0	*-1*		0	*-1*		0	*-1*	
Received Concessions	0	*-1*	-60%	0	*-1*	-60%	0	*-2*	**60%**	0	*-2*	**60%**
Offered Compensation	0			0			0		**50%**	0		**50%**
Received Compensation	0		-60%	0		-60%	0		**60%**	0		**60%**
Motivation	8	*-1*		7	*-2*		9	**2**	-90%	7	**2**	-90%
External Enabling Factors for Offense	4	*-3*	**< 1%**	3	*-4*	**< 1%**	2	**1**		2	**1**	
Exposure to Opportunity	6	*-1*		5	*-1*		3	**2**	-50%	2	**1**	-60%
Offensive Strategic Potential	7	*-1*		7	*-1*		6	**1**		6	0	
External Enabling Factors for Defense	8			8			3	**1**		3	**2**	
Exposure to Threat	1			1			5	*-4*	**80%**	5	*-4*	**80%**
Defensive Strategic Potential	8	*-1*		7	*-1*		6	**1**		5	**1**	
Costs of Offensive Action	1			2			2	*-3*	**30%**	2	*-3*	**40%**
Costs of Defensive Action	1			2			4	*-1*	**50%**	4	*-1*	**50%**
Potential Damage	0	*-1*		0	*-1*		4	*-5*	**50%**	5	*-4*	**50%**
Previously Suffered Damage	0		**60%**	0		**60%**	2		-60%	2		-60%
Previously Defrayed Costs	2		**60%**	2		**60%**	3		-60%	3		-60%

We can now investigate whether some of these relevant conditions actually shifted to the detriment of the 'desired' outcome (successful compellence). To that end, the list presenting the input variables (the conditions) of conflict period-3 is given again in Figure 48 (a copy of Figure 78 on page 247) with four columns added concerning the compellence enhancement of the conditions. The enhancement factors are taken from Table H and inserted as a percentage, behind the condition concerned. A *positive percentage* indicates the need to *enhance the value* of the condition concerned in order to have a *positive impact on compellence*. Conversely, a *negative percentage* indicates the need to *reduce the value* of the condition concerned in order to have a *positive impact on compellence*. Moreover, the percentages of the 'high-end' conditions are highlighted.

114 Several elements of the concessions and compensation are at the 'mid-level'. However, changing them is not assumed an option.

Considering the high-end of enhancement, we see that,

- Concerning *Iraq's Desired Status Quo*, a negative change took place in the Coalition's assessment of Iraq's estimate, having a positive impact on compellence.
- Concerning the *Coalition's Rejected Status Quo*, a positive change took place in Iraq's assessment of the Coalition's estimate, having a negative impact on compellence.
- Concerning *Iraq's Motivation*, a positive change took place on either party's assessment, having a negative impact on compellence.
- Concerning *Iraq's Exposure to the Threat*, quite some negative change took place in either party's assessment, having a negative impact on compellence.

In sum, this shows that almost all changes that took place since period-2 in the 'high-end' conditions reduced the chance of successful compellence. Consequently, it may be assumed that they affected the outcome considerably and that reversing those conditions to their previous level may have a sizably positive effect on the chance of successful compellence.

A second observation from Figure 48 is also important. It concerns the considerable change in either party's assessment of

- *Iraq's Costs of Offensive Actions*,
- the *Coalition's External Enabling Factors for Offense*,
- *Iraq's Potential Damage*.

In addition, the third observation is that two conditions have a mid-level impact. [115]

- the *Costs of Iraq's Defensive Actions* belong to the 60 percent category,
- *Iraq's Exposure to the Opportunity* belongs to the 50-60 percent category.

Changing these conditionst may also have a sizable effect on the outcome.

Experimenting with Adaptation of Conditions

With this information some experiments can now be done. However, first we have to find out whether it is worthwhile investigating the consequences of making changes in these conditions. Concerning the high-end conditions this is rather obvious. The other conditions need closer investigation. To that end, we look again at Table H and see that Iraq's (expected) costs of offensive actions are at the 30-40 percent level. Therefore, changing those costs may not affect the outcome much. Furthermore, the costs of offensive actions are difficult to influence and attempts to raise it may even result in unwanted effects, since it would imply a more offensive (aggressive) attitude of Iraq. The impact of the Coalition's external enabling factors for offense is less than one percent. So, this condition will be ignored. However, Iraq's potential damage belongs to the 50 percent category. Moreover, the Coalition can directly affect Iraq's perceived potential damage. Additionally, the costs of Iraq's defensive actions are related to the threatened damage. After all, Iraq will probably try to reduce the damage by defensive actions. Finally, Iraq's exposure to the opportunity seems to be suf-

115 As the change of the value of the Coalition's assessment of Iraq's estimate of Iraq's rejected status quo was favourable for compellence, it is rather obvious that this condition remains unaltered.

ficiently important to give it some attention. Consequently, it may be useful to put three conditions up for further investigation besides the 'high-end' conditions: Iraq's potential damage, its costs of defensive actions, and its exposure to the opportunity.

In the first of three experiments we put the adaptable conditions at the 'high-end' at their original level of period-2. [116] Then, in the second experiment, also the value of Iraq's potential damage and its costs of defensive actions is restored to its previous level. Finally, in the third experiment we also raise the value of Iraq's exposure to the opportunity to the level of period-2.

Figure 49: Iraq, Experiments with Conditions and Outcomes

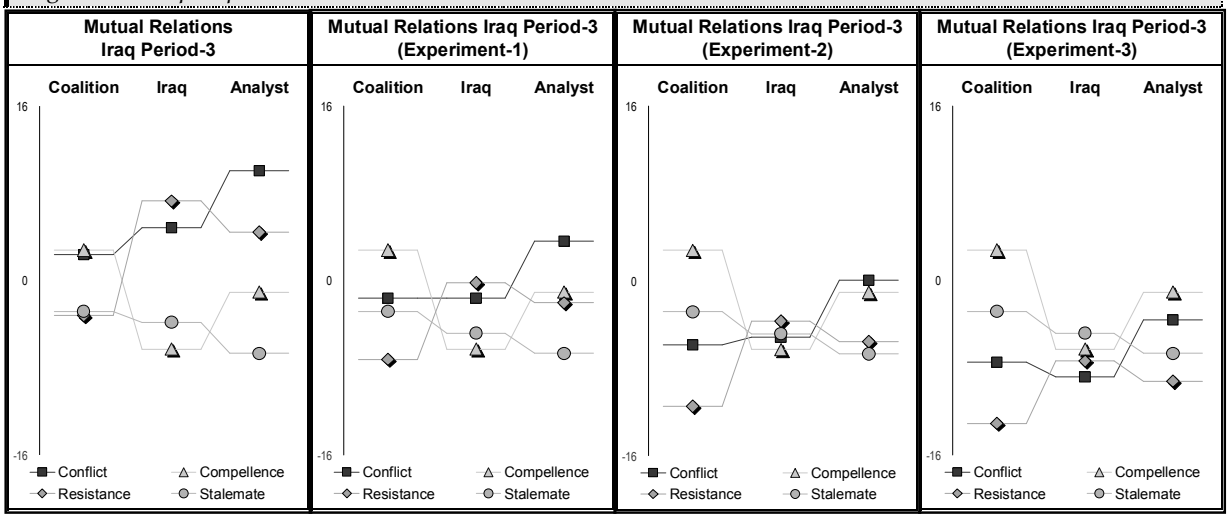


Figure 49 shows four relative impact diagrams. The first (from left to right) considers the situation in period-3 as calculated. The second shows the outcomes of the first experiment. We see that the outcome is still continued conflict, although the Coalition's estimation changed considerably, particularly at the expense of successful resistance. Then, the third diagram shows the result of the second experiment. The conclusion is that adding the restoration of Iraq's potential damage and reversing Iraq's costs of defensive actions still does not tilt the outcome in favor of succesfull compellence, although compellence closes in. Finally, the right-hand diagram shows what the impact would be of also reversing Iraq's exposure to the opportunity (third experiment). It is clear that compellence is the outcome, here, thanks to the change in the estimation of Iraq in particular.

In general, these experiments show that the model provides means to concentrate on particular conditions when searching for a 'better' outcome of a particular compellence process. Concerning the case of Iraq, it shows that, if, firstly, the Coalition had been able to avoid the changes in the 'high-end' conditions, secondly, had avoided that Iraq's perception of its potential damage dropped as dramatically as it did (in effect, mainly issues related to the strength of purpose of the Coalition and the pressure on Iraq as its result), and finally had not allowed Iraq a greater exposure to the opportunity, this would almost certainly have maintained the Coalition's chance of successful compellence. Even more importantly, it

116 As the change of the value of the Coalition's assessment of Iraq's estimate of Iraq's desired status quo was favourable for compellence, it is rather obvious that this condition also remains unaltered.

would, in effect, have diminished Iraq's idea that it had a chance of successful resistance, [117] thus avoiding the risk of continued conflict.

9d Two Counterfactual Thought Experiments

One of the major advantages of using a model as developed in this study is that it provides an opportunity to carry out so-called counterfactual thought experiments. About such experiments Bueno the Mesquita asserts, "Counterfactual argument is concerned with facts that did not happen, [. . . i.e. with] what might have happened" [243: 212], if circumstances had been different. Counterfactual thought experiments artificially 'alter' the circumstances and then investigate what the result (or the course of history) would have been in these 'new' circumstances. Tetlock and Belkin write,

> There is nothing new about counterfactual inference. Historians have been doing it for at least two thousand years. Counterfactuals fuelled the grief of Tacitus when he pondered what would have happened if Germanicus had lived to become Emperor: "Had he been the sole arbiter of events, had he held the powers and title of King, he would have outstripped Alexander in military fame as far as he surpassed him in gentleness, in self-command and in other noble qualities". […] Social scientists – from Max Weber (1949) to Robert Fogel (1964) – have also long been aware of the pivotal role that counterfactuals play in scholarship on such diverse topics as the causes of economic growth and the diffusion of religious and philosophical ideas. Nevertheless, some contemporary historians still sternly warn us to avoid "what-might-have-been" questions. They tell us that history is tough enough as it is – as it *actually* is – without worrying about how things might have worked out differently in this or that scenario. [243: 3]

This proves that counterfactual reasoning is not undisputed. However, according to Bueno de Mesquita, "counterfactual reasoning, when carefully grounded in a coherent structure, can play a central role in the evaluation of international affairs. Particularly, the assessment of counterfactuals provides a basis for understanding whether what has been (or will be) was, ex ante, the likely path of events." [243: 211] Furthermore he writes, "When what really happens is influenced by judgments about the responses of others to alternative courses of action, then game theory provides a useful basis for examining the merits of rival counterfactual claims and for providing an axiomatically grounded explanation of history. [. . .] For a game theorist, therefore, counterfactuals are not to be avoided, but rather to be used as important tools in understanding reality and beliefs about it." [243: 212]

It is with this positive attitude towards this phenomenon as a starting point that this study performs two counterfactual thought experiments with regard to the case of Iraq. It is because, among others, the conclusion from Iraq's conflict period-6 leaves the analyst with the question what measure, or what changes in the variables would, at least potentially, have caused a shift in the final balance in favor of the Coalition, without conquering and occupying Iraq. To that end, it is worthwhile looking at a fictitious situation as a replacement for Operation Iraqi Freedom. That is why an 'artificial period' is added to demonstrate how things would have developed if a new Iraqi regime, with other objectives and stakes, but also with a higher level of willingness to cooperate, had nevertheless considered to resist the efforts of the Coalition to compel them.

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117 After all, as said, it was not so much the Coalition's perception that obstructed successful compellence (the Coalition consistently believed in its chance of success), but Iraq's idea that there was a good chance of successful resistance.

Furthermore, a special 'conflict period' is added to cover the involvement of the UN. Its focus is on the time between the operations Desert Fox and Iraqi Freedom. Since it is mainly intended to show the consequences of UN involvement, it is – as such – not a separate 'period', but it compares the UN involvement with the 'unsupported' actions taken by other actors, particularly the USA.

9d.1 IRAQ: FICTITIOUS REPLACEMENT FOR IRAQI FREEDOM
IRAQ UNDER IMAGINARY 'NEW' REGIME

After three weeks of battle, the breakdown of the Iraqi regime was symbolized by thousands of Iraqis, celebrating their liberation in the centre of Baghdad, and – with the help of US marines – pulling a metal statue of Saddam Hussein off its concrete pedestal. On May 1, 2003, President Bush Jr. announced that major combat operations in Iraq had ended. "In the battle of Iraq, the United States and our allies have prevailed. And now our Coalition is engaged in securing and reconstructing that country." In his speech on board USS Abraham Lincoln, Bush referred to the special character of this 'battle'. "[In the past] . . . enemy leaders who started the conflict were safe until the final days. Military power was used to end a regime by breaking a nation. Today, we have the greater power to free a nation by breaking a dangerous and aggressive regime. . . . it is a great moral advance when the guilty have far more to fear war than the innocent."

Actually, during Iraqi Freedom Iraq was conquered although Bush words indicate that the objective was not so much to conquer Iraq, but to expel its regime. However, would expellence have been pursued more directly – for instance, by eliminating the top of the regime by covert actions – the people replacing the old regime would probably have substituted the 'old' regime objective for another one (less weighty) and would have been much more cooperative. Then, the situation could have been as described below.

► *Conditions*

The assumption underlying the conditions is more or less artificial. It imagines that the new regime – with its changed objectives and stakes – would, after making a 'new' assessment, still consider opposition towards the Coalition. The question is whether it would be logical to do so.

In the circumstances sketched, most of the Coalition's conditions would be the same as desribed in period-6. However, one could expect an enhanced bargaining attitude, which would increase the strategic potential. Regarding Iraq, the main differences concern its attitude towards the conflict. The issues at stake would be much more limited, as would its motivation and risk acceptance attitude. Furthermore, the Coalition would appreciate the concessions offered by Iraq better. The Coalition would probably even offer some compensation.

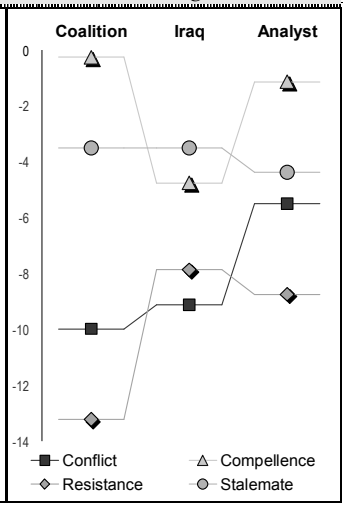
Figure 50: Iraq, Fictitious Replacement for Iraqi Freedom: Conditions

	Case of Iraq: 'Replacement for Iraqi Freedom'							
(Iraq under 'imaginative' New Regime)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with Period-6	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with Period-6	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with Period-6	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with Period-6
Desired Status Quo	9		8		6	*-2*	6	*-1*
Rejected Status Quo	2		2		4	**4**	4	**3**
Offered Concessions	0		0		2		2	**1**
Received Concessions	2	**1**	2		0		0	
Offered Compensation	1	**1**	1	**1**	0		0	
Received Compensation	0		0		1	**1**	1	**1**
Motivation	9		8		5	*-4*	5	*-3*
External Enabling Factors for Offense	1		1		2		2	
Exposure to Opportunity	7		6		3		2	
Offensive Strategic Potential	9	**1**	9	**1**	7	0	6	0
External Enabling Factors for Defense	6		6		7		6	
Exposure to Threat	3		4		9		9	
Defensive Strategic Potential	9	**1**	9	**1**	7	0	6	0
Costs of Offensive Action	3		4		2		2	
Costs of Defensive Action	1		2		6		7	
Potential Damage	2		2		9		10	
Previously Suffered Damage	1		1		4		4	
Previously Defrayed Costs	4		4		5		5	
Certainty about Own Capabilities	9		9		9		9	
Certainty about Own Intentions	9		9		9		9	
Certainty about Exposure	9		9		9		9	
Certainty about External Enabling Factors	9	**1**	9	**1**	9	**1**	9	**1**
Certainty about Opponent's Capabilities	9		9		9		9	
Certainty about Opponent's Intentions	9		9		9		9	
RISK ACCEPTANCE ATTITUDE	**Coalition**		9					
	Iraq		4	*-5*				

► *Assessment of the Outcome*

Figure 51: Iraq, Fictitious Replacement for Iraqi Freedom: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: 'Replacement for Iraqi Freedom' (Iraq under 'imaginative' New Regime)		**Iraq**	
		RESIST (i.e. to resist coalition's pressure to accept arms reductions)	**COMPLY** (i.e. to comply with coalition's demands to accept arms reductions)
		Conflict	**COMPELLENCE**
Coalition	**COMPEL** (i.e. to compel Iraq to accept arms reductions)	*(-10)* *(-9)* 2 , *1*	*(-0)* *(-5)* **4** , 3
	RESIGN (i.e. to accept that Iraq keeps its offensive weaponry)	*(-13)* *(-8)* *1* , 2	*(-4)* *(-4)* 3 , **4**
		Resistance	Stalemate



The analysis shows that there would be no doubt about the outcome of this process, namely successful compellence. The Coalition would be fully convinced that Iraq expected compliance to be the only feasible option, leading to successful compellence. Iraq would expect that the Coalition awaited stalemate. In combination, i.e. as seen through the eyes of the analyst, this results in a clear-cut success of compellence.

This observation suggests that, by themselves, changes in the indulgence of an opponent can create a major shift in favor of successful compellence. This indicates that a regime change can have an immense impact on the outcome of a conflict, particularly when the new regime demonstrates a higher willingness to cooperate.

9d.2 IRAQ: UN INVOLVEMENT (COMPARED TO CONFLICT PERIOD-4)
SITUATION BETWEEN DESERT FOX AND IRAQI FREEDOM

In the decade after Desert Storm the United Nations and the Coalition (USA in particular) were engaged in an action of compellence towards Iraq. The military pressure aimed at forcing Iraq to the negotiating table increased gradually. The actions shifted from the lower end of the spectrum of force toward the higher end, finally resulting in operation Desert Fox. The demands shifted from complying with UNSCRs concerning the destruction of WMD to lifting Saddam from power. None of the measures taken by the Coalition forced a breakthrough.

The majority of these measures were either initiated under American pressure, or even by the USA alone. The American involvement often encountered fierce opposition. Particularly some other members of the UN Security Council expressed the opinion that other, less confrontational, measures would suffice or would even be better suited to bring about a positive result. From the point of view of the analyst, the answer to the question whether that is true or not is interesting. For that, a 'period' is added here that shows the result of an approach that would do justice to this – more cooperative – approach.

► *Conditions*

The conditions as they applied during conflict period 4 are used as the basis here. Particularly the 'softer' approach of the UN has consequences for several aspects. It is assumed that Iraq rated the UN's stakes lower than in period-4. The willingness of the UN to make some concessions and give some compensation was only partly appreciated by Iraq. Iraq also recognized that there was a considerable reduction in the individual and institutional motivation of the UN, compared to the more American-driven period-4. Knowing the reluctance of the UN for offensive actions, its offensive conditions were rated lower. Even the ratings for conditions with a defensive character showed a downward trend. This was partly the result of the moderate bargaining attitude the UN was thought to possess, particularly in the eyes of Iraq. Iraq's exposure to the threat would decrease dramatically while its exposure to the opportunity would grow. The UN was not expected to allow high expenditure for offensive actions. Iraq would be able to reduce its defensive costs. In proportion, also Iraq's potential damage would decrease considerably. The UN's 'soft' approach was also a sign of its limited risk acceptance attitude.

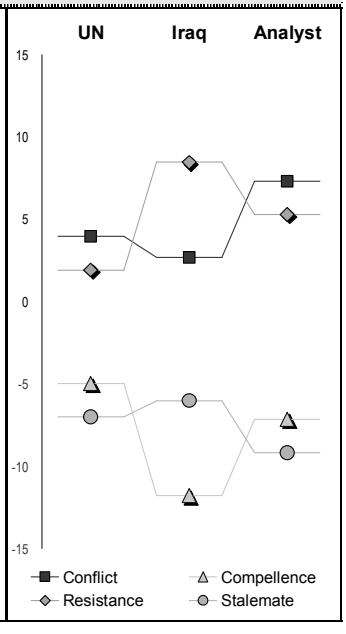
Figure 52: Iraq, UN Involvement: Conditions

	Case of Iraq: 'UN Involvement'							
(Related to Period-4: Coalition's Pressure on Iraq)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with Period-4	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with Period-4	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with Period-4	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with Period-4
Desired Status Quo	8		6	-1	7		6	
Rejected Status Quo	2		4	1	2		3	
Offered Concessions	2	2	1	1	0		0	
Received Concessions	0		0		1	1	2	2
Offered Compensation	0		0		1	1	1	1
Received Compensation	1	1	1	1	0		0	
Motivation	3	-3	3	-2	9		8	
External Enabling Factors for Offense	3		2		2		2	
Exposure to Opportunity	5	-1	4	-1	5	2	4	2
Offensive Strategic Potential	5	-2	4	-4	6		6	0
External Enabling Factors for Defense	8	1	7		5		5	
Exposure to Threat	1		1		2	-5	3	-5
Defensive Strategic Potential	8	0	7	-1	6		5	0
Costs of Offensive Action	1	-1	2	-1	2		2	
Costs of Defensive Action	1		2		1	-4	2	-4
Potential Damage	1		1		3	-4	4	-4
Previously Suffered Damage	1		1		3		3	
Previously Defrayed Costs	3		3		4		4	
Certainty about Own Capabilities	9		8		9		8	
Certainty about Own Intentions	9		9		9		9	
Certainty about Exposure	8		8		7		7	
Certainty about External Enabling Factors	8	2	7	1	7	1	8	2
Certainty about Opponent's Capabilities	9		9		9		9	
Certainty about Opponent's Intentions	8		8		8		8	
RISK ACCEPTANCE ATTITUDE	Coalition		4	-4				
	Iraq		7					

► *Assessment of the Outcome*

Figure 53: Iraq, UN Involvement: Payoff Matrix & Mutual Relations Diagram

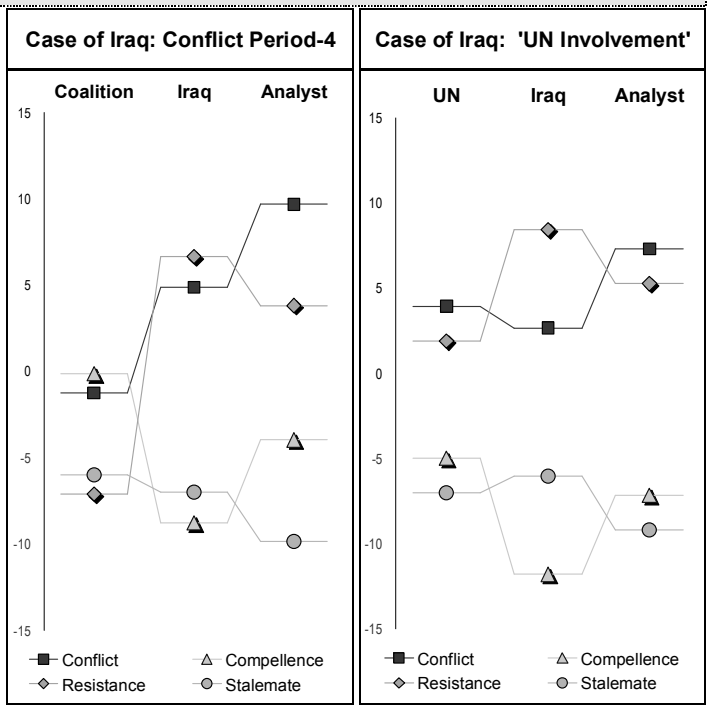
Case of Iraq: 'UN Involvement'			Iraq	
			RESIST (i.e. to resist UN's pressure to accept weapons inspections and arms reductions)	COMPLY (i.e. to comply with UN's demands to accept weapons inspections and arms reductions)
			CONFLICT	Compellence
UN	COMPEL	(i.e. to compel Iraq to accept arms reductions and weapons inspections)	(4) (3) **4 , 3**	(-5) (-12) 2 , *1*
UN	RESIGN	(i.e. to accept that Iraq obstructs weapons inspections and keeps its offensive weaponry)	(2) (8) 3 , **4**	(-7) (-6) *1* , 2
			Resistance	Stalemate



Based on the available data, the result would still be a continuation of the conflict. As can be seen in the mutual relations diagram of Figure 53, the UN itself realized (or should have recognized) that its chance of successful compellence was very limited. In essence, the UN was even aware that

continued conflict was most likely and that successful resistance as the potential outcome of the conflict was irrefutably higher than the chance of successful compellence. Iraq, on the contrary, would have had no doubt about a good chance of successful resistance, taking into account UN's attitude. It even rated its chance of successful resistance at the very top, while UN's chance of successful compellence was at the very bottom.

Figure 54: Iraq, UN Involvement, Comparison with Period-4



In essence, as the difference between the two diagrams in Figure 54 shows, we see in the first place the most remarkable upgrading in the eyes of the UN of the chance of continued conflict, and even more of successful resistance at the cost of successful compellence in particular. Furthermore, we can see an undeniable shift in favor of successful resistance at the expense of successful compellence, in the eyes of Iraq. The final result is, indeed, an 'absolute' reduction in the chance of continued conflict. However, the chance of successful resistance has grown and the chance of successful compellence dropped. In conclusion, that is why it is safe to say that – although the American approach also did not produce the desired result – the UN approach would even have worsened the situation.

9d.3 Summary of Iraq Case

It can be concluded that the application of the framework to the Iraq case provides a pretty good reproduction of the developments of the compellence process, and gives an insight into the mechanisms that drove that process. We have witnessed that, after the success of operation Desert Storm, the Coalition let its advantages slip. Almost all changes in circumstances after Desert Storm were detrimental to the Coalition. There are sufficient indications to believe that particularly the reduced strength of purpose of the Coalition and the reduced pressure on Iraq are to be blamed for the diminished chance of (a continuation of) successful compellence. As Annex F demonstrates, the addition of the clear threat towards Saddam Hussein's own survival, and the survival of his regime, was not particularly instrumental in making Iraq comply.

The analysis also shows that regime change would have produced sufficient leverage to convince Iraq to comply. Thus, the analysis confirms that – given the virtual impossibility to compel Iraq at the start of Iraqi Freedom – the only option was to conquer Iraq and expel the Iraqi regime. It may be argued that – in the light of the serious threat of expellence, as expressed against Saddam's regime by the USA – this was actually a form of self-inflicted fate called down upon the USA. One could say, they should not have threatened with expellence, they should have done it.

Furthermore, the analysis confirms that if the Coalition would have adopted the UN approach, the chance of successful compellence would have been reduced. Even worse, there are reasons to believe that the attitude of the UN towards the Coalition's actions reduced the chance of successful compellence anyway. UN's weak and ambiguous posture towards Iraq undermined the Coalition's efforts to demonstrate perseverance and a firm determination to bring Iraq to reason.

9e Conclusion

In this chapter, the framework was validated using two real-life cases. First, I have rated the conditions at several distinct moments in time that, in my opinion, represented a certain state of affairs based on a description of the circumstances taken from existing literature. Although a certain level of subjectivity is involved in this process I consider it as a plausible representation of the circumstances.

Then, using these ratings, calculations were made in the framework. The results very well correspond with the real-life results on the moments in the conflict concerned. In addition, the analyses done demonstrate that the tools provided also offer the opportunity to explain particular elements of the compellence process. Furthermore, the examination reveals the possibility to investigate with the models – by way of a mechanism of counterfactual thought experiments – the impact of alternatives to the course of action as chosen by the decision-makers involved.

Furthermore, the use of these two scenarios indicates that not many variables have a prevailing impact on the outcome of the process. The total system seems to be built on a delicate balance between the variables. Depending on the conditions of the other variables, sometimes variance in one variable can make a difference. A change in the initial conditions can, however, nullify this effect.

In summary, it can be concluded that the examination of the case of Serbia and the case of Iraq demonstrates that the models provide a reasonable representation of reality. The models also provide a manageable tool for the explanation of various aspects of the process of compellence. Although the findings are specific for these two cases, there is sufficient reason to believe that these kinds of conclusions are (more or less) common. In other words, we may expect that more universally applicable 'rules' can be found by investigating the impact of separate conditions on the outcome of other compellence cases.

EPILOGUE

The most important reason to study the determinants of coercive success and failure is to draw lessons for future policy debates.

Robert Pape

10. *Considerations and Conclusions*

10a Introduction

In the previous chapters, the course of the process of compellence has been explained, translated into a model for quantitative analysis, and examined for its conclusions and lessons. As the purpose of this study is to find a way to explain the working of compellence strategies, a core element should be the application of the findings to everyday problems in the realm of strategy and diplomacy. That is why, in this final chapter, consideration is given to the prevalent findings of the study. The effects of applying certain findings of this study will be explored and translated into some additional propositions. Some general observations partly discussed in previous chapters are made and two specific issues that seem to be most relevant in the current political debate are discussed. This chapter ends with a conclusion on the future of compellence as a tool at the disposal of the international community.

10b General Observations

10b.1 Counter-Compellence

In section 2h the remarkable neglect of counter-compellence in the existing literature is mentioned. The conclusion was that this could only result in a scanty explanation of the elementary characteristics of compellence. It was just common sense to expect that this could have severe consequences for the assessment of the compellence process. Now that an inventory is available of the mechanism that drives compellence, we can zoom in on this issue once again.

This study proves that there are four considerations involved in a compellence process:

1) the compeller's assessment of his own expected utilities,

2) the compeller's assessment of the target's expected utilities,

3) the target's assessment of his own expected utilities,

4) the target's assessment of the compeller's expected utilities.

Furthermore, this study demonstrates that the real issue is the crosswise appreciation of these four assessments. It is obvious that, in order to make these assessments, the actors cannot restrict themselves to looking at their own conditions. They have to consider their opponent's conditions as well. In the light of that observation it is quite remarkable to see that – in quite a number of academic sources as well as in practical international relations – the emphasis is on the considerations of only one of the actors. As a result, a considerable part of the dynamics of the compellence process is ignored. With that, the weighing and balancing of options, i.e. a proper 'calculation' of the potential outcome of the process, has become virtually impossible. Particularly the risk involved is underrated. Consequently, the argumentation is unreliable and its conclusion virtually useless. Since this conclusion dictates an actor's actions and those actions for their part determine his chance of success, it can safely be asserted that,

> *By neglecting the counter-compellence actions of the target, and thus the risk involved in compellence, the compeller endangers his chance of success*

10b.2 UNCERTAINTY

Uncertainty has many consequences for the assessment of compellence cases. Each of the four considerations mentioned in the previous paragraph is riddled with elements of uncertainty. As was discussed in the section about the 'Uncertainty from Source to Destination' on page 55, the outcome of an actor's assessment under conditions of uncertainty depends to a high degree on his risk-taking attitude. This attitude primarily results from a state of mind, and not necessarily from established facts and objective observations. The combination of a high level of uncertainty and a high risk-taking attitude can result in a considerable error margin. In essence, it means that an actor who faces much uncertainty and who possesses a high risk-taking attitude is prone to base his action on false expectations regarding the outcome of the compellence process. As the framework demonstrates, in case (one of the) actors fail(s) to recognize the inadequacy of some conditions for a successful settlement of the case, and continue(s) the process expecting a successful result based on a high risk-taking attitude, the conflict will continue.

