The decision of the Dutch Council of Ministers and the military Commander-in-Chief relating to the reduction of armed forces in autumn 1916

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Table VIII:

	Pradjurits Europeans (Officers)	Natives
1861	44	1,933
1871	51	1,941
1881	58	1,981
1891	57	2,073

Table IX:

	Djajang Sekars Europeans (Officers)	Natives
1861	15	276
1871	14	269

Table X: Legions of Paku Alam and Mangku Negoro

1861	1,048
1871	1,253
1881	1,302
1891	1,309
1901	?
1911	790
1918	933

The figures for 1911 and 1918 are for the Legion of Mangku Negoro only.

Table XI: The Barisans of Madura

	Europeans (Officers)	Natives
1861	18	2,549
1871	19	2,577
1881	—	2,321
1891	—	2,176
1901	?	?
1911	—	1,377
1918	—	1,738

Table XII: The 'Colonial Reserve' in Holland

	Dutchmen	Foreigners
1901	745	—
1911	1,188	158
1918	614	—

Onderzoek

The decision of the Dutch Council of Ministers and the military Commander-in-Chief relating to the reduction of armed forces in autumn 1916

I. N. Gallhofer and W. E. Saris

Introduction

When power is shared in decision making, argumentation is an important tool for the development of strategies. It allows the participants to review their initial positions, to discover new interests and to formulate step by step their preferred strategy.

This paper studies the argumentation of the Dutch Council of Ministers and the Military Commander-in -Chief in the autumn of 1916, when deciding upon an eventual reduction of armed forces. The major purpose of this investigation is to find the underlying rules the decision makers used in formulating their preferred strategy.

In order to describe the argumentation first a choice had to be made concerning the use of concepts. Then a procedure had to be developed for finding the relevant concepts in the text. Human coders were used due to the lack of automatic analyses for these purposes. The reliability of their codings was investigated and proved to be very high.[1]

Afterwards the coders described the reasonings of decision makers with tree diagrams containing the concepts they had extracted from the documents. The reliability of this step was again subjected to a check.[2] Considering the fact that these investigations into the coding reliability of these two steps produced satisfactory results[3] we were led to believe that the decision making process of the Dutch Minister Council and the Military Commander-in-Chief in autumn of 1916 may be described using the chosen concepts.

Section 1 introduces the concepts and section 2 illustrates in general the representation of reasonings in decision diagrams. Section 3 summarizes the political situation in which this specific decision took place. Later the argumentation will be presented and interpreted.

1. The selected concepts

As the development of normative theories began before the advent of empirical research concerning decision making,[4] the latter, in efforts to describe

the decision making process has frequently used concepts of normative theories. As these concepts have proved to be satisfactory in empirical research[5] the theoretical framework of this study was also derived from normative decision theory.

Assuming that individual (or groups of) decision makers submit the actual political situation to a thorough analysis before taking measures deemed necessary in order to achieve desirable results, the following concepts were defined and used to describe the argumentations:

Possible actions

(a) *Actions of the own party* — After considering the actual state, a decision maker may examine the means which are available to him in order to obtain desired results. He may then review a series of possible alternative actions in such a case.

(b) *Actions of the other party (-ies)* — Choosing among available actions a decision maker must take into account the actions of the other party: the other party in pursuing its objectives might take measures which counteract his own. In order to exclude undesirable effects, a decision maker is therefore likely to review the available actions of the other party before selecting his own measures.

Possible new developments — Events may occur which change the entire political situation. They are neither caused by actions of the decision maker himself nor by actions of the opponent(s). Before deciding on his policies a decision maker may also take into account the likely occurrences of new developments.

Possible outcomes for the own party — The choice of action(s) is based on the results that they may produce. Since not all consequences of an action are desirable a decision maker should examine the entire set of possible outcomes before selecting.

