

Bachelor Thesis:
Negotiations as Conceptualizations

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Abstract

In this bachelor thesis negotiations are seen as conceptualization processes. This makes sure negotiations can be assessed as happening in a structured way, creating a new way for computational negotiation support following this theory. Conceptualization as a process will be explained as well as a proven method to do negotiations: Ury and Fishers principled negotiation. Negotiations in general will be explained in terms of conceptualization, showing a parallel between evaluation strategies for the theory and the chosen negotiation strategy. Finally the idea of principled negotiation as forcing the negotiators to conceptualize following a bottom-up approach will be explored.

Contents

1	Introduction	4
1.1	Problem statement	4
1.2	Relevance	4
1.3	Theoretical framework	4
1.4	Method	5
2	Conceptualization	6
2.1	An example	8
3	Principled Negotiation	10
3.1	Separate the people from the problem	11
3.2	Focus on interests, not positions	11
3.3	Invent options for mutual gain	12
3.4	Insist on using objective criteria	13
3.5	Extra help in the principled negotiation process	13
4	Conceptualization in Negotiation	15
4.1	Sorting	16
4.2	Abstraction	16
4.3	Complementation	17
4.4	Predication	18
4.5	Evaluation strategies vs. negotiation strategies	19
5	Conceptualization in principled negotiations.	20
5.1	Preparation and template design	20
5.2	Separate the people from the problem	21
5.3	Focus on interests, not positions	21
5.4	Invent options for mutual gain	22
5.5	Insist on using objective criteria	23
5.6	Agreement	23
6	Conclusion and further research	25

1 Introduction

1.1 Problem statement

Principal negotiation is widely accepted as a standard in negotiation practices. In win-win negotiations as presented by Fisher et al. [3] the aim is to get to a mutual understanding of a problem and get to a solution which is supported by all participants. A theory of conceptualization has been presented [10], addressing the question how people use knowledge in problem understanding. In this thesis it is suggested these two methods are closely related. This research will therefore focus on the following question:

Is the way in which participants come to common conceptualizations by using the method of principled negotiation comparable to the way characterizing human conceptualization?

By comparing the two methods I attempt to show that the answer can be affirmative.

1.2 Relevance

Principled negotiation is a proven effective method for doing negotiations. Negotiations or parts thereof are also used in the requirement engineering process especially with regard to requirement negotiation and collaborative requirements elicitation. By comparing the idea of conceptualization with this method, both the theory about conceptualization can be validated for its application and an indication for the effectiveness of the method can be found. An important goal of Information Science is revealing the techniques in which concepts, such as requirements and business rules are created through human interpretation. It is therefore important to look at methods which are successful. If there is a certain commonality between these successful methods, like the proposed theory for conceptualization, it can be assessed why certain methods work, and why other methods do not. The theory of conceptualization has been tested already for requirements engineering by Klomp [5] and for problem conceptualization by Couwenberg [2].

Besides testing the theory on conceptualization, the theory can be understood as a process and therefore computations can be done regarding the method. By understanding how negotiations work as conceptualizations, the process of negotiations and its facilitation could be improved by means of the method. This could give ideas for improvement of computer-aided negotiations.

1.3 Theoretical framework

The theoretical framework used in this thesis is based on two theories, One of them is the theory of conceptualization by Sarbo and Farkas, which is rooted in the semiotic theory of Peirce and is considered in the area of knowledge acquisition (Cognitive Science / Artificial Intelligence). The other is the negotiation method developed by Fisher et al., which officially is in the area of Management science, but uses principles from psychology as well. Negotiation theory is part of information science, with applications in requirements elicitation for

example. The methods developed by best practices and theory will be assessed on how the conceptualization process is embedded in the method. The theory of conceptualization as a process indicates that solutions are found and conceptualizations arise in a similar structured way. This thesis will investigate if negotiations could be interpreted as following a similar structure in solving disputes.

1.4 Method

This comparative and exploratory research will try to match the theory of conceptualization as a process with the way negotiations are done. This will be investigated in the following order, making sure conclusions can be reached in an understandable and structured way.

The structure of this research will be by dividing the main research question into three subsequent sub-questions. In this way step by step a conclusion can be drawn regarding the similarity of the method and the model. First the method will be reduced to the main idea and the functionality of the different stages in the method will be assessed. Then these will be compared to the way in which conceptualization works. Finally we will look at the total overview to come to a definitive answer.

1. *What are the different stages in principled negotiation and what do they accomplish?* This will give a list of the different stages in the method of principled negotiation and their goals. This is quite straightforward. It will lead to a stripped down version of the source material and function as the back-bone of the rest of the research. A attempt will be made to get the method in a visual model, displaying the core of the method, providing a clear understanding.
2. *How does negotiation relate to the different stages in the conceptualization process?* Here the different aspects that were defined by the previous question will be looked at in detail and will be compared to different stages in the conceptualization process. This will result in an overview of the similarities and differences of the stages between the two processes.
3. *Is the order in which the activities take place in principled negotiation the same as in the conceptualization process?* The different conclusions that were drawn in the previous question will be put together a whole and compared to the conceptualization model as a whole. The conclusions drawn from this will be a sufficient base to answer the main research question.

2 Conceptualization

A proposed theory of conceptualization as a process, which will be explained here, has a long history. It is grounded in theory by Peirce his notion of sign and interpretation. A theory has been developed which explains how people may come to a conceptualization of phenomena, including problems as phenomena. Couwenberg [2] showed that this theory was applicable for conceptualizations by single subjects. According to Klomp [5], this does not happen only by one person, or better yet, in one mind. But the same principle emerges when looking at conceptualization (requirements as concepts) that develop in group meetings, like brainstorming.