In sum, these considerations support the proposition that

> *Uncertainty – one of the most important reasons for false expectations regarding the outcome of a compellence process – particularly in combination with a high risk-taking attitude, can lead to an unwanted continuation of a conflict.*

10b.3 MIRROR-IMAGING

In the context of the way actors 'rate' variables in an atmosphere of uncertainty, one of the best known but also most disregarded pitfalls is their defective empathy. This concerns the actors' apparent incapacity to identify themselves with their opponent's way of thinking, more particularly, the way they handle this incapacity. It has to do with the fact that identifying the opponent's preferences properly is very difficult, particularly when the opponent has a 'peculiar' cultural background. Quite often this problem is 'solved' by the introduction of false certainties. Actors often assume that the opponent thinks as they think themselves. As a result, they consider the behavior the opponent displays as determined by this peculiar background, as 'aberrant', and even label it as 'irrational' behavior. The effect of this 'mirror imaging' is that actors erroneously base their estimates on their own assessment instead of on that of the opponent. As a result, the basis for a reliable assessment is in jeopardy, and there is considerable danger that the chance of success is wrongly judged.

In sum, this consideration shows that,

> *By focusing on their own perception of reality – particularly by projecting a mirror image of themselves on their opponent, resulting from a lack of empathy with the opponent's perception – actors in a compellence process endanger their chance of success.*

10c Discussions in the Preponderant Compellence School of Thought

In the literature originating from the preponderant compellence school of thought, two strategic choices are frequently under discussion. One is whether to choose a punishment or a denial strategy; the other is whether to concentrate on immediate results or to choose for a gradual approach. The framework should be suited to investigate which choice is advisable.

10c.1 PUNISHMENT VERSUS DENIAL; 'PAPE'S CASE'

Quite a number of recent discussions with regard to compellence refer to Robert A. Pape's *Bombing to Win* [199]. Particularly his assertion, "coercion by punishment rarely works. When coercion does work, it is by denial." [199: 15] has inspired many to focus on coercion by denial and to forget coercion by punishment. The question is whether this is justified. Applying the newly-developed frameworks to Pape's case might help to answer that question. Before doing so, some peculiarities that dominate Pape's line of thinking must be looked into.

Pape's Premises and Line of Thinking

First of all, Pape makes a distinction between, what he calls "two fundamental types of coercion: coercion by punishment and coercion by denial." He states that, "Coercion by punishment operates by raising costs or risks to civilian populations. . . . Coercion by denial operates by using military means to prevent the target from attaining its political objectives or territorial goals."[199: 13]

Concerning coercion by denial, Pape only draws a very thin line between this kind of coercion and war-fighting, asserting that this distinction is 'ambiguous'. He even distinguishes an overlap between coercion and military victory. Coercers themselves, he writes,

> often do not distinguish; instead they pursue both options, hoping to attain their goals by coercion if possible and by decisive victory if necessary. . . . The gray area between coercion by denial and war-fighting would be a problem only if war-fighting ruled out coercion or if it were impossible to observe the difference between coercive success and complete military defeat. . . . The close conjunction between coercion and military victory tells us something important: if we find that coercive strategies based on denial are more effective than those based on punishment, then, by implication, the most effective way to compel concessions without achieving decisive victory is to demonstrate that one actually has the capacity to achieve decisive victory.[199: 14-15]

It should not be surprising that Pape takes the position that "coercion often occurs in wartime."[199: 22] Pape's emphasis on territorial demands [118] is in line with this way of thinking about compellence: "[D]enial strategies make . . . [a] special effort . . . to deny the opponent hope of achieving the disputed territorial objectives."[199: 19] Furthermore, the instrument par excellence for the application of compellence is Airpower, according to Pape. As a result, he restricts his study to 33 coercive attempts (most of which occurred in war) using strategic Airpower either against military (denial), or against civilian (punishment) targets. Thus, in summary, it can be concluded that – although Pape takes the view that coercion fails when the coercer imposes his demands only after complete defeat of the target – Pape considers coercion by denial as a (lesser) form of war fighting. Actually, in his book Pape discusses 'coercion ***in*** war', exclusively using Airpower. However, the ongoing debate about the strengths and weaknesses of compellence strategy is mainly about the preventive properties of compellence, i.e. the quintessence of that debate is to find ways to use compellence to avoid the actual (and particularly the massive) use of force. Consequently, interesting though it may be as a topical subject, research results only focusing on coercion in war not necessarily contribute to the ongoing discussion about compellence strategy.

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118 A large number of the reasons Pape brings up to prove "why conventional punishment rarely succeeds" refer to territorial stakes that, in his opinion, are often very important in coercive disputes.

Concerning coercion by punishment, Pape states that, "Punishment campaigns seek to raise the societal costs of continued resistance to levels that overwhelm the target state's territorial interests, causing it to concede to the coercer's demands." [199: 18] This means that, according to Pape, coercion by punishment seeks "to inflict enough pain on enemy ***civilians*** to overwhelm their territorial interests in the dispute. The hope is either that the government will concede or the population will revolt." [emphasis added; 199: 21] This emphasis on punishment of the civilian population – i.e. not on punishment of the leadership, let alone punishment of the state as a whole – is a peculiar 'limitation' Pape has introduced. It surely concurs with the punishment philosophy used during World War II and the idea behind the deterrence strategy of the Cold War. From a conceptual point of view, however, it weakens any proposition that suggests that coercion by denial is in general preferable to coercion by punishment.

Overall, it appears that the basic principle of Pape's denial theory is rather particular and also restrictive. However, it must be borne in mind that Pape has not advertised his theory as universal, and describes his book as "only a small beginning". He also recommends a continuation and intensification of the study of military coercion. Nevertheless, by stating in the 'epilogue' of his book: "denial appears to be the most effective coercive strategy" [199: 330] and by emphasizing the study of coercion by denial and the advantages of using this strategy, he suggests more than he can substantiate. In conclusion, it is safe to infer that Pape employs so many particular basic principles in his study that universal applicability of his conclusions is – to say the least – very dubious. To quote Byman et al, "Pape's work demonstrates that coercion through bombing population-related targets does not work when an all-out war is ongoing but says less about the importance of air power in coercive crises." [38 : 19]

Applying the Newly-Developed Framework to Pape's Case

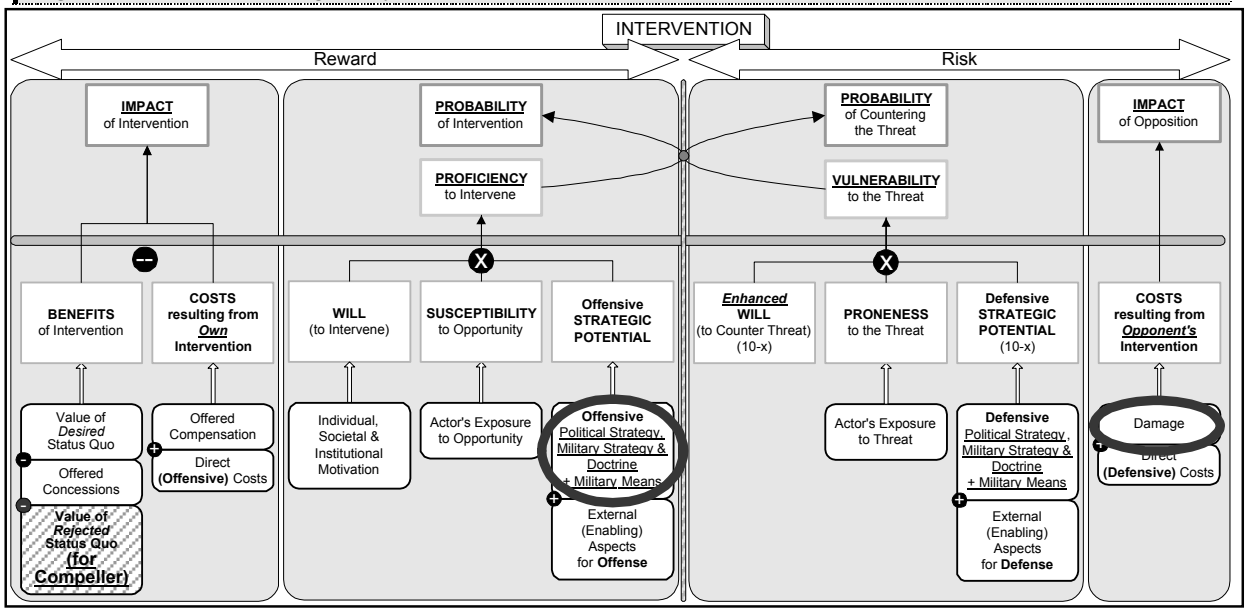
It is nevertheless interesting to see what the application of the newly-developed framework to Pape's case can teach us. To that end, we 'zoom in' on the meaning of punishment and denial as can be deduced from Pape's descriptions. According to him, punishment strategies attempt "to raise the costs of continued resistance".[199: 18] What he actually means is to increase the damage. Denial strategies, he says, attempt "to reduce the probability that resistance will yield benefits". [199: 18] [119] Their success depends "on the coercer's ability to undermine the opponent's strategy for protecting or capturing the territory at issue".[199: 38] "Thus, denial campaigns focus on the target state's military strategy". [199: 19]

We can also say that, in terms of the elements used in the framework, the action Pape considers in support of a punishment strategy regards ***increasing the damage of the opponent***. The action Pape considers in support of a denial strategy concerns ***decreasing the offensive military (strategic) capabilities***. A renewed look at the Lower Tier Diagram presented in Figure 26 on page 103, for convenience sake partly reproduced and slightly adapted in Figure 55 below, may help to understand this. The issues under consideration are highlighted. In the framework, the damage is identifiable as a separate variable, listed under the 'impact of opposition'. The offensive military capabilities are (only) part of the offensive strategic potential, [120] residing – through the proficiency to intervene – under the 'probability of intervention'.

119 Note that Pape ignores the role of submission.

120 The model considers military capabilities as ⅛ of the total strategic potential.

Figure 55: Lower Tier Diagram of Variables



To give an opinion on Pape's assertion that denial strategies are preferable to punishment strategies, we need to answer the question whether *decreasing the offensive military capability* (i.e. the offensive strategic potential) has a higher impact on the growth of the chance of successful compellence than *increasing the damage*. An affirmative answer to these questions would confirm Pape's thesis, while a negative answer would deny it. We will investigate this by looking at the conclusions from baseline scenario-I and baseline scenario-II, as discussed in chapter 8, because these scenarios offer a 'general' picture, without the mutual interference of particular conditions. Consequently, we can also consider the conclusions from this investigation as 'universally applicable'. The conclusions of the two baseline scenarios are presented in Table D on page 139 and in Table F on page 141. For the sake of convenience, they are copied side-by-side in Table I on page 174.

The application of the framework to baseline scenario-I (left-hand list) demonstrates that *decreasing the target's offensive strategic potential* has an almost equal impact on successful compellence as *increasing the target's damage* has (both at the 20% level). In baseline scenario-II (right-hand list), the impact of *decreasing the target's offensive strategic potential* is at the 20% level and the impact of *increasing the target's damage* is higher, namely at the 30% level.

As said, decreasing the target's *offensive strategic potential* is the focus of a denial strategy, and increasing the target's *damage* is the focus of a punishment strategy. Thus, baseline scenario-I neither supports, nor denies the assumption that one of these two actions would produce a better result, and baseline scenario-II supports the assumption that punishment gives a better result than denial. In sum, this means that

> *the impact on successful compellence of decreasing the target's offensive strategic potential (i.e, a denial strategy) is equal to, or less than, the impact of increasing the target's damage (i.e. a punishment strategy).*

An addition to this conclusion is that Pape's emphasis is actually on the military part of the offensive strategic potential, i.e. on a considerably smaller aspect than the target's offensive strategic potential as a whole. So the final conclusion is that also the impact of decreasing the target's offensive military potential (the impact of a denial strategy) is (considerably)

smaller than the impact of increasing the target's damage (the impact of a punishment strategy). Consequently, under the conditions presented a negative answer must be given to the questions posed. Therefore, Pape's thesis that the use of a denial strategy (by definition, or even in general) is more profitable than the use of a punishment strategy must be refuted.

In sum, it is safe to state that

> *There is insufficient proof to support the assertion that compellence by denial is – in general – preferable to compellence by punishment.*

Table I: Impact on Successful Compellence; Baseline Scenario I & II

Baseline Scenario-I	
Positive Change has **Positive Impact**	Positive Change has **Negative Impact**
First Order Impact (on Successful Compellence)	
C's Motivation	
80% of first order impact	
	T's Motivation
70% of first order impact	
C's Exposure to Opportunity	
60% of first order impact	
	C's Exposure to Threat
	C's Rejected Status Quo
	T's Desired Status Quo
	T's Exposure to Opportunity
50% of first order impact	
T's Exposure to Threat	
40% of first order impact	
T's Rejected Status Quo	C's Received Compensation
T's Received Compensation	C's Received Concessions
T's Received Concessions	T's Previous Costs
C's Previous Costs	T's Precious Damage
C's Previous Damage	
30% of first order impact	
C's Ext. Enabling Factors (for Offense)	
C's Offensive Strategic Potential	
C's Defensive Strategic Potential	
C's Ext. Enabling Factors (for Defense)	
20% of first order impact	
C's Desired Status Quo	T's Ext. Enabling Factors (for Offense)
T's Costs of Offensive Actions	**T's OFFENSIVE STRATEGIC POTENTIAL**
T's Costs of Defensive Actions	T's Defensive Strategic Potential
T's DAMAGE	T's Ext. Enabling Factors (for Defense)
T's Offered Compensation	C's Costs of Defensive Actions
T's Offered Concessions	C's Costs of Offensive Actions
	C's Damage
	C's Offered Compensation
	C's Offered Concessions

Baseline Scenario-II	
Positive Change has **Positive Impact**	Positive Change has **Negative Impact**
First Order Impact (on Successful Compellence)	
	T's Desired Status Quo
	C's Rejected Status Quo
80% of first order impact	
	T's Motivation
70% of first order impact	
C's Motivation	T´s Previous Costs
C's Previous Costs	T´s Previous Damage
C´s Previous Damage	C´s Received Compensation
T´s Received Compensation	C´s Received Concessions
T´+s Received Concessions	
T´s Rejected Status Quo	
60% of first order impact	
	T´s Exposure to Opportunity
50% of first order impact	
C´s Exposure to Opportunity	C´s Exposure to Threat
T´s Exposure to Threat	
40% of first order impact	
30% of first order impact	
C´s Desired Status Quo	C´s Costs of Offensive Actions
T´s Costs of Offensive Actions	C´s Costs of Defensive Actions
T´s Offered Compensdation	C´s Offered Compensation
T´s Offered Concessions	C´s Offered Concessions
T´s Costs of Defensive Actions	C´s Damage
T's DAMAGE	
20% of first order impact	
C´s Ext. Enabling Factors (for Offense)	T's Ext. Enabling Factors (for Offense)
C's Ext. Enabling Factors (for Defense)	T's Ext. Enabling Factors (for Defense)
C's Offensive Strategic Potential	**T's OFFENSIVE STRATEGIC POTENTIAL**
C's Defensive Strategic Potential	T's Defensive Strategic Potential

10c.2 NON-STATE ACTORS

One of the main problems the world community is facing nowadays is the growing role of non-state actors in international relations. More and more these non-state actors challenge state actors in violent confrontations. In these confrontations, non-state actors employ methods that seem very similar to compellence strategies. That is why it is interesting to see whether the provided framework can help us understand what these methods can bring about, and what could be effective counter-measures.

The underlying assumption in the following discussion is that non-state actors – even if their immediate objective seems to be to cause anarchy by destabilizing a society and creating chaos – ultimately seek to take control over the affected society. The creation of chaos then is a measure to deny the ruling government opportunities to stay in control. Covert actions against governmental institutions, including the armed forces, as well as acts of terror have to be seen in the same light, although the latter also puts pressure on the sitting government as a measure of 'punishment'.

Another observation to be made at the start of this discussion is that non-state actors do not possess the (military) means to compete with regular armed forces. In other words, they are not able to put an entire country or community under their control by classical (military) means. As a result, they resort to other, 'unconventional', means and methods, the two best-known of which are guerrilla tactics and terrorism.

Guerrilla Warfare and Terrorism as Compellence Strategies

Guerrilla warfare and terrorism are two exponents of what has become a special form of 'military art' nowadays. They are only two of the most used methods of what has lately become known as 'asymmetrical warfare.'

Asymmetrical Warfare

Strategic asymmetry, Steven Metz and Douglas V. Johnson II write, "is the use of some sort of difference to gain an advantage over an adversary." [177: 1] Another way of putting it is that the quintessence of asymmetrical warfare is how a weak actor's strategy can render a strong actor's power irrelevant. As Arreguín-Toft remarks, "If power implies victory in war, then weak actors should almost never win against stronger opponents, especially when the gap in relative power is very large. Yet history suggests otherwise: Weak actors sometimes do win". [8: 93] And, indeed, if power would be the only driving factor in war, then quite some wise men have been wrong in advocating the use of other elements of war than sheer strength. After all, did not Sun Tzu put great stock in psychological and informational asymmetry when he wrote, "All warfare is based on deception"? [241: 66] Did he not dedicate part of *The Art of War* to weaknesses and strengths? There he asserts, for instance, "One able to gain the victory by modifying his tactics in accordance with the enemy situation may be said to be divine." [241: 101]

This suggests that the utilization of asymmetrical warfare has an overarching psychological dimension. It is exactly at the psychological level that compellence takes place. After all, the focus of compellence is at the decision-making process of the opponent and in decision-making the psyche of the actors takes a prominent position. To say the least, this makes a reasonable case for assuming that the balance of force (or the imbalance of force) is of less importance in the event of compellence than in the event of classical warfare. It probably even means that compellence can be very successful, even when applied by a rather weak

coercer. Consequently, particularly the methods of asymmetrical warfare applied as coercive action have to be taken very serious when finding ways to make compellence successful.

Compellence Strategies

Guerrilla tactics intend to weaken an adversary's military capability and to undermine his capability to control his area of interest. As such, the use of guerrilla tactics can be seen as a strategy that focuses on denial. Terrorism, on the other hand, is intended to induce fear through the threat of unacceptable suffering. As such, it is a strategy focusing on punishment. Those strategies do not aim directly at controlling the opponent, but at coercing him into compliance with the non-state actor's demands. In other words, the conclusion is justified that the guerrilla and terrorist methods non-state actors employ, although they use unconventional means, have the same characteristics as compellence strategies.

In essence, both guerrilla actions and terrorism can be used to deter as well as to compel. However, in practical versions both are mostly used as blackmail to compel an adversary to change the situation or make him accept a new situation. It is particularly this blackmail element that ensures that guerrilla actions, and particularly terrorism are not seen as diplomatic tools. Although opinions on this issue may differ – after all most guerrilleros and terrorists alike claim to be freedom fighters fighting for a noble cause – the international community hardly ever accepts their methods. Nevertheless, conceptually guerrilla tactics and terrorism can be coded as a 'poor man's' compellence strategies. Therefore, the two strategies can be examined from the perspective of the properties of compellence processes.

In order to judge the effects of compellence strategies applied by non-state actors, let us first look at the focus of the two strategies. In this way we can determine the degree to which this focus is on success factors, thus producing a high chance of success.

Effects of Guerrilla Tactics

In the case of guerrilla tactics the focus is, on the one hand, on the 'soft' elements of the armed forces, and, on the other, on popular support. The objective of targeting armed forces is not in the first place direct defeat but destabilization. The aim is to deny the opponent's armed forces the capability to act as an organized entity. The underlying idea is that armed forces incapable of acting in an organized way will not be able to attain victory. Without the ability to triumph armed forces are essentially useless, which actually corresponds to being defeated. Popular support will be sought by persuasion but, if necessary, also by enforcement. The idea is that, as long as the population provides (material) aid and a place to hide, the most important conditions for popular support are met. However, motivational support would be ideal. This support depends on the cause of the guerrilla fighters. There is no reason to believe that – by definition – they can count on more support than the government. In other words, unenforced popular support is not a specific quality of guerrilla warfare.

On the basis of the framework provided, it can be said that an attack against armed forces can diminish the strategic potential. This is not a decisive factor. Enforced popular support may have advantages when seeking direct material support and shelter. However, for a compellence strategy to be successful unenforced popular support is needed. In conclusion, it can be argued that guerrilla warfare – as a coercive instrument – does not hold much of a promise. That is why guerrilla tactics will be ignored in the remainder of the discussion.

Effects of Terrorism

In the case of terrorism, the focus is on inflicting damage. This damage will undoubtedly have an impact on both the motivation of the decision makers and on the popular support for government policy. Moreover, this damage will create popular dismay. Therefore, the objective is, apart from inflicting damage, also to bring misery to the population, resulting in discontent with the government that is supposed to offer protection and safety. The diminished reliability of the government is supposed to affect the institutional motivation.

The framework provided shows that terrorism targets two elements that have a considerable impact on the chance of success. Although the inflicted damage does not belong to the critical success factors, the opponent's motivation does. That is why, due to its focus on damage and motivation, terrorism can be considered as a promising compellence strategy.

Disadvantages and Advantages of Terrorism

Next, it is useful to consider what the advantages and disadvantages of terrorism are. A clear disadvantage of non-state actors is their limited (military) power. However, for terrorist purposes they do not need much power per se. From a defensive perspective, they hardly need any capabilities. What they need for offensive actions is sufficient capability to inflict pain upon the opponent. Nowadays, that capability is easy to obtain. Another disadvantage non-state actors have is their limited external (international) support. But, most of the time this is amply compensated for by the fact that the strategy and doctrines that dictate the implementation of terrorism are straightforward and simple. In sum, the expectation is that the offensive, as well as the defensive strategic potential of terrorists is of a reasonable level.

Yet another disadvantage non-state actors face is the fact that their capability to compel is not as obvious as it is for state actors. Where state actors are known to possess armed forces, with the ability to either deny or punish, non-state actors have to prove the existence of identical means. This implies that non-state actors cannot pose the implicit threat inherently linked to the armed forces of a state actor. In order to be credible, non-state actors need at least one actual application of their capability to provide evidence of its actual usability. This means – in a practical sense – that their opponent faces previously suffered damage when deciding upon submission or intervention. This reduces the non-state actor's chance of success.

Exposure of possible targets to the threat of terrorists is considerable. Particularly when acting against open societies, the amount of potential (unprotected) targets for terrorists is immense. The potential to inflict damage is in accordance with this. Concerning their exposure to the threat, terrorists themselves are individually unrecognizable, but their cause is not. They represent an identifiable ideology, and mostly people with the same ideology. The strength of terrorists is that their ideological basis (assuming it exists), i.e. the group they claim to represent, is amorphous and cannot be considered as a target for counter actions. As a result of these observations, it can be concluded that the terrorists' exposure to the opportunity (susceptibility) is high, on the one hand, while their exposure to the threat (proneness) is low, on the other. This is one of the most obvious and important advantages of non-state actors.

In combination with the fact that – although not necessarily obvious – non-state actors are known for their high level of motivation, the reasonable level of strategic potential, and the high susceptibility as well as the low proneness, produce for non-state actors a high proficiency to intervene and a low vulnerability to counter-action. Both factors considerably in-

crease the chance of success. One may assume that this compensates for the disadvantage of the previously inflicted damage mentioned above.

Potential Actions against Terrorism

The framework provided in this study concentrates on compellence. Although not totally inconceivable, it is difficult to think of a situation in which a state actor would want to compel a terrorist to take particular actions, or to reverse certain actions. That is why this theoretical option is left out in the discussion below.

It must be kept in mind that a compellence process is an interaction between action and counter-action. It was stated that the target in a compellence process, by taking counter-actions, essentially tries to deter the compeller. In the case of a state actor terrorized by a non-state actor, the state actor is the target and thus his counter-actions bear the characteristics of deterrence. With those actions against terrorism the state actor needs to take into account the positive and negative properties of terrorism as described above. It means that those counter-actions must either reduce the effects, make the disadvantages worse or reduce the advantages of terrorism as a compellence strategy.

The focus of terrorism is on causing damage; therefore, counter-actions must be aimed at reducing the damage. Protection, particularly of high-value properties, seems to be the only measure that can limit the harm. Terrorist attacks are also aimed at the victim's motivation. Concerning its own motivation, a state actor's leadership can try to avoid losing the support for its policy by providing the public with proper information. It can also concentrate on discrediting the alternatives offered and recommended by the terrorists. In this context it can be said that, although democratic societies tend to have a disadvantage due to their open character and aversion to far reaching protective measures, the fact that decisions – and thus policies – are made with proper popular support also gives them an advantage. Particularly the institutional motivation in a democracy can stand a good deal. Since motivation is a crucial success factor, it deserves the most attention.

Actions that concentrate on the terrorists' disadvantages may deprive them of means to inflict damage. Counter-proliferation measures surely belong to such actions. A state actor should, of course, try to feed the (international) opposition against terrorists. Measures to hamper the execution of terrorist acts certainly deserve attention as well.

Although it may sound cynical, the fact that terrorists have to inflict damage on a regular basis in order to maintain the pressure can help the state actor. The more the previously inflicted damage, the more difficult it becomes for the target to submit. This phenomenon should be an incentive for endurance and perseverance. Furthermore, the victim of terrorism can improve his case by emphasizing the brutality, the insanity, and the senselessness of the terrorist acts.

A state actor can try to reduce his exposure to the threat prudiced by the non-state actor. The above-mentioned protective measures already see to this. Furthermore, by trying to find out what targets have the terrorist's attention, one can exclude these targets from the exposed ones. The intelligence means necessary for this purpose can also be used to increase the terrorist's exposure to the threat. In case it is possible to discover where (among the population) the terrorist has his hide-out, he, and his supporters, can be exposed to counter-actions. Since his underground base is probably the same as the base for his moral support, knowledge of the terrorist's whereabouts can also provide opportunities to affect his moti-

vation. As motivation is very important, this stresses the importance of adequate intelligence services.

Summary

In sum, the above discussion provides sufficient arguments to support the following conclusions.

Conceptually, terrorism can be considered as a 'poor man's' compellence strategy.

Particularly due to his high exposure to the opportunity and his low exposure to the threat, a non-state actor who applies terrorism as a compellence strategy, has the advantage over a state actor.

Although democracies – due to their open society and inherent aversion tor far-reaching protective measures – tend to be vulnerable to damage inflicted by terrorism, the strength of their institutional motivation tends to be to their advantage.

A state actor can improve his chances of successful counter-terrorism by emphasizing the brutality, insanity, and senselessness of terrorist acts.

Identification of terrorists' whereabouts by intelligence services, although very difficult, is the most important objective for a state actor to pursue, in order to have a reasonable chance of success in executing counter-terrorism.

Note 32: UN's Antinomy

The introduction of this study refers to the fact that the position compellence takes in the contemporary International Relations Theory follows from its relevance in modern world affairs. After all, it is said, that compellence intends to settle disputes with actors that demonstrate intolerable behavior, but promises to do so with the lowest possible level of force; an aspiration typical of modern times. In fact, compellence has unique capabilities in support of the objective of the United Nations to preserve peace and security in the world, while limiting the actual use of force. However, a requirement for the proper application of compellence is that a particular combination of conditions is established. As a worldwide organization, it seems that – in principle – the UN has almost unlimited resources. Consequently, the UN could manipulate a great deal of the conditions necessary for successful compellence in its favor. It seems reasonable to assume that the UN will not get involved in an (armed) conflict, unless major interests are at stake. However, even then the Achilles' heel of the UN often proves to be its feeble collective motivation. As we can infer from this study, motivation is one of the pivotal elements of compellence. So, applying compellence without the proper motivation is a recipe for failure.

The reason for the UN's weak motivation is its aversion to the use of force. That is to say that exactly the same reason that makes compellence an attractive option for the UN, also makes the chance of its successful application questionable. Obviously, there exists an antinomy in the UN that hinders the application of compellence. It concerns the friction between Chapter VII and VI of the UN-Charter. The latter regards "pacific settlements of disputes". Given the aversion of the UN to the use of force, ensuing from that principle, and given the fact that compellence implies the use of actual force, its application by the UN will not be obvious. Moreover, in those cases where its application is considered, there is a chance that too little threatening force will accompany it. Consequently, even when applied, there is a real danger that particularly the UN's use of compellence is highly prone to failure. Furthermore, given the mentioned aversion of the UN to the use of force, in case only limited interests are at stake, compellence (including the threat of force) will probably never be a viable option.

As long as one recognizes this antinomy and as long as it results in sufficient reservedness when choosing a compellence strategy, the consequences are still surveyable. It would mean that most of

the time the choice for compellence will not be made, given the recognized lack of motivation. In combination with the obvious aversion to the use of force, i.e. against escalation, this will probably result in a situation where the UN will have to accept the existing (rejected) status quo. Thus, the UN will submit. In essence, the conclusion has to be that – from this position of displease – the UN does not want to escalate and is not able to use compellence.

The problem is – at least that is what experience shows – that the above-mentioned antinomy (obviously) is often not recognized. This means that, in the 'calculation' the UN makes, the level of its motivation, as perceived by the opponent, is (artificially) raised – with, of course, much uncertainty – and a high degree of risk acceptance is added. In fact, what we are seeing here is the problem as described in section 10b.2 about Uncertainty. Consequently, what has to be expected is a continuation of the conflict. There seems to be no way to escape from this impasse. Therefore, the conflict will continue until some kind of rigorous step is taken. For the most part, this means that an escalation of the conflict is necessary. However, since escalation would demand the use of force, and thus the will to use it, it is highly unlikely that this option will be chosen. What remains is submission. There remains a certain chance that – after sufficient pressure has been built in the process of that continued conflict – the sentiments capsize. The danger then is that the level of frustration is of a kind that one is seduced to an 'escape forward' into full war.

In other words whether the antinomy mentioned is recognized or not, we cannot come to another conclusion than that this dilemma can only be circumvented by changing the very nature of the UN.

In sum, the above discussion provides sufficient arguments to say that, despite its unique potential to serve the UN's objectives, compellence is not suited for the UN as a result of the UN's inherent reluctance to use force. Circumventing this problem would require a change in the very nature of the UN.

10d Conclusions

This study has started from the observation that decision makers at government level only moderately appreciate the essentials of coercive strategies, particularly of compellence. The assumption is that this has resulted in many occasions of defective application of compellence. Thus, the chance of failing employment of compellence can probably be reduced by gaining a better insight into its properties. The question what to do, and what to avoid in order to make compellence work is of major interest then. In other words, the main objective of this study has been to identify the critical success factors of compellence. Although the aim was not to predict but to explain, the intention was surely also to provide lessons for the future application of compellence strategies. The examination of the essence of compellence, resulting in two frameworks for (quantitative) analysis, has provided the tools to accomplish this.

By using an adapted method for a sensitivity analysis, this study draws some universal conclusions regarding the importance of particular conditions ('critical success factors') that play a role in the context of compellence. Besides, a validation – through utilizing the most attractive framework (the Reward and Risk orientation) in two real-life cases – proved that sufficient correlation exists between the outcomes calculated through the models and the results in reality. It was also demonstrated that, using the mechanism of counterfactual thought experiments, the weakness of particular decisions can be exposed and alternatives provided.

