

A Feasibility Case Study about Interpreting Disjunction  
in Legal Discourse with Semantic and Pragmatic Models

**MA Thesis**

written by

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# 1 Introduction

## 1.1 Problem

The state of New York abides by a curious rule:

“[T]he words “or” and “and” in a statute may be construed as interchangeable when necessary to effectuate legislative intent.” [Solan, 1993, p. 45]

The rationale for this allowance is explained as well. Apparently, it is “a common mistake” for drafters of statutes to mix up the use of disjunction and conjunction because the use of ‘and’ and ‘or’ is “notoriously loose and inaccurate”[*ibid.*] Thus they are treated as interchangeable “when it is apparent that the Legislature has erroneously used the wrong word.”[*ibid.*]

It is striking that people who draft laws find the use of the paramount coordinands so ‘loose and inaccurate’ that they may be sometimes interpreted interchangeably. This does not increase the confidence one has in those that should guarantee our welfare and security.

Due to the complexities of interpretation, legal experts have started in past decades to shift the responsibility of interpretation from themselves to linguists, hiring their expertise for use within the courtroom.<sup>1</sup> There are various ways in which a linguist may assist a case of law, with authentication of texts and phonetic recognition at the forefront, yet many of these methods are irrelevant for the use of disjunction.

This thesis investigates the interpretation of disjunction as it is used in law. The aim is to verify the hypothesis that the use of linguistic methods in the court of law is a valid practice. The linguistic methods will be constrained to semantics and pragmatics with which the author will assume some familiarity but, in general terms, semantics will be understood as the study of meaning of linguistic units. This is traditionally associated with reference, or in other words, that which a linguistic unit denotes. Pragmatics is understood as the study of the relation between linguistic units and their use.<sup>2</sup> No literature on the issue of the hypothesis was found and, even if it exists, the semantic and pragmatic models used have only recently been published, reducing the probability that the results of a prior study could be comparable.

In case verification of the capacity of the models of semantics of pragmatics to explain examples from the case study is revealed to be impossible, the thesis

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<sup>1</sup>For an extensive overview of such practices from one of the trailblazers, please see [Shuy, 2006].

<sup>2</sup>This is a functional definition based on [Huang, 2007, p. 2] and [Levinson, 1983, p. 1]. The author recognizes that a noncontroversial definition of the demarcation of semantics and pragmatics is yet to be formulated.

will outline the confounds that were identified.

## 1.2 Method

A comprehensive study of the capacity of semantic and pragmatic models that provide an interpretation for disjunction is beyond the scope of this thesis. This follows from the fact that any number of verifying examples is always going to be insufficient. So, this thesis must be constrained to manageable size via various circumscriptions of its subject matter and, if it turns out to verify the hypothesis, a future study may still easily falsify its findings through revealing a confound for the application of semantics or pragmatics to the interpretation of disjunction. As linguistic expertise is already being applied in the courts of law, one might find it more significant if a confound were to be found.

The thesis will limit itself to a single case study of an (extensive) legal report from a single legal system. It will, also, only consider examples of disjunction. The legal system is that of the World Trade Organization (WTO) that was established in 1995. Beside being familiar to the author of this thesis, it is also less shrouded in traditions and ancient customs that motivated the rise of the term 'legalese' to describe the use of language in Anglo-American legal systems. Furthermore, its international role guarantees clear and transparent reports with explanations that simplify the empirical research necessary for this thesis.

The case study will be about the Banana Dispute - one of the oldest and most notorious cases in the WTO. The report contains 1435 disjunctions, which renders the presentation of all examples highly impractical. Instead, the thesis will present its findings by sketching a minimal state of the art in semantics and pragmatics, starting with the simplest possible model for interpreting disjunction and enriching the study with more refined systems when this is necessary for the interpretation of examples of disjunction taken from the case study. The thesis will discuss the felicity conditions of disjunction as the basis for models, or in other words, it will discuss examples that demonstrate the informal rules or maxims that govern the use of disjunction without which the use of disjunction becomes unintuitive, even when the use of syntax and grammar remain acceptable. The hypothesis will be verified if the examples of the case study can be interpreted via an existing semantic or pragmatic model and falsified if confounds occur.

## 1.3 Introduction to the Banana Dispute

This case study gravitates around the infamous European Communities (EC) - Latin American countries Banana dispute in which the latter complained to the

World Trade Organization (WTO) dispute settlement body about various import restrictions that the European Communities exercised in the 1990's to provide preferential treatment to African, Caribbean and Pacific countries (ACP) with which ex-colonial countries in Europe had strong historical ties. While the arguments and results of the case are irrelevant for this case study, it provides one of the more interesting recorded discourses of a dispute. But before I explain this further, I will need to elaborate on certain procedures that need to be clarified.