A visualization of this theory is shown in figure 1, explanations follow below.

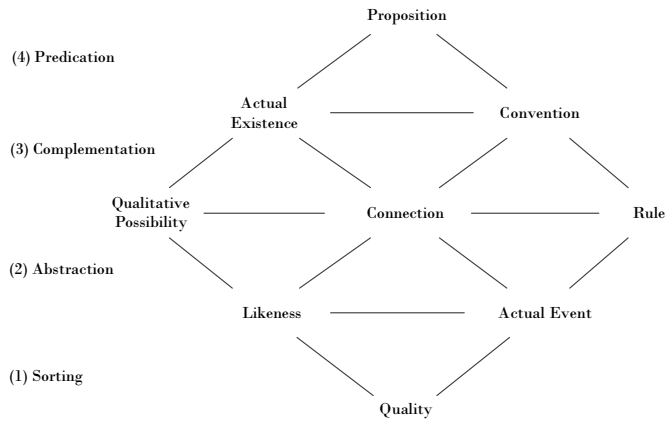


Figure 1: Visualization of conceptualization as a process following [9]

1. **Sorting**, the sorting phase starts with the perception of *Quality* such as a problem. This is separated in *Likeness*: a state which is affected, for example the constituents involved in the appearing problem, and *Actual Event*: the effect as an actual event or property involved in the appearing problem.
2. **Abstraction**, In this step the constituents are abstracted in a *Qualitative Possibility*, which is the state and all the possible attributes or effects it might have. *Actual Event* as well as *Likeness* must have common attributes in the background, defining *Connection* (shared context). The actual event is abstracted in a *Rule*, representing the general property involved in the input problem.
3. **Complementation**: The possible state in *Qualitative Possibility* is combined with the context in *Connection*, leading to a conceptualization of the input as an *Actually Existent* problem. The general rule in *Rule* is combined with the context as well, leading to a *Conventional* property characterizing the input problem.

4. **Predication:** In the last phase, the conceptualization is completed by a *Proposition* combining the input conceptualized as an actual existent problem characterized by a conventional property. This is the result of the conceptualization process: the input as a meaningful concept, or if the input was in fact a problem, a solution.

The theory is computational and can therefore be resolved in a number of ways. Different evaluation strategies can be chosen to get to a model of the entire conceptualization process. Conceptualization therefore can take place in this order (bottom-up) as well as in opposite order (top-down), from Predication to Sorting. This can be the case when the derived proposition is considered to be a result of anticipatory processing[2].

In this thesis only the top-down approach will be taken into consideration, since negotiations normally do not have a concept beforehand that should be traced back to see how it can be done better. It is more about getting to an agreement in the first place.

2.1 An example

Here an example will be given of conceptualization to make the theory clear even further. It is taken from the dialog of Socrates with Meno, as described in Dialogues by Plato [6]. Coincidentally, another part of the same source has been used by Couwenberg [2], where an example of a conceptualization was tested by pupils for validation. This is not surprising, the used dialog is a clear example on two people trying to get an idea together about the same subject. In this part of the dialog the idea of virtue as being the same as knowledge is conceptualized, summarizing the long debate they had before:

Socrates: And nature being excluded, Then came the question whether virtue is acquired by teaching?

Meno: Yes

Socrates: If virtue was wisdom (or knowledge), then as we thought, it was taught?

Meno: Yes

Socrates: And if it was taught, it was wisdom?

Meno: Certainly

Socrates: And if there were teachers, it might be taught; and if there were no teachers, not?

Meno: True

Socrates: But surely we acknowledged that there were no teachers of virtue?

Meno: Yes

Socrates: Then we acknowledged that it was Not taught , and was not wisdom?

Meno: Certainly

The conclusion is that virtue is in fact not wisdom or knowledge, because if it would be, it would be taught, if it would be taught, there would be teachers. And there aren't.

A conceptualization of this process can be seen in figure 2.

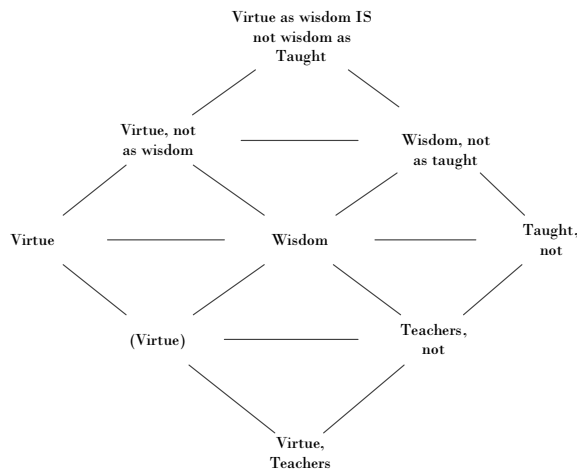


Figure 2: An example of an conceptualization process, the concept that Virtue is not wisdom, as proposed in Meno by Plato.

1. The input for this conceptualization is Virtue the fact that there could be teachers (as has been concluded before). In the sorting phase, this is taken apart. So the effect having no teachers, an attribute of virtue, is looked upon separately from virtue as a state. This is actually not the normal way of reasoning, since something that is not there, cannot be perceived. However since “not having teachers” is previously concluded, it is possible to use it.
2. In the abstraction phase virtue is introduced as qualitative possibility. However, the effect as a rule is that having no teachers means it is not being taught. The common context in this case is wisdom.
3. In the complementation phase, the connection between wisdom and not being taught is established: “not wisdom as taught” as a conventional property. Also the relation between virtue and wisdom is established: “virtue as wisdom” is a proposition of the problem as a state.
4. In the predication, a premise (proposition) is generated: Virtue as wisdom is not wisdom as taught. The consequence of this proposition is: Virtue is inborn, which was the conclusion of the dialog as well.