Concerning the 'critical success factors' mentioned, this study argues that the impact of these factors on the outcome of the compellence process is very much context-dependent. No condition can be identified that is absolutely crucial under all circumstances. Nevertheless, particular factors tend to take a dominant position in the successful application of compellence strategies. That is why this study counts to the critical success factors: the target's

desired status quo, the compeller's rejected status quo, and the motivation of both actors. However, the combination of its potential impact and its affectability makes motivation the most attractive critical success factor for consideration when trying to enhance the chance of success in a compellence process. Moreover, this study counts to the important success factors: the target's rejected status quo, both actors' previously suffered damage and previously defrayed costs, both actors' received concessions and received compensation, and both actors' exposure to the opportunity and exposure to the threat.

With regard to the mutual importance of particular elements of compellence the study shows that, overall, targets have an advantage over compellers in a compellence process. Furthermore, the proposition that the profit of offering the opponent compensation for submission as well as the profit of offering the opponent concessions amply counterbalance the loss involved, can safely be accepted. However, the latitude for offering concessions may be more restricted than for offering compensation.

Since there is disagreement in the existing compellence literature about some special aspects of compellence, this study has investigated which of the positions the developed framework supports. It resulted in several propositions. Among them there is the thesis that compellence strategies that imply the gradual increase of pressure on an opponent tend to be failure prone. Moreover, the study demonstrates that, by neglecting the counter-compellence actions of the target, and thus the risk involved in compellence, the compeller endangers his chance of success. In addition, the study claims that uncertainty – one of the most important reasons for false expectations regarding the outcome of a compellence process – often leads to an unwanted continuation of a conflict. And, by focusing on their own perception of reality – particularly by projecting a mirror image of themselves on their opponent resulting from a lack of empathy with the opponent's perception – actors in a compellence process endanger their own chance of success. Finally, this study contends that there is insufficient proof to support the assertion that compellence by denial is generally preferable to compellence by punishment.

The findings of this study may serve to put some issues of interest in the current political debate into perspective. Among them is terrorism – particularly catastrophic terrorism by non-state actors – that is very high on the political agenda worldwide. This study asserts that, conceptually, terrorism can be coded as 'poor man's' compellence strategies. That is why this study provides the opportunity to look at terrorism from the perspective of its coercive characteristics. We can therefore infer that, particularly due to his high exposure to the opportunity and his low exposure to the threat, a non-state actor who applies terrorism as a compellence strategy is at an advantage against a state actor. Furthermore, it is justified to assert that, although democracies – due to their open society and inherent aversion to far-reaching protective measures – tend to be vulnerable to damage inflicted by terrorism, the strength of their institutional motivation tends to be at their advantage. What can also be deduced from the study is that a state actor can improve his chances of successful counter-terrorism by emphasizing the brutality, insanity, and senselessness of terrorist acts. Finally, identification of terrorists' whereabouts by intelligence services, although very difficult, is the most important objective for a state actor to pursue, in order to give counter-terrorism a reasonable chance of success.

In summary, it can be concluded that, the systematic framework developed in this study has made it possible to get an insight into the essentials and major characteristics of compellence strategies. With the developed tools, compellence cases have been calculated and then analyzed. Conclusions have been drawn regarding (critical) success factors. Furthermore, the

experiments with the developed framework provide sufficient arguments in justification of particular propositions. Consequently, this study has demonstrated the correctness of the thesis that the addition to the existing literature of a systematic framework for the analysis of compellence cases provides tools for the identification, valuation and calculation of the relative impact of 'critical success factors' under particular circumstances and enhances the insight into the working of compellence.

Indeed, these will not be the last words written about compellence. It is obvious that many more aspects of the subject deserve further research. Moreover, this study, and the framework provided does not cover all the details of compellence. It should, for instance, be realized that one of the most notable limitations of this study is that its author did the rating of the variables – particularly in the two real life cases that were considered – based on no more than reasonable assumptions and sound judgment. This approach does not comply with the intersubjectivity normally required in scholarly research. However, the aim of this study, viz. to design a prototype of a model that explains the working of compellence strategy, justifies this lacuna. The case studies serve no other purpose than to demonstrate that the prototype could work and is a suitable tool for further scholarly efforts. In the follow-up phase of this study a more rigourous approach should be applied, aimed at filling the lacuna referred to. In other words, this study is intended as a first step, and the model provided can serve a useful purpose in future research.

ANNEXES

Annex A. CONFLICT CONTINUUM

The discussion in section 2b on page 22 mentions that success or failure in compellence cases depends primarily on making the proper strategic choice, i.e. on choosing the right means to attain the objective. In this respect, the observation is relevant that compellence is a political act, [121] as Carl von Clausewitz saw it. [51 : 88] So, it can safely be inferred that compellence belongs to the continuum of violent political activities between two parties with conflicting interests. From this, it can be concluded that compellence is one of the conflict management tools at the disposal of politicians. It is generally acknowledged that conflict management is one of the most important – and one of the most difficult – aspects of statesmanship. It implies the dynamic balancing (synchronizing) of the conflict elements on the three scales of the conflict continuum, namely the Clausewitzian ***object***, [122] ***aim***, and ***means***. It aims at choosing the proper strategy in order to produce the best result. [123] Thus, to explain the character of the strategic choice the elements that shape the conflict spectrum must be looked at. In other words, the question is how exactly armed suasion (and compellence) relates to the other elements of a dispute in that scale of conflict.

As follows from the discussion below, there are many ways of looking at the conflict spectrum. Several theories of conflict and war can, among others, be found in Midlarsky's *Handbook of War Studies II*. [179]. Rummel is also one of the scholars who pays considerable attention to the understanding of conflict and war. He has developed a conflict continuum coded as 'conflict helix', [218] and compares this with similar models of other researchers, such as Barringer, Northhedge and Donelan, Wright, and Kahn. [219] As a result, his work contains a proper overview of the most important viewpoints with respect to conflict and war.

Based on these sources, and several others, the author of this study has developed his own conflict continuum to guide his thoughts about the elements of conflict when developing his model for analysis. (See Figure 56 on page 187) This conflict continuum does not pretend to provide a new theory of conflict or a universal outline. Its intention is only to help the reader understand how the author's reasoning behind certain aspects of conflict materialized in this study.

CONFLICT AS A NOTION

This study has tried to make clear that compellence is related to conflict management. That is why it is useful to dwell a while upon some elements that determine the nature of conflict first, before 'zooming in' on the conflict continuum. Rummel states, "Conflict can be treated broadly as a philosophical category denoting the clash of power against power in the striving of all things to become manifest. Or, conflict can be seen simply as a distinct category of

121 Clausewitz uses the expressions 'Politik' and 'politische Handlungen'. [52 :210, 211] Howard and Paret's English translation of these two notions is 'policy', and 'act of policy'. [51: 87, 88] Since the expression 'policy' can easily be confused with the – not necessarily politically-oriented – expression 'management', preference is given to use the expression 'political act', rather than 'act of policy' in this study.

122 Howard and Paret's translate the German expression 'Zweck' in 'object', as well as in 'purpose'.

123 A complicating fact in the context of compellence is that the ultimate goal is to achieve the object without the actual use of force. The primary focus is on influencing an opponent's mindset. Managing the crisis at hand here demands considerable fine-tuning in order to find the exact method of action necessary for the successful achievement of the aim pursued.

social behavior—as two parties trying to get something they both cannot have." [219: 237] The British scholar Nicholson asserts that, "a conflict exists when two people wish to carry out acts which are mutually inconsistent." [192: 11] According to Miall et al, [178: 14] a conflict is characterized by three elements. Referring to the work of Galtung, the notion 'conflict triangle', with contradiction, attitude, and behavior at its vertices is used. Although Galtung argues that the three components all have to be present together in a full conflict, in the context of this study a special interest is taken in the element of 'behavior.' Both Rummel en Nicholson refer to a certain kind of 'conflict behavior.' Nicholson speaks of conflict behavior when people devote resources to damaging each other. He says: "[the expression] 'conflict behavior' can be used to refer to damaging action taken by the parties to induce a settlement in their favor."[192: 11] In sum, conflict can be defined as

> *a clash between parties pursuing objectives concerning a status quo that they both cannot have, by devoting resources to damaging each other in order to induce a settlement in their favor.*

EXPLAINING THE CONFLICT CONTINUUM

After looking at several sources, the bottom line is that most scholars consider the conflict domain as a composition of individual elements, each characterized by peculiar qualities, and separated by — what Hammond [111] denotes as — 'tipping points'. These are the moments in a conflict or potential crisis when escalation into the next phase is imminent. In the following sections this conflict continuum (pictured in Figure 56) will be explained. On the vertical axis, the schedule consists of three parts, related to the Clausewitzian object ('Zweck'), aim ('Ziel'), and means ('Mittel'), and four main levels of escalation on the horizontal axis.

INTERESTS AT STAKE (OBJECT, PURPOSE – "ZWECK")

The top of the schedule shows the 'object' ("Zweck"). This part can be read as follows. Following Clausewitz' reasoning, "the object of any conflict can vary as much as its political purpose", [51 :90] which relates to the safeguarding of interests. Consequently, the Clausewitzian 'Zweck', concerns the interests at stake, which range from limited interests (at the lower end) to vital interests (at the higher end).

Regarding the levels of escalation – roughly starting from a situation with an (accepted) balance of power and interests (a situation of peaceful coexistence in which no conflict exists) – (from left to right) a shift from disagreement, through tensions, and confrontation of wills, to hostilities can be witnessed. A conflict escalates when a deterioration of the situation takes place. The level of deterioration (escalation) – and with it the degree of conflict behavior – depends on the degree to which interests are negatively affected.

OBJECTIVE (AIM – "ZIEL")

The middle part of the schedule contains information about the 'aim' ("Ziel"). The aim of conflict behavior is directly related to the object just mentioned, or purpose of the conflict. Clausewitz even asserts, "the aim takes the place of the object, discarding it as something not actually part of conflict itself". [51 : 75] That is why the (direct) driving element of conflict behavior is often more the aim than the object. Thus, the strategic choice for a particular kind of conflict behavior has to support the objective, or aim.

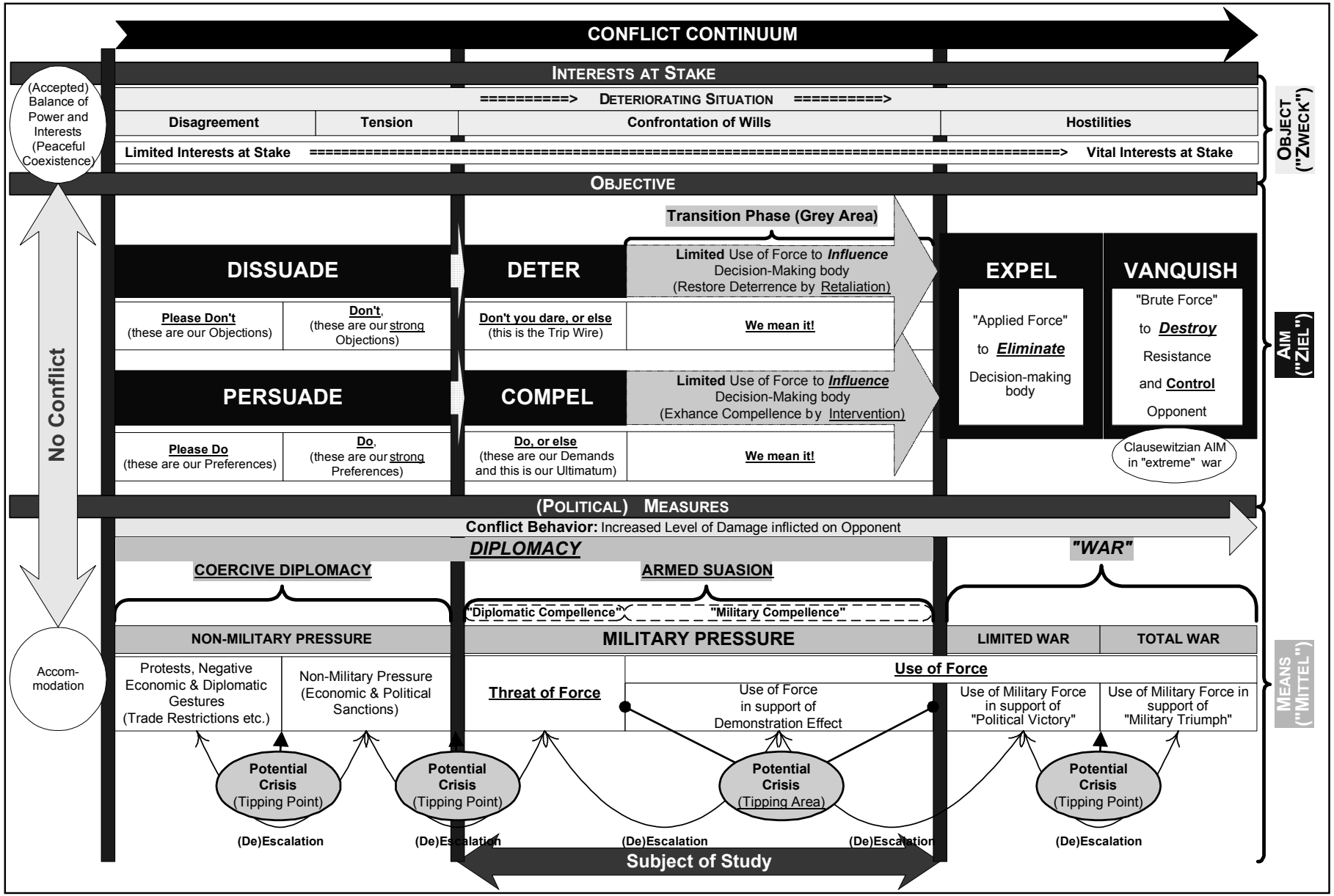


Figure 56: Conflict Continuum

Regarding the levels of escalation, the lower end objectives – i.e. the objectives low at the scale of escalation – are related to disagreement or tensions among parties. Essentially, although it formally belongs to the realm of conflict, this situation does not imply hostile attitudes. The aim here can be either to **dissuade** the opponent or to **persuade** him. Dissuasion implies the message "(please) don't, these are our (strong) objections", whereas persuasion implies the message "(please) do, these are our (strong) preferences".

The mid-level objective is related to a situation of confrontation of wills. It refers to Clausewitz' third 'broad objective': the 'enemy's will'. [124] The aim concerns **deterrence** and **compellence**, which can be divided into two stages. At the lower end, deterrence is limited to the message "don't you dare, or else; and this is our trip-wire." Here compellence is limited to the message "do, or else; these are our demands, and this is our ultimatum." In other words, here the use of force is not (yet) implied. At the higher end, we enter into a transition phase, or gray area, in which actions are taken to support the message: "we mean it." Here the limited use of force is implied and deterrence is backed up by limited use of retaliating force to influence the adversary's decision-making body in order to restore deterrence. Compellence is backed up by limited use of intervening force in order to enhance the compellence posture.

The higher end objective is related to hostilities. It refers to Clausewitz' other two 'broad objectives', viz. the 'country' and the 'armed forces'. Within this aim, a lower and a higher end option can be distinguished. The first one is to use applied force in order to expel the opponent's decision-making, for instance by elimination. It would focus on the replacement of a stubborn decision-maker by a more yielding one. If this option of **expellence** proves to be ineffective or impossible, the last phase — '(total) war' — is unavoidable. The aim of (total) war is to **vanquish** the opponent. Brute force is used to destroy the enemy's resistance (destroy his armed forces) and to take over the control of his society (occupy his country). This is the Clausewitzian aim in his 'extreme' form of war.

Note 33: Expellence

It can justifiably be argued that expellence is at the extreme boundary of compellence. After all, it is arguable that, in circumstances in which the leadership of the compelled party persistently perceives the value of certain factors at a level totally incompatible with successful compellence, compellence has no realistic chance of success as long as this leadership is in charge. Compellence revolves around decision-making, and thus ascribes predominant influence to the decision-making body. Thus, removal of an adverse decision-making body and replacing it by cooperative leadership would potentially provide opportunities for successful compellence. Consequently, prior to choosing conquest to control an opponent, an actor could, as part of compellence, chose to concentrate his military action on expelling the opponent's decision-making body. However, this approach would – to a larger extent – blur the difference between compellence and 'war'. After all, expellence would probably require extensive use of (brute) force. Furthermore, one could wonder whether the expellence of the obstinate leadership of an adversary is not actually equal to taking over control of that adversary. Anyway, it would resemble quite a number of wars fought in history. To avoid this complication, expellence has been excluded from the concept of compellence in this study.

124 Clausewitz distinguishes "three broad objectives, [. . .] the *armed forces*, the *country*, and the *enemy's will*. The fighting forces must be *destroyed* [. . .]. The country must be occupied [. . .], [and] the enemy's *will* has [to be] broken." [Emphasis in the original; 51: 90] These three 'objectives' can be considered as levels of escalation.

POLITICAL AND MILITARY MEASURES (MEANS – "MITTEL")

The bottom part of the schedule refers to the 'means'("Mittel"). It can be read as follows. To support the aims mentioned, actors have several means at their disposal, representing the actual conflict behavior, i.e. the increased level of damage a party is willing to inflict on its opponent. At the lower level, prior to the level of conflict, **accommodation** through classical diplomatic actions is the first action to be taken to resolve disputes, particularly when the interests at stake are very limited. This means that the difference between what the actors desire and reject (the desired and the rejected status quo) is small for both parties. That is why there is a willingness to compromise. Accommodation intends to satisfy the interests of both parties. It implies a 'give and take' attitude, which often occurs when the interests are of an economic nature. Compensating costs by way of benefits can often solve trade disputes and the like. Even when one of the parties decides to use its economic power and 'just gets what it wants', in a trade dispute the level of damaged interests of the other party seldom exceeds the boundary that would make confrontational politics necessary.

Where the level of conflict is concerned, three main divisions can be recognized, namely coercive diplomacy, armed suasion and war. The first two are seen as part of diplomacy. **Coercive diplomacy** comes first. The parties start to display conflict behavior. Coercive diplomacy becomes an option, when the appreciation of the situation differs considerably, and both parties contemplate taking drastic actions to either attain, or maintain, their preferred situation. It means that, at least for the initiating party, the difference between the desired and the rejected status quo is sizable. However, still purely hostile actions, such as the threatened use of force, are not (yet) considered. Non-military pressure – implying protests, negative economic and diplomatic gestures, as well as threats with non-violent, political, or economic sanctions, such as isolation – often suffices to bring about a solution. If these negative gestures and sanctions do not bring the desired result parties may contemplate threats with limited use of force.

The stage that follows then is **armed suasion**. Clausewitz refers to it when he writes about giving "priority to operations that will increase the enemy's suffering", using in this context the expression 'more political alternative'. [51 : 93] Armed suasion concerns military pressure and can be applied either by 'threat of force', or by force in support of demonstration effects. When the pressure is limited to the threat of force, this is coded as 'diplomatic compellence'. When the threat implies the limited use of force, this is coded as 'military compellence'. Since the focus of this study is on compellence, the following paragraphs concentrate on that part of armed suasion (that is to say that deterrence is ignored).

If compellence brings the desired result, i.e. if the target complies with the compeller's demands, then the compeller has it his way and 'wins' the contest. Mostly, however, threatening actions induce counter-actions, in the form of resistance (initially often shaped as deterrence). In this situation the compeller will have to **'make compellence work'**, so he has to try changing the elements that (seem to) hinder success. This is the true 'art' of compellence. It is, in essence, what the process of compellence proper, as the actors execute it, is all about. Mastering this 'art' is of great importance for the actors, since the alternatives are not very attractive. This transition phase still falls under armed suasion, but implies a limited use of force. Here the 'or else' clause needs to be made operational. This means that the initial phase of pure threat did not bring the desired result, so the decision-makers may be facing a crisis. Their aim is to manage the crisis at hand. The message "we mean it!" has to be conveyed in a proper manner. The section on how to 'Make It Work' on page 68 discusses some aspects of this subject. The underlying assumption – when talking about making compel-

lence work – is that the compeller's assessment proves that – in essence – the choice for compellence as the most attractive strategic option was correct.

If compellence does not lead to the desired result, the compeller can choose between two options: de-escalation or escalation. **De-escalation** occurs when the compeller concludes that – whatever the measures he can (realistically) take – the potential for successful compellence is too limited. It can also mean that the measures at his disposal are too costly in relation to the objective pursued. Under those circumstances, he has no choice but to **resign** and accept the undesired status quo. In the light of the ongoing contest between the compeller and the target, and assuming that the target has not done any concessions, this submission by the compeller means that the target 'wins'. Obviously, this is a very unattractive option.

Escalation occurs when the compeller concludes that – whatever the measures he takes to make compellence work – the opponent still resists. Contrary to resigning, the compeller here considers taking what he wants by the use of force. This state of affairs is violent by nature and commonly described as 'war'. The means that fall under the denominator of 'war' are both limited and total war. **Limited war** involves the use of military force in support of expellence (elimination) of the decision-making body, or of — what Hammond codes as — 'political victory'. [111] **Total war** is characterized by the use of (massive) force to take control over the target — to leave the target no choice but to vanquish him. In other words, total war involves the use of force in support of — what Hammond codes as — 'military triumph'. [111] In a sense, this is a simple, straightforward approach, viz. to fight out a dispute. As said before, this straightforward approach is related to the Clausewitzian form of 'extreme' war. Under the assumption that the compeller aims at using as little force as possible, this option is not attractive either. That is why most of the time this will only be considered an option when the difference between the desired and the rejected status quo is great, and the willingness to compromising is lacking.

Between each level of (de)escalation so-called **'tipping points'** can be observed. In Hammond's perception these 'tipping points' [125] mark the moments to choose a proper strategy. Actually, this is a crisis situation in which measures have to be taken to deal with the situation at hand. It is in the context of these crises that the actors decide whether to escalate or not. In short, the 'tipping points' between phases represent an escalation over time into 'higher' level tensions in international relationships due to a deterioration of the situation. It is clear that the study of armed suasion should focus on these 'tipping points'. Of particular interest for this study is the tipping area that covers the gray transition phase in which the limited use of force in support of demonstration effect is considered.

125 Hammond argues, by the way, that the 'points' are more like 'areas', and that particularly the transition from compellence to expellence is a rather complicated gray 'tipping area'.

Annex B. VARIABLES

In the course of this study, several variables have been discussed. In the middle tier, the expression 'determinants' was used to denote the variables. The variables in the lower tier are exogenous variables. Their value represents the assessment of the conditions as they are in the circumstances of the case examined. This implies that, eventually, the exogenous variables have to be rated. This annex explains this rating. It first provides an overview of the variables rated, and then explains the background of the rating.

The second section of this annex, starting at page 194, dealing with the 'Properties, Remarks and Source of Variables', provides a detailed list of variables, for the most part found in the existing literature. It is rather demanding, and superfluous, to rate each thinkable variable separately. That is why a selection has been made of those variables that have a special place in the preponderant compellence school of thought. Some cover a broad issue; others go into great detail. It is because these detailed issues received extensive attention in the existing literature that the choice was made to rate them separately. This holds, for instance, for the conditions covered under 'bargaining attitude'. Although this study categorizes these conditions as sub-components in the broader context of 'strategic potential', they have been discussed extensively by other scholars. For that reason they have been given a recognizable place in the list of rated variables.

RATED VARIABLES

Figure 57 shows an example of a complete (extended) list of inserted variables. [126] As can be seen – except for the 'risk acceptance attitude' and the 'maximum uncertainty deviation' (the bottom two lines) – each condition mentioned in the left-hand column is rated four times. The rating has a description and then a number, which corresponds to the standard given in section 3b.3 about 'The Rating of Variables'.

FOUR POINTS OF VIEW

The ratings concern the four points of view explained in section 4a.1 on page 67 (from left to right):

- the compeller's assessment of the target's estimate of the compeller's conditions (C-T-Cpl and C-T-Rsg),
- the target's assessment of the compeller's estimate of the compeller's conditions (T-C-Cpl and T-C-Rsg),
- the target's assessment of the compeller's estimate of the target's conditions (T-C-Rst and T-C-Cly), and
- the compeller's assessment of the target's estimate of the target's conditions (C-T-Rst and C-T-Cly).

126 It regards the values as used in the example of chapter 7.

EXTENDED LIST OF INSERTED VALUES

The author has assigned the percentages based on 'reasonable' assumptions taken from the existing literature. Although, by definition, this procedure has resulted in a subjective appraisal – and can therefore be a subject for further research – the outcome is deemed sufficient within the scope of this study.

Figure 57: Example of Extended List of Inserted Values

Example	Compeller's Assessment of Target's Estimate of Compeller's Conditions		Target's Assessment of Compeller's Estimate of Compeller's Conditions		Target's Assessment of Compeller's Estimate of Target's Conditions		Compeller's Assessment of Target's Estimate of Target's Conditions	
Desired Status Quo	High	8	Substantial	7	High	8	Firm	6
Rejected Status Quo	Low	2	Marginal	3	Marginal	3	Moderate	4
Offered Concessions	Minimum	0	Minimum	0	Minimum	0	Minimum	0
Received Concessions	Minimum	0	Minimum	0	Minimum	0	Minimum	0
Offered Compensation	Minimum	0	Minimum	0	Minimum	0	Minimum	0
Received Compensation	Minimum	0	Minimum	0	Minimum	0	Minimum	0
Motivation / Will	Substantial	7	Average	5	High	8	Substantial	7
Individual (Motivation) Aspects	High	8	Firm	6	High	8	Substantial	7
Societal (Motivation) Aspects	Average	5	Moderate	4	High	8	Substantial	7
Institutional (Motivation) Aspects	Average	5	Moderate	4	High	8	Substantial	7
Exposure to the Opportunity	Firm	6	Average	5	Moderate	4	Marginal	3
Offensive Strategic Potential	Substantial	7	Substantial	7	Average	5	Moderate	4
External Enabling Factors for Offense	Substantial	7	Substantial	7	Marginal	3	Low	2
Internal (Offensive) Conditions	Substantial	7	Substantial	7	Substantial	7	Firm	6
Offensive Political Strategy	Firm	6	Firm	6	Firm	6	Firm	5
Political Considerations (Offensive)	Substantial	7	Substantial	7	Substantial	7	Substantial	7
Bargaining Attitude (Offensive)	Average	5	Average	5	Moderate	4	Moderate	3
Military Strategy & Doctrine (Offensive)	High	8	Substantial	7	Substantial	7	Firm	6
Military Strategy (Offensive)	High	8	Substantial	7	Substantial	7	Firm	6
Military Doctrine (Offensive)	High	8	Substantial	7	Substantial	7	Firm	6
Military Means (Offensive)	High	8	High	8	High	8	Substantial	7
Exposure to the Threat	Low	2	Marginal	3	Average	5	Firm	6
Defensive Strategic Potential	High	8	High	7	Average	5	Moderate	4
External Enabling Factors for Defense	High	8	High	8	Moderate	4	Marginal	3
Internal (Defensive) Conditions	High	7	Substantial	7	Firm	5	Average	4
Defensive Political Strategy	Substantial	6	Firm	6	Average	5	Average	4
Political Considerations (Defensive)	High	8	Substantial	7	Firm	6	Average	5
Bargaining Attitude (Defensive)	Average	5	Average	5	Moderate	4	Moderate	3
Military Strategy & Doctrine (Defensive)	High	8	High	8	Average	5	Moderate	4
Military Strategy (Defensive)	High	8	High	8	Average	5	Moderate	4
Military Doctrine (Defensive)	High	8	High	8	Average	5	Moderate	4
Military Means (Defensive)	Very High	9	High	8	Firm	6	Average	5
Costs of Offensive Actions	Very Low	1	Low	2	Low	2	Marginal	3
Costs of Defensive Actions	Very Low	1	Low	2	Low	2	Marginal	3
Potential Damage	Very Low	1	Very Low	1	Marginal	3	Average	5
Previously Suffered Damage	Minimum	0	Minimum	0	Minimum	0	Minimum	0
Previously Defrayed Costs	Very Low	1	Very Low	1	Low	2	Low	2
Certainty about Own Capabilities (Hard Internal)	High	8	High	8	High	8	High	8
Certainty about Own Intentions (Soft Internal)	High	8	High	8	High	8	High	8
Certainty about Exposure (Hard External)	High	8	High	8	Substantial	7	Substantial	7
Certainty about External Enabling Factors (Soft External)	Substantial	7	Substantial	7	Substantial	7	Substantial	7
Certainty about Opponent's Capabilities (Hard)	High	8	High	8	High	8	High	8
Certainty about Opponent's Intentions (Soft)	Firm	6	Firm	6	Substantial	7	Substantial	7
Quality of Demand	Firm	6	Firm	6	Average	5	Moderate	4
Quality of Deadline	Firm	6	Firm	6	Average	5	Moderate	4
Quality of Signals	Firm	6	Firm	6	Average	5	Moderate	4
Quality of Threat	Firm	6	Firm	6	Average	5	Moderate	4
Quality of Reward	Minimum	0	Minimum	0	Minimum	0	Minimum	0
Quality of Trip Wire	Firm	6	Firm	6	Average	5	Moderate	4
RISK ACCEPTANCE ATTITUDE	**Target's**	7	**Compeller's**	5				
Maximum Uncertainty Deviation		2,5						

RELATIVE CONTRIBUTION OF VARIABLES

Most of the variables are rated directly. This means that, based on certain considerations which are the subject of the elaboration in the next section a value has been assigned to this condition. Some of the values are shaded, which means that their value is the result of a computation based on the underlying variables. This has been explained in the section about the 'Relative Contribution of Variables' on page 116, and also in section 7c.3 about 'Calculating the Proficiency to Exploit the Opportunity (R&R)' on page 116 reference is made to this fact. Actually, the following applies for the net value of the conditions.

- Motivation (or 'Will') is based on the three values of motivational aspects:
    - individual aspects are included for 50%;
    - societal aspects for 30%,
    - institutional aspects for 20%;

- The strategic potential (offensive and defensive) is based on:
    - external (international) enabling factors: 50%;
    - internal conditions: 50%, made up of:
        - the political strategy: 50%, based on:
            - political considerations: 50%,
            - the bargaining attitude: 50%, made up of the quality of:
                - the demand: 15%;
                - the deadline (for the offensive bargaining attitude), or the trip wire (for the defensive bargaining attitude): 15%;
                - the signals: 20%;
                - the threat: 30%,
                - the reward: 20%;
        - the military strategy and doctrine: 25%, based on:
            - military strategy: 60%,
            - military doctrine: 40%;
        - the military means: 25%.

COMPACT LIST OF INSERTED VALUES

For the sake of completeness, Figure 58, presents the compact list of inserted values, as derived from the extended list, which is a copy of Figure 27. The details about the composition of this compact list are described in section 7b.2 on page 113.