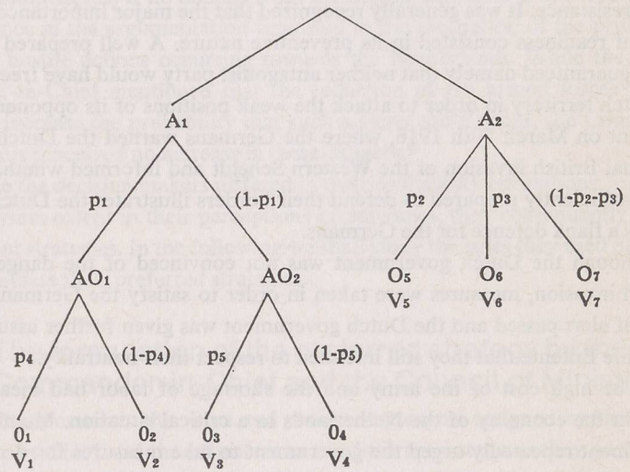
Values of the possible outcomes — Some outcomes are more desirable than others; the choice of action(s) is based on the degree of desirability of the different outcomes. A decision maker will therefore explicitly assign subjective values or utilities to the different outcomes.

Probabilities of 'actions of the other party', of 'outcomes' and of 'new developments' — Whether 'actions of the other party', 'new developments' and 'outcomes' occur is uncertain. 'Which actions will most probably produce the desirable results?' To answer this question, it is necessary to estimate subjectively the probabilities of occurrence of 'actions of the other party', 'new developments' and 'outcomes'.

2. The construction of decision trees

To elucidate the decision making process the reasonings of the decision maker can be represented in tree structures.[6] These diagrams consist of a chronological sequence of the actions available to the decision maker, the possible actions of the other party(-ies), the possible new developments and consequences which may occur. Figure 1 gives an example of a decision tree.

Figure 1: General scheme of a decision tree[7]



A_i = action i of the decision maker
$A0_i$ = action i of the other party (-ies)
0_i = outcome i
V_i = value of outcome i
p_i = probability of $A0_i$ or 0_i

Figure 1 illustrates a decision maker disposing of two actions. If he uses A_1 then he must account for two possible reactions of the other party (-ies) $A0_1$ or $A0_2$ which could either lead to 0_1, 0_2, 0_3 or 0_4. Using A_2, 0_5, 0_6 or 0_7 could occur. Based on the values he assigns to the several outcomes, and the probabilities of occurrence of the outcomes and the actions of the other party (-ies), he can decide which action must be adopted.

As mentioned above, after the content analytic effort to find the concepts in the documents the coders constructed tree diagrams for the reasonings of the Commander-in-Chief and the Council of Ministers. The diagrams which will be analyzed in the following paragraphs are based upon joint agreement of the coders.[8]

3. The political situation of the Netherlands in the autumn of 1916[9]

Since the beginning of World War I the army of the neutral Netherlands was in a state of readiness. As the country functioned as a buffer state between the Allied and the Entente, it was considered of utmost importance that the German and Belgian borders and the North Sea shore were well defended. In case of an unexpected transgression of Dutch borders by one of the belligerent parties the Dutch army could then turn them by force or at least offer some resistance. It was generally recognized that the major importance of the state of readiness consisted in its preventive nature. A well prepared Dutch army guaranteed namely that neither antagonist party would have free access to Dutch territory in order to attack the weak positions of its opponent. The incident on March 30th 1916, where the Germans warned the Dutch of an eventual British invasion of the Western Scheldt and informed whether they were sufficiently prepared to defend their borders illustrates the Dutch position as a flank defence for the Germans.

Although the Dutch government was not convinced of the danger of a British invasion, measures were taken in order to satisfy the Germans. This state of alert passed and the Dutch government was given further assurances from the Entente that they still intended to respect their neutrality.

The high cost of the army and the shortage of labor had meanwhile brought the economy of the Netherlands in a critical situation. Members of Parliament repeatedly urged the government to take measures for demobilization. The Council of Ministers therefore began deliberations with the Commander-in-Chief in order to decide whether the political situation would allow for a moderate reduction of the armed forces.[10] The analysis of the argumentations of the Commander-in-Chief and the Council of Ministers is presented in the following paragraphs.

4. The argumentation of the Commander-in-Chief and the Council of Ministers

Figure 2 presents the tree structures of the argumentations of the Commander-in-Chief and the Council of Ministers. The diagrams illustrate that 2 strategies[11] were considered, i.e. either to reduce the strength of the armed forces (S_1) or to maintain the strength of the armed forces (S_2). Both strategies were seperately examined as to whether they could lead to actions of the belligerents towards the Netherlands, which would consequently bring the Dutch into the war. Both parties considered both actions in terms of the possible consequence of war. The diagrams also show that neither the Council of Ministers nor the Commander-in-Chief gave an explicit evaluation of the outcomes of war. As the Netherlands had decided to stay neutral in order to maintain their territorial and economic status quo[12] one can therefore conclude that 'war' only could contribute to a loss of the integrity, thus having a negative utility. Since there was little doubt concerning this value, the decision makers probably found it unnecessary to mention it explicitly.