3 Principled Negotiation

The Harvard Negotiation Project, currently referred to as the Program On Negotiation of the Harvard law school (PON), was founded in 1983, while it is situated at Harvard, it is a consortium of Harvard University, Massachusetts Institute of Technology, and Tufts University. It is one of the leading research centers on negotiation and conflict resolution. The method for principled negotiation, one of the most well known methods produced by the center, will be discussed here. Principled negotiation is mainly discussed in the book "Getting to Yes" which is considered one of the most important works for management in all places, deserving a place on the long-running bestseller list from Business week.¹ It is used all over the world in important negotiations and conflict resolutions, making sure it is a proven successful method.

Example

"There was A man who left to his three sons 17 camels. To the first son he left half of his camels To the second one he left a third of his camels And to the youngest one he left one ninth of his camels. Well, the three sons begin their negotiation. 17 does not divide by 2, not by 3, not by 9, finally temper started to get strength. Finally in their desperation they went and consulted a wise old woman. The wise old woman thought about their problems for a long time and said. Well I don't know if I can help you, but at least if you want, you can have my camel. Then they had 18 camels. The first son took his half, half of 18 is 9. The second son took his third, a third of 18 is 6. The third son took his ninth, a ninth of 18 is 2. They had 17, they had one camel left over, which they gave it back to the wise old woman." William Ury, Ted Talk, November 11th, 2010

The story above illustrates what is wrong with the way most people negotiate. A position is taken, in this example a certain amount of camels, and solution is searched for, where everyone is trying to get as close to the position as possible. This can harm the relationship between the parties and often does not have the most favorable outcome. This 'normal' way of negotiating is called positional negotiation. Both the parties take a position and defend it. A better way accomplish agreement is to find the problem underlying the negotiation and look at the principles both the parties have on the matter. Therefore principled negotiation was developed, with a corresponding method based upon game theory as well as best practices. In this Chapter, the different steps in the method are described as well as what they are trying to accomplish. In explaining the different steps, all the examples used propose that there are in fact two parties negotiating, not more. We call these Alice (A) and Bob (B), as is common in talking about communication and sometimes security protocols. In practice principled negotiation can take place with any number of parties.

The method has four fundamental elements that will be discussed separately. In general they will have to be applied in about this order. A negotiation normally has three phases in the negotiation period. All four elements should be prevalent in these following three phases.

¹see: http://www.businessweek.com/magazine/content/05_03/b3916022.htm

1. Analysis: getting information about the topic the negotiation is about which system is used and about the opponent.
2. Planning: How the negotiation will take place.
3. Negotiation: The actual two way communication between the parties.

Since the mutual conceptualization of the parties in a negotiation process is more prevalent in the third phase, this will serve as the base for our research. Only the four elements will be looked at from the perspective of conceptualization.

3.1 Separate the people from the problem

At the start and during any negotiation, the people should be abstracted from the problem the negotiation is about. Since a problem often is part of the people negotiating it is easily confused with being part of the parties in the negotiation. In negotiations there are always two interests at stake: besides the obvious object of negotiation there is the relationship between the parties. This makes sure that even if a party has a more favorable outcome, the opponent might feel bad and the relationship deteriorates. Therefore the object of negotiation and the opponent need to be separated. No matter what the outcome, both parties should have a good feeling towards each other and about the negotiation process itself.

In fact the problem can be reduced to the difference in thought between Alice and Bob on the same topics. Therefore an abstraction should be made. It is not Alice and Bob the negotiation is about, it is about the thoughts Alice and Bob have on the same subject. A method would not constitute as a method if there are no guideline to guarantee this is the case. Ury and Fisher discuss a couple of them, from techniques in perception, communication and emotional techniques to enhance the negotiation by making sure the problem is not confused with the party. These will not be discussed in detail, this would go beyond the scope of this research.

Important aspect of this first guideline is that separating the people from the problem is not a first step, it is a continuous awareness, that has to be incorporated in all the other steps of the negotiation process.

3.2 Focus on interests, not positions

When having separated the people from the problem it is time to look at the separate thoughts. Thoughts and positions on a matter develop because of certain interests people have. When trying to define the problem, it is not so much a difference in thoughts as it is a difference in interests. Positions are taken in a negotiation, because of certain interests. To distinguish between a position and an interest. A position is what the parties want in the end, for example: "I will pay maximum 50 euro for that shoe". An interest is the reason for deciding the position. "It is a normal shoe and shoes like that cost around 50 euro". One interest can be satisfied by different positions. Paying a fair price comes with a multitude of positions, depending on the information and context. A difference in interests are the core of the problem in negotiations. They are related to the thoughts people have that we discovered and separated from the parties in the previous step. Each problem comes with a number of different interests,

but not all of them are exclusive to the different parties. When looking at the interests behind the negotiations, the following might be likely to happen. There probably will be shared interests. Alice and Bob know that if Alice takes a shoe without paying, she will be considered a thief, therefore the interest “we do not want any of the parties to be a thief” is shared between the parties. On the other hand there are conflicting interests, which are the reason there is a negotiation in the first place. It also makes sure agreement can be reached. If Alice would buy a shoe from Bob, it means that she has a bigger interest in obtaining a shoe than in keeping the money to herself. Bob on the other hand has a bigger interest in the obtaining money than to keep the shoe. This is exactly the zone where agreement can take place. As with all the other steps in the process, a toolbox is given on how to make sure the interests are separated from the positions. This includes ideas in communication, like asking behind the reasons for positions taken, as well as considering that basic human needs are interests too.