Figure 58: Compact List of Inserted Values

Example / **CONDITIONS**	Compeller's Assessment of Target's Estimate of Compeller's Conditions	Difference with PrevPer	Target's Assessment of Compeller's Estimate of Compeller's Conditions	Difference with PrevPer	Target's Assessment of Compeller's Estimate of Target's Conditions	Difference with PrevPer	Compeller's Assessment of Target's Estimate of Target's Conditions	Difference with PrevPer
Desired Status Quo	**8**	**2**	**7**	**1**	8		**6**	*-2*
Rejected Status Quo	**2**	*-2*	**3**	*-1*	3		**4**	**1**
Offered Concessions	0		0		0		0	
Received Concessions	0		0		0		0	
Offered Compensation	**0**	*-1*	**0**	*-1*	0		0	
Received Compensation	0		0		0		0	
Motivation	**7**	*-1*	5		**8**	**1**	**7**	**1**
External Enabling Factors for Offense	7		7		3		2	
Exposure to Opportunity	6		5		4		3	
Offensive Strategic Potential	**7**	*0*	**7**	*0*	**7**	*-1*	**6**	*0*
External Enabling Factors for Defense	8		8		4		3	
Exposure to Threat	2		3		5		6	
Defensive Strategic Potential	**7**	**0**	**7**	*0*	**5**	**0**	**4**	**0**
Costs of Offensive Action	1		**2**	**1**	**2**	**1**	**3**	**1**
Costs of Defensive Action	1		**2**	**1**	**2**	**1**	**3**	**1**
Potential Damage	1		**1**	**1**	**3**	**1**	**5**	**2**
Previously Suffered Damage	0		0		0		0	
Previously Defrayed Costs	**1**	**1**	**1**	**1**	**2**	**1**	**2**	**1**
Certainty about Own Capabilities	8		8		8		8	
Certainty about Own Intentions	**8**	**1**	**8**	**1**	**8**	**1**	**8**	**1**
Certainty about Exposure	**8**	**1**	**8**	**1**	7		7	
Certainty about External Enabling Factors	7		7		7		7	
Certainty about Opponent's Capabilities	**8**	**1**	**8**	**1**	**8**	**1**	**8**	**1**
Certainty about Opponent's Intentions	**6**	**2**	**6**	**2**	7		7	
RISK ACCEPTANCE ATTITUDE	**Target**		**7**	**1**	**Compeller**		**5**	*-1*

PROPERTIES, REMARKS AND SOURCE OF VARIABLES

For the assessment of the values of the conditions mentioned in the extended list of inserted variables above, several observations are used. The majority of these observations have been derived from the properties assigned to these variables in the existing literature. The list starting at the following page gives a brief description of the properties, indicating their contribution to the variable concerned. As a rule, the variables can have a positive or a negative impact on the actors' appreciation of the conditions involved. Furthermore, some elements need consideration, but are otherwise neutral in the sense that they may or may not have a positive or a negative impact. Where relevant, this positive, negative, or neutral impact has been indicated. Where applicable, the right-hand column refers to sources found in the existing literature that deal with the variable concerned.

Variable	Properties & Remarks	Source
Impact		
Benefits of Intervention		
Desired & Rejected Status Quo	*The value of the desired (for the compeller also of the rejected status quo) ultimately determines the basic value of the benefits of intervention.*	
Disputed issue	*The disputed issue is the most essential element when determining the stakes and the triggers to act. It is, in fact, the issue that starts the process of compellence.*	92, 93, 104, 134
Vital interests	*Vital interests are related to the very survival of the party involved. Vital Interests are interests of the highest level. A distinction can be made between vital interests of the first and those of the second order.*	134
Vital interests of the first order	*Vital interests of the first order concern the survival of the state. This level of interest corresponds to a maximum level of incentive.*	134
Vital interests of the second order	*Vital interests of the second order concern the survival of the leader or the regime. This level of interest corresponds to a very high level of incentive.*	7, 134
Strategic interests	*Strategic interests are at stake when the disputed issue is of strategic value for the party involved. Among others, it is related to the preservation of an acceptable balance of power.*	134
Stability interests	*Stability interests are related to the preservation of stability. A distinction can be made between preserving stability close to home, and counteracting a cumulative effect of disorder in a remote area.*	134
Moral/ideological interests	*Moral and Ideological interests are at stake when there is a development in which the moral and ideological principles of a party are violated.*	134
Economic interests	*Economic interests are at stake when there is a developmentin which the economy of the party's community is under pressure due to actions of another party.*	8
Narrow security interest	*'Narrow security interests' are issues such as terrorism, Weapons of Mass Destruction (WMD), or invasion.*	252
Broader security interest	*'Broader security interests' are issues such as the taking of hostages, or the endangering of Allies.*	252
Advantages of Submission		
Rejected and Desired Status Quo	*The value of the rejected status quo (for the target also the desired status quo) ultimately determines the basic value of the advantages of submission.*	
Received concessions	*Concessions actually reduce the level of success. They have to be considered in relation with the stakes and objectives.*	

Variable	Properties & Remarks	Source
Costs		
Costs of own action		
Compensation offered and concessions made	*Arguments are identical with the received compensation and concessions.*	93, 134, 222
Direct costs of (offensive) action	*Particularly the use of military forces requires high expenditure. These costs are easy to recognize and compute.*	
Indirect costs of (offensive) action	*Indirect costs, such as the costs of economic, industrial or political sanctions are less easy to recognize than direct costs. Societal costs (for instance, loss of support) are even more difficult to determine. However, indirect costs can play an important role in the weighing of pros and cons of an action.*	
Costs resulting from Opponent's action		
Damage suffered	*The damage suffered can refer to physical, as well as non-physical elements. Political actions (including sanctions) tend to result in non-physical damage, whereas military actions tend to lead to physical damage.*	38, 41, 82, 92, 93, 95, 134, 185, 186, 199, 222, 266
Direct and indirect costs of defensive action	*Actions to defend against the opponent's action also have their price. These costs can be direct and indirect.*	
Disadvantages of Submission		
Previously suffered damage	*Among the costs of submission belongs the previously suffered damage. It reduces the level of satisfaction of the 'submitter' after he has given in.*	
Previously defrayed costs	*The previously defrayed costs (direct and indirect, for offense and for defense) also burden the result of submission.*	
Compensation received	*Received compensation for compliance (also known as rewards, or as 'carrots') is seen as very important in the application of compellence. They often relate to additional preferences of the actors. They diminish the disadvantages of submission.*	38, 93, 134
Proficiency & Vulnerability		
Will (Motivation)		
Asymmetrical motivation	*Asymmetrical motivation, i.e. when one party has a (much) higher motivation than the other, is seen as very advantageous for that party.*	38, 39, 41, 252
Will-producing patterns	*A 'will-producing pattern' is composed of three elements: the interest itself, the prospect of military success, and the domestic support. The following three patterns are presented in a decreasing order of impact.*	134

Variable	Properties & Remarks	Source
Interest-driven will-producing pattern	*An interest-driven will producing pattern has the highest impact. It exists when the interests are high, the prospect of military success is medium/high, and the domestic support is medium/high.*	134
Government-driven will-producing pattern	*A government-driven will producing pattern exists when the interests are medium, the prospect of military success is high, and domestic support medium/high.*	134
Domestic-pressure-driven will-producing pattern	*A domestic driven will producing pattern has the lowest impact. It exists when the interests are low, the prospect of military success is high, and the domestic support high.*	134
Individual Obstacles and Biases		
Strong leadership	*Strong leadership is a positive quality.*	38, 39, 41
Reputation	*The reputation of keeping one's word is considered as a positive quality.*	38, 39, 41
Brinkmanship	*Brinkmanship, in general, is considered a positive quality.*	152
Skill of improvisation	*Leaders that are known for their skill of improvisation have an advantage.*	219, 252
Fear of Escalation	*When a party has (or demonstrates) a fear of escalation, this is considered to be detrimental.*	93, 104, 134
Leadership's sensitivity for (civilian) casualties	*When the leadership has (or demonstrates) a high level of sensitivity for casualties (military: body-bag syndrome; civilian: collateral damage) this is detrimental.*	38, 39, 41,125, 134, 186, 199
Sense of Urgency	*Showing a sense of urgency is beneficial.*	38, 39, 41
Perception	*Leaders that prove to be aware of the impact of perception on their way of thinking have an advantage.*	141
Trade-offs	*When the leadership are known for their sensitivity for (international and domestic) support, this is, in general, considered a negative quality.*	152
Societal Pressure		
Public opinion & media	*National support for the decisions of the leadership, particularly when expressed in the national media, is very beneficial. This is particularly true when the media follow the leadership slavishly.*	38, 39, 41, 93, 134, 152, 252
Freedom of press	*The freedom of the press can have beneficial as well as detrimental effects. It depends on the attitude of the press towards the regime.*	152
Image of war	*When the society is characterized by its fighting spirit, and its victory- or battle-oriented culture, this is advantageous.*	93
Industrialized society	*A industrialized society is, in general, at a disadvantage.*	125
Pressure groups	*When there are many pressure groups with interests that are favorable to the leadership's ideas, this is beneficial. Pressure groups that resist are detrimental.*	152

Variable	Properties & Remarks	Source
Society used to suffering	*A society used to suffering has an advantage.*	8
Violent society	*When the society has a violent culture, this is an advantage.*	8
Institutional Impediments		
Decision rules	*When the decision rules the leadership has to take into account are flexible, and when the leaders are really 'in charge' (i.e. not driven by bureaucratic procedures), this is advantageous.*	125
Policy momentum; (Leadership's freedom of action)	*When the leadership has freedom of action, this is considered a positive quality.*	152
Advisory groups	*When the leadership heavily depends on advisory groups, and these groups support the leadership's ideas, this is an advantage.*	125
Susceptibility & Proneness		
Exposure (to Opportunity & Threat)		
Contiguity	*Parties that are adjacent to each other have a higher level of exposure.*	152
Control over disputed issue	*When, at the start of, or during the process, a party has control over the disputed issue, this is considered advantageous.*	38, 39, 41, 125
Mutual relationship	*When the parties are inherently hostile to each other, this is considered an enhancement.*	152
Post-war relationship	*When the parties desire to have a cooperative post-war relationship, this will diminish their exposure to the opportunity and to the threat.*	38, 39, 41, 125
Radius of military means	*When the military means used for an action have a great range, this is an advantage.*	Several military doctrine documents
Strategic Potential		
External Enabling Factors		
Commerce & economy	*A party that is interested in (post-war) 'friendly' relations with its adversary for commercial or economic reasons is at a disadvantage.*	93, 152, 252
International (UN) support	*International support, particularly when endorsed by the UN (Security Council), is seen as very advantageous.*	93
Polarity	*A balance of power among the parties is considered a problem.*	152
Polarization	*A party that is isolated is at a disadvantage. Also when the parties work together in a feeble coalition or alliance, this is considered to be problematic. However, when this is a stable and cooperative coalition, this is considered as beneficial.*	152, 93, 134, 252

Variable	Properties & Remarks	Source
Third party threat	*Third party threats are detrimental.*	38, 39, 41, 125
Internal Conditions		
Political Strategy		
Political culture	*When the society is dominated by a rather intolerant political culture, this is considered to be beneficial. A permissive political culture that, for instance, takes human right, etc. into account is considered detrimental.*	152
Rationality	*Rational thinking is considered a positive quality.*	35, 155, 164, 216, 222
Regime Type	*An authoritarian regime is, in general, seen as an advantage. A democratic regime is seen as less profitable.*	82, 125, 152
World view	*The actors can have a realist or a liberal world view. A realist world view is, in general, considered to be positive. A liberal world view, in general, is considered to be negative.*	92
Free market orientation	*When a society recognizes the advantages of a free market, and acts accordingly, this is considered to be a weakness.*	93, 152, 252
Open society	*When the society has an open character, admitting freedom of travel etc., this may, in general, have a positive and a negative effect.*	152
Norms	*A party's compliance with international law is, in general, considered to be a disadvantage.*	152
Non-State Actor	*When a party is a non-state actor, this is, in general, seen as an advantage.*	82, 125
Combination with deterrence	*Combining a political strategy with a clear deterrence posture is seen as strengthening the position of the actor. In case deterrence failed previously, this is considered a disadvantage.*	82, 92, 93, 104, 222
Bargaining Attitude		
Persuasion (diplomatic bargaining culture)	*Generally, an approach geared to bargaining and persuasion, and trying to establish a win-win situation (avoiding a zero-sum situation) is seen as profitable, particularly when the opponent is given the opportunity to save face.*	38, 39, 41, 92, 104, 222
Secret diplomacy	*The use of secret diplomacy is profitable.*	7
Ultimatum		
Full Ultimatum	*A full ultimatum contains a demand, a deadline, and a threat. Stating a full ultimatum is considered to be effective.*	93, 104
Tacit Ultimatum	*A tacit ultimatum contains a demand and a threat, but no explicit time limits. It is seen as less effective than a full ultimatum.*	93
Incremental approach	*An incremental approach (also called a 'gradual turning of the screw') has a demand, but no deadline, and a threat that is gradually increased. The effectiveness of this strategy is disputed.*	93

Variable	Properties & Remarks	Source
Soft Ultimatum (Try & see)	*A 'try and see' strategy only has a demand. It is mostly seen as the 'softest' and least effective form of ultimatum.*	93, 104
Quality of Demand		
Clear & unambiguous	*In order to be effective, demands have to be clear, consistent, and unambiguous, and not 'creeping'.*	104, 125, 222
Terms of settlement	*It should be clear what the terms are of the final settlement.*	38, 39, 41
Incomplete compliance	*Accepting incomplete compliance with the demands, or showing the willingness to discuss it, is seen as advantageous. However, this, in fact, means that the actor offers (or accepts) concessions.*	38, 39, 41
Compliance assessable	*When compliance is not assessable, this is a disadvantage.*	252
Quality of Deadline or Tripwire		
Clear	*In order to be effective, a deadline, or a tripwire (a 'line in the sand' not to be crossed by the opponent) needs to be clear.*	93, 134, 222
Sense of urgency	*A sense of urgency should be imposed on the opponent.*	93, 104
Time to comply	*The opponent should be given a realistic period of time to comply.*	93, 222
Quality of Signals		
Proper communication	*The prospect of the elements of bargaining should be clearly made known to the adversary, both in words and actions. The commitment to the stakes, as well as the resolve to implement the signaled aspects, should become obvious.*	82, 93, 104, 134, 252
Open communication channels	*The existence of open communication channels is seen as an advantage. Direct access to the leadership as well as access to the opponent's media is beneficial.*	82, 93, 104, 134, 252
Resolve signaled	*Signaling resolve is advantageous.*	222
Bluff	*A party known for using bluff is at a disadvantage. However, the proper use of bluff, i.e. bluff that is not recognized as such by the opponent, is advantageous.*	191
Quality of Threat		
Credible, feasible, plausible, powerful & potent	*In order to be effective, a threat has to be credible, feasible, plausible, powerful, and potent.*	38, 39, 41, 82, 92, 93, 104, 134, 222, 252
Denial or punishment threat	*Specialists disagree whether a denial or a punishment threat is most effective.*	38, 39, 41, 82, 92, 93, 104, 134, 186, 199, 222

Variable	Properties & Remarks	Source
Endangerment	*An endangerment strategy is intended to affect the long term security of the state. It can focus on the nation as well as on the regime. It is considered to pose an effective theat.*	186
(Economic) Sanctions	*(Economic) sanctions are, in general, considered as a lesser form on threat. This point is, however, under dispute.*	66, 97
Automatic execution	*A threat that, in certain circumstances, will automatically be executed is considered as most effective*	104
Limited use of force	*The prospect of limited, just enough force is, in general, seen as more effective than the prospect of unlimited use of force.*	82, 93, 104
Quality of Compensation (Reward)		
Clear	*When compensation for compliance is considered ('carrots' that accompany the 'stick') it must be made clear what this compensation exactly implies.*	93, 134
Assurance	*Credible assurances should be given that, in case of compliance, the original demands will not be followed by additional claims.*	134, 222
Military Strategy & Doctrine		
Military Strategy		
Punishment strategy	*A punishment strategy can be aimed at the opponent's population as well as at the opponent's valued assets. There is no consensus whether a punishment strategy can be effective, although a majority supports the value of punishment.*	73, 182, 199
Risk strategy	*Risk strategy is intended to put the opponent's values at risk. As such it can also be considered as a (limited) form of punishment strategy.*	199
Denial strategy	*A denial strategy intends to (gradually) deny the opponent the execution of his plans. As such it aims at thwarting the opponent's military strategy.*	38, 39, 41, 186, 199, 252
Decapitation strategy	*A decapitation strategy aims at the isolation, or elimination of the opponent's leadership. Although contested, the modern view is that it is an attractive option.*	38, 39, 41, 125, 186, 199, 252, 266
Coercive counter-actions	*Showing that the opponent's coercive counter-actions are taken into account is considered to strengthen the chosen strategy.*	38, 39, 41, 125, 134, 186
Military Doctrine		
Victory (battle) orientation	*A military doctrine aimed at victory or battle can, in the context of armed suasion, sometimes be counter-productive.*	Several military doctrine documents
Landpower orientation	*A typical Landpower orientation tends to support battle. Modern developments show commitment to armed suasion as well.*	
Seapower orientation	*A typical Seapower orientation takes into account the demands of armed suasion.*	

Variable		Properties & Remarks	Source
	Airpower orientation	*Armed suasion is at the heart of the strategic use of Airpower.*	
	Asymmetric warfare orientation	*Doctrines aiming at asymmetric warfare, including the use of guerrilla, special operations (and of terrorist) tactics, are considered beneficial.*	
	Joint Doctrine	*Modern joint doctrines contain several elements to support military actions in support of armed suasion.*	
	Campaign orientation	*Operations not seen as an episode, but as a campaign in which perseverance is demonstrated, are considered effective.*	93, 134, 252
Military Means			
	Land-, Sea, & Air Forces	*Particularly due to their reach and their capability to penetrate into enemy territory, air forces are generally considered as best-fitted for armed suasion, followed by maritime forces and then land forces.*	Several military doctrine documents
	Special forces	*As a result of their capability to penetrate deep into enemy territory, special forces are seen as an important asset for the execution of armed suasion.*	Several military doctrine documents
	Escalation dominance	*Escalation dominance is considered important in any military conflict.*	38, 41
	Pressure points	*Identifying the pressure points of the opponent is seen as a condition for applying the power to hurt. The presence of sufficient relevant targets is also important.*	41, 252
	Nuclear weapons	*Particularly the deterrent effect of nuclear weapons is recognized.*	38, 39, 41, 125, 222
	Intelligence services	*Intelligence services are important assets for the collection of information that can enhance the level of knowledge about the opponent.*	38, 39, 41, 125

Annex C. 'PURE' & 'MIXED' NASH EQUILIBRIUM

This study uses game theoretical tools as auxiliary to determine the most likely outcome scenario, given the expected utility of the two strategies available to the two actors. Game theory is not used to determine the ultimate choice of the actors for either strategy, which normally is the objective of the application of game theory 'proper'. In this study it is assumed that that choice is determined by the desirability of the most likely scenario. When the actors are not pleased with the most likely scenario, they will take steps to improve the conditions, in order to change the most likely scenario. Because of this approach, the utilities inserted in, for instance, the payoff matrix are composed of the sum of both actors' expected utility of their strategy (see section 4b.2 on page 72). As a result, only – what is called in game theory – a 'pure' Nash Equilibrium appears as the outcome of the 'game'. Why this is the case will be explained in the section on 'Exclusive Appearance of 'Pure' Nash Equilibrium' on page 204. This can be considered an 'artifiliality' directly related to the approach chosen in this study. In order to put it in the proper perspective, and in an effort to eliminate any cause of misunderstanding, next an account is given of the properties of a mixed Nash equilibrium. It is intended to add to scholarly completeness, not so much to provide an additional explanation of the method used.

PROPERTIES OF A 'MIXED' NASH EQUILIBRIUM

The section on 'Solution of a Game; Equilibrium Point in a Payoff Matrix' starting at page 75 dealt with the kind of equilibrium called a 'pure' Nash equilibrium. In game theory, not all games have a pure Nash equilibrium. This can best be explained by looking at the example presented in Figure 59. [127] In this game none of the four combinations of pure strategies forms a Nash equilibrium. As a result, it is not clear which strategy will be chosen by an actor. We can, however, find out the chance or probability of a choice of one of the strategies

Figure 59: Example Payoff Matrix ('Mixed' Nash Equilibrium)

			player B	
			Defect	Cooperate
			chance: q (= ¼)	chance: 1-q (= ¾)
player A	Cooperate	chance: 1-p (= ½)	4 , 1 a , w	2 , 3 b , x
	Defect	chance: p (= ½)	c , y 1 , 4	d , z 3 , 2

by applying the mechanism of the theory of chances. The result of that operation will be called a 'mixed' Nash equilibrium. [128] In the example given, for reasons that will be described below, player A will choose both strategies (defect and cooperate) with an equal probability (p = ½ and 1-p = ½), while player B will choose defect with a probability of 25% (q = ¼), and thus the strategy to cooperate with a probability of 75% (1-q = ¾). This strategy combination (50% defect for player A, 50% cooperate for player A, 25% defect for player B , and 75% cooperate for player B) yields an expected utility of 2.5 for both players. We will now see why this is the case.

127 The example is an adaptation of the description given in Pellikaan et al. [205: 148-149]

128 Anyway, a 'pure' Nash equilibrium is also always a 'mixed' Nash equilibrium of the game played. One of the most important postulates of game theory is that all games always have at least one mixed Nash equilibrium.

Finding the mixed Nash equilibrium in the kind of game under consideration (i.e. a two-player, two-strategy game) is relatively simple. For this purpose the 'equal profit method' is used. Applying that method to the example before us, we can start with the assumption that both actors play an 'impure' or 'mixed' strategy. In other words, they play the two strategies with a certain probability. Furthermore, it is assumed that **p** is the probability that player A chooses the strategy of defection (and thus that **1-p** is the probability that player A chooses the strategy of cooperation). The chance that player B chooses the strategy of defection is **q**, and therefore the chance that he chooses cooperation is **1-q.** (For convenience's sake, the payoffs of player A are also presented as characters a, b, c, and d, and of player B as w, x, y, and z.). Given the mixed strategy of the opponent, the pure strategies of an actor must yield an equal expected utility. After all, if one of the pure strategies yielded a higher expected utility, then it would be the most profitable choice for the player concerned to play that pure strategy with a probability of 100%. However, the equilibrium consists of two 'impure' strategies.

Now, a mathematical approach to the subject reveals that, given the mixed strategy of player B, the pure strategies of player A bring about an equal expected utility when

$a * q + b * (1-q) = c * q + d * (1-q)$. This can also be written as: $\mathbf{q} = (d - b) / (d - b + a - c)$.

The same applies to the opponent. Given the mixed strategy of player A, the pure strategies of player B produce an equal expected utility when

$w * p + y * (1-p) = x * p + z * (1-p)$. This can also be written as: $\mathbf{p} = (z - y) / (z - y + w - x)$.

Inserting the ranking numbers given in Figure 59, the value of **q** is ¼, and the value of **p** is ½. In other words, the mixed Nash equilibrium we were looking for in this example is:

for player A ½ * cooperate and ½ * defect, and for player B ¼ * cooperate and ¾ * defect.

For player A this brings an expected utility of 2.5 [129] when player B chooses to cooperate, and 2.5 [130] when player B chooses to defect. [131] Equally, player B gets an expected utility of 2.5 [132] when player A chooses to cooperate, and 2.5 [133] when player A chooses to defect. [134]

EXCLUSIVE APPEARANCE OF 'PURE' NASH EQUILIBRIUM

In this section, the reason is given for the exclusive appearance of a ***pure Nash equilibrium*** in the model used in this study. To that end and because the point I want to make calls for the application of some computations, I shall first repeat the coding of the utilities used in the payoff matrices in this study. Figure 60 shows this coding. Looking, for instance, at the top left-hand box, the coding ***a*** expresses the utility the compeller expects when he chooses compellence as his strategy, and the target chooses resistance as his strategy (i.e. the utility of the scenario ensuing from choosing these two strategies). The coding ***w*** expresses the utility the target expects when he chooses to resist and the compeller chooses to compel. When,

---

129 ½ * a + ½ * c = ½ * 4 + ½ * 1 = 2 + 0.5 = 2.5

130 ½ * b + ½ * d = ½ * 2 + ½ * 3 = 1 + 1.5 = 2.5

131 So, Player A's expected utility is independent of player B's choice.

132 ¼ * w + ¾ * x = ¼ * 1 + ¾ * 3 = 0.25 + 2.25 = 2.5

133 ¼ * y + ¾ * z = ¼ * 4 + ¾ * 2 = 1 + 1.5 = 2.5

134 So, player B's expected utility is independent of the player A's choice.

based on the value of these utilities, both players choose their respective strategies (i.e. when for the compeller ***a*** is the highest utility, and for the target ***w*** is the highest utility), the conflict will continue. The same applies to the other three boxes.

Figure 60 Coding of Payoffs in Payoff Matrix

		Target	
		Resist	Comply
Compeller	Compel	Continued Conflict a , w	Compellence b , x
	Resign	c , y Resistance	d , z Stalemate

Two principles already discussed previously in this study are also referred to. First, reference is made to section 4b.2 starting at page 72. It explains how the value of the results of a game comes about through the application of a decision tree. This method was applied in the example case discussed in section 4c starting on page 79. It shows that the result of the calculations made by the players in the compellence game (the expected utility of a particular combined strategic choice) is the sum of two utilities. For the four potential outcomes the composition in terms of expected utilities is as follows:

- The expected combined utility of a ***continued conflict*** (the upper left box of the payoff matrix) is:
  - the expected utility of *compellence*, plus the expected utility of *resistance*.
- The expected combined utility of ***compellence*** (upper right box) is:
  - the expected utility of *compellence*, plus the expected utility of *compliance*.
- The expected combined utility of ***resistance*** (lower left box) is:
  - the expected utility of *resignation*, plus the expected utility of *resistance*.
- The expected combined utility of a ***stalemate*** (lower right box) is:
  - the expected utility of *resignation*, plus the expected utility of *compliance*.

The individual utilities are coded with a character ranging from e to l. The coding of the payoffs and utilities that will be used in the remainder of the following discussion is as shown in Table J on page 206.

The second principle is already discussed at the end of the section about the 'Nash Equilibrium; Finding 'Stable' Choices' on page 77. There the method is explained to find the (pure Nash) equilibrium point. The conclusion was that,

- the top left-hand box of the matrix (Figure 60) is the equilibrium point when $a > c \;\wedge\; w > x$ [135] (***a*** and ***c*** being the utility for the two alternative strategies of the row-player, and ***w*** and ***x*** being the utility for the two alternative strategies of the column-player);
- the top right-hand box is the equilibrium point when $b > d \;\wedge\; x > w$;
- the bottom left-hand box is the equilibrium point when $c > a \;\wedge\; y > z$, and finally
- the bottom right-hand box when $d > b \;\wedge\; z > y$.

135 The expression 'AND' is written as ^

Table J: Codes Used for the Computation of a Pure Nash Equilibrium

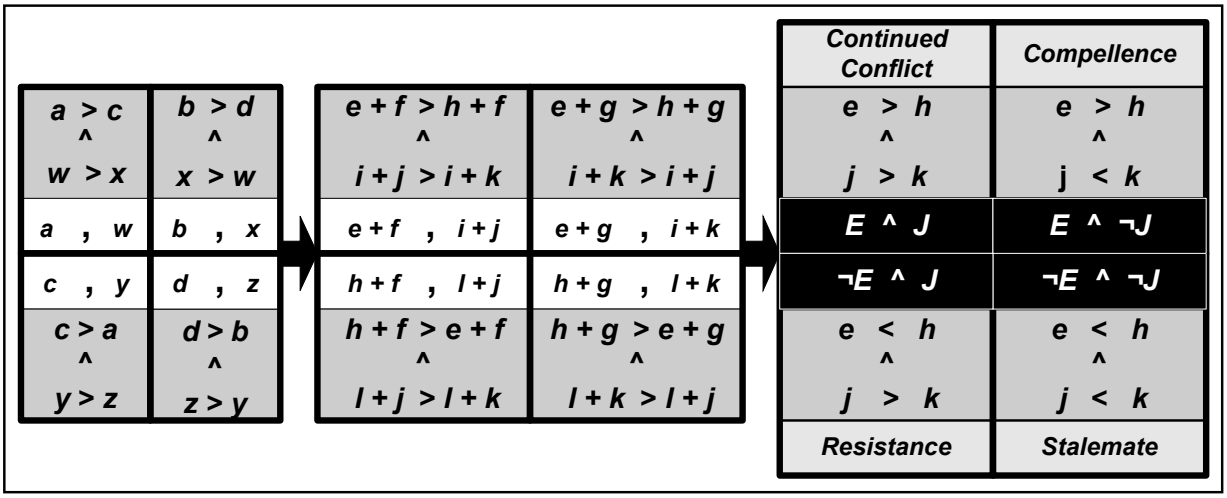
a	is	Utility expected by	**Compeller**	for strategy-combination in which	
		Compeller	chooses	**Compellence**	***e***
	and	**Target**	chooses	**Resistance**	***f***
b	is	Utility expected by	**Compeller**	for strategy-combination in which	
		Compeller	chooses	**Compellence**	***e***
	and	**Target**	chooses	**Compliance**	***g***
c	is	Utility expected by	**Compeller**	for strategy-combination in which	
		Compeller	chooses	**Resignation**	***h***
	and	**Target**	chooses	**Resistance**	***f***
d	is	Utility expected by	**Compeller**	for strategy-combination in which	
		Compeller	chooses	**Resignation**	***h***
	and	**Target**	chooses	**Compliance**	***g***
w	is	Utility expected by	**Target**	for strategy-combination in which	
		Compeller	chooses	**Compellence**	***i***
	and	**Target**	chooses	**Resistance**	***j***
x	is	Utility expected by	**Target**	for strategy-combination in which	
		Compeller	chooses	**Compellence**	***i***
	and	**Target**	chooses	**Compliance**	***k***
y	is	Utility expected by	**Target**	for strategy-combination in which	
		Compeller	chooses	**Resignation**	***l***
	and	**Target**	chooses	**Resistance**	***j***
z	is	Utility expected by	**Target**	for strategy-combination in which	
		Compeller	chooses	**Resignation**	***l***
	and	**Target**	chooses	**Compliance**	***k***

The left-hand schedule of Figure 61 gives a representation of these principles, as it was done also in Figure 11 on page 78.

Now the utilities as given in Table J can be inserted into these schedules. For instance, we can replace $\underline{a}$ by $\underline{e} + \underline{f}$ ($\underline{a}$ is the utility expected by the compeller for the strategy-combination in which he, the compeller, chooses compellence – coded as $\underline{e}$ – and the target chooses resistance – coded as $\underline{f}$). The middle schedule of Figure 61 shows the result when all utilities are replaced by the sum of the underlying utilities.

A closer look at the outcome of this substitution reveals that certain factors appear on either side of the equations. For instance, the top left-hand box (in the middle schedule) shows that this is the equilibrium point when $\underline{e} + \underline{f} > \underline{h} + \underline{f}$ ^ $\underline{i} + \underline{j} > \underline{i} + \underline{k}$. In the first equation the factor $\underline{f}$ appears on either side and in the second this is the case for the factor $\underline{i}$. The mathematical approach allows us to remove these factors. This implies that the equations can be written as $\underline{e} > \underline{h}$ ^ $\underline{j} > \underline{k}$. The same principle can be applied to the other equations, the result of which is shown in the right-hand schedule of Figure 61.