The World Trade Organization is an international body that coordinates the signing of treaties that simplify trade across country borders. When a treaty is negotiated, all members of the World Trade Organization must abide by the prescriptions in its text. When there is a disagreement about the normative interpretation of a treaty, a dispute arises in which the complainant argues that the interpretation and subsequent government policy of a country is inconsistent with a WTO treaty and, thus, nullifies certain benefits that should accrue to them from a WTO treaty. In response, the respondent country attempts to show that no such inconsistency exists and that their policy should be allowed to exist under the treaty text. The WTO requires that dispute parties must spend 60 days in consultations to attempt to find a mutually acceptable solution, but when this time lapses without result, the complaining parties may request assistance from a WTO Panel - a group of appointed legal adjudicators that listen to the arguments of the two parties and provide an authoritative interpretation that concludes the dispute. The motivating factor lies in the fact that a verdict against the respondent either requires a change in government policy or the complaining party may lawfully bereave the respondent of similar benefits it enjoyed under WTO agreements. Or in other words, the complaining party could win more advantageous trade terms for its businessmen.

The value of WTO disputes to discourse analysis lies in the meticulous recording and presentation of the statements of the dispute parties and the reasoning process of the panel. The panel report provides an overview of the procedural issues such as the number of interlocutors and their positions, before providing factual evidence and reiterating arguments by each party. After a comprehensive overview, it provides, in its seventh section, the most valuable information for the purposes of this research: the overview of how the dispute is solved. The panel report is freely available on the WTO webpage and easiest found by entering the document symbol WT/DS27/R/ECU into [docsonline.wto.org](http://docsonline.wto.org).

The Banana dispute was chosen out of the roughly 400 available for a number of reasons.<sup>3</sup> Firstly, only a limited number of disputes reached the stage at which

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<sup>3</sup>[www.wto.org](http://www.wto.org) lists 397 disputes as of the 31st of July 2009.

a panel report is published. Second, it provided a great many examples due to (the self-professed) “unprecedented number and complexity of the claims and arguments.” [Panel report paragraph 7.1, also see 7.399] This claim is mitigated by the fact that it was one of the first disputes to arise in the relatively new World Trade Organization, as the request for consultations was received on the 5th of February 1996, only a year after the establishment of the WTO. Yet, the panel report can thus be considered a complete and full overview of that particular dispute. Furthermore, the dispute involves the European Communities which one cannot help but find more familiar than most other WTO members.<sup>4</sup>

The dispute was brought to the WTO by the complainants Ecuador, Guatemala, Honduras, Mexico and the United States. For each of the complainants, a separate panel report was issued, and the first among them - addressed to Ecuador - was used as the basis of this analysis.<sup>5</sup> The respondent was the European Communities. This case attracted a large number of third parties - interested countries that were not directly involved but did submit arguments, even if these were not directly considered - which mainly comprised countries that benefited from the preferential banana regime: Belize; Cameroon; Canada; Colombia; Costa Rica; Dominica; Dominican Republic; Ghana; Grenada; India; Jamaica; Japan; Nicaragua; Philippines; St. Lucia; St. Vincent; Senegal; Suriname; Venezuela; Côte d’Ivoire; Brazil; Madagascar; Panama.

## 2 Semantics and the Felicity Conditions of Disjunction

This thesis has been circumscribed to only one coordinand - disjunction. Yet, the literature on disjunction alone might be overly extensive for an accurate and comprehensive study to be possible. Here follows, then, a general overview of certain characteristics of interest that have been mentioned in recent articles on disjunction and which, furthermore, explain certain examples from the case study at the heart of this thesis. We shall find that examples of the case study become understandable when the felicity condition of alternativeness<sup>6</sup> is fulfilled, and the appropriate semantics must take this into account. We shall

<sup>4</sup>Finally, it deals with agricultural goods with which the author has professional experience from the Estonian Ministry of Agriculture so as to guard against false construal of interpretations that could arise from a lack of technical knowledge.

<sup>5</sup>Please note the panel comments: “In the “Findings” section, however, the [four separate] reports differ to the extent that the Complainants’ initial written submissions to the Panel differ in respect of alleging inconsistencies with the requirements of specific provisions of specific agreements. Thus, to take an example, the report for Guatemala and Honduras does not discuss GATS issues because their initial written submission did not allege inconsistencies with the requirements of GATS provisions.”

<sup>6</sup>Explained in 2.3.2.

use inquisitive semantics<sup>7</sup> to demonstrate this property of disjunction.