3.3 Invent options for mutual gain

In this element, options are thought of that benefit the interests generated in the previous step. Both the parties should generate options to solve the dispute. This is often done by conducting a brainstorm session. This brings its own complexity to the task. People tend to negatively judge the options invented by them or are afraid to speak them out loud, making sure the options are discredited before taken into evaluation. Negotiators often assume there is a single answer they should stick to, and consider thinking of other options as a waste of time. Also the outcome is often thought of as a certain amount that is either favorable for Alice or Bob.

The following steps should be taken to ensure the inventing of options takes place free of framing and prejudices.

1. The inventing of ideas should be separated from the judging. When thinking of options none of the parties can criticize any of the options generated. This makes sure there is room for creativity and that the participants feel that they are taken serious. This step is the beginning of the brainstorm session. Getting to Yes offers an entire guide on how to conduct this brainstorm in a way that forces participants to keep to his idea. This also is beyond the scope.
2. The options should be broadened, only a lot of different options can be effective. This can be reached by looking through the eyes of different experts, invent agreements of different strength and using the Chinese box principle to make small agreements. Also a proposed Circle Chart can be used to define the problem and look for solutions.
3. When thinking of options, mutual gains should be taken into account, this is done by looking for shared interests, making sure agreement is based upon those. Different interests do not have to be a problem, they can actually lead to a satisfying and quick resolution, but have to be identified. There could be differences in interests, views, expectations, risk aversions etcetera. If identified, these differences can lead to a way in between, which is beneficial for each participant. Another way to take mutual gains

into account is to list options acceptable to one party and let the other party choose a predefined number of them.

4. Decisions thought of by a party should be easy to make for the opposing party, so it really does benefit their interests as well. It is important to know who is the opponent and who makes the decision. Stepping in each other shoes can make sure this happens.

3.4 Insist on using objective criteria

When looking at the negotiation phase of the whole negotiation process. This element is important to the last step in the negotiation process. One or more of the developed options should be chosen as the outcome of the negotiation. This can be done easily if objective criteria are used. A criteria is objective if it is independent of the will of both parties. objective criteria should be justified and practical as well, to support the best outcome. An example of an objective criteria is the taxed value of a real estate property. These are often established by independent experts and therefore is independent of the will of the parties. But if the selling price of the property is being negotiated it applies to both parties.

First the criteria should be thought of, this can be done by each party beforehand, and can be a part of template design as well. [7]

Objective criteria are mostly *reasonable norms* that define a certain value. Many different norms can be used to define the same values. The value of a car for example can be determined by the price you can sell it for on any website, or the new value - depreciation. Besides norms, *reasonable procedures* can be used to come to a solution which is based upon the conflicting interests. This can be things like cut and choose, taking turns, or let a third party choose.

The following steps should be taken to ensure objective criteria are used well during the session.

1. Every issue in negotiation should be framed as a collaborative search for objective criteria. This can be achieved by asking parties to motivate their ideas about the criteria thought of.
2. The use of reason and the openness to reason is the best way to come to well defined criteria. Reason and openness to do so, create an effective atmosphere, since the other party will feel like it is taken seriously. If both parties still have different criteria, objective principles should be used to make a choice. This can be best practices or norms used in the past.
3. Never succumb to pressure, a party might try to play tricks on the other. It is essential for principled negotiation to keep on using objective criteria.

3.5 Extra help in the principled negotiation process

A part of the proposed method, conveniently called "But What if?" deals with problems often encountered when using principled negotiation. They will be discussed briefly to complete the introduction to principled negotiation, but are not part of the scope of this research. Only the core of the method will be compared to the general theory of conceptualization. The most important

measure a party should take is to think of a BATNA: a Best Alternative To a Negotiated Agreement. A BATNA describes the outcome if no agreement can be reached. This can be evaluated in the negotiation to assess if it is still worthwhile to negotiate. A BATNA however, is not a threshold, since it should encompass more than just an amount of the topic of negotiation. With other problems like dirty tricks and uncooperative parties, the biggest advice is to stick to principled negotiation even stricter, making use of the merits it can bring. In some cases the use of an impartial third party can force all participants to play it fair and use the right method.

4 Conceptualization in Negotiation

When comparing the method as described above and the general process of conceptualizations, there are obviously certain similarities. Both make abstractions. The abstraction from a thought or position to an interest can be compared to the abstraction of the state of the effect in the conceptualization process. Both look for commonalities between two constituents, considering that a set of principles can be considered a constituent. However this is not enough to make any claims, it just helps with understanding the resemblances. To really define if in fact the method of Ury and Fisher has the theory of Farkas and Sarbo inhibited in it, the different steps should be examined one by one, as well as a whole. The focus in this chapter will lay on describing the negotiation method in terms of conceptualization.