Figure 61: Calculating the Equilibrium Point with the Application of Utilities



Now, let us look at the four potential 'pure' outcomes (actually the four potential 'pure' scenarios), each resulting in a 'pure' Nash equilibrium. [136]

Continued Conflict occurs when:	**E ^ J**
Compellence occurs when:	**E ^ ¬ J**
Resistance occurs when:	**¬ E ^ J**
Stalemate occurs when:	**¬ E ^ ¬ J**

This demonstrates that there are four factors appearing in four ***exclusive*** combinations. As a result, ALWAYS ONE, and ONLY ONE, of these combinations occurs. [137] In plain terms, this means that always one, but also only one, of the four 'pure' scenarios will occur.

So, it can be concluded that – given the method used in this study, particularly with regard to the composition of the utilities of the scenarios as the sum of two utilities of chosen strategies – the result of the calculations in this study will always be one strategy combination, or one 'pure' scenario.

136 Note that **e > h** is written as **E**, **e < h** as **¬ E** (means: 'not E'), **j > k** as **J**, and **j < k** as **¬ J** (means: 'not J').

137 Except when **e = h**, *or* **j = k**.

Annex D. FORMULAE

RISK & REWARD ORIENTATION [138]

EXPECTED UTILITY OF INTERVENTION

Reward

Impact	**[(DSq – RSq♦ – OCs) – (OCm + CstOf)]**
	*****
Proficiency	**Mot * ExpOp * (½*IntOfSP + ½*ExtEnOf)**
	/
[*Proficiency*	**[Mot * ExpOp * (½*IntOfSP + ½*ExtEnOf)**
	+
Vulnerability]	**(10 – Mot) * ExpTh * (10 – (½*IntDfSP + ½*ExtEnDf))]**
	–

♦ : Only for Compeller

Risk

Impact	**(CstDf + Dam)**
	*****
Vulnerability	**(10 – Mot) * ExpTh * (10 – (½*IntDfSP + ½*ExtEnDf))**
	/
[*Vulnerability*	**[(10 – Mot) * ExpTh * (10 – (½*IntDfSP + ½*ExtEnDf))**
	+
Proficiency]	**Mot * ExpOp * (½*IntOfSP + ½*ExtEnOf)]**

EXPECTED UTILITY OF SUBMISSION

Advantages – *Disadvantages*

(RSq – DSq● + RCs) – (PrDam + PrCst – RCm)

● : Only for Target

138 The keys to the variables used can be found at the end of this Annex.

DESIRABILITY & FEASIBILITY ORIENTATION

EXPECTED UTILITY OF INTERVENTION

Desirability

Impact **[(RSq – DSq● + RCs) – (PrDam + PrCst – RCm)]** **● : Only for Target**

*****

Feasibility

Vulnerability **(10 – Mot) * ExpTh * (10 – (½*IntDfSP + ½*ExtEnDf))**

/

[Vulnerability **[(10 – Mot) * ExpTh * (10 – (½*IntDfSP + ½*ExtEnDf))**

+

Proficiency] **Mot * ExpOp * (½*IntOfSP + ½*ExtEnOf)]**

EXPECTED UTILITY OF SUBMISSION

Desirability

Impact **((DSq – RSq♦ – OCs) – (OCm + CstOf + CstDf + Dam))** **♦ : Only for Compeller**

*****

Feasibility

Proficiency **Mot * ExpOp * (½*IntOfSP + ½*ExtEnOf)**

/

[*Proficiency* **[Mot * ExpOp * (½*IntOfSP + ½*ExtEnOf)**

+

Vulnerability] **(10 – Mot) * ExpTh * (10 – (½*IntDfSP + ½*ExtEnDf))]**

KEY TO VARIABLES USED

DSq = Desired Status Quo

RSq = Rejected Status Quo

OCs = Offered Concessions

RCs = Received Concessions

OCm = Offered Compensation

RCm = Received Compensation

Mot = Motivation

ExpOp = Exposure to the Opportunity

IntOfSP = Internal Offensive Strategic Potential

ExtEnOf = External Enabling Aspects for Offense

ExpTh = Exposure to Threat/Opposition

IntDfSP = Internal Defensive Strategic Potential

ExtEnDf = External Enabling Aspects for Defense

CstOf = Costs of Offensive Actions

CstDf = Costs of Defensive Actions

Dam = Damage

PrDam = Previously Suffered Damage

PrCst = Previously Defrayed Costs

Annex E. CASE OF SERBIA

HISTORY OF SERBIA

This study deals with one aspect of the Balkan crisis, namely the conflict in Kosovo. This conflict between, on the one hand, the regime and the population of Serbia and, on the other, the Albanian population of Kosovo is the subject of the investigation. However, this conflict must be viewed in the context of the whole (complex) situation in the Balkans as it has existed since time immemorial. To understand the discordant atmosphere in the Balkans, one has to appreciate that the Balkans is situated at a geographical intersection and is therefore a crossroads of cultural entities. It is where three distinctive religions meet: the Western European Christian faith (particularly Catholicism), the Eastern European Orthodox or Byzantine faith, and Islam. Furthermore, the Balkan population is composed of Slavic as well as Western-European inhabitants, and of people of Hellenic and Turkish origin. Within the area, the population has a number of distinctive 'nationalities', such as Serbian, Bulgarian and Albanian, each with a long history and strong sentiments about their own national heritage. The religious groups as well as the population groups have merged partly in the course of history, but they are still recognizable as separate entities. In short, the Balkans is a blend of distinctive elements of occidental and oriental civilizations. Consequently, the Balkans has for a very long time been an area with all the traits for becoming a political powder keg. The dominance of each of the religions or peoples has shifted over the centuries, quite often after hard-won victories. As a result, there is a tendency to focus on differences and ignore similarities. Depending on the interpretation of history, certain elements of the current situation can be explained as being 'typically' of Muslim origin, of Serbian origin, or 'typically' belonging to the Albanian or the Byzantine heritage.

One of the examples of various claims for the exclusive right on nationalistic origination is Kosovo. It has often been claimed as the cradle of the Serbian nation. However, based on their interpretation of history, many more groups within the population lay equally heavy claims on Kosovo because of its importance for their national or religious identity. To concentrate on the Serbian-Albanian conflict, for the Kosovars, according to Heirman [117: 3], Kosovo has always been an Albanian country, and is seen as the cradle of the Albanian people. For them, the Prizren League of 1878 is the foundation of the Albanian *rilindja* or *renaissance*. For the Serbians, Kosovo, or Metohia, is a province of Serbia, simply South-Serbia. The name *Metohia* has its origins in the Greek language and refers to the 'cloister state' under the Serbian patriarchy in the 13th and 14th century. The relation between Serbians and Albanians changed so often in history that almost all places in Kosovo have both a Serbian and an Albanian name.

CAUSE OF THE KOSOVO CONFLICT

Modern Kosovo has existed as a political or territorial entity since 1945. [139] Before then, its territory was ruled entirely or partially by Italian-occupied Albania, Serbia, Montenegro, the Ottoman Empire, the Byzantine Empire, Bulgaria and the Roman Empire. Following the

139 What follows is a compilation of the conflict description provided by Stephen T. Hosmer in the RAND study The Conflict over Kosovo: *Why Milosevic Decided to Settle When He Did*. [126 : 2-5]

First Balkan War of 1912, Kosovo was internationally recognized as part of Serbia and Metohia as part of Montenegro at the Treaty of London in May 1913. In 1918, Serbia became part of the newly-formed Yugoslavia. Following the end of World War II and the establishment of Tito's Communist regime, Kosovo was granted the status of autonomous region of Serbia in 1946 and became an autonomous province in 1963. The Communist government did not allow the return of refugees. With the passing of the 1974 Yugoslav Constitution, Kosovo gained virtual self-government. Throughout the 1980s tensions between the Albanian and Serb communities in the province escalated. The Albanian community favored sovereignty for Kosovo, whilst the Serbs favored closer ties with the rest of Serbia. In August 1987, Slobodan Milosevic, then a rising politician, visited Kosovo. He appealed to Serb nationalism pledging to Kosovo Serbs that "No one should dare to beat you", and became an instant hero of the Kosovo Serbs. By the end of the year, Milosevic was in control of the Serbian government. In 1989, a nation-wide referendum, which implemented a new Serbian constitution, significantly reduced the rights of the provinces. Kosovo Albanians strongly opposed that measure. The constitutional changes handed control of the police, the court system, the economy, the education system and language policies to the Serb government.

Kosovo Albanians were outraged by these developments. Following mass rioting and unrest from Albanians as well as outbreaks of inter-communal violence, in February 1990, the state of emergency was declared, and the presence of the Yugoslav Army and police was significantly increased to quell the unrest. During the unsanctioned 'Albanian' elections held in 1992, voters overwhelmingly elected Ibrahim Rugova as 'president'. However, these elections were not recognized either by the Serbian or by any foreign government. In 1995, thousands of Serb refugees from Croatia settled in Kosovo, which further worsened relations between the two communities. Rugova advocated non-violent resistance, but when it became apparent from 1996 on that this was not working, opposition took the form of separatist agitation by opposition political groups and armed action by the "Kosovo Liberation Army" (USHTRIA ÇLIRIMTARE E KOSOVËS, or UÇK). The UÇK repeatedly attacked Serbian police. In March 1998 Yugoslav army units joined the Serbian police to fight the UÇK separatists. In the months that followed, hundreds of people were killed and more than 200,000 fled from their homes, most of them Albanians. By 1998, actions by the Serbian police and UÇK had created a state of low intensity warfare with a death-toll of some 2,000 prior to the 'Kosovo War' of 1999.

It was the second time in five years that the North Atlantic Treaty Organization (NATO) was involved in a major coercive (air)campaign to settle a conflict with the Former Yugoslav Republic (FYROM) led by Serbia. [140] In late 1995 Operation 'Deliberate Force' took place, resulting in the famous Dayton peace agreement. Western military intervention in the Bosnian

140 In UNSCR-1244, adopted by the Security Council at its 4011th meeting on 10 June 1999, the Council "welcomed the acceptance by the Federal Republic of Yugoslavia of the principles set forth in points 1 to 9 of the paper presented in Belgrade on 2 June 1999 (S/199/649, annex 2 to this resolution), and the Federal Republic of Yugoslavia's agreement to that paper. This paper stated among others that agreement should be reached on the principle that the international security presence with substantial North Atlantic Treaty Organization participation must be deployed under unified command and control, in order to move towards a resolution of the Kosovo crisis. Indeed, point 10 of the paper, stating that "suspension of military activity will require acceptance of the principles set forth above" (points 1-9), was excluded from the formal ratification by the Council. Consequently, also the note attached to point 10, stating that "suspension of military activity will occur after the beginning of verifiable withdrawals" was neglected by the Council. However, the implicit acceptance of NATO's actions was obvious.

civil war – leading to Operation Deliberate Force – grew slowly, from arms embargo enforcement in the Adriatic Sea to patrolling a no-flight zone over Bosnia-Herzegovina and providing air support to UN peacekeepers, and finally to launching coercive air and artillery attacks against Bosnian Serb Army (BSA) forces. The Dayton Accords certainly represented a victory for Airpower, but they were not a victory *through* Airpower in the usual sense of that phrase. NATO air strikes – coordinated with artillery bombardments by the Anglo-Franco-Dutch UN Rapid Reaction Force deployed near Sarajevo – were but one of several factors that contributed to the Serbs' decision to comply with Western demands.

Three and a half years later NATO leaders confronted Slobodan Milosevic with the fate of Kosovo. There, Milosevic had started the campaign of indiscriminate repression of the Kosovo Albanian majority, culminating in a Serbian ethnic cleansing operation. This gave Milosevic the name of 'Butcher of the Balkans'. NATO reacted in October 1998 with threats of air strikes, which led to pauses in the escalating violence, but not to a lasting settlement. Finally, after failing to impose an agreement between Belgrade and the Kosovars at the Rambouillet summit in early 1999, U.S. leaders settled for pressuring the Kosovar delegation into giving them a pretext for bombing. While OSCE monitors were withdrawn from Kosovo, the ethnic cleansing of the province intensified, and NATO prepared to launch air attacks against Serbia.

Allied air strikes began on 24 March 1999 and continued for eleven weeks, with missions being flown from bases in Italy, France, Britain, and the United States, and from aircraft carriers and cruise missile-armed warships in the Adriatic Sea. At the same time, NATO also began deploying some ground forces to Albania and Macedonia. NATO's actions met with quite some opposition, not the least from members of the UN Security Council. However, at the end of the campaign, on June 10, 1999, one day after a negotiated peace proposal was accepted by Yugoslavia, the UN Security Council formally ratified that peace proposal, [141] which was enforced by the rejected compellence actions of NATO.

ACTORS

The main actor in this conflict was undoubtedly Serbia, led by Slobodan Milosevic. It should be remembered that – in contrast to Saddam Hussein and his regime in the Iraq of case – Milosevic was not a dictator in the strict sense of the word. Serbia had some kind of democratic structure and although he was firmly in charge of affairs, and knew how to 'manipulate reality' in order to stabilize this position, ultimately Milosevic depended on popular

141 Mueller writes, "The desire to preserve NATO's credibility was a central reason for launching the campaign in the first place, and thereafter the question whether the alliance would remain united in its support of the operation dominated all other issues, as both sides recognized uncertain alliance cohesion to be NATO's principal vulnerability. Belgrade sought to split the alliance by publicizing (and sometimes increasing) the collateral damage caused by the bombing, but did far more to preserve NATO unity by driving hundreds of thousands of miserable Kosovar refugees into Albania and Macedonia – and onto American and European television screens. NATO leaders organized the campaign around the preservation of popular support across the Alliance. This led to U.S. President Clinton's initial and often repeated pledge that NATO would not launch a land invasion, and caused the operation to begin with a plan for no more than several days of bombing against a small number of targets. Alliance politics also shaped target selection later in the campaign at several levels, as the nineteen-nation North Atlantic Council had to give unanimous authorization to strike each category of target, while targets in certain categories were subject to individual approval by leaders in Washington, Paris and, London." [185: 5]

support. This means that, when taking decisions, he must have attached quite some value to public opinion and institutional support. All in all, however, it is safe to consider Milosevic as the ultimate representative of the Serbian (and Yugoslav) decision-making body.

Serbia's opponents were united in a coalition. Concerning both the political and the military actions, NATO, under the actual leadership of the USA, dominated the scene. Thus – although he surely did not have a free hand due to disagreement among the NATO allies – the President of the USA can be considered the representative of NATO's decision-making body. However, in the background, the United Nations took part in the decision-making as well. In this context the UN was represented by the UN Security Council, i.e. where applicable, the UN Security Council was the main player against Serbia. In the political arena, an important role was also played by the so-called Contact Group, established by the 1992 London Conference on the Former Yugoslavia. It consisted of (in formal UN-language) the Foreign Ministers of France, Germany, Italy, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland and the United States of America, on occasion supplemented with Canada and Japan. The Contact Group did the actual negotiations with the parties involved (Serbia and the Kosovars). Of the countries that formed the Contact Group, Russia frequently opposed 'firm' actions against Yugoslavia. Thus, Russia could be seen an a 'friend' and ally of Yugoslavia, and was surely considered as such by Milosevic.

DEVELOPMENT OF THE CONFLICT; FOUR SNAPSHOTS IN TIME

In the Serbia case there are four distinct moments in time representing a certain state of affairs. As result of the historical development, the conflict reached its culmination point in the second half of 1998 when Serbian forces were deployed in Kosovo and committed atrocities against the Albanian Kosovars. That is considered a preliminary phase, ending on March 23, 1999, the date that the Serb Parliament solidly rejected NATO demands to send peacekeeping troops into Kosovo. On March 24, 1999, NATO started its air strikes. This is regarded as the start of conflict period-1. A special 'conflict period' – 'after a few days' – is added to cover the question why NATO did not succeed within the limited timeframe it had set to force Milosevic into submission through air strikes. The fourth snapshot, conflict period-3, deals with the situation at the end of Operation Allied Force, when Milosevic decided to accept a peace agreement. Actually, at that moment, Milosevic yielded to NATO pressure. The cardinal question is, of course, why he did. After all, by finding an answer to that question, the probable decision-making process of Milosevic will become clear. An excellent source for answering this question is the previously mentioned RAND study of Stephen T. Hosmer. He answers two basic questions concerning the position of Milosevic and his deliberations. The first question is why Milosevic did not decide to settle the conflict over Kosovo earlier than he did. Hosmer's considerations concerning this question will feature in conflict period 2. The second question is why he did not attempt to hold out longer. A compilation of Hosmer's considerations about this question is used when discussing conflict period 3.

In the following sections the snapshots in time will be discussed successively. The discussion concentrates on the rating of the conditions, and their impact on the potential outcomes of the conflict. Some background information of the periods discussed is given, to put the ratings – as devised by the author of this study – into perspective.

SERBIA: PRELIMINARY PHASE;

START OF THE CONFLICT (MID 1998 – MARCH 1999) [142]

On 28 May 1998 the North Atlantic Council meeting at Foreign Minister level set out NATO's two major objectives with respect to the crisis in Kosovo, namely, to help to achieve a peaceful resolution of the crisis by contributing to the response of the international community, and to promote stability and security in neighboring countries with particular emphasis on Albania and the former Yugoslav Republic of Macedonia. On 12 June 1998 the North Atlantic Council, meeting at Defense Minister level, asked for an assessment of possible further measures that NATO might take with regard to the developing Kosovo Crisis. This led to the consideration of a large number of possible military options. On 13 October 1998, following a deterioration of the situation, the NATO Council authorized Activation Orders for air strikes. This move was designed to support diplomatic efforts to make the Milosevic regime withdraw its forces from Kosovo, cooperate in putting an end to the violence and facilitate the return of refugees to their homes. At the very last moment – following further diplomatic initiatives including visits to Belgrade by NATO Secretary-General Solana, US Envoys Holbrooke and Hill, the Chairman of NATO's Military Committee, General Naumann, and the Supreme Allied Commander Europe, General Clark – President Milosevic agreed to comply and the air strikes were called off.

UNSCR-1199, adopted by the Security Council at its 3930th meeting on 23 September 1998, among other things, expressed deep concern about the excessive use of force by Serbian security forces and the Yugoslav army, and called for a cease-fire between the parties to the conflict. In addition, the Organization for Security and Cooperation in Europe (OSCE) would establish a Kosovo Verification Mission (KVM) to observe compliance on the ground and NATO would establish an aerial surveillance mission. The establishment of the two missions was endorsed by UNSCR-1203, adopted by the Security Council at its 3937th meeting on 24 October 1998.

Despite these steps, the tension in Kosovo flared up again at the beginning of 1999, following a number of acts of provocation on both sides and the use of excessive and disproportionate force by the Serbian Army and Special Police. Some of these incidents were defused through the mediation efforts of the OSCE verifiers but in mid-January the situation deteriorated further after an escalation of the Serbian offensive against Kosovar Albanians. Renewed international efforts were made to give new political impetus to finding a peaceful solution to the conflict. The Contact Group met on 29 January and agreed to convene urgently for negotiations between the parties to the conflict, under international mediation. NATO supported and reinforced the Contact Group efforts by agreeing on 30 January to the use of air strikes if required, and by issuing a warning to both sides in the conflict. These concerted initiatives culminated in initial negotiations in Rambouillet near Paris, held from 6 to 23 February, followed by a second round in Paris, from 15 to 18 March. At the end of the second round of talks, the Kosovar Albanian delegation signed the proposed peace agreement, but the talks broke up without a signature from the Serbian delegation. Immediately afterwards, Serbian military and police forces stepped up the intensity of their operations against the ethnic Albanians in Kosovo, moving extra troops and modern tanks into the region, in a clear breach of compliance with the October agreement. Tens of thousands of peo-

142 What follows is a compilation of NATO's account of the events. [190]

ple began to flee their homes in the face of this systematic offensive. On 20 March, the OSCE Kosovo Verification Mission was withdrawn from the region, having faced obstruction from Serbian forces to the extent that they could no longer continue to fulfill their task. US Ambassador Holbrooke then flew to Belgrade, in a final attempt to persuade President Milosevic to stop attacks on the Kosovar Albanians or face imminent NATO air strikes. Still Milosevic refused to comply.

► *Conditions*

Figure 62: Serbia, Preliminary Phase: Conditions

Case of Serbia: Preliminary Phase		
(Serbia intends to invade/cleanse Kosovo)	Serbia's Assessment of NATO's Conditions	Serbia's Assessment of NATO's Estimate of Serbia's Conditions
Desired Status Quo	6	8
Rejected Status Quo	4	2
Offered Concessions	0	0
Received Concessions	0	0
Offered Compensation	0	0
Received Compensation	0	0
Motivation	5	8
External Enabling Factors for Offense	2	3
Exposure to Opportunity	3	5
Offensive Strategic Potential	5	6
External Enabling Factors for Defense	5	5
Exposure to Threat	1	2
Defensive Strategic Potential	6	6
Costs of Offensive Action	1	3
Costs of Defensive Action	1	1
Potential Damage	0	0
Previously Suffered Damage	0	0
Previously Defrayed Costs	0	0
Certainty about Own Capabilities	7	8
Certainty about Own Intentions	6	7
Certainty about Exposure	7	7
Certainty about External Enabling Factors	6	6
Certainty about Opponent's Capabilities	7	8
Certainty about Opponent's Intentions	4	7
RISK ACCEPTANCE ATTITUDE	Serbia	7

From the description we can deduce the conditions that prevailed in this preliminary phase. [143] Since it 'only' affects Serbia's considerations [144] with regard to the question whether to act or to abandon its ambitions, we can limit ourselves to Serbia's assessment (of NATO's estimates). Below, some details of Serbia's most relevant considerations are given. The issues left unmentioned are supposed to be obvious. The list with conditions in Figure 62 gives the numerical representation of the arguments. [145] [146]

In general, the following observations can be made. Serbia had no doubts about its chance to occupy Kosovo physically. However, it also needed to weigh its chances of successful conquest by gauging the reaction of the opponent. To that end, it estimated the opponent's assessment of his own expected utilities, and of its own expected utilities. In this context the actions of NATO and the UN are relevant. The related interests at stake were determined by, on the one hand, the continuation of the existing situation as the rejected status quo, and, on the other, an 'Albanian free Kosovo' as the desired status quo. Occupying and cleansing Kosovo was the intended action to acquire that desired status quo. For Serbia's opponent in this phase, the rejected status quo consisted of a Serbian occupation of Kosovo and the expulsion of its Albanian population, while the de-

143 It should be remembered – perhaps unnecessarily – that scoring the conditions is done by the author himself, based on reasonable assumptions, and not based on any kind of comprehensive research of the facts.

144 After all, the initiative in this phase was with Serbia. It considered occupying Kosovo, and cleansing the country of people of Albanian origin.

145 It should be noted that the given numbers correspond to the 'average' situation, in the period preceding the actual use of force by NATO.

146 The rating given takes into account the phenomenon that opposing parties are inclined to underestimate their own and overestimate their opponent's negative conditions, while they incline towards overestimating their own and underestimating their opponent's positive conditions. This is not necessarily the same as demonstrating a high risk-taking attitude.

sired status quo corresponded to maintaining the existing situation. The conceivable action by the opponent would be to deter Serbia from pursuing its intended action.

The following gives a description of the ratings given in Figure 62. Thus, it serves as an example of how ratings materialize in the remainder of the present and the following case.

- It is reasonable to assume that Serbia expected NATO to realize that Serbia's desire to control Kosovo was *high*, while the continuation of the existing situation was *low*. For the list of Figure 62 this means that Serbia's desired status quo (SQ^{Des}) is set at level 8 *(high)*, and its rejected status quo (SQ^{Rej}) at level 2 *(low)*. Consequently, NATO was expected to see that the benefits Serbia would acquire by occupying and ethnically cleansing Kosovo were of a *firm* level (8-2=6).
- Serbia's attitude demonstrated that it thought that not much was at stake for NATO. The assumption is that a peaceful Kosovo did only have a *firm* value for NATO (NATO's SQ^{Des} is set at level 6), and a Serbian occupation would be considered as no more than *moderate* (NATO's SQ^{Rej} is set at level 4.) Consequently, NATO's benefits of acting against Serbia were considered by Serbia to be *low* (6-4=2).
- No concessions and compensations were yet involved in this phase. (All concessions and compensations are set at level 0.)
- Serbia assumed that NATO was aware of Serbia's overall *high* motivation. (Serbia's motivation is set at level 8.)
- Despite its declaratory policy in the preceding period, NATO gave no signs that its motivation was indeed sufficiently high to obstruct Serbia's actions. Surely not much support could be expected from the population in the NATO countries for any kind of military involvement to block Serbia's ambitions. Consequently, Serbia expected that NATO knew that it had little more than an *average* motivation. (NATO's motivation is set at level 5.)
- Serbia assumed that NATO knew that Serbia could not count on more than *marginal* external support (for offensive actions) to *average* external support (for defensive actions). (Serbia's external support for offense is set at level 3, for defense at level 5.)
- Serbia assumed that NATO knew that it could not count on more than *low* external support (for offensive actions) to *average* external support (for defensive actions). (NATO's external support for offense is set at level 2, and for defense at level 5.)
- With regard to the exposure to the opportunity, Serbia thought that NATO considered Serbia's position as *average* and NATO's position as *marginal*. (Serbia's exposure to the opportunity is set at level 5, and NATO's exposure to the opportunity is set at level 3.)
- Serbia expected that NATO saw a *low* exposure of Serbia to NATO's threat, and a *very low* exposure of itself to Serbia's threat. (Serbia's exposure to the threat is set at level 2, and NATO's exposure to the threat is set at level 1.)
- Serbia presumed that its overall offensive strategic potential was seen by NATO as *firm* while for NATO it was assessed as *average* because, particularly the Western world was not well-known for its offensive politics, but more for its defensive posture. That is why NATO´s, as well as Serbia's, defensive strategic potential was rated as *firm*. (Serbia's offensive strategic potential is set at level 6, NATO's offensive strategic potential at level 5. Both Serbia's and NATO's defensive strategic potential is set at level 6.)
- Serbia expected that NATO would realize that the costs Serbia had to make for its offensive would be *marginal*. (Serbia's costs of offensive action is set at level 3.)

- Serbia's defensive costs, it assumed, would be rated by NATO as *very low*. (Serbia's costs of defensive action is set at level 1.)
- Serbia also assumed that NATO knew that Serbia's damage was still *minimal* in this phase. (Serbia's potential damage is set at level 0.)
- NATO's idea about its own costs was supposed to be *very low* by Serbia as well. (NATO's costs of offensive and defensive action are set at level 1.)
- NATO's idea about its own damage was supposed to be *minimal* by Serbia. (NATO's potential damage is set at level 0.)
- No previous damage or costs were yet involved in this phase. (Serbia's as well as NATO's previously suffered damage and previously defrayed costs are set at level 0.)
- It seems to be justified to assume that Serbia expected NATO to think that NATO's knowledge about Serbia's capabilities was *high* (level 8), about Serbia's intentions *substantial* (level 7), about Serbia's exposure *substantial* (level 7), about Serbia's external enabling factors *firm* (level 6), and about Serbia's capabilities *high* (level 8), and about NATO's intentions *substantial* (level 7).
- Serbia expected NATO to think that NATO's knowledge about its own capabilities was *substantial* (level 7), about its own intentions *firm* (level 6), about its own exposure *substantial* (level 7), about its own external enabling factors *firm* (level 6), and about Serbia's capabilities *substantial* (level 7). Serbia expected that NATO thought that its knowledge of Serbia's intentions was only *moderate* (level 4).
- Serbia had been known in the period preceding its action in Kosovo for its *substantial* risk acceptance attitude (level 7).

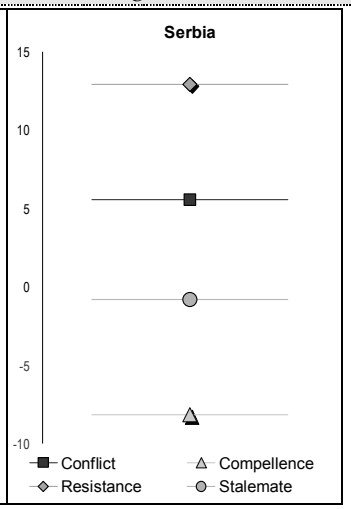
► *Assessment of the Outcome*

Figure 63 shows what this brings about with respect to the probable outcome. It is not difficult to see that, the chance of successful resistance dominates. [147] The mutual relations diagram demonstrates that there was little doubt in Milosevic' mind that successful resistance would prevail. If any of the other options were worth considering, it would be continued conflict. The chance of successful compellence was clearly at the bottom of the list. Consequently, Milosevic had all the incentives necessary to start invading and ethnically cleansing Kosovo.

147 Note that, in the context of this preliminary phase, this is the chance of successful action by Serbia.

Figure 63: Serbia, Preliminary Phase: Payoff Matrix & Mutual Relations Diagram

Case of Serbia: Preliminary Phase (Serbia intends to invade/cleanse Kosovo)			Serbia	
			RESIST **(i.e. start invading and cleansing Kosovo)**	**COMPLY** **(i.e. refrain from invading and cleansing Kosovo)**
			Conflict	Compellence
NATO	**COMPEL**	**(i.e. deter Serbia from invading and cleansing Kosovo)**	***(6)*** 3	***(-8)*** *1*
	RESIGN	**(i.e. accept that Serbia invades and cleanses Kosovo)**	***(13)*** **4**	***(-1)*** 2
			RESISTANCE	Stalemate



SERBIA: CONFLICT PERIOD-1;

START OF ALLIED FORCE (24 MARCH 1999)

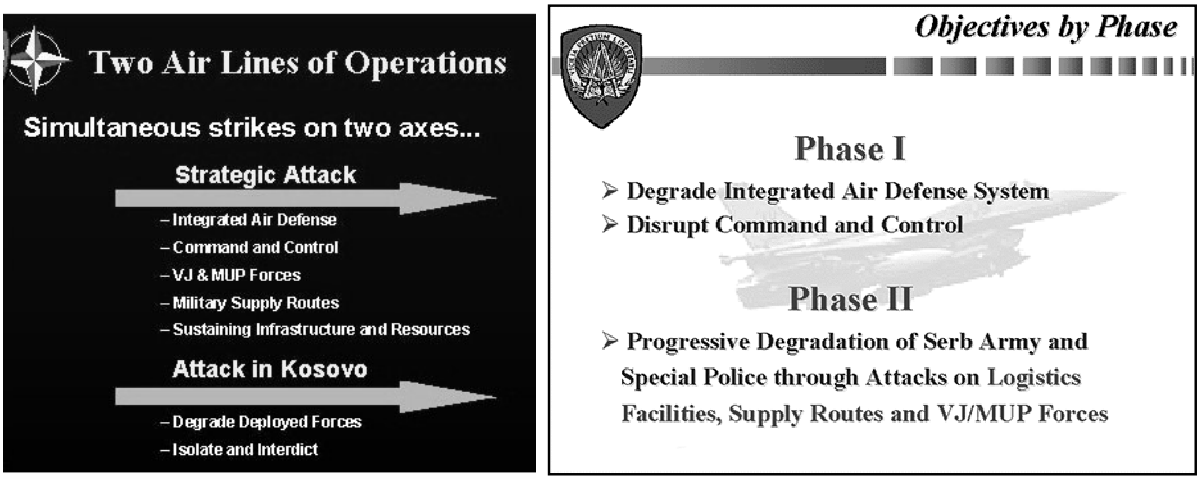
Milosevic obviously wrongly appreciated NATO's position. On March 23, the NATO Council gave the order to commence air strikes against Serbia, and on March 24, Operation Allied Force started. NATO's declared political goals were:

- first and foremost, to stop the killing in Kosovo and the brutal destruction of human lives and properties;
- secondly, to put an end to the appalling humanitarian situation that was unfolding in Kosovo and to create the conditions for the refugees to be able to return;
- thirdly, to create the conditions for a political solution to the crisis in Kosovo based on the Rambouillet agreement.