With regard to S_2, the Council of Ministers perceived a different result than the Commander-in-Chief. The government reckoned on a conflict with the parliament (0_5) if no actions from the belligerents took place. The major difference in the argumentation consisted in the estimation of the probabilities of hostile actions occurring towards the Netherlands. While the Commander-in-Chief mentioned that the reduction of the armed forces would highly increase the probability that such actions could occur, the Council of Ministers perceived no increase in these dangers.[13]

Since the decision makers differed in their probability estimations, and also to a certain extent in their perceptions of outcomes, they consequently chose different strategies. In the following we shall study the rules they used in order to formulate their preferred strategies.

5. The formulation of the preferred strategy by the Commander-in-Chief and the Council of Ministers

Table 1 summarizes the value and chance statements assigned by the Commander-in-Chief and the Ministers to the different outcomes they perceived, indicated by all the branch ends in the tree diagrams.

The value statements are symbolized by '+' for positive and by '—' for negative. Regarding probabilities we have taken the statement which indicated the lowest probability in the branch since the overall probability can not be higher than the lowest individual probability.

When considering the argumentation of the Commander-in-Chief table 1 illustrates that for both strategies the same outcomes were mentioned, i.e. three negative outcomes and one positive. But he indicated that the probability of the occurence of a negative outcome would be highly increased when strategy 1 was adopted. Since the probability of the occurrence of a negative event is smaller under strategy 2 he prefers this strategy.

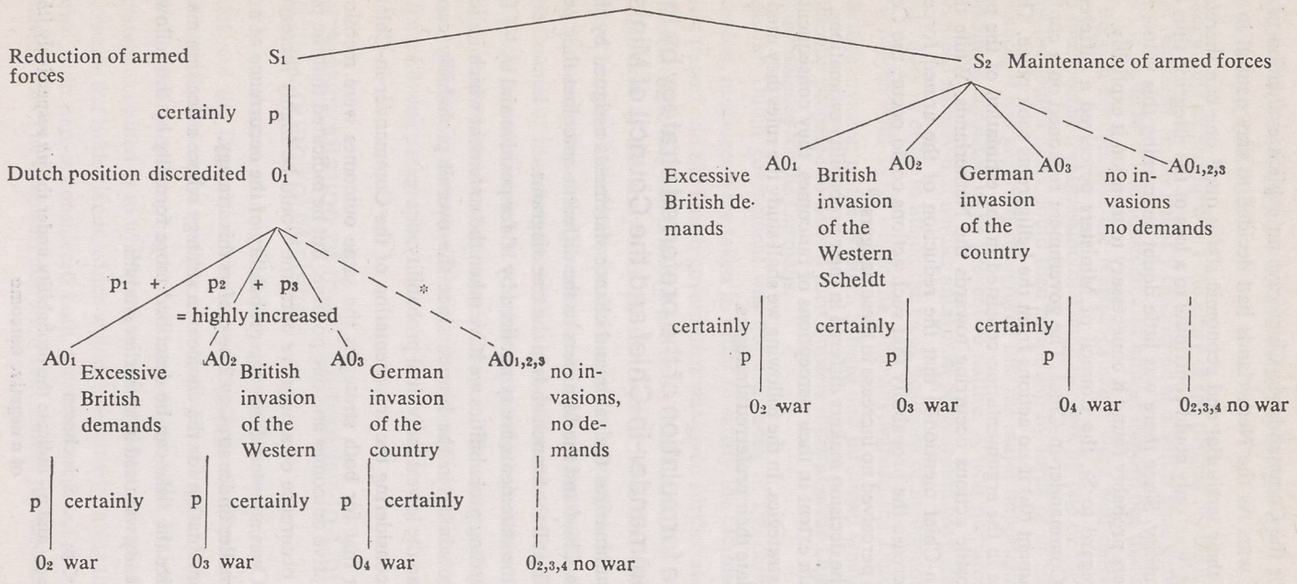
This argumentation for the choice of a strategy where a decision maker tries to minimize the risks can be described more formally by the following rule which already was used in an earlier study[14]:

$$\text{if } p_i\text{-} < p_j \rightarrow S_i \text{ is chosen}$$

where p_i- and p_j- indicate the probability under the *ith* respectively *jth* strategy of a negative outcome