First it should be made clear that conceptualizations take place constantly while negotiating. The concept of assessing a criteria or brainstorming a possible solution are both examples of small conceptualization processes. As Couwenberg [2] showed, conceptualization as a process takes place in the brain of a single subject, for small problems, so the assessing of criteria and the forming of an position happen inside one of the parties are part of this. Klomp [5] showed that this process in the same form takes place in a group, or collective mind as well. As shown above the input to a conceptualization process in the most concrete form would be a stimulus, in a more abstract view it could be a problem. Kelman showed that doing a negotiation could be considered as interactive problem solving [4]. This already gives a good indication that negotiations could be considered as conceptualization processes that follow the same structure. It also means that in a negotiations, conceptualizations take place in the head of the participants, during the negotiations, as well as in the collective mind of the participants. Experimental validation of these hypothesis could be done by looking at a detailed part of the negotiation. For example the negotiation phase on itself, or the last part when an agreement is reached. This will have to be done in future research. In this case we will look at the negotiation as a collaborative conceptualization process. This also means that the conceptualization could be viewed as the negotiation would be perceived by a third party, or mediator, which is exactly the way Kelman as well as Ury and Fisher look at negotiations.

4.1 Sorting

First in the negotiation as well as the creation of a concept it is the notion of the problem as an input to the process. This Quality is defined as the difference in position, or in principled negotiation, difference in thoughts of Alice and Bob on the same subject. This is a crucial and easy part. But this is not the whole story, as Ury and Fisher pointed out, there are always two aspects at stake, next to the disagreement or problem, there is the relationship between the parties. This relationship deteriorates if one of the parties is not satisfied with the negotiation at the end. This makes sure the relationship can be abstracted from and the separate parties are part of the Quality. The Quality will be: Alice & Bob and the disagreement between the two parties, which will be described as Alice vs. Bob. When sorting these, the state will be Alice and Bob on itself, while the effect is the difference they have on the matter. The graphical representation can be seen in figure 3.

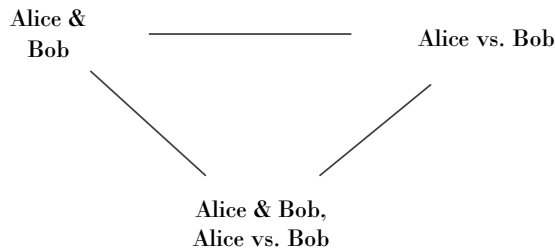


Figure 3: The sorting phase, in terms of negotiation

4.2 Abstraction

In the abstraction phase Alice and Bob with their viewpoints are abstracted from any possible perception of the negotiated situation they could have. Alice and Bob use their knowledge of their dispute and their preference on it, to come to a common context. This is the context shared by Alice, Bob and the topic of negotiation. Note that this differs from the attributes of the object on itself, which is for example a shoe and its price. The context of the problem furthermore contains among others the prices of other shoes, the popularity of the shoe, and perhaps even the shoe store. The context of Alice and Bob is also different. This can be Bob as Salesman, Alice as client. The context of Alice, Bob and their disagreement is every context of the problem, which is of any value to Alice and Bob. This is not the same as the simple collection of all the context there is around the shoe, all the context for Alice and Bob. Alice might not care about the material of the shoelaces and neither does Bob. While this is part of the context of the negotiated subject, it is not part of the common context of Alice, Bob and the negotiated subject.

The problem on itself is abstracted, this means that it is not longer Alice vs. Bob, but it is a case of their difference in a general setting, unrelated to the fact that the disagreement is between Alice and Bob or two different parties. This abstraction is called Difference. The state: Alice & Bob is abstracted as well, Alice & Bob are abstracted in two opinions. As a qualitative possibility, they are

related to every effect they might have, this could be a convincing argument for example. This is Alice and Bob with the whole spectrum of possible resolutions they might agree with. This is represented by Alice & Bob as opinions.

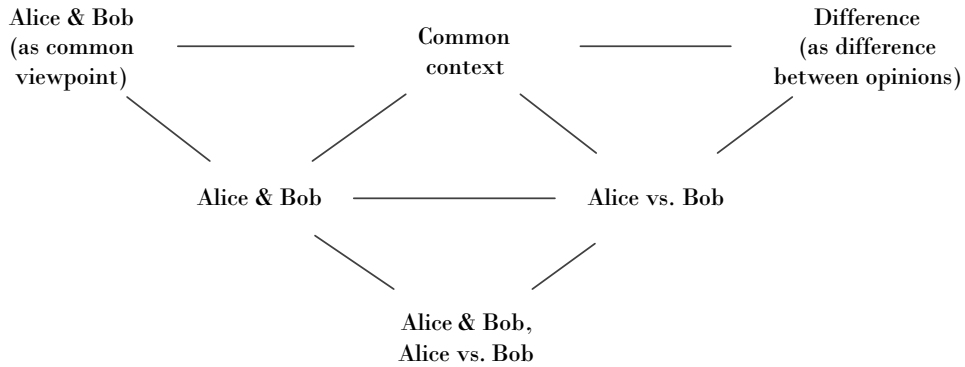


Figure 4: Sorting and Abstraction phase in a negotiation

4.3 Complementation

In the complementation phase, out of the common context Alice and Bob have and their difference, lead to a resolution that both Alice and Bob to a certain extent agree with. The difference creates the room for agreement, as was explained in the chapter on principled negotiation. The common properties make sure they find common ground to base the resolution on. In common context the difference can be interpreted as an agreement. The difference, which is an abstraction of Alice vs. Bob, takes properties from the common context. This leads to an effect which is a conventional agreement between the two parties. This will be called Agreed.

We can imagine that the viewpoints of Alice and Bob changed a bit during this process. Perhaps Alice and Bob understood why the disagreement was there in the first place, changing their perspectives. Alice and Bob combined with the common context make sure both parties are in a state in which they have a common understanding of the problem. Alice and Bob together with the common context therefore might have a different point of view. In a negotiation this new point of view can be exactly the same as the one at the beginning of the negotiation for a party. This could be the case when no agreement is reached, or a party is uncooperative. Alice and Bob will have a viewpoint now that supports this agreed state.