The military objectives these air strikes had to support were clarified by Supreme Allied Commander Europe (SACEUR): General Wesley Clark, during a press conference held after the conflict, on September 16, 1999.

> From the outset of this campaign, we said we would be attacking on two air lines of operation. There would be a strategic attack line operating against Serb air defences, command and control, VJ and MUP forces, their sustaining infrastructure, supply routes and resources. At the same time, we were going to be attacking on a tactical line of operation against the Serb forces deployed in Kosovo and in southern Serbia. We put the priority on the attacks against the Serb forces. This was imperative. These were the people who were doing the ethnic cleansing, and it was in keeping with the intent of the NATO OPLAN. But we knew we had to go on both lines of operation to be successful.

Figure 64: Serbia, Two Air Lines of Operations & Objectives by Phase [148]



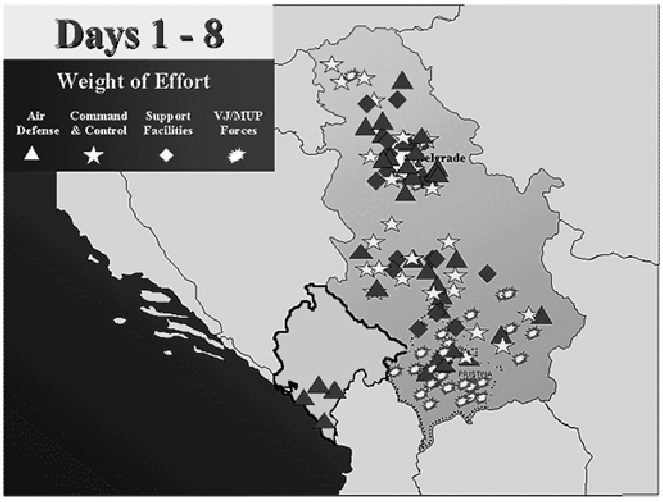
In his press conference on April 1, 1999, General Clark stated,

> We said at the outset 'no sanctuary', we said we were going to go systematically and progressively to attack, disrupt and degrade. That is precisely the process that's underway now. Step-by-step, day-by-day, with a great deal of precision, a great deal of atten-

148 Slides shown during NATO's press conference.

tion to avoid collateral damage and civilian casualties, we are concerned for the safety of our own forces, we're going to minimize the risk to those forces while we accomplish the mission and we are doing that. I would tell you that the weather conditions haven't been everything we sought, but on the other hand this has been an extremely adaptive and responsive air campaign. I think in the history of modern air campaigns, there has never been any group of leaders who've shown any more responsiveness and adaptability than our airmen and their commanders have shown on this campaign in adapting to a number of changing conditions and changing requirements throughout the first eight days of the operation.

Figure 65: Serbia, Attacks during First Eight Days



The campaign consisted of two phases, each with its own emphasis. The emphasis in the first phase of Allied Force was on striking heavily around Belgrade, going after the air defense nodes, striking in Montenegro where there were key air defense sites, going after air defense sites in Pristina, command and control of the air defense. Not yet many attacks were on support facilities and just a few on the MUP headquarters involved in supporting and directing the campaign in Kosovo.

Note 34: NATO's Political and Military Objectives of Operation Allied Force

We should be aware of NATO's political and particularly its military objectives during Allied Force. The political objectives may, more or less implicitly, have included compellence elements. Anyway, the publicly propagated NATO message was that Serbia had to give in 'or else'. This 'or else' was clearly intended to be categorized under the denominator of 'compellence'. The military objectives, on the contrary, only seem to have a military (operational) direction. Attacks with a primarily military operational objective may, indeed, support a compellence strategy. In a practical sense, the emphasis is on the elimination or, at least, incapacitation of enemy forces. Consequently, of the military objectives only the attacks on the 'sustaining infrastructure and resources' can be considered as directly addressing the compellence elements of the political objectives. In summary, the actual execution of actions against Serbia only partly deserves the designation 'compellence' actions.

Later on, there were more attacks on the forces and headquarters inside Kosovo. As of the fifth day, the weight of the effort was beginning to shift more from the air defense targets, to the command and control and defense facilities. Increasing numbers of strikes were aimed at the forces inside Kosovo and more attacks on the forces including the reinforcement forces and their headquarters just north of Kosovo. As of day eight, attacks on support facilities were executed. The map shown in Figure 65, presented by NATO during one of its press conferences, reveals the geographic scope of these attacks.

► *Conditions* [149] [150]

Figure 66: Serbia, Period-1: Conditions

(Start of Allied Force)	Case of Serbia: Conflict Period-1					
	NATO's Assessment of Serbia's Estimate of NATO's Conditions	Serbia's Assessment of NATO's Estimate of NATO's Conditions	Difference with previous period	Serbia's Assessment of NATO's Estimate of Serbia's Conditions	Difference with previous period	NATO's Assessment of Serbia's Estimate of Serbia's Conditions
Desired Status Quo	7	6		8		7
Rejected Status Quo	3	4		2		3
Offered Concessions	0	0		0		0
Received Concessions	0	0		0		0
Offered Compensation	0	0		0		0
Received Compensation	0	0		0		0
Motivation	7	6	**1**	8		7
External Enabling Factors for Offense	3	2		3		2
Exposure to Opportunity	7	6	**3**	7	**2**	6
Offensive Strategic Potential	7	6	**1**	7	**1**	6
External Enabling Factors for Defense	6	5		5		4
Exposure to Threat	1	2	**1**	6	**4**	7
Defensive Strategic Potential	7	7	**1**	6	0	5
Costs of Offensive Action	1	2	**1**	3		3
Costs of Defensive Action	0	1		3	**2**	4
Potential Damage	1	1	**1**	7	**7**	8
Previously Suffered Damage	0	0		0		0
Previously Defrayed Costs	0	0		1	**1**	1
Certainty about Own Capabilities	8	8	**1**	8		8
Certainty about Own Intentions	7	7	**1**	7		7
Certainty about Exposure	8	8	**1**	8	**1**	8
Certainty about External Enabling Factors	7	7	**1**	7	**1**	7
Certainty about Opponent's Capabilities	8	8	**1**	8		8
Certainty about Opponent's Intentions	7	7	**3**	7		7
RISK ACCEPTANCE ATTITUDE	NATO	7				
	Serbia	7				

At the start of Operation Allied Force, Serbia did not yet understand that NATO's interests at stake were higher than it previously thought. But, indeed, the Serbian perception of NATO's motivation increased, but did not reach the level of NATO's own perception. The exposure to the opportunity as well as to the threat of both parties increased from the moment the hostilities started, as did their potential damage. The latter surely applied to Serbia that expected *substantial* damage. Particularly Serbia's exposure to NATO's threat was perceived by Serbia as *firm*. Both parties' bargaining attitude improved, which had consequences for their strategic potential. NATO's costs for offense grew, as did Serbia's costs for defense. The knowledge of each other had become rather good (*substantial* to *high*). It is therefore justified to rate both parties' risk acceptance attitude as *substantial*.

► *Assessment of the Outcome*

The payoff matrix produced by the model (the left-hand part of Figure 67) shows that in this period the conflict continued. It also demonstrates that continuation of the conflict (the top left-hand box of the payoff matrix) does not represent the highest utility for both Serbia and NATO (both are at the second place from the top). However, the matrix also shows that the strategies that represent the highest utility for either party (for NATO the top right-hand box, and for Serbia the bottom left-hand box) at the same time represent the lowest utility for the opponent. Consequently, the choice for the next best option (continuation of the conflict) is obvious.

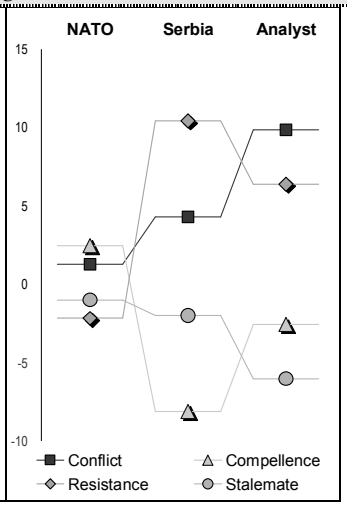
149 The description of this period and the following ones, only mentions the most noticeable or influential changes in conditions.

150 In Figure 66, conditions with a higher rating than the previous period are marked with a light shade and presented in bold; conditions with a lower rating are marked with a darker shade and in italics. A zero indicates a shift less than 0.5. (A comparison with NATO's assessments is not yet possible, since this was not considered in the preliminary phase.)

The result shown in the mutual relation diagrams in Figure 67 (the right-hand part) also demonstrates that NATO could only have limited expectations of its chance of success. After all, NATO also ascribed quite some value to the chance of continued conflict. However, NATO saw an even lower chance of successful Serbian resistance. The fact that the potential outcomes as perceived by NATO are rather close together shows that NATO must have been in some doubt about the exact result. Serbia, however, rated its chance of resistance as relatively high, but saw compellence as virtually prospectless. In sum, these two radically opposite positions produced a steady continuation of the conflict.

Figure 67: Serbia, Period-1: Payoff Matrix & Mutual Relations Diagram

Case of Serbia: Conflict Period-1 (Start of Allied Force)			Serbia: RESIST (i.e. refuse to withdraw from Kosovo and continue ethnic cleansing)	Serbia: COMPLY (i.e. refrain from invading and ethnically cleansing Kosovo)
			CONFLICT	Compellence
NATO	COMPEL	(i.e. compel Serbia to stop the ethnic cleansing and withdraw from Kosovo)	*(1)* *(4)* 3 , 3	*(2)* *(-8)* **4** , *1*
NATO	RESIGN	(i.e. accept that Serbia continues the occupation and ethnic cleansing of Kosovo)	*(-2)* *(10)* *1* , **4**	*(-1)* *(-2)* 2 , 2
			Resistance	Stalemate



SERBIA: CONFLICT PERIOD-2;

AFTER 'A FEW DAYS'

NATO's campaign had a slow start. It was expected that Serbia would comply with NATO's demands after a few days of bombing. That expectation proved to be false. The question is why – even after NATO showed its willingness and capacity to suit its action to the word and start the air strikes – Milosevic still did not comply. The apparent reasons can be found in the following considerations provided by Hosmer. [126]

Milosevic assumed that accepting the Rambouillet terms would endanger his rule.

> *Milosevic had major stakes in Kosovo. The vast majority of Serbs had a strong attachment to Kosovo and Milosevic's own political persona was closely associated with the Serb ascendancy in Kosovo. Indeed, Milosevic's ruling Socials Party had sufficient seats in the Serbian Parliament to give it a near parliamentary majority. But, Milosevic had to rely on Kosovo as a means to bolster his sagging political position within Serbia, exploiting the Kosovo issue to raise nationalist passions and thus distract people from the other serious problems facing Serbia.*
>
> *It was also a fact that some Rambouillet terms would have been unacceptable to the Serb public. Particularly the terms that might give the Kosovars more freedom (potentially even independence) and the fact that the implementation force would operate under the authority of NATO, thus affecting FRY sovereignty. In other words, Milosevic undoubtedly realized that he would run a serious risk of a massive popular backlash if he were to backpedal on this issue.*

Accepting Rambouillet would also have been dangerous to Milosevic.

> *Had not he promised that Kosovo would 'forever' be firmly tied to Serbia? Should he now accept withdrawal, he would undermine the foundation on which he had built his political career. His hawkish advisors surely had told him that he would be better off with NATO air strikes than with NATO ground troops in Kosovo.*

Milosevic also assumed that he could force NATO to offer better terms.

> *In this context, it is assumed that he fully expected NATO bombing if he refused to sign the Rambouillet Agreement, but thathe had reason to expect the bombing to be limited, and 'manageable' in terms of the destruction it would bring. According to Hosmer, a brief bombing campaign may also have appeared credible to Milosevic because of the precedent set by the December 1998 Operation Desert Fox air campaign over Iraq. The operative lesson for Milosevic was that, even though Saddam had refused to yield, the bombing was terminated after four days.*

Milosevic believed he could force a halt to the bombing and garner better terms.

> *He assumed that he could create sufficient countervailing pressure on the NATO allies to cause them to terminate the bombing and agree to interim arrangements for Kosovo. Apparently he calculated that NATO's unity could be undermined. A key reason for this confidence was Milosevic's belief that the NATO governments would not remain steadfast in their support for the bombing. He was strenghthened in this view by the irresolution NATO had displayed in past dealings with the FRY over Kosovo and the apparent differences of opinion that existed among the allies about the use of force. Furthermore, according to Hosmer, it seemed clear that Milosevic assumed that the FRY could promote the erosion of NATO unity and resolve by (1) engaging in ethnic cleansing, (2) undermining support for the war among NATO and other publics [exploiting that assumed human costs would erode public support for war], and (3) exploiting Russia's support for the FRY.*

Figure 68: Serbia, Period-2: Conditions

► *Conditions*

	Case of Serbia: Conflict Period-2							
(After "a few days")	NATO's Assessment of Serbia's Estimate of NATO's Conditions	Difference with previous period	Serbia's Assessment of NATO's Estimate of NATO's Conditions	Difference with previous period	Serbia's Assessment of NATO's Estimate of Serbia's Conditions	Difference with previous period	NATO's Assessment of Serbia's Estimate of Serbia's Conditions	Difference with previous period
Desired Status Quo	7		6		8		7	
Rejected Status Quo	3		4		2		3	
Offered Concessions	0		0		0		0	
Received Concessions	0		0		0		0	
Offered Compensation	0		0		0		0	
Received Compensation	0		0		0		0	
Motivation	7	**1**	6	**1**	7	***-1***	6	***-1***
External Enabling Factors for Offense	3		2		3		2	
Exposure to Opportunity	7		6		7		6	
Offensive Strategic Potential	7	0	6	0	7		6	
External Enabling Factors for Defense	6		5		6	**1**	5	**1**
Exposure to Threat	1		2		7	**1**	8	**1**
Defensive Strategic Potential	8	0	7	0	6		5	
Costs of Offensive Action	2	**1**	3	**1**	3		3	
Costs of Defensive Action	1	**1**	1		4	**1**	5	**1**
Potential Damage	1		1		7		9	**1**
Previously Suffered Damage	0		0		2	**2**	2	**2**
Previously Defrayed Costs	1	**1**	1	**1**	2	**1**	2	**1**
Certainty about Own Capabilities	8		8		8		8	
Certainty about Own Intentions	8	**1**	8	**1**	8	**1**	8	**1**
Certainty about Exposure	8		8		8		8	
Certainty about External Enabling Factors	7		7		7		7	
Certainty about Opponent's Capabilities	8		8		8		8	
Certainty about Opponent's Intentions	7		7		7		7	
RISK ACCEPTANCE ATTITUDE	**NATO**		8	**1**				
	Serbia		7					

Compared with the situation at the start of Allied Force, not much had changed 'after a few days'. It may be assumed that there was an increase in NATO's, and a decrease in Serbia's, motivation. Due to enhancement of its bargaining attitude, NATO's strategic potential had also somewhat grown. The 'sympathy for Serbia's fate' shown by some countries around the world, increased its external enabling factors for defense. Serbia's exposure to the threat had grown with the intensity of the air

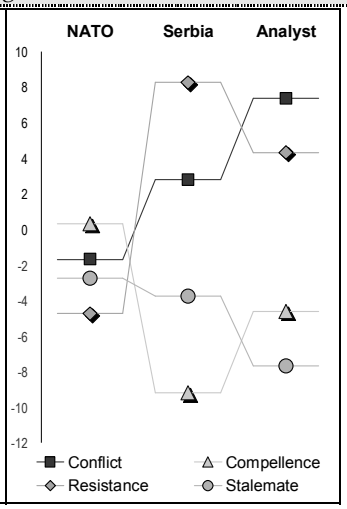
strikes, as did NATO's perception of Serbia's idea of its potential damage, and Serbia's costs of defensive actions. NATO's costs of actions had grown as well, as did Serbia's costs of defensive actions. Both parties were also facing a growth in their previous damage and costs. At that moment, also more was known about the intentions of either party. Finally, the risk acceptance attitude of NATO as well as that of Serbia was higher than before.

► *Assessment of the Outcome*

Figure 69 shows only a minor increase in NATO's perceived chance of successful compellence compared to the other options. It also shows that Serbia expected a slightly lower chance of successful resistance. The total result is hardly worth mentioning, but seems to favor Serbia rather than NATO. Eventually, the conclusion has to be that insufficient changes had taken place to alter the situation appreciably. This confirms the statement made by several experts at that time, namely that the expectation expressed by NATO authorities that Serbia would give in after a few days' time, was false. Clearly more conditions needed adaptation in order to bring Serbia to its knees.

Figure 69: Serbia, Period-2: Payoff Matrix & Mutual Relations Diagram

Case of Serbia: Conflict Period-2 (After "a few days")			Serbia: RESIST (i.e. refuse to withdraw from Kosovo and continue ethnic cleansing)	Serbia: COMPLY (i.e. refrain from invading and ethnically cleansing Kosovo)
			CONFLICT	Compellence
NATO	COMPEL	(i.e. compel Serbia to stop the ethnic cleansing and withdraw from Kosovo)	*(-2)* *(3)* 3 , 3	*(0)* *(-9)* **4** , *1*
NATO	RESIGN	(i.e. accept that Serbia continues the occupation and ethnic cleansing of Kosovo)	*(-5)* *(8)* *1* , **4**	*(-3)* *(-4)* 2 , 2
			Resistance	Stalemate



SERBIA: CONFLICT PERIOD-3;

END OF 'ALLIED FORCE' (3 JUNE 1999)

The operation gradually intensified and by late May 1999, Allied Force was at its height. Diplomatic pressure on Serbia also rose, and the likelihood of an eventual NATO invasion grew. On 3 June Milosevic gave in, withdrew his forces from Kosovo, and turned Kosovo over to a NATO-led peacekeeping force. [151] On 10 June 1999, after an air campaign lasting seventy-seven days, NATO Secretary General Javier Solana announced that he had instructed Supreme Allied Commander Europe to temporarily suspend NATO's air operations against Yugoslavia. The withdrawal was in accordance with a 'Military-Technical Agreement' concluded between NATO and the Federal Republic of Yugoslavia on the evening of 9 June. The withdrawal was also consistent with the agreement of 3 June between the Federal Republic of Yugoslavia, the European Union and Russian special envoys, President Ahtisaari of Finland and Mr. Victor Chernomyrdin, the former Russian Prime Minister. The NATO Secretary General announced that he had written to the Secretary-General of the United Nations, Mr. Kofi Annan, and to the President of the United Nations Security Council informing them of these developments. The Secretary General of NATO urged all parties to the conflict to seize the opportunity for peace and called on them to comply with their obligations under the agreements which had now been concluded and under all relevant UN Security Council resolutions.

On 10 June the UN Security Council passed UNSCR-1244 welcoming the acceptance by the Federal Republic of Yugoslavia of the principles for a political solution to the Kosovo crisis, including an immediate end to violence and a rapid withdrawal of its military, police and paramilitary forces. The Resolution, adopted by a vote of 14 in favor and none against, with one abstention (China), announced the Security Council's decision to deploy international civil and security presences in Kosovo, under United Nations auspices. Acting under Chapter VII of the UN Charter, the Security Council also decided that the political solution to the crisis would be based on the general principles adopted on 6 May by the Foreign Ministers of the Group of Seven industrialized countries and the Russian Federation - the Group of 8 - and the principles contained in the paper presented in Belgrade by the President of Finland and the Special Representative of the Russian Federation, which was accepted by the Government of the Federal Republic on 3 June. Both documents were included as annexes to the Resolution. The principles included, among others, an immediate and verifiable end to violence and repression in Kosovo; the withdrawal of the military, police and paramilitary forces of the Federal Republic; deployment of effective international and security presences, with substantial NATO participation in the security presence and unified command and control; establishment of an interim administration; the safe and free return of all refugees; a political process providing for substantial self-government, as well as the demilitarization of the Kosovo Liberation Army (KLA/UÇK); and a comprehensive approach to the economic development of the crisis region. The Security Council authorized Member States and relevant international organizations to establish the international security presence, and decided that its responsibilities would include deterring renewed hostilities, demilitarizing the KLA/UÇK and establishing a secure environment for the return of refugees and in which the international civil presence could operate. Following the adoption of UNSCR-1244,

151 What follows is a compilation of the description given by NATO [190].

NATO made immediate preparations for the rapid deployment of the security force (Operation Joint Guardian), mandated by the United Nations Security Council. On 20 June, following confirmation by SACEUR that Serb security forces had vacated Kosovo, the Secretary-General of NATO announced that, in accordance with the Military Technical Agreement, he had formally terminated the air campaign.

The central question is why Milosevic decided on a settlement on 3 June. The conceivable reasons can be found in the following considerations provided by Hosmer.[126]

Milosevic realized that his hoped-for leverage on NATO had evaporated.

> *While a number of weeks were to pass before all of Milosevic's assumptions could be fully tested, in the end, none bore out. Indeed, events were to show that Milosevic and his advisers had miscalculated badly. In all respects, ethnic cleansing failed to produce the leverage expected. Even worse, it proved to be a blunder of enormous magnitude. "Instead of strengthening Belgrade's bargaining position, the cleansing seriously weakened it by greatly strengthening NATO's cohesion and resolve."*
>
> *So, NATO remained united and resolute. And Milosevic's hope that the international public would 'rebel' against continued bombing and that NATO's unity would be sundered once NATO air strikes began to take a toll of civilian casualties went unrealized. To safeguard unity NATO had taken several measures to limit allied casualties and minimize civilian casualties and collateral damage. Even Milosevic's hope to down some NATO aircraft, and thus gaining bargaining leverage, was unrealized as a result of flying at high altitudes and employment of suppression of enemy air defense (SEAD) operations during air attacks.*
>
> *Finally, Russia's support for the FRY dissolved. Yeltsin was clearly not willing to be dragged into a conflict with NATO over Kosovo. He needed good relations with the West if he was to secure the money, technology, and expertise needed for the rebuilding of Russia. Furthermore, Milosevic himself was not Yeltsin's friend; Milosevic had supported the 1991 coup by communist hard-liners in Moscow. His practice of generating one conflict after another worked against him. However, since domestic pressure forced Yeltsin to do something, he reverted to tough Cold War-style oratory to condemn the bombing. And, to speed up a negotiated end of the war, he dispatched Chernomyrdin to broker an agreement. On 1 June Moscow even broke ranks with Belgrade and agreed to endorse NATO's terms for war termination. Obviously Russia believed that a NATO invasion was at hand. This would have put Yeltsin under severe domestic pressure to actively assist the Serbs militarily. Thus a quick end to the conflict seemed to be best served by supporting NATO.*

Bombing produced a popular climate conducive to concessions.

> *In mid-March of 1999 Serb public opinion was strongly 'hawkish' on Kosovo inducing Milosevic to defend Kosovo at any cost. And, whereas Milosevic wanted to appear to be a winner and justify himself before his own nation, the then-prevailing public and elite sentiment did not allow him to make major concessions. But, by the end of the campaign, the Serbian citizens and political leaders who had initially opposed giving in to*

NATO's demands had increasingly come round to the view that Milosevic must do whatever was necessary to get the bombing stopped.

The initial public reaction to the bombing was surprise and angry defiance; they obviously did not expect bombing. Serbian nationalist sentiments were triggered across the country. But after a month of bombing, the public attitude began to change. By early May people began to realize that they were in for a long and difficult period and that things were likely to get worse. The change in sentiment was palpable. The turnout at manifestations against the bombing diminished from 100,000 to a few dozen. Where many Serbs suffered some personal hardship as result of the bombing, struggle for personal survival was more important. Stress and concern about personal and family safety increased. These concerns intensified as the bombing was prolonged and increasingly embraced a larger array of infrastructure targets, such as bridges, refineries, and electric power grids. Also concerns about casualties among troops in Kosovo started to provoke antiwar demonstrations. Repeatedly calls were heard from party leaders and elected officials for a negotiated settlement. At the end of the day, the final peace settlement was met with relief. According to Hosmer, this shows that bombing made concessions politically feasible.

Damage to 'dual-use' infrastructure generated growing pressure.

At the start of June the damage to Serbia's infrastructure and economy was becoming severe. The bombing and the sanctions were devastating to an already diminished economy. That is why Milosevic and his colleagues perceived the attacks as aimed at weakening his control mechanism. Thus the bombing imposed more and more stress, hardships, and costs on the ruling elite.

Damage to military forces and KLA/UÇK 'resurgence' generated little pressure.

Even though purely military targets were the primary focus of the NATO air campaign and accounted for the vast majority of the weapons expended, the destruction and damage to such targets probably did not generate the major pressure for war termination. Indeed, much aboveground military infrastructure was destroyed. But the Serbs adopted several countermeasures to reduce damage to their military structure. Consequently, Serb armor, artillery, and troops survived the war largely intact. And the Serb forces in Kosovo were able to carry out most of their mission, like continued ethnic cleansing to the end, rooting out and suppressing the KLA/UÇK and denying the KLA/UÇK deep incursion into Kosovo. Consequently, it is unlikely that actions against military targets have significantly influenced Milosevic's decision to come to terms.

Milosevic expected unconstrained bombing if NATO's terms were rejected.

The key reason for accepting NATO's terms was Milosevic's fear of the bombing that would follow if he refused. NATO's terms were, by June, seen as a Russian-backed ultimatum. Serbian leaders, furthermore,

found the threat of unconstrained bombing credible. After all NATO's air attacks were escalating, and NATO was postured for an expanded bombing campaign, while NATO leaders had warned of devastating attacks. And NATO had already attacked nonmilitary targets, and dual-use infrastructure, which NATO had classified as legitimate military targets. Even Chernomyrdin was predicting massive devastation if the war continued, using phrases like "what would be left of Yugoslavia." Obviously, Milosevic feared that this unconstrained bombing might endanger his rule, particularly when the winter would magnify the hardships of bombing, especially electricity outages. He calculated, says Hosmer, that he could best survive in power if Serbia was at least partially stable and functioning.

Milosevic probably also worried about the threat of future invasion.

Milosevic and his military advisors probably regarded invasion as a more distant threat – one that would provide weeks of strategic warning before it evolved. They knew about the lack of consensus in the West for a ground campaign. But as soon as indications appeared that a ground attack was being contemplated, Belgrade leaders started to worry. They even may have realized that intensified bombing would precede an invasion, something going on for some time.

Milosevic believed NATO's terms provided him with some political cover.

The terms embodied in UNSCR-1244, and the Military-Technical Agreement between the international security force (KFOR) and the FRY and Serbia governments that preceded it met both NATO's basic demands and Milosevic's need to demonstrate that the FRY had gained at least some concessions in return for its absorption of 11 weeks of bombing. Although the June agreements were more stringent than Rambouillet, from the all-important standpoint of FRY sovereignty Milosevic had reason to argue that the terms embodied in UNSCR 1244 were an improvement of the terms contained in the Rambouillet Agreement. The sweeping and humiliating right of "transit, bivouac, maneuver, billet, utilization" accorded to NATO forces by Rambouillet were absent. Also the final status of Kosovo was more favorably phrased. And the UN would control the implementation of the international civil presence in Kosovo. These elements gave Milosevic a chance to proclaim 'victory'.

► *Conditions*

Compared to the previous situation ('after a few days') the conditions during the next 11 weeks had changed considerably. By then, Milosevic must have recognized the Alliance's *low* value of the rejected status quo, since he understood that NATO's resignation would put its credibility at stake. NATO's risk-acceptance attitude rose to a very high level, while Ser-

Figure 70: Serbia, Period-3: Conditions

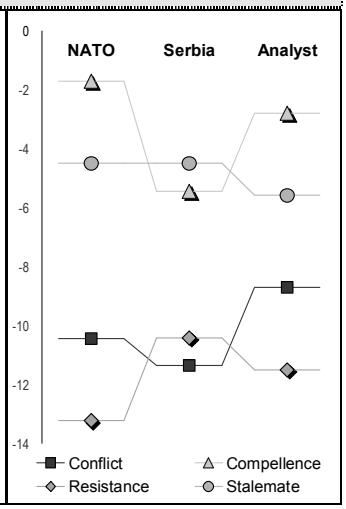
(End of Allied Force)	Case of Serbia: Conflict Period-3							
	NATO's Assessment of Serbia's Estimate of NATO's Conditions	Difference with previous period	Serbia's Assessment of NATO's Estimate of NATO's Conditions	Difference with previous period	Serbia's Assessment of NATO's Estimate of Serbia's Conditions	Difference with previous period	NATO's Assessment of Serbia's Estimate of Serbia's Conditions	Difference with previous period
Desired Status Quo	8	1	8	2	8		8	1
Rejected Status Quo	2	-1	2	-2	3	1	3	
Offered Concessions	0		0		0		0	
Received Concessions	0		0		0		0	
Offered Compensation	1	1	1	1	0		0	
Received Compensation	0		0		2	2	2	2
Motivation	9	1	9	2	4	-3	4	-2
External Enabling Factors for Offense	8	5	8	6	1	-2	1	-1
Exposure to Opportunity	8	1	8	2	4	-3	3	-3
Offensive Strategic Potential	8	1	8	1	5	-2	5	-1
External Enabling Factors for Defense	6		5		3	-3	2	-3
Exposure to Threat	1		2		9	2	9	1
Defensive Strategic Potential	9	1	8	1	5	-1	5	-1
Costs of Offensive Action	3	1	4	1	4	1	4	1
Costs of Defensive Action	2	1	2	1	6	2	6	1
Potential Damage	1		1		9	2	9	
Previously Suffered Damage	0		0		3	2	3	2
Previously Defrayed Costs	2	1	2	1	3	1	3	1
Certainty about Own Capabilities	9	1	9	1	9	1	9	1
Certainty about Own Intentions	9	1	9	1	9	1	9	1
Certainty about Exposure	9	1	9	1	9	1	9	1
Certainty about External Enabling Factors	8	1	8	1	8	1	8	1
Certainty about Opponent's Capabilities	9	1	9	1	9	1	9	1
Certainty about Opponent's Intentions	9	2	9	2	9	2	9	2
RISK ACCEPTANCE ATTITUDE	NATO		9	1				
	Serbia		6	-1				

► *Assessment of the Outcome*

bia was obviously willing to take fewer risks than before. Furthermore, NATO showed the willingness to offer some compensation, particularly by giving Milosevic the chance to save face, and by giving him some 'political cover'. For NATO these were less important issues, but for Milosevic they counted double. Almost all the other conditions changed to the advantage of NATO.