Figure 2: Tree structures of the argumentations

Diagram 2a: The argumentation of the Commander-in-Chief



* The dotted branches indicate alternatives which were not explicitly mentioned by the decision maker but can be inferred from the statement concerning probability resp. possibility of the perceived event. They are indicated here as the negation of the perceived event i.e. its complement.

Diagram 2b: The argumentation of the Council of Ministers

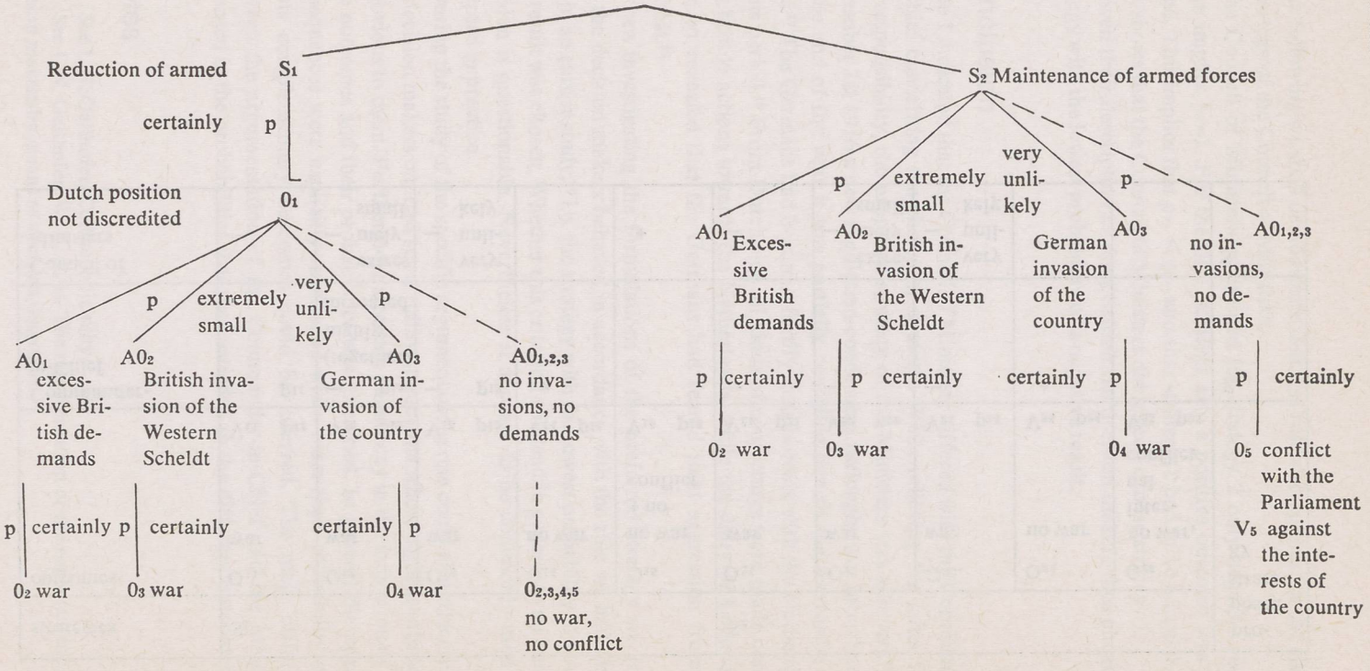


Table 1: Values and probabilities of the different outcomes per strategy

strategies	S_1						S_2								pro-posed strate-gy
outcomes	O_{11} war		O_{12} war		O_{13} war		O_{14} no war		O_{15} no war + no conflict		O_{21} war		O_{22} war		O_{23} war		O_{24} no war		O_{25} no war, inter-nal conflict		
	V_{11}	p_{11}	V_{12}	p_{12}	V_{13}	p_{13}	V_{14}	p_{14}	V_{15}	p_{15}	V_{21}	p_{21}	V_{22}	p_{22}	V_{23}	p_{23}	V_{24}	p_{24}	V_{25}	p_{25}	
Commander-in-Chief	—	p_{11}	— (together) highly increased	p_{12}	—	p_{13}	+				—		—		—		+				S_2
Council of Ministers	—		extre-mely small		very unli-kely				+		—		extre-mely small		—	very unli-kely			—		S_1

In the following we shall demonstrate that this rule also applies for the choice of strategy of the Council of Ministers.