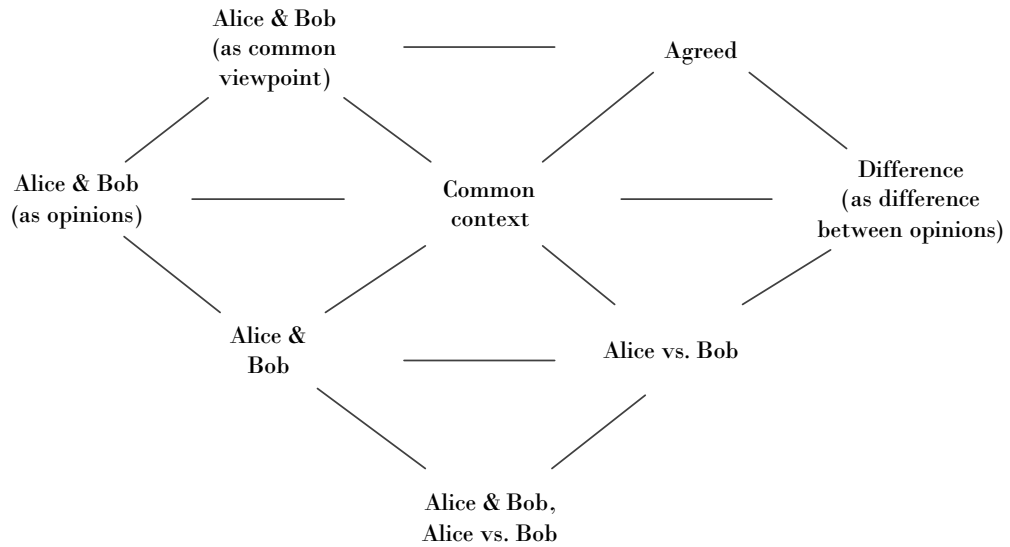


Figure 5: Negotiation as conceptualization process, until complementation

4.4 Predication

When looking for the proposition that should be formed in the end, by combining the two elements of the complementation phase, the outcome would be that Alice and Bob have an agreement. In this case the quality of the agreement at the end is abstracted. Not having an agreement, whereby each party chooses their BATNA or even walk away in anger, is considered an agreement as well. This means the negotiation is done and a solution is found to the problem, albeit a not so successful, or temporary one.

When adding the last part of the conceptualization process, the visual representation is complete. The entire path from start to finish, or from Alice vs. Bob to Alice and Bob who both agree on an outcome is shown in figure 6.

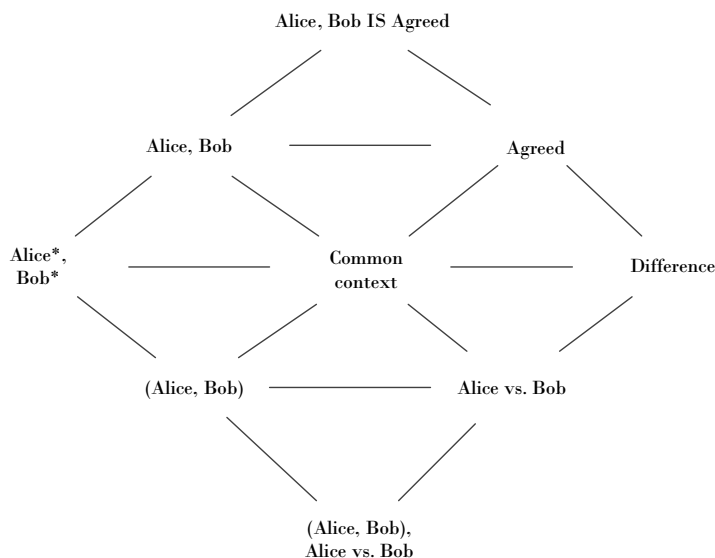


Figure 6: Negotiation as a conceptualization process

4.5 Evaluation strategies vs. negotiation strategies

The example in figure 6 illustrates negotiation as a conceptualization process. Different evaluation strategies can be chosen to assess the different stages in the process. Those different evaluation strategies show resemblance to different negotiation strategies that can be chosen to get to an agreement. One could reason more from top to bottom, looking at an agreement that should be reached, watching all the different options, to see which one is the closest to the optimal agreement. One could also start with generating the options and then assess them by asking the different parties how they feel about them. Positional negotiation as discussed above has more of a top-down approach, since each party follows a line of reasoning starting with the outcome one wishes for. Principled negotiation on the other hand, could be considered to force the parties unconsciously to conceptualize the solution using a bottom-up approach. This last statement will be argued in the next chapter.

5 Conceptualization in principled negotiations.

Earlier we suggested that negotiations in general can be considered a process of conceptualization and that evaluation strategies resemble different negotiation strategies. In this chapter we investigate how the process of conceptualization and principled negotiation can be related. We propose that in principled negotiation in the phase where the actual negotiation takes place, a bottom-up approach is used and that the whole method of this negotiation strategy almost seems to aim unconsciously to make sure the conceptualization process is followed in this way. The different guidelines of principled negotiation as discussed will be introduced and it will be argued which part of the conceptualization process they relate to. Furthermore the principled negotiation method can be considered 'stricter' than normal negotiations, since a pattern is followed. Therefore the visualization of the conceptualization process can be filled in with these stricter concepts. This will be shown at the end.