Figure 71: Serbia, Period-3: Payoff Matrix & Mutual Relations Diagram

Case of Serbia: Conflict Period-3 (End of Allied Force)			Serbia: RESIST (i.e. to continue cleansing Kosovo)	Serbia: COMPLY (i.e. to stop cleansing and leave Kosovo)
			Conflict	COMPELLENCE
NATO	COMPEL	(i.e. to compel Serbia into leaving Kosovo)	(-10) (-11) 2 , 1	(-2) (-5) 4 , 3
NATO	RESIGN	(i.e. to accept that Serbia will continue the occupation and cleansing of Kosovo)	(-13) (-10) 1 , 2	(-5) (-5) 3 , 4
			Resistance	Stalemate



It is worthwhile recognizing that the final conclusion is justified that NATO achieved its principal (military) objective. However, the case was not particularly 'clear-cut'. This is also reflected in the diagrams in Figure 71. The diagram shows a rather 'close finish' in the perception of Serbia that had actually expected more of a stalemate than of successful compellence. NATO was clearly more confident that compellence would be successful. It even expected that the chance of continued conflict would diminish considerably. Nevertheless, it can be concluded that the rather clear 'victory' for NATO was primarily based on Serbia's expectation that stalemate was still achievable.

Annex F. CASE OF IRAQ

HISTORY OF IRAQ [152]

Iraq was created after the collapse of the Ottoman Empire. The Ottoman provinces Basra, Baghdad, and Mosul constituted, from 1920 on, the British mandate of 'Iraq', named after the Arab word for Mesopotamia. The northern part of Iraq, the homeland of the Kurds, resisted participation in the new nation. The appointed Iraqi king reigned, under British supervision, until 1932. Right from the start, Iraq proved difficult to govern as an independent state. Several coups and even more changes of government characterized the first decades of its existence. The Iraqi Revolution of 1958 ended the rule of the king, and marked a shift from a pro-Western to a Soviet-oriented attitude, with a nationalist undercurrent. The Ba'ath Party, established in the nineteen-forties pursued the revival of one pan-Arabic nation and came into power after a putsch in July 1968. This party brought forth Saddam Hussein al-Takriti, who had been active in the party since the late nineteen-fifties. In 1969, the then 31-year-old Saddam became deputy chairman of the revolutionary council, the number two of the Ba'ath regime, and in July 1979 he formally took over the position of president, commander-in-chief, secretary-general of the Ba'ath party, and chairman of the revolutionary command council. All key positions went to the Takriti. Internal unrest, particularly among Kurds and Shiites, was quashed.

The history of Iraq's regional ambitions shows, on the one hand, efforts to cooperate with some Arab countries, like Egypt and Syria (with its own Ba'ath party) and, on the other, confrontational attitude towards countries like Iran, Kuwait, and, of course, Israel. After the regime change in Iran in 1979, Iranian ayatollahs frequently called on the Iraqi population to follow their Iranian co-religionists and revolt against the sinful regime in Baghdad. The situation escalated into the Iran-Iraq war fought from 1980 till 1988. In its confrontations with neighboring countries, Iraq got the support of quite some foreign countries. In the early years of the Iran-Iraq war, Saudi Arabia provided 22 billion dollar support to Iraq. France provided Mirage aircraft, AMX-tanks, Exocet missiles, in 1983 even the brand-new Super-Etendard. In the middle of the war (March 1982) – after the USA broke off its diplomatic relations with Iraq in 1967 – the USA removed Iraq from the list of terrorist nations. In 1983 even trade and the granting of credit was restored, followed by the formal restoration of diplomatic relations between the USA and Iraq in 1984. One billion dollar was loaned for the acquisition of 'non-military goods'.

CAUSE OF THE IRAQ CONFLICT

This external support must have encouraged Iraq in its regional aspirations. One of Iraq's neighboring countries was Kuwait, originally a part of Basra (now a province of Iraq), and a separate protectorate of the UK since 1899. When it declared independence in 1961, it ran into immediate trouble when Iraq claimed the territory. [153] The Iraqis argued that the British had recognized Ottoman sovereignty over Kuwait before World War I and, because the Ot-

152 This account follows the text of the Wikipedia encyclopedia [272], expanded with data from Heirman [116].

153 Account as given by Geographic.org. [89]

tomans had claimed to rule Kuwait from what was then the province of Iraq, the territory should belong to Iraq. The British immediately sent troops to Kuwait to deter any Iraqi invasion. British and Kuwaiti positions were supported by the newly formed League of Arab States (Arab League), which recognized the new state and sent troops to Kuwait. The Arab League's move left the Iraqis isolated and somewhat intimidated. Accordingly, when a new Iraqi government came to power in 1963, one of its first steps was to give up its claim and recognize the independence of Kuwait.

However, Kuwait became an attractive target for annexation, particularly once Iraq under Saddam Hussein started to need funds to finance the securement of its regional ambitions. The oilfields of Iraq and Kuwait were so adjacent to each other that they were actually difficult to separate. This was an excellent excuse for Iraq to create a 'casus belli'. Already in March 1973, Iraqi troops broke into Kuwaiti territory and temporarily occupied the border crossing-point Al-Samita, formally, "to take counter-measures against Kuwaiti soldiers, who opened fire at Iraqi troops." 17 July 1990, the Iraqi Secretary of State, Tariq Aziz accused Kuwait of having "deliberately pursued a policy aimed at impairing Iraq's position in the war against Iran." Furthermore, Baghdad accused Kuwait of stealing huge quantities of oil from the southern part of Iraq's Rumalla oilfield. On July 18, 1990, Kuwait proclaimed the state of emergency. On August 2, Iraqi troops entered Kuwait. Within 24 hours Kuwait was vanquished.

ACTORS

The main actor in this conflict was undoubtedly Iraq under Saddam Hussein and his regime. Iraq had no democratic structure whatsoever. Saddam Hussein had absolute power and, consequently, he can be considered as the sole representative of Iraq's decision-making body. Kuwait, the second main actor, was excluded from the process by Iraq's conquest. Iraq's real opponents were united in a Coalition. Concerning the military actions, the USA was clearly in the lead. On the political front, the USA was also in a leading position. Despite the fact that he also had to take into account the position of the leaders of other Coalition members, the President of the USA can be considered as the representative of the coalition's decision-making body. Albeit in the background, the United Nations took part in the decision-making as well. The UN basically supported the objectives of the Coalition, but did not always support its methods in the course of the conflict. In this context the UN was represented by the UN Security Council, i.e. where applicable, the UN Security Council was the main player opposing Iraq.

DEVELOPMENT OF THE CONFLICT; SEVEN SNAPSHOTS IN TIME

In the Iraq case, as a result of the historical development, the conflict reached its culmination point on August 15, 1990, the date that Iraq decided to invade Kuwait. The run-up to that date is considered a preliminary phase. The first conflict period is the preamble to Desert Storm, from the proclamation of UNSCR-678 till January 15, to be precise, the day the ultimatum expired. Five more periods can be distinguished, each of which is characterized by some specific events.

IRAQ: PRELIMINARY PHASE;

START OF THE CONFLICT (15 AUGUST 1990)

When Iraq was considering invading Kuwait, it had no doubts about its actual potential to conquer it physically. Consequently, Iraq concluded that it was worthwhile. The conceivable action by Iraq's opponents would be to deter Iraq from invading Kuwait. However, since hardly any of Iraq's potential opponents even suspected an invasion, they adopted no attitude of deterrence. As a result, Iraq assumed that it could start its actions against Kuwait without too much opposition.

► *Conditions*

From the description given in the previous sections the conditions that prevailed in this preliminary phase of the conflict can be deduced. As with the case of Serbia, we limit ourselves in this phase to Iraq's assessment (of the Coalition's estimates).

Iraq's interests at stake were determined by, on the one hand, the continuation of the existing situation as the rejected status quo, and, on the other, the annexation of Kuwait as the desired status quo. Conquering Kuwait was the intended action. For Iraq's opponent in this phase, the rejected status quo consisted of an Iraqi invasion into Kuwait, while the desired status quo corresponded to maintaining the existing situation. The conceivable action by the opponent would be to deter Iraq from invading Kuwait.

Figure 72: Iraq, Preliminary Phase: Conditions

Case of Iraq: Preliminary Phase		
(Iraq intends to invade Kuwait)	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions
Desired Status Quo	6	7
Rejected Status Quo	4	3
Offered Concessions	0	0
Received Concessions	0	0
Offered Compensation	0	0
Received Compensation	0	0
Motivation	4	7
External Enabling Factors for Offense	2	3
Exposure to Opportunity	1	3
Offensive Strategic Potential	5	6
External Enabling Factors for Defense	4	4
Exposure to Threat	1	2
Defensive Strategic Potential	6	5
Costs of Offensive Action	0	1
Costs of Defensive Action	0	0
Potential Damage	0	0
Previously Suffered Damage	0	0
Previously Defrayed Costs	0	0
Certainty about Own Capabilities	8	8
Certainty about Own Intentions	7	7
Certainty about Exposure	7	7
Certainty about External Enabling Factors	7	7
Certainty about Opponent's Capabilities	7	7
Certainty about Opponent's Intentions	4	7
RISK ACCEPTANCE ATTITUDE	**Iraq**	7

Based on the attitude demonstrated, particularly that of the United States towards Iraq's position in the region, it is reasonable to assume that Iraq expected the Coalition to recognize that Iraq's desire to control Kuwait was *substantial*, while the continuation of the existing situation was only *marginal*. Iraq assumed that an independent Kuwait did have a *firm* value for the Coalition, and its occupation would be considered *moderate*. No concessions and compensation were yet involved in this phase.

Iraq assumed that the Coalition was aware of Iraq's overall *substantial* motivation. In the period before August 1990, no signals were given by members of the Coalition showing that they were highly motivated to obstruct Iraq's actions. Particularly the Western members of the Coalition showed little interest in Iraq's (confrontational) attitude towards Kuwait. Surely not much support could be expected from the Western population for any kind of military involvement in blocking

Iraq's ambitions in the region. Consequently, Iraq expected that the Coalition knew that it had little more than *moderate* motivation.

Iraq assumed that the Coalition knew that Iraq could not count on more than *marginal* external support for offensive actions. It set its mind to rest knowing that the Coalition expected to have only *low* external support, if it decided to oppose Iraq's actions. For defensive actions Iraq expected *moderate* external support for both parties. With regard to the exposure to opportunity, Iraq thought that the Coalition considered Iraq's position as *marginal* and its own position *very low*. It expected the Coalition to see a *very low* exposure to the Iraqi threat, and *low* exposure of Iraq to the Coalition's threat.

Although Iraq did not display the best bargaining attitude (for instance, no serious signals were given about the intention to invade Kuwait), particularly concerning its own offensive military conditions Iraq believed that the Coalition was aware that they were substantial. After all, Iraq had demonstrated considerable capabilities in the war against Iran. It realized that its defensive military conditions were seen as somewhat subordinate to its offensive military conditions, but would still be rated as firm. In total, Iraq expected that the Coalition would rate Iraq's offensive strategic potential as *firm*, and its defensive strategic potential as *average*.

Iraq did not think much of the Coalition's bargaining attitude, as it was displayed during the previous period, and expected the Coalition to see that it was very low. Iraq did expect the coalition to rate its own offensive and defensive military 'software' as substantial, while its military means – offensive as well as defensive – would be rated as high. All in all, Iraq thought that the coalition saw its own offensive strategic potential as *average* and its defensive strategic potential as *firm*.

Iraq expected that the Coalition would realize that the costs Iraq had to make for its offensive would be *very low*. The defensive costs, it assumed, would be rated as *minimal*. It also assumed that the Coalition knew that Iraq's damage was still *minimal* in this phase. The Coalition's idea about its own costs and damage was supposed to be *minimal* as well. No previous damage or costs were yet involved in this phase.

It seems justified to assume that, overall, Iraq expected both parties to have *substantial* knowledge. However, Iraq expected the Coalition to think that both parties had a *high* level of knowledge about their own capabilities. Furthermore, Iraq expected that the Coalition was aware of its limited knowledge of Iraq's intentions *(moderate)*. In the period preceding its invasion of Kuwait Iraq had been known for its *substantial* risk acceptance attitude.

► *Assessment of the Outcome*

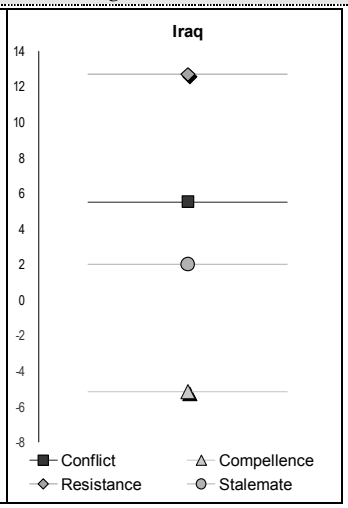
Figure 73 shows what this brings about with respect to the probable outcome of this first snapshot in time, the preliminary phase. It is not difficult to see that the chance of successful resistance dominates. [154] Ranking at quite a distance is the chance of continued conflict, followed by the chance of stalemate. The chance of successful compellence [155] is even lower. Of the two most important opposite results, deterrence was hardly an issue, while the chance of successful intervention by Iraq was unmistakably dominant. That is why, in the final analysis, it is not surprising that Iraq should choose to start its action and invade Kuwait.

154 Note that in the context of this preliminary phase this is the chance of successful action by Iraq.

155 This means successful deterrence in the context of this phase!

Figure 73: Iraq, Preliminary Phase: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Preliminary Phase (Iraq intends to invade Kuwait)			Iraq	
			RESIST (i.e. start invasion of Kuwait)	COMPLY (i.e. refrain from invading Kuwait)
			Conflict	Compellence
Coalition	COMPEL	(i.e. deter Iraq from invading Kuwait)	*(6)* 3	*(-5)* *1*
	RESIGN	(i.e. accept that Iraq invades Kuwait)	*(13)* **4**	*(2)* 2
			RESISTANCE	Stalemate



IRAQ: CONFLICT PERIOD-1;

PREAMBLE TO DESERT STORM (NOVEMBER 29, 1990 - JANUARY 15, 1991)

The sharp reaction of the outside world to its invasion of Kuwait probably surprised Iraq. On August 6 the UN Security Council reacted, with UN Security Council Resolution (UNSCR)-661 that announced economic sanctions (a total trade boycott), and on August 9 with UNSCR-662 that described the annexation of Kuwait by Iraq as of no value whatever. Even the Arab League condemned the annexation with 12 votes to 9. The USA, as well as other countries like France, Egypt, and Syria, sent troops to Saudi Arabia. Other nations, like Germany and Japan promised funds as a contribution to the costs of a military campaign in the Gulf. The UN Security Council on November 29, 1990 accepted UNSCR-678 at its 2963rd meeting states, among others:

> . . .
>
> *Noting that, despite all efforts by the United Nations, Iraq refuses to comply with its obligation to implement Resolution 660 (1990) and the above-mentioned subsequent relevant resolutions, in flagrant contempt of the Security Council,*
>
> *Mindful of its duties and responsibilities under the Charter of the United Nations for the maintenance and preservation of international peace and security,*
>
> *Determined to secure full compliance with its decisions,*
>
> *Acting under Chapter VII of the Charter,*
>
> *1. Demands that Iraq comply fully with Resolution 660 (1990) and all subsequent relevant resolutions, and decides, while maintaining all its decisions, to allow Iraq one final opportunity, as a pause of goodwill, to do so;*
>
> *2. Authorizes Member States co-operating with the Government of Kuwait, unless Iraq on or before 15 January 1991 fully implements, as set forth in paragraph 1 above, the foregoing resolutions, to use all necessary means to uphold and implement Resolution 660 (1990) and all subsequent relevant resolutions and to restore international peace and security in the area; [emphasis added]*
>
> *3. Requests the States concerned to keep the Security Council regularly informed on the progress of actions undertaken pursuant to paragraphs 2 and 3 of the present resolution;*
>
> . . .
>
> *4. Requests all States to provide appropriate support for the actions undertaken in pursuance of paragraph 2 of the present resolution;*

Meant as an attempt to compel Iraq, this resolution also provided the legitimization to attack Iraq. No reaction of Iraq followed. In the night of January 16-17, 1991, the Coalition forces started operation Desert Storm.

► *Conditions* [156]

Figure 74: Iraq, Period-1: Conditions

	Case of Iraq: Conflict Period-1					
(Start of Desert Storm)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions
Desired Status Quo	7	6		7		6
Rejected Status Quo	3	4		3		4
Offered Concessions	0	0		0		0
Received Concessions	0	0		0		0
Offered Compensation	0	0		0		0
Received Compensation	0	0		0		0
Motivation	7	5	**1**	9	**2**	8
External Enabling Factors for Offense	7	7	**5**	3		2
Exposure to Opportunity	6	5	**4**	4	**1**	3
Offensive Strategic Potential	7	7	**1**	7	0	6
External Enabling Factors for Defense	8	8	**4**	4		3
Exposure to Threat	2	3	**2**	5	**3**	6
Defensive Strategic Potential	7	7	**1**	5	0	4
Costs of Offensive Action	1	2	**2**	2	**1**	3
Costs of Defensive Action	1	2	**2**	2	**2**	3
Potential Damage	1	1	**1**	3	**3**	5
Previously Suffered Damage	0	0		0		0
Previously Defrayed Costs	1	1	**1**	2	**2**	2
Certainty about Own Capabilities	8	8		8		8
Certainty about Own Intentions	8	8	**1**	8	**1**	8
Certainty about Exposure	8	8	**1**	7		7
Certainty about External Enabling Factors	7	7		7		7
Certainty about Opponent's Capabilities	8	8	**1**	8	**1**	8
Certainty about Opponent's Intentions	6	6	**2**	7		7
RISK ACCEPTANCE ATTITUDE	Coalition	5				
	Iraq	7				

In this period the initiative shifted to Iraq's opponent, the Coalition. Their desired status quo was the restoration of Kuwait's independence, i.e. the withdrawal of Iraq from Kuwait. Their rejected status quo was a continuation of the occupation of Kuwait by Iraq. For Iraq, the desired status quo was the continuation of its occupation of Kuwait and the acceptance of that by the Coalition. Its rejected status quo implied withdrawal from Kuwait. Its potential action consisted of resistance. In order to bring about the desired change, the Coalition considered compellence.

In the period that succeeded Iraq's invasion of Kuwait, a considerable shift took place in the attitude of the countries in the region, as well as in other parts of the world. Instead of an attitude of ´stand-by-and-watch´, active opposition towards Iraq's ´intolerable´ actions grew. Consequently, the external enabling aspects moved robustly in favor of the Coalition *(substantial* for offense and *high* for defense*)*. The Coalition's idea of its exposure to the opportunity also grew considerably in the eyes of Iraq (from *very low* to *average*). For Iraq's expectation of how the Coalition saw Iraq's exposure to the threat, the increase was significant (to *average*), while the Coalition even thought that Iraq considered it as *firm*. Iraq also recognized that the Coalition expected an increase in its potential damage (from *minimal* to *marginal*), even though the Coalition itself expected Iraq to put its potential damage at an even higher level (*average*). Considering the knowledge related conditions, this phase shows that, overall, the level of knowledge of both parties grew, particularly regarding 'soft' issues. But, due to the buildup of forces, also Iraq's assessment of either party's level of knowledge about the opposing forces increased. The Coalition was not known for its high risk acceptance. Therefore, it can be rated as *average*.

156 The description of the following periods, only discusses the most noticeable or influential changes in conditions.

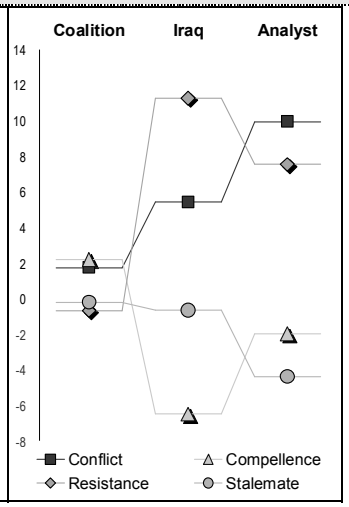
► *Assessment of the Outcome*

The payoff matrix produced by the model shows that in this period the conflict continued. It also demonstrates that, like in the case of Serbia, continuation of the conflict (the top left-hand box of the matrix) does not represent the highest utility both for Iraq and the Coalition (ranking is 3,3). However, the matrix also shows that the strategies that represent the highest utility for both parties (for the Coalition the top right-hand box, and for Iraq the bottom left-hand box) at the same time represent the lowest utility for the opponent. Consequently, the choice for the next best option (continuation of the conflict) is obvious.

Looking at the mutual relations diagram, this outcome is confirmed. It shows that the Coalition saw successful compellence as the most likely outcome. Next, very close to that, comes the possibility of continued conflict. At some distance, there is the chance of stalemate, and at the bottom, but again very close, the chance of successful resistance. Consequently – particularly because there is a clear distance between compellence and resistance – the Coalition had sufficient incentives to compel. Iraq, on the other hand, expected the most of resistance. At quite some distance, in second place, it expected continued conflict, followed by stalemate. Finally, at quite a distance from resistance, successful compellence was clearly seen as least probable. Thus, Iraq had sufficient reasons to resist, knowing that in case of a miscalculation, the most probable outcome would still be continued conflict, and not successful compellence. The result of these two decisions was that both parties strived for 'victory' which led to a continuation of the conflict.

Figure 75: Iraq, Period-1: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Conflict Period-1 (Start of Desert Storm)			Iraq	
			RESIST (i.e. to resist coalition's pressure to leave Kuwait)	COMPLY (i.e. to comply with coalition's demands to withdraw from Kuwait)
			CONFLICT	Compellence
Coalition	COMPEL	(i.e. to compel Iraq into withdrawal from Kuwait)	(2) (5) 3 , 3	(2) (-6) **4** , *1*
	RESIGN	(i.e. to accept that Iraq continues occupation of Kuwait)	(-1) (11) *1* , **4**	(-0) (-1) 2 , 2
			Resistance	Stalemate



IRAQ: CONFLICT PERIOD-2;

END OF OPERATION DESERT STORM (FEBRUARY 28, 1991)

Desert Storm ended on February 28, 1991. Iraq was dispelled from Kuwait and Coalition ground forces marched on Baghdad. Major elements of Iraq's military infrastructure were destroyed by massive Coalition air strikes, making Iraq virtually defenseless. The strategic air strikes started to hurt more and more. Iraq would irrefutably face a dramatic breakdown of its societal structure if it continued its resistance.

Eventually, Baghdad voiced its intention to concur with all 12 UNSCRs. This implied not only the withdrawal of Iraqi troops from Kuwait. Iraq had no choice but to accept the withdrawal from Kuwait since it was forced upon it. However, it also accepted, obviously with a high level of reluctance, the arms reduction demands supported by UNSCR-687, adopted by the Security Council at its 2981st meeting, on 3 April 1991. Part C of UNSCR-687, among others, reads as follows.

> *. . .*
>
> *8. Decides that Iraq shall unconditionally accept the destruction, removal, or rendering harmless, under international supervision, of:*
>
> *(a) All chemical and biological weapons and all stocks of agents and all related subsystems and components and all research, development, support and manufacturing facilities;*
>
> *(b) All ballistic missiles with a range greater than 150 kilometres and related major parts, and repair and production facilities;*
>
> *9. Decides, for the implementation of paragraph 8 above, the following:*
>
> *(a) Iraq shall submit to the Secretary-General, within fifteen days of the adoption of the present resolution, a declaration of the locations, amounts and types of all items specified in paragraph 8 and agree to urgent, on-site inspection as specified below;*
>
> *. . .*
>
> *12. Decides that Iraq shall unconditionally agree not to acquire or develop nuclear weapons or nuclear-weapons-usable material or any subsystems or components or any research, development, support or manufacturing facilities related to the above; to submit to the Secretary-General and the Director-General of the International Atomic Energy Agency within fifteen days of the adoption of the present resolution a declaration of the locations, amounts, and types of all items specified above; to place all of its nuclear-weapons-usable materials under the exclusive control, for custody and removal, of the International Atomic Energy Agency, with the assistance and cooperation of the Special Commission as provided for in the plan of the Secretary-General discussed in paragraph 9 (b) above; to accept, in accordance with the arrangements provided for in paragraph 13 below, urgent on-site inspection and the destruction, removal or rendering harmless as appropriate of all items specified above; and to accept the plan discussed in paragraph 13 below for the future ongoing monitoring and verification of its compliance with these undertakings; . . .*

► *Conditions*

Figure 76: Iraq, Period-2: Conditions

	Case of Iraq: Conflict Period-2							
(End of Desert Storm)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with previous period
Desired Status Quo	8	1	8	2	7		7	1
Rejected Status Quo	2	-1	2	-2	3		3	-1
Offered Concessions	1	1	1	1	1	1	1	1
Received Concessions	1	1	1	1	2	2	2	2
Offered Compensation	0		0		0		0	
Received Compensation	0		0		0		0	
Motivation	8	2	8	3	7	-2	6	-2
External Enabling Factors for Offense	7		7		1	-2	1	-1
Exposure to Opportunity	7	1	6	1	1	-3	1	-2
Offensive Strategic Potential	8	1	7	1	6	-1	5	-1
External Enabling Factors for Defense	8		8		2	-2	1	-2
Exposure to Threat	1	-1	1	-2	9	4	9	3
Defensive Strategic Potential	8	1	8	1	5	0	4	0
Costs of Offensive Action	1		2		5	3	5	2
Costs of Defensive Action	1		2		5	3	5	2
Potential Damage	1		1		9	6	9	4
Previously Suffered Damage	0		0		2	2	2	2
Previously Defrayed Costs	2	1	2	1	3	2	3	2
Certainty about Own Capabilities	8		8		8		8	
Certainty about Own Intentions	8		8		8		8	
Certainty about Exposure	8		8		7		7	
Certainty about External Enabling Factors	7		7		7		7	
Certainty about Opponent's Capabilities	8		8		8		8	
Certainty about Opponent's Intentions	8	2	8	2	8	1	8	1
RISK ACCEPTANCE ATTITUDE	Coalition		7	2				
	Iraq		7					

Although Iraq was not defeated and would still be able to continue its resistance, it chose not to, as a result of the conditions that prevailed at that moment. At the end of Operation Desert Storm many of the conditions had shifted considerably in favor of the Coalition. Among them was Iraq's better appreciation of the Coalitions desired and rejected status quo. In addition, the coalition was better aware of the issues at stake for Iraq.

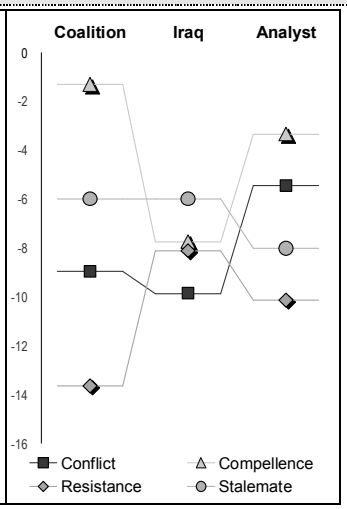
The Coalition could well have conquered Iraq, but chose not to. This can be seen as a concession towards Iraq, and was surely experienced as such. On the other hand, Iraq made concessions by accepting arms reductions. Particularly the potential damage Iraq was facing reached a *very high* level. Remarkable changes in the conditions are furthermore Iraq's decreased exposure to the opportunity and its increased exposure to the threat, while for the Coalition these conditions changed in a favorable direction. Even Iraq's external support for defense decreased. Finally, Iraq's costs showed a considerable increase. In the meantime, the previously defrayed costs of action had also grown for both parties, as did the previously suffered damage of Iraq. The Coalition, in this phase of the conflict, demonstrated a *substantial* degree of risk acceptance

► *Assessment of the Outcome*

The mutual relations diagram of Figure 77 makes the Coalition's increased conviction that compellence could be successful abundantly clear. The second place is taken by stalemate, instead of continued conflict which came second in the previous period. Iraq's expected outcome has shifted from clear successful resistance to stalemate, followed by successful compellence, although the latter is almost equal to successful resistance. In other words, a shift at the expense of successful resistance is clearly noticeable. This explains why Iraq ultimately decided to comply with the demands and to give up resistance, even though it was not totally defeated (in the sense that it still had some capabilities to resist).

Figure 77: Iraq, Period-2: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Conflict Period-2 (End of Desert Storm)			Iraq RESIST (i.e. to resist coalition's pressure to withdraw from Kuwait and accept arms reductions)	Iraq COMPLY (i.e. to comply with coalition's demands to withdraw from Kuwait and accept arms reductions)
			Conflict	**COMPELLENCE**
Coalition	COMPEL	(i.e. to compel Iraq into withdrawal from Kuwait and accept arms reductions)	*(-9)* *(-10)* 2 , *1*	*(-1)* *(-8)* **4** , 3
Coalition	RESIGN	(i.e. to accept that Iraq continues occupation of Kuwait and keeps its offensive weaponry)	*(-14)* *(-8)* *1* , 2	*(-6)* *(-6)* 3 , **4**
			Resistance	Stalemate



IRAQ: CONFLICT PERIOD-3;

PHASE AFTER DESERT STORM (MAY 1991 – 1992)

Although Iraq accepted UNSCR-687 on April 6, 1991, on April 18, 1991 it denied having nuclear weapons or weapons-grade material, but had to retract that statement several times, for instance on July 7, 1991. This was the start of a process in which Iraq consistently obstructed the implementation of UNSCR-687, and many subsequent resolutions reaffirming the demands made in that resolution. Already at the end of June 1991, Iraq denied access to two sites and even fired warning shots at arms inspectors.

Iraq's posture of actual resistance to the demands recorded in 687, can be explained by reconsidering the situation as it developed after Desert Storm. First, it must be realized that, in the context of Iraq's compliance with UNSCR-687, the UN Security Council was the main player opposing Iraq. Indeed, the UN Security Council as such is as strong (or weak) as the sum of its members that have a veto right. Consequently, the attitude of the Security Council must also be viewed from the perspective of members who did not agree with many aspects of the issues at stake. Iraq surely noted the discord among the (permanent) members of the Security Council and drew its conclusions. Second, it seems obvious that the USA probably had additional, albeit 'hidden', objectives. Particularly the Iraqi sabotage of the implementation of the arms reduction agreement after Operation Desert Storm incited the USA to reconsider its position towards Iraq by curtailing its regional ambitions. Furthermore, since Saddam Hussein and his regime was considered the source of the problems, the USA intended to end this regime. This, again, strengthened Iraq in its resistance.

► *Conditions*

The rating of the conditions applicable during period-3 is based on the following considerations. Now that a 'victory' over Iraq was clear, the pressure decreased. After a period of great indulgence, Iraq started to go back on its promises. Certainly this was partly due to the fact that the degree to which the Coalition expressed the importance of its stakes reduced. As a result Iraq thought that the Coalition was lowering its interests. In addition, the Coalition's perception of Iraq's objectives diminished again. In this phase, no concessions and compensation were involved anymore. For the rest, the reduction of Coalition pressure produced an overall advantage for Iraq. The Coalition's motivation as well as its external support for offensive actions decreased, the latter considerably. Furthermore, Iraq was clearly less exposed to the threat. The weak demand and threat among others demonstrated a decline in the Coalition's bargaining attitude, while at the same time Iraq's talent for proper bargaining started to take effect. As a result, the Coalition's strategic potential faded and for Iraq it grew. The restored support from some of Iraq's 'old friends' resulted in an enhancement of the external enabling aspects. However, the certainty of external support diminished for both parties. Iraq's costs and its potential damage diminished as well, the latter from the *very high* level of the war to a *moderate* level *(average* in the eyes of the Coalition*)*.