## 2.1 Disjunction is Not Metalinguistic Disjunction

Before we provide an analysis of disjunction, one must distinguish between disjunction proper and examples of the use of 'or' that literature has called metalinguistic disjunction [Simons, 2001, Haspelmath, 2007], even though it can be demonstrated that the latter is not disjunction at all. For example, paragraph 1.1 of the panel report says:

- (1) “On 5 February 1996, Ecuador, Guatemala, Honduras, Mexico and the United States acting jointly and severally, requested consultations with the European Communities (*“the Community”* or *“the EC”*)...”  
[emphasis added]

Haspelmath claims that disjunction that separates two different names for an object also falls under this category. He provides the example:

- (2) “Ireland, or the Green Island.

One might expect example (1) to provide alternative answers to the question “who did the complainants request consultations with?”<sup>8</sup> but, as well as with (2), the disjunction provides alternatives to the questions: “What should it be called?” and the reading of the sentence should take into account the purpose of clarifying that all the different names denote one entity. To explain metalinguistic use of “or” more generally, consider the following example.

- (3) “George lives in London, or at least he lives somewhere in England”

The purpose of the use of 'or' in (3) seems to be to replace the first utterance with the second. In fact, the use of disjunction seems redundant as its removal does in no way change the meaning of the proposition. Observe that the following retains the function of the original statement.

- (4) “George lives in London. At least he lives somewhere in England.”

For the purposes of this thesis, examples of metalinguistic disjunction shall be excluded from the analysis of disjunction proper.

## 2.2 Standard Disjunction

A standard or truth functional account of disjunction is based on purely the truth or falsity of disjuncts as shown in the table below. Thus, a disjunction

<sup>7</sup>Explained in 2.3.3.

<sup>8</sup>For more on why one might expect disjunction to answer a question, see section 3.4.

## 2 SEMANTICS AND THE FELICITY CONDITIONS OF DISJUNCTION 7

( $\vee$ ) is considered true when either or both of its disjuncts ( $\varphi$ ,  $\psi$ ) are true, and false when both disjuncts are false. So, only the truth and falsity of the components of disjunction matter.

**Table 1**

$\varphi$	$\psi$	$\varphi \vee \psi$
T	T	T
T	F	T
F	T	T
F	F	F

As semantic literature has long recognized, such a simplistic explanation for the use of disjunction cannot be sufficient to explain real-world examples and the following demonstrates this with examples from relevant articles.

Bertrand Russell cites the following example. [Russell, 1995, p. 73]

(5) “Would you like pudding or pie?”

He commented that one cannot provide such a thing as “pudding-or-pie.” Instead, disjunction exemplifies choice, a human cognitive trait of determining a suitable course of action. For him, a disjunction represents the propositional attitude of hesitation. Such as when a bird flies over bread crumbs, weighing “Shall I brave danger or go hungry?” [Russell, 1995, p. 84]

Paul Grice noticed in “Indicative Conditionals” [Grice, 1989a] that a purely truth functional reading of disjunction commits the fallacy of asking a question to which an answer is already known. If, instead of exemplifying choice, disjunction is interpreted purely truth functionally, then it would make little sense to utter the statement:

(6) “The sparrow, the hawk or the fox killed Cock Robin.”

Before being able to do so, one would need to know that one of the disjuncts is true, but then the question is already answered and there is no further reason to add an alternative solution by adding a false disjunct. Also, if the triplet conjoined to kill Cock Robin, then it would be stated more clearly with the following statement and no doubt would remain about their murderous cooperation.

(7) “The sparrow, the hawk and the fox killed Cock Robin”

Nonetheless, Mandy Simons, in “Disjunction and Alternativeness,” discusses two uses of disjunction in which the truth conditions not only play a part but form the basis for their formulation. In the first example, a father says to a daughter:

- (8) “Either the prize is in the garden and the square root of 36 is greater than 6 or the prize is in the attic and the square root of 36 is equal or smaller than 6.”<sup>9</sup> [Simons, 2001, p. 600]

One may safely assume that father knows which disjunct is true and the daughter will either correctly solve the equations involved and thus know the answer to the question: “Where is the prize?” or lose the little game. In the second example, someone states:

- (9) “Either George is in love, or I’m a monkey’s uncle.” [*ibid.*]

By providing an obviously false disjunct, the speaker affirms (and emphasises) the truth of the first disjunct.<sup>10</sup>

Please note that as no purely truth functional uses of disjunction were found in the case study, the exceptions outlined above will require no further attention in the course of this thesis. The following account will only regard the general use of disjunction.