The Council of Ministers envisioned for strategy 2 only negative results which implies $p_{2^-}=1$. For the first strategy also a positive outcome was perceived. This implies that $p_{1^-} < p_{2^-}$ and that strategy 1 had to be adopted. Table 1 shows that the Council of Ministers did indeed choose strategy 1.

Given their description of the situation the decision makers thus chose the strategy with the lowest probability of a negative result.

Conclusion

Table 1 indicated that the Council of Ministers differed with the Commander-in-Chief concerning the choice of strategy. While relieving the latter from any responsibility, the proposed strategy of the Ministers was adopted.[15] On November 1st 1916 a new regulation concerning furloughs was introduced.[16] At the end of the year it was partially cancelled due to the increasing tensions.[17] The Germans had begun to fortify their borders with the Netherlands in this period.[18] From Dutch side all kinds of conjectures were made concerning hostile actions towards the Netherlands, while the diary of Ludendorff later on revealed that the Germans had feared joint aggression from the neutrals.[19]

When investigating the formulations of the preferred strategy we found that the decision makers behaved in accordance with the rule we had discerned in an earlier study,[20] i.e. the strategy with the lowest probability of a negative result was chosen. Whether this criterion will lead in general to an optimal decision is questionable. Nevertheless it appears to be commonly used and accepted in practice.

During the study of the specific argumentations one could also observe that the decision makers omitted some utility statements whose significance seemed obvious to them. Furthermore a certain parsimony in the indication of possible outcomes and their probabilities was discerned. In general the negative consequences were explicitly mentioned while from their probability statements complementary outcomes could be inferred. The main difference between the argumentation of the Commander-in-Chief and the Ministers consisted in the probabilities that they assigned to the different outcomes.

Notes

1. See I. N. Gallhofer, Coders' reliability.
2. See I. N. Gallhofer, W. E. Saris, The representation of the argumentations of decision makers by means of decision diagrams.

3. For more details see references (1), (2).
4. With J. von Neuman's and O. Morgenstern's 'Theory of games and economic behavior' (1947) the development of normative theories reached an important phase.
5. E.g. M .Leiserson (1970); A. de Swaan (1973); W. E. Saris, I. N. Saris-Gallhofer (1975).
6. E.g. H. Raiffa (1968), pp. 10; P. Fishburn (1964), pp. 26.
7. As the sum of the probabilities is 1, we indicate the probability of the other branch by (1-p).
8. For further details see (2).
9. The description of the political situation of the Netherlands is based on Smit (1972), vol. 2, pp. 26, pp. 110.
10. The document we studied is an appendix to the minutes of the Council of Ministers dated October 6th 1916 (Algemeen Rijksarchief, 's-Gravenhage, Bijlagen tot de Notulen van de Ministerraad, doss. 147a). It is a draft of a notification for the Queen containing verbatim the argumentation of the Commander-in-Chief given in his letter to the Minister of War (Algemeen Rijksarchief, 's-Gravenhage, Bijlagen tot de Notulen van de Ministerraad, doss. 147b, 30 september 1916) and then the standpoint of the Ministers.
11. By 'strategy' we understand a program of action that may be adopted by the decision maker (see Fishburn, pp. 21).
12. See Smit (1950), p. 270.
13. In order to motivate their probability estimations the Council of Ministers gave detailed insights on how they arrived at their predictions. This topic needs to be investigated in a separate study.
14. See I. N. Gallhofer, W. E. Saris, The Decision of the Dutch Council of Ministers concerning the impending occupation of Antwerp by the Germans in October 1914.
15. October 6th, 1916, Algemeen Rijksarchief 's-Gravenhage, Bijlagen tot de Notulen van de Ministerraad, doss. 147a.
16. Bosboom, p. 298.
17. Ibidem, pp. 299.
18. Ibidem.
19. Ibidem.
20. See note 14.

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