Figure 78: Iraq, Period-3: Conditions

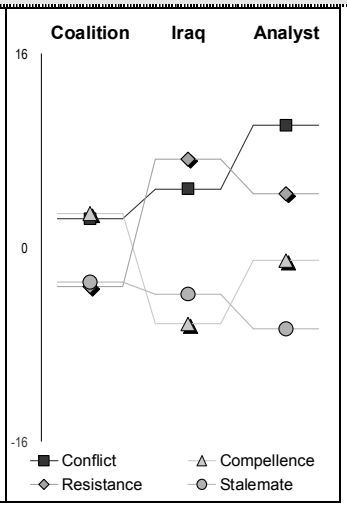
(After Desert Storm)	Case of Iraq: Conflict Period-3							
	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with previous period
Desired Status Quo	8		7	-1	7		6	-1
Rejected Status Quo	2		3	1	3		4	1
Offered Concessions	0	-1	0	-1	0	-1	0	-1
Received Concessions	0	-1	0	-1	0	-2	0	-2
Offered Compensation	0		0		0		0	
Received Compensation	0		0		0		0	
Motivation	8	-1	7	-2	9	2	7	2
External Enabling Factors for Offense	4	-3	3	-4	2	1	2	1
Exposure to Opportunity	6	-1	5	-1	3	2	2	1
Offensive Strategic Potential	7	-1	7	-1	6	1	6	0
External Enabling Factors for Defense	8		8		3	1	3	2
Exposure to Threat	1		1		5	-4	5	-4
Defensive Strategic Potential	8	-1	7	-1	6	1	5	1
Costs of Offensive Action	1		2		2	-3	2	-3
Costs of Defensive Action	1		2		4	-1	4	-1
Potential Damage	0	-1	0	-1	4	-5	5	-4
Previously Suffered Damage	0		0		2		2	
Previously Defrayed Costs	2		2		3		3	
Certainty about Own Capabilities	9	1	8		9	1	8	
Certainty about Own Intentions	9	1	8		9	1	8	
Certainty about Exposure	8		8		7		7	
Certainty about External Enabling Factors	5	-2	5	-2	5	-2	5	-2
Certainty about Opponent's Capabilities	9	1	9	1	9	1	9	1
Certainty about Opponent's Intentions	8		8		8		8	
RISK ACCEPTANCE ATTITUDE	Coalition		7					
	Iraq		7					

► *Assessment of the Outcome*

Except for the exact proportions of the outcomes the results of this period are very similar to those of period-1 (the start of Desert Storm). In other words, considering the relative value of the outcomes, the framework demonstrates a considerable shift back compared to period-2 (the end of Desert Storm). The analyst's perspective given in the mutual relations diagram in Figure 79 shows that, next to continuation of the conflict, the chance of successful resistance by Iraq is greater than the chance of successful compellence by the Coalition. This means that compellence was no longer an option within reach. So, to make compellence successful quite some changes in the conditions were necessary.

Figure 79: Iraq, Period-3: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Conflict Period-3 (After Desert Storm)			Iraq	
			RESIST (i.e. to resist coalition's pressure to accept arms reductions)	COMPLY (i.e. to comply with coalition's demands to accept arms reductions)
			CONFLICT	Compellence
Coalition	COMPEL (i.e. to compel Iraq to accept arms reductions)		(2) (5) 3 , 3	(3) (-6) 4 , 1
	RESIGN (i.e. to accept that Iraq keeps its offensive weaponry)		(-3) (7) 1 , 4	(-3) (-4) 2 , 2
			Resistance	Stalemate



IRAQ: CONFLICT PERIOD-4;

INCREASED (AIR-) PRESSURE ON IRAQ (1993 - DECEMBER 1998)

In January 1993 the freedom of UN inspectors was again restricted. It implied, among other things, that UNSCOM (the UN Special Commission for the on-site inspections of Iraq's biological, chemical and missile capabilities) was not allowed to use its own airplane in Iraqi airspace. This was reason for the USA, Great Britain, and France to take military action. On 13 January Iraqi military systems were bombed using 110 aircraft. Although Iraq gave in, on 17 January it activated an SA-6 radar in the northern no-fly-zone. This unit was attacked on the same day and during this action an Iraqi Mig-23 was also downed. Later that day, UN inspectors were again obstructed. This led to an American attack with 45 Tomahawk cruise missiles against a factory that was part of Iraq's nuclear program. Great Britain and France had not been informed about this attack. This made France to leave the Coalition. When in April 1993 the US government was informed about an Iraqi attempt to assassinate President Bush (Sr), the USA launched 23 Tomahawks on several intelligence headquarters in Baghdad. However, despite those actions, the work of UNSCOM still progressed only slowly due to consistent, but often subtler obstruction by Iraq. After the UN refused to lift the oil-export sanctions in October 1994, Iraq even built up a military force near Kuwait. On 8 October, the UN Security Council (UNSC) warned Iraq, and the Coalition reinforced its troops. Iraq reacted by proposing a diplomatic solution. On 10 October Iraq's Ambassador to the UN announced that Iraq would withdraw its troops. However, no signs could be discovered of any serious improvement in the cooperation with UNSCOM. In fact, Iraq continued its resistance.

The following years were dominated by political and diplomatic actions. Iraq concentrated on spreading discord in the international community. Again and again it suggested cooperation but then demanded lifting of the sanctions in return. Although this effort was not directly successful, it started a discussion within the UN on the continuation of the sanctions and the weapon inspections. When former assistants of Saddam Hussein deserted it became obvious that particularly Iraq's biological weapons program was much more extensive than expected. UNSCOM was also convinced that many more arsenals had not yet been identified. Bargaining supported by military threat was of the order of the day. On October 29, 1997 Iraq increased the pressure when Minister Tariq Aziz sent a letter to the UN stating that all American UNSCOM members had to leave the country. As a reaction to this letter UNSCR-1137 of November 12 was unanimously accepted, stating in no uncertain terms what was expected from Iraq. Yet Iraq reacted by summoning all UN inspectors to leave the country. Only after mediation by Russian diplomats did Iraq allow the UNSCOM inspectors back in, so they could resume their work.

When in January 1998 Australian diplomat Richard Butler reported to the UNSC that "under the current circumstances, UNSCOM cannot fulfill its mandate of disarming Iraq of weapons of mass destruction and preventing Iraqi development of such weapons," the USA strengthened its forces in the region and even threatened to attack Iraqi palaces. This created the circumstances for UN Secretary General Kofi Annan to make a deal with Iraq. They agreed that Iraq would cooperate and that the UN would consider lifting the economic sanctions. On November 1, 1998 Butler's report about continued Iraqi sabotage was followed by an interview with Tariq Aziz in which he said that Baghdad would stand by its decision to terminate its cooperation with UNSCOM. Despite UNSCR 1205, (5 November 1998) refer-

ring to Chapter VII of the UN Charter, and Secretary Cohen's threat that "Iraq could face military attack if President Saddam Hussein 'continues to flout' UN sanctions and warnings," Iraq expelled all American UNSCOM members. Subsequently, the UN withdrew all remaining inspectors. UNSCR 1205 did not give the USA permission to take any military action.

Besides the actions taken by the UN, President Clinton pursued another method: the Iraq Liberation Act (ILA), aiming at overturning Saddam Hussein by financing opposition parties inside and outside Iraq. For this purpose Clinton made $ 97 million available. The act says, "It should be the policy of the United States to support efforts to remove the regime headed by Saddam from power in Iraq and to promote the emergency of a democratic government to replace that regime." In doing so, Clinton in fact added a second objective to the previous one of destroying Saddam's arsenal of WMD.

► *Conditions*

Figure 80: Iraq, Period-4: Conditions

	Case of Iraq: Conflict Period-4							
(Coalition's Pressure on Iraq)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with previous period
Desired Status Quo	8		7		7		6	
Rejected Status Quo	2		3		2	-1	3	-1
Offered Concessions	0		0		0		0	
Received Concessions	0		0		0		0	
Offered Compensation	0		0		0		0	
Received Compensation	0		0		0		0	
Motivation	6	-1	5	-1	9	0	8	0
External Enabling Factors for Offense	3	-1	2	-1	2		2	
Exposure to Opportunity	6		5		3		2	
Offensive Strategic Potential	7	0	7	0	6		6	0
External Enabling Factors for Defense	7	-1	7	-1	5	2	5	2
Exposure to Threat	1		1		7	2	8	3
Defensive Strategic Potential	8	0	8	0	6	0	5	0
Costs of Offensive Action	2	1	3	1	2		2	
Costs of Defensive Action	1		2		5	1	6	2
Potential Damage	1	1	1	1	7	3	8	3
Previously Suffered Damage	1	1	1	1	3	1	3	1
Previously Defrayed Costs	3	1	3	1	4	1	4	1
Certainty about Own Capabilities	9		8		9		8	
Certainty about Own Intentions	9		9	1	9		9	1
Certainty about Exposure	8		8		7		7	
Certainty about External Enabling Factors	6	1	6	1	6	1	6	1
Certainty about Opponent's Capabilities	9		9		9		9	
Certainty about Opponent's Intentions	8		8		8		8	
RISK ACCEPTANCE ATTITUDE	Coalition		8	1				
	Iraq		7					

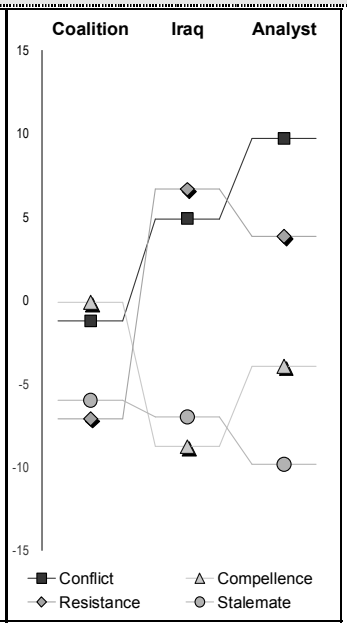
In sum, a growing pressure on Iraq by American, British, and French air strikes characterized the period from 1993 until 1998. The effective changes compared to the previous period were minimal. However, due to the Iraq Liberation Act (ILA), aimed at overturning Saddam's regime, the rejected status quo for Iraq shrank to a *very low* level. Furthermore, the disagreement among the parties in the Coalition diminished its institutional motivation. This resulted in a reduction of the factor motivation for the Coalition. More important, the growing 'Alleingang' of the USA even resulted in several countries demonstrating less external support, while it increased the support for Iraq for its defense. Indeed, Iraq was more exposed to the threat and suffered more damage, and it also saw a rise in its direct costs for defense. The risk acceptance level of the Coalition grew as well.

► *Assessment of the Outcome*

Despite the increased pressure, the actual change in the situation as compared with the previous period was hardly worth mentioning. Obviously, the increased level of damage and costs imposed on Iraq, and of exposure to the threat was insufficient to compensate for the reduced degree of other conditions, favorable to Iraq. In the final analysis, the most remarkable observation is that the chance of successful compellence compared to the chance of successful resistance even dropped. In other words, the actions undertaken by the Coalition (particularly by the USA) were counter-productive.

Figure 81: Iraq, Period-4: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Conflict Period-4 (Coalition's Pressure on Iraq)			Iraq: RESIST (i.e. to resist coalition's pressure to accept arms reductions and accept UNSCOM inspections)	Iraq: COMPLY (i.e. to comply with coalition's demands to accept arms reductions and UNSCOM inspections)
			CONFLICT	Compellence
Coalition	COMPEL	(i.e. to compel Iraq to accept arms reductions and UNSCOM inspections)	*(-1)* **(5)** 3 , 3	*(-0)* *(-9)* **4** , *1*
Coalition	RESIGN	(i.e. to accept that Iraq keeps its offensive weaponary and obstructs UNSCOM inspections)	*(-7)* **(7)** *1* , **4**	*(-6)* *(-7)* 2 , 2
			Resistance	Stalemate



IRAQ: CONFLICT PERIOD-5;

DESERT FOX (DECEMBER 16-19, 1998)

From the previous part it can be concluded that, due to the lack of result, the situation had escalated ever since the end of Operation Desert Storm in 1991. Since it was hardly conceivable that a positive result would follow, during the fall of 1998 the USA decided that military intervention was inevitable. That is why, from October 1998 on, preparations were made in Washington and Tampa (FL), at the headquarters of US Central Command (CENTCOM), for an operation aimed at degrading (minimizing) Iraq's WMD-capacity. Great Britain was not involved in the planning. Some targets were identified on the basis of the findings of UNSCOM inspections. In November 1998 the plan was ready.

The formal political objective was to enforce the demands made in UNSCR-687, namely the destruction of Iraq's WMD-capacity. But by stating publicly that its intension was the removal of Saddam Hussein from power by making use of the ILA, the USA revealed it had a second objective. In this context one should note that one of the reasons behind the American interest in destroying Saddam's WMD-capacity was that Saddam depended on these weapons to secure his power, nationally as well as regionally. For Saddam losing this capability not just meant damaging his authority but also suffering a loss of face.

On 16 December 1998 President Clinton announced the start of Operation Desert Fox. He indicated that he considered the use of force the only viable option left. He did not clearly mention the political objectives; neither did he define the desired End State. At 01.00 hours (local time) the attacks started and continued for the next three days. The Iraqi forces hardly reacted effectively. On 17 December Madeleine Albright made a statement, saying, among others, "The US has come to the determination that the Iraqi people would benefit if they had a government that really represented them." Also Secretary Cohen explained that “Iraqi civilians are spared, because they already suffer heavily under the regime of Saddam.” Together with attacks on the communication infrastructure that supported Saddam's regime, this indicates that the second category objective (removing Saddam from power) by then got due attention.

On 19 December 1998, at 06.00 hours, just before the start of the Ramadan, Desert Fox ended with a short statement by President Clinton. The positive results were unclear, although Secretary Cohen stated during a briefing at the Pentagon, "On Wednesday when the US and British forces launched strikes against Iraq, I stated that we were pursuing clear military goals. And as President Clinton has announced, we've achieved those goals. We've degraded Saddam's ability to deliver chemical, biological, and nuclear weapons." Nevertheless, after Desert Fox reality showed that the closure of the operation seemed to be driven by politics (the start of the Ramadan), rather than by result. In fact, after Desert Fox, no one ever spoke about UNSCOM, and the threat from Iraq hardly diminished after Desert Fox. Overall, the result of Operation Desert Fox is rather questionable. Despite the positive announcements made by the Clinton Administration, only with a high degree of positive thinking is it possible not to consider this example of compellence as an irrefutable failure.

► *Conditions*

Figure 82: Iraq, Period-5: Conditions

	Case of Iraq: Conflict Period-5							
(Desert Fox)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with previous period
Desired Status Quo	8		7		7		6	
Rejected Status Quo	2		3		1	*-1*	2	*-1*
Offered Concessions	0		0		0		0	
Received Concessions	0		0		0		0	
Offered Compensation	0		0		0		0	
Received Compensation	0		0		0		0	
Motivation	7	**1**	6	**1**	9		8	
External Enabling Factors for Offense	2	*-1*	1	*-1*	2		2	
Exposure to Opportunity	6		5		3		2	
Offensive Strategic Potential	8	**1**	8	**1**	6		6	0
External Enabling Factors for Defense	7		7		7	**2**	6	**1**
Exposure to Threat	1		1		8	**1**	9	**1**
Defensive Strategic Potential	8	0	8	0	6		5	0
Costs of Offensive Action	2		3		2		2	
Costs of Defensive Action	1		2		6	**1**	7	**1**
Potential Damage	1	**1**	1	**1**	8	**1**	9	**1**
Previously Suffered Damage	1		1		3		3	
Previously Defrayed Costs	3		3		4		4	
Certainty about Own Capabilities	9		9	**1**	9		9	**1**
Certainty about Own Intentions	9		9		9		9	
Certainty about Exposure	8		8		7		7	
Certainty about External Enabling Factors	6		6		6		6	
Certainty about Opponent's Capabilities	9		9		9		9	
Certainty about Opponent's Intentions	8		8		8		8	
RISK ACCEPTANCE ATTITUDE	**Coalition**		9	**1**				
	Iraq		8	**1**				

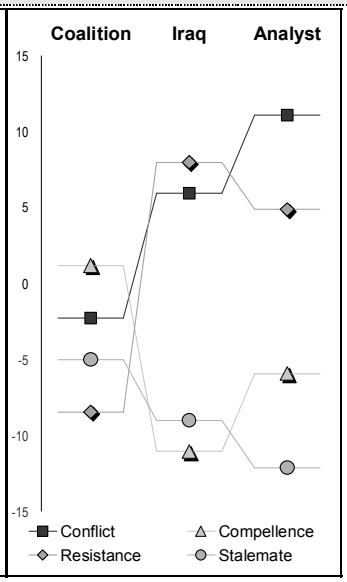
The four-day air attacks by American forces, formally intended to destroy Iraq's weapons of mass destruction, showed that President Clinton 'had had enough'. It indicated a shift in the Coalition's motivation and had some positive influence on its offensive strategic potential. However, the unsupported American action reduced its external enabling aspects even more than before. The USA demonstrated a more offensive strategic attitude, in a political as well as military sense. Also, the bargaining attitude of the USA was stronger than before. The exposure to the threat of Iraq increased, as did the costs of defense, and the potential damage Iraq would suffer. However, it also increased the Coalition's potential damage. Both parties demonstrated an increased level of risk acceptance.

► *Assessment of the Outcome*

Together with the perceived changes in some conditions, the higher risk acceptance level resulted once again in a shift in the perception of the Coalition towards a slightly higher chance of successful compellence, but particularly towards a lower chance of successful resistance. Although Iraq's exposure to the threat and its potential damage started to reach a considerable level, still the other conditions were too much in favor of Iraq to convince it that successful compellence was the most obvious outcome of the process. In the final analysis, the changes during Desert Fox were not of such a magnitude that they could turn the tide.

Figure 83: Iraq, Period-5: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Conflict Period-5 (Desert Fox)			Iraq	
			RESIST (i.e. to resist coalition's pressure to comply with UNSCR-687)	COMPLY (i.e. to comply with UNSCR-687)
			CONFLICT	Compellence
Coalition	COMPEL	(i.e. to compel Iraq comply with UNSCR-687)	*(-2)* *(6)* 3 , 3	*(1)* *(-11)* **4** , *1*
Coalition	RESIGN	(i.e. to accept that Iraq does not comply with UNSCR-687)	*(-8)* *(8)* *1* , **4**	*(-5)* *(-9)* 2 , 2
			Resistance	Stalemate



IRAQ: CONFLICT PERIOD-6;

START OF IRAQI FREEDOM (NOVEMBER 8, 2002 – MARCH 20, 2003)

In the period following Desert Fox little, if any, progress was made in compelling Iraq to co-operate with the UN. On November 8, 2002, the UN declared that it would no longer tolerate the Iraqi regime's continuing defiance of international law. UNSCR-1441 was unanimously adopted, declaring Iraq to be in material breach of previous resolutions, and setting out new procedures for the conduct of inspections, together with the threat of serious consequences in the event of Iraqi non-cooperation. The resolution provided, in the wording of the resolution, "a final opportunity for Iraq to comply with its disarmament obligations". The resolution also established an enhanced inspection regime for Iraq's disarmament. An abstract of Resolution 1441 adopted at Security Council meeting 4644, 8 November 2002, reads as follows:

> *The Security Council,*
>
> *. . .*
>
> *Recognizing the threat Iraq's non-compliance with Council resolutions and proliferation of weapons of mass destruction and long-range missiles poses to international peace and security,*
>
> *Recalling that its Resolution 678 (1990) authorized Member States to use all necessary means to uphold and implement its Resolution 660 (1990) of 2 August 1990 and all relevant resolutions subsequent to Resolution 660 (1990) and to restore international peace and security in the area,*
>
> *Further recalling that its Resolution 687 (1991) imposed obligations on Iraq as a necessary step for achievement of its stated objective of restoring international peace and security in the area,*
>
> *Deploring the fact that Iraq has not provided an accurate, full, final, and complete disclosure, as required by Resolution 687 (1991), of all aspects of its programmes to develop weapons of mass destruction and ballistic missiles with a range greater than one hundred and fifty kilometres, and of all holdings of such weapons, their components and production facilities and locations, as well as all other nuclear programmes, including any which it claims are for purposes not related to nuclear-weapons-usable material,*
>
> *Deploring further that Iraq repeatedly obstructed immediate, unconditional, and unrestricted access to sites designated by the United Nations Special Commission (UNSCOM) and the International Atomic Energy Agency (IAEA), failed to cooperate fully and unconditionally with UNSCOM and IAEA weapons inspectors, as required by Resolution 687 (1991), and ultimately ceased all cooperation with UNSCOM and the IAEA in 1998,*
>
> *Deploring the absence, since December 1998, in Iraq of international monitoring, inspection, and verification, as required by relevant resolutions, of weapons of mass destruction and ballistic missiles, in spite of the Council's repeated demands that Iraq provide immediate, unconditional, and unrestricted access to the United Nations Monitoring, Verification and Inspection Commission (UN-*

MOVIC), established in Resolution 1284 (1999) as the successor organization to UNSCOM, and the IAEA, and regretting the consequent prolonging of the crisis in the region and the suffering of the Iraqi people,

Deploring also that the Government of Iraq has failed to comply with its commitments pursuant to Resolution 687 (1991) with regard to terrorism, pursuant to Resolution 688 (1991) to end repression of its civilian population and to provide access by international humanitarian organizations to all those in need of assistance in Iraq, and pursuant to Resolutions 686 (1991), 687 (1991), and 1284 (1999) to return or cooperate in accounting for Kuwaiti and third country nationals wrongfully detained by Iraq, or to return Kuwaiti property wrongfully seized by Iraq,

. . .

Determined to secure full compliance with its decisions,

Acting under Chapter VII of the Charter of the United Nations,

1. Decides that Iraq has been and remains in material breach of its obligations under relevant resolutions, including Resolution 687 (1991), in particular through Iraq's failure to cooperate with United Nations inspectors and the IAEA, and to complete the actions required under paragraphs 8 to 13 of Resolution 687 (1991);

. . .

11. Directs the Executive Chairman of UNMOVIC and the Director General of the IAEA to report immediately to the Council any interference by Iraq with inspection activities, as well as any failure by Iraq to comply with its disarmament obligations, including its obligations regarding inspections under this resolution;

12. Decides to convene immediately upon receipt of a report in accordance with paragraphs 4 or 11 above, in order to consider the situation and the need for full compliance with all of the relevant Council resolutions in order to secure international peace and security;

13. Recalls, in that context, that the Council has repeatedly warned Iraq that it will face serious consequences as a result of its continued violations of its obligations;

U.N. Monitoring, Verification, and Inspection Commission (UNMOVIC) and International Atomic Energy Agency (IAEA) inspectors were eventually allowed back later that month. Subsequent reports by UNMOVIC and the IAEA showed, however, that Iraq was engaged in a systematic pattern of concealment and deceit.

Thereupon, a US-led Coalition made it clear that it was prepared to use force to secure Iraqi compliance, and to disarm Saddam of his weapons of mass destruction, which threatened his neighbors and his people. It also undertook to support the Iraqi people in their desire for peace, prosperity, freedom and good government. Already prior to the acceptance of UNSCR-1441, on September 12, 2002, President George W. Bush had addressed the UN General Assembly, stating that the US would act on its own, if the UN would not act. “The conduct of the Iraqi regime”, he said, “is a threat to the authority of the United Nations, and

a threat to peace. Iraq has answered a decade of UN demands with a decade of defiance. [. . .] We cannot stand by and do nothing while dangers gather".

On February 24, 2002, in an ultimate attempt to obtain incontestable and explicit UN support for armed intervention, the US, UK, and Spain tabled a draft resolution, expressing that Iraq had failed to take the opportunity provided in UNSCR 1441. Despite significant diplomatic efforts, it was concluded that a Security Council consensus on this new resolution would not be possible. Faced with continuing Iraqi intransigence, Coalition forces commenced military operations against the Saddam Hussein regime on 20 March 2003.

► *Conditions*

Figure 84: Iraq, Period-6: Conditions

	Case of Iraq: Conflict Period-6							
(Start of Iraqi Freedom)	Coalition's Assessment of Iraq's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Coalition's Conditions	Difference with previous period	Iraq's Assessment of Coalition's Estimate of Iraq's Conditions	Difference with previous period	Coalition's Assessment of Iraq's Estimate of Iraq's Conditions	Difference with previous period
Desired Status Quo	9	**1**	8	**1**	8	**1**	7	**1**
Rejected Status Quo	2		2	*-1*	0	*-1*	1	*-1*
Offered Concessions	0		0		2	**2**	1	**1**
Received Concessions	1	**1**	2	**2**	0		0	
Offered Compensation	0		0		0		0	
Received Compensation	0		0		0		0	
Motivation	9	**2**	8	**2**	9		8	
External Enabling Factors for Offense	1	*-1*	1		2		2	
Exposure to Opportunity	7	**1**	6	**1**	3		2	
Offensive Strategic Potential	8	0	8	0	6		6	0
External Enabling Factors for Defense	6	*-1*	6	*-1*	7		6	
Exposure to Threat	3	**2**	4	**3**	9	**1**	9	
Defensive Strategic Potential	8	0	8	0	6		5	0
Costs of Offensive Action	3	**1**	4	**1**	2		2	
Costs of Defensive Action	1		2		6		7	
Potential Damage	2	**1**	2	**1**	9	**1**	10	**1**
Previously Suffered Damage	1		1		4	**1**	4	**1**
Previously Defrayed Costs	4	**1**	4	**1**	5	**1**	5	**1**
Certainty about Own Capabilities	9		9		9		9	
Certainty about Own Intentions	9		9		9		9	
Certainty about Exposure	9	**1**	9	**1**	9	**2**	9	**2**
Certainty about External Enabling Factors	8	**2**	8	**2**	8	**2**	8	**2**
Certainty about Opponent's Capabilities	9		9		9		9	
Certainty about Opponent's Intentions	9	**1**	9	**1**	9	**1**	9	**1**
RISK ACCEPTANCE ATTITUDE	**Coalition**		9					
	Iraq		9	**1**				

In sum, at the end of 2002, it became clear that the USA would take action against Iraq unless it would comply with the demands regarding the total renunciation of its weapons of mass destruction. In the preamble to Iraqi Freedom it had become clear for Iraq that the US-led Coalition had higher stakes than it had initially realized. The, by now unconcealed, threat against Saddam Hussein and his regime personally reduced the value of the rejected status quo to an absolute *minimum*. In the meantime this was better appreciated by the USA. Although Saddam seemed to offer concessions, they were hardly taken serious by George W. Bush. American motivation was also at a higher level. Due to the opposition in the UN and around the globe, external support for the Coalition was even further reduced. The American exposure to the opportunity as well as to the threat increased due to its declared intention to intervene militarily. Iraq felt the increased threat as well. The Coalition demonstrated a slightly enhanced offensive as well as defensive strategic posture, including a better bargaining attitude. The USA faced an increase in direct costs of action. The potential damage of the Coalition rose, and for Iraq it reached a *very high* level, in the eyes of Iraq's leadership, and even *maximum* level in the eyes of the Americans. In the meantime, Iraq had also suffered more damage in the previous period, and both parties had by now spent quite some money on their operations. Due to the frequent interaction be-

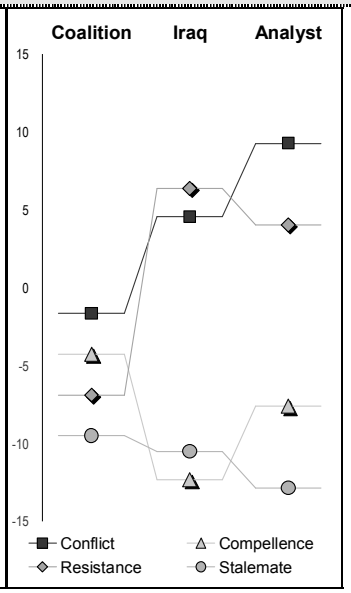
tween the parties, the knowledge of their intentions had also grown. Meanwhile, the risk acceptance attitude of Iraq's leadership had reached *very high* level.

► *Assessment of the Outcome*

Figure 85 demonstrates what insiders very well knew prior to Iraqi Freedom. Given the circumstances, there was no way that the USA could expect Iraq to give in. Particularly the issues at stake were of a kind that Iraq would abandon the fight only when the other conditions would be extremely to its disadvantage. Iraq was even under the impression that it had a chance to resist successfully. Finally, it can be concluded that the Iraqi regime could hardly be compelled. It continued fighting until it was finally expelled. Given the circumstances at the start of Iraqi Freedom, it is even justified to assert that expellence of the Iraqi regime was the only option left for the Coalition to come to a satisfying solution.

Figure 85: Iraq, Period-6: Payoff Matrix & Mutual Relations Diagram

Case of Iraq: Conflict Period-6 (Start of Iraqi Freedom)			Iraq	
			RESIST (i.e. to resist coalition's pressure to withdraw from Kuwait and accept arms reductions)	**COMPLY** (i.e. to comply with coalition's demands to withdraw from Kuwait and accept arms reductions)
			CONFLICT	Compellence
Coalition	**COMPEL**	(i.e. to compel Iraq into withdrawal from Kuwait and accept arms reductions)	*(-2)* **(5)**	*(-4)* **(-12)**
			4 , 3	3 , *1*
	RESIGN	(i.e. to accept that Iraq continues occupation of Kuwait and keeps offensive weaponry)	*(-7)* **(6)**	*(-10)* **(-11)**
			2 , **4**	*1* , 2
			Resistance	Stalemate



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CURRICULUM VITAE

Jan van Angeren was born in Woerden, the Netherlands on December 7, 1947. He received secondary education at the 'RK Lyceum voor Jongens' in Venray and the 'Rijks HBS' in Woerden. Having joined the Royal Netherlands Air Force (RNLAF) in 1968, he was trained as an officer in Communications and Information Systems (CIS). His career appointments include postings at various airbases, a signal unit, a Surface to Air Missile (SAM) unit and the Tactical Air Command (TAC) staff. In 1985 he completed the Advanced Staff Course of the Netherlands Air Force Staff College. After attending the Theory of Airpower Strategy Course at the USAF Air University in 1988, he subsequently became a lecturer of strategy at the Air Force Staff College. Thereupon he was assigned a post at the Department of Defence Concepts of the Netherlands MOD. In 1994 he graduated from the Senior Course of the NATO Defense College in Rome, which was followed by his second posting at the MOD as Head of the Department of Military Strategic Affairs, which implied that he was also desk officer for nuclear matters at the MOD. After a tour as Assistant Chief of Staff CIS and Commander of the CIS-Group of NATO HQ AirCent at Ramstein AFB in Germany, he became Head of the Department of Air Force Studies and Deputy-Commandant of the Netherlands Defence College. In 2001 he attained a Master's degree in Air Warfare (with Honors) at the American Military University. He worked as an Associate Professor at the Royal Military Academy in Breda while writing his doctoral thesis. His publications range from general strategic and military doctrinal issues to specific AirPower subjects. Colonel van Angeren retired from the RNLAF on January 1, 2005, after temporarily filling the vacancy of Professor of Military Operational Management at the Royal Military Academy. He is now Associate Professor of AirPower studies at the Netherlands Defence Academy.