5.1 Preparation and template design

The first part in heavy principled negotiations is always a template design in the analysis and planning phase. While this is not part of the scope it will still be discussed in small detail, to give a complete idea. When designing the template in the analysis and planning phase, the approach taken can differ from each party. Ury and Fisher strongly encourage to use the same principles as in the actual negotiation phase. Still the order of these things can differ strongly for each participant. In the preparation phase or template design it might be wise to look at the process to be followed from different angles. In the actual negotiation phase the structure is followed as discussed in chapter 3 of this thesis.

5.2 Separate the people from the problem

The entry to the conceptualization is the same as with any negotiation: Bob & Alice and Bob vs. Alice. This principle clearly corresponds to the sorting phase of the conceptualization process. The sorting phase separates the artifacts, which in this case are the opinions of Alice and Bob, and the difference between them. The only minor difference is that while in normal negotiations Alice vs. Bob is quite open to interpretation, in principled negotiation this primarily concerns a difference in thoughts of the parties. This is also the way the mediating party would see it. The explicit separation of the people (the state) and the effect, clearly show that at least the beginning of this negotiation strategy starts at the bottom. This is visualized in figure 7.

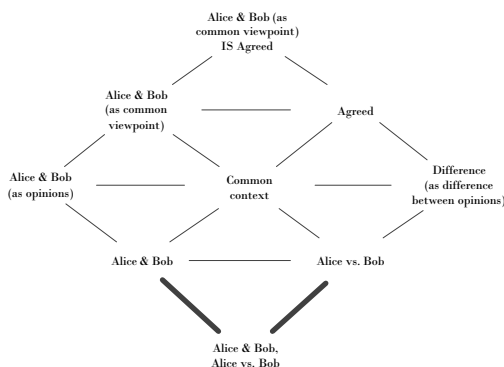


Figure 7: Negotiation as conceptualization process, the part where the people are separated from the problem is marked

5.3 Focus on interests, not positions

The comparison to conceptualization is not as clear as in the previous discussed principle. However, since we have separated the people from the problem, the problem is abstracted even more. Now it is not the differences in thoughts that are being evaluated, but the interests underlying these thoughts are looked at. This is an abstraction of the positions that are taken by the different parties, formed by the thought they have on the dispute. This clearly resembles the abstraction phase. However it is only about the positions of Alice & Bob as well as their dispute, Alice vs. Bob. Alice & Bob are abstracted to Alice & Bob as interests. The dispute between in its abstracted form is a difference between interests. This differs a bit from the process as visualized in figure 6, because the abstraction of Alice vs. Bob is not just a difference. It is explicitly a difference in interests. And Alice & Bob as a state are not just Alice & Bob as opinions, but Alice & Bob as interests. Since for now principled negotiation is considered as a negotiation using a certain evaluation strategy, the same terms are used as discussed in the previous chapter.

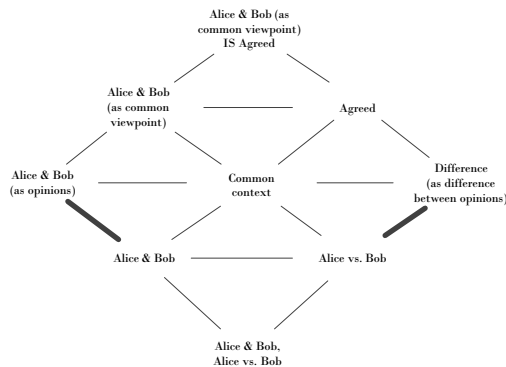


Figure 8: Negotiation as conceptualization process, the part where the positions are abstracted to positions is marked

5.4 Invent options for mutual gain

The options for mutual gain could be perceived as the context of the negotiation. Or at least as a subset of the common context. It is here that there is a clear distinction between the normal way of negotiating and principled negotiation. While normally the context can be just about anything, principled negotiation tries to aim to create a different kind of context. A context filled with options. It is important to note that the creation of an option for mutual gain is a prime example of a conceptualization processes on itself. All the generated options serve as the context of the rest of the negotiation. All the options will be assessed and discussed. And it is the invented options that, together with the different principles get to one option that is chosen as the agreement.

Implicitly the abstraction of Alice and Bob to Alice and Bob willing to be filled in by any possible resolution also takes place here. By creating the different options as common context, all parties are forced to open up to new possibilities. The brainstorming approach as advocated by Ury and Fisher greatly contributes in this.

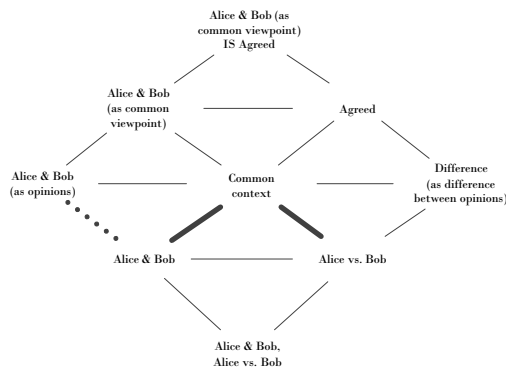


Figure 9: Negotiation as conceptualization process, the part where the options for mutual gain are invented is marked. The implicit abstraction of the parties is marked with a dashed line.

5.5 Insist on using objective criteria

This is all part of the phase of completion. There are commonalities between the principles used by Alice and Bob and the options that are invented. When following the previous step, all the options generated should be for mutual gain and therefore adhere to the principles Alice and Bob have.

Insist on using objective criteria is not as prevalent in the conceptualization process. Objective criteria should be used to get to assess the difference between the difference in principles and the common context. This is not the same as the actual agreement, since that encompasses more than just the criteria. It is therefore hard to explicitly put this part of the negotiation strategy in the process. However, objective criteria are implied in the path to the final selection of the options, hence it is made visible the same way the abstraction of the Alice and Bob is. It is important to note that in the end it is not that Alice and Bob are agreed on all matters, but that they agreed on matters relevant to the input problem.

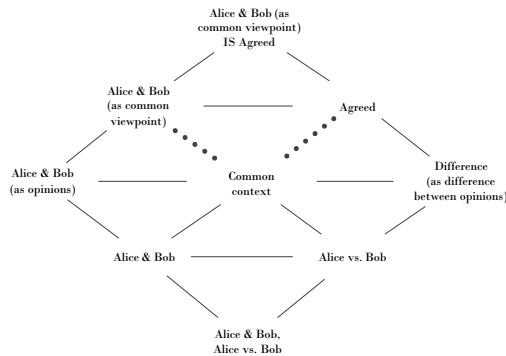


Figure 10: Negotiation as conceptualization process. Since objective criteria is only implicit as a part of the process, it is indicated with a dashed line.

5.6 Agreement

Now that all the principles of this method of negotiation are related to the process, the phase where the actual agreement takes place is the last one. The agreement part is at the top of the conceptualization process. The best option out of the options generated is agreed upon. This is different from normal negotiation, where Alice and Bob agree with a solution, which is related to their common context. However nothing is specified on how this solution could look like. Now this is different. A best option out of the generated options is agreed upon by both (or by the third party). This again is stricter. In principled negotiation they should agree to one of the options generated, using the objective criteria.

Since a couple of aspects of negotiation seem to differ in principled negotiation, in figure 11 the conceptualization process is visualized again, now using the same terminology as used in the Getting to Yes method for a clear reference.

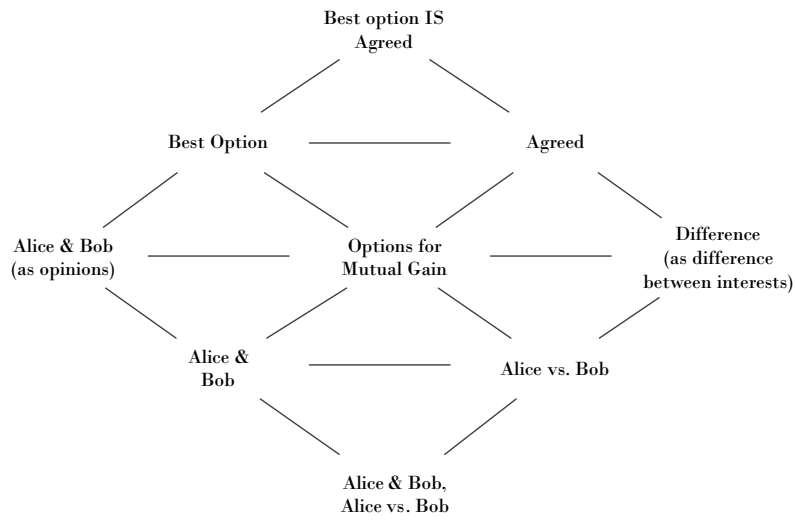


Figure 11: Conceptualization process for negotiations in terms as used in the 'Getting to Yes' method

This makes clear that if a computational model of the conceptualization process of principled negotiation is used. It should follow a sort-of bottom-up evaluation strategy to resemble the way in which the negotiation takes place.

6 Conclusion and further research

Negotiation could be seen as a cooperative search for a solution to a problem, the problem being a disagreement among two or more parties. This joint search for a solution, just like requirement elicitation can be seen as a conceptualization process. One could therefore argue that negotiation could be seen as a conceptualization process as well. This was investigated and as it was shown it could be answered affirmative. After looking closely at the 'Getting to Yes' method of principled negotiation by Ury and Fisher, the conceptualization process was explained in terms of negotiation. This led us to believe that negotiation strategies could therefore relate to different evaluation strategies of the process. Then the method of principled negotiation was shown to be related to the conceptualization process when using a top-down evaluation strategy. In fact especially the first guidelines in principled negotiations seemed to make sure the evaluation strategy of the conceptualization was followed quite strictly. Therefore we propose that negotiations could be considered as following the process of conceptualization. To assess principled negotiation a top-down evaluation strategy should be used to resemble the way in which principled negotiations should take place.

However, this research was conducted on a purely theoretical basis and merely indicates another viewpoint of looking at negotiations. Further validation should be done to see if in a practical setting the same could be concluded. In a real or experimental setting negotiations, facilitated by a professional mediator, could be compared to negotiations done by inexperienced subjects. This would be a more rigid investigation of the role of conceptualizations in the success of negotiations and the impact of following the proposed pattern. It would be worth investigating whether an experienced facilitator follows the pattern of conceptualization stricter than an inexperienced subject. The next step would be to explore the fact that the theory of Sarbo and Farkas is computational. Conducting experiments with computer aided negotiations that follow the process could help with the automation of conflict resolution strategies.

The fact that one of the most proven methods of conducting negotiations almost unconsciously seems to follow a bottom-up evaluation strategy, means that the way the method guides the parties to the process, is comparable to the way the human mind comes to concepts. This could be an indicator for the reason why some methods are more favorable than others. It might be that methods which setup is comparable to the conceptualization process feel more natural to the participants, which leads to increased participation and a more successful fulfilling of the goals set out to be achieved by this method. This idea could be further explored in future research, by taking other proven methods and see if the theory of conceptualization is more prevalent in those than in other, perhaps less used methods. A start could be to look at less successful negotiation strategies, like positional negotiation.

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