## 2.3 Alternative Disjunction

### 2.3.1 Grice on the Disjunctive

Grice outlines the principles required to enrich the truth functional reading of disjunction: there must be a “guarantee” that the disjuncts have been correctly chosen so that whichever final solution is reached, it coincides with one member or another of the initial disjuncts. [Grice, 1989a, p. 72] Grice argues that disjunction must be understood within context and thus semantics must be enriched with pragmatics. He suggests that disjunction has the overall goal of finding a solution to the issue at hand. For example, the question “who killed Cock Robin?” can be resolved when an interlocutor has read the correct childrens rhyme and can say that “the sparrow killed Cock Robin.” But, if one is in a *pis aller* situation [Grice, 1989a, p. 68], ie. the interlocutor does not know that the sparrow killed Cock Robin, he or she might have some information which would allow them to narrow down the possibilities so that the interlocutor can utter the disjunctive “the sparrow, the hawk or the fox killed Cock Robin.” This statement provides the information that no-one but those three could have killed Cock Robin but, as it only narrows the question, it is

<sup>9</sup>This example is based on an example by Grice [Grice, 1989b, p. 45] and modified by the author.

<sup>10</sup>The example comes from Mandy Simons but Grice provides a similar disjunction with “Wilson or Gerald Nabarro” as a response to the question: “Who will be the next Prime minister?” and argues that this is a way of saying that it will be Wilson (by exploitation, as Gerald Nabarro was well known from putting on a flamboyant handle-bar moustache trutting show, going as far as to call for the castration of sex-criminals and other like policies). [Grice, 1989b, p. 64]

hardly a satisfactory conclusion. Instead, Grice envisioned the disjunctive to be used as a step forward in a process which "seeks total or partial progress in the solution of "W"-questions."<sup>11</sup>[Grice, 1989a, p. 74] He argues that the process is "of its nature eliminative." [*ibid*] "The sparrow, the hawk or the fox killed Cock Robin" is a partial answer and in the children's rhyme from which it originates, the sparrow himself confesses that he killed Cock Robin, thus eliminating the suspicion of other animals and providing the one correct answer. Yet, we may imagine that sparrow does not confess and, instead, there are two interlocutors with different information. One has an alibi for all animals except the sparrow and the dog, and the other has alibis for all animals except the sparrow, the hawk and the fox. So that when the latter utters "the sparrow, the hawk or the fox killed Cock Robin," the other interlocutor will see that one of his two alternatives was eliminated by someone who seemed to have reason for eliminating the dog from the list of viable alternatives. That utterance left only the sparrow as a suspect, thus providing him with the answer to the underlying question. So Grice assumes that the user of the disjunctive has the intent of reaching the one correct solution by asking a sub-question that would be easier to answer and the use of disjunctives is merely an unfortunate means to an end. [Grice, 1989a, p. 72-73]

### 2.3.2 Alternativeness

Mandy Simons follows Grice to a large extent and discusses the felicity conditions of disjunction in detail. She uses the following observation to demonstrate the vacuity of a disjunction where one disjunct entails another. Simons, 2001, p. 597

(10) "There is dirt in my fuel line or there is something in my fuel line."

When answering the question "Why does my car not work?," both disjuncts provide the same information or, in other words, they eliminate the same cells of the partition of the question. This is infelicitous as a proper disjunction would comprise two or more distinct alternative solutions, even if there is overlap between them.<sup>12</sup> So, Mandy Simons refers to this felicity condition as alternativeness. Besides providing an answer to an issue, disjuncts of a disjunction must provide alternative solutions to the same issue.

There are various exceptional uses of disjunction that do not adhere to this rule, though. For example, one may flout the very same rule for conversational effect. Consider:

<sup>11</sup>More on this is section 3.4.

<sup>12</sup>Haspelmath claims that a less used term for disjunction is alternative coordination. [pg. 46] While this may allude to being a different type of coordination from the most common conjunction, the term would suit this discussion well.

(11) “Either it will rain or it will pour.” [Simons, 1999, p. 33]

The second disjunct clearly entails the former, yet the use is felicitous and rather commonplace.

Mascarenhas [Mascarenhas, 2009] discusses another exception to the felicity condition of alternativeness. Polar disjunction raises no issues and thus does not provide alternatives. It is recognized by a different intonation pattern. For example, observe the polar disjunction in the following question:

(12) A: “Would you like **coffee or tea**↑?”<sup>13</sup>

B: “I would like coffee”

B’s response would not be felicitous under the circumstances. A is only asking whether a hot beverage should be served, without inquiring as to which of the two B would prefer. Yes or no would both be appropriate responses. If one is interested in the preferences of B, the disjunction should be uttered using an alternative intonation pattern as expressed in the following:

(13) A: “Would you like **coffee**↑ or **tea**↑?”

B: “I would like coffee.”

B’s response is now felicitous as A is inquiring as to which alternative B would prefer.

Furthermore, there seem to be certain types of sentences which should not be read alternatively. Joseph [Joseph, 2000, originally 1916, p. 220] provides the following statement:

(14) “Numbers are either odd or even”

This provides a general answer to the “W”-question: “What are numbers?” Joseph claims this to be a counterargument to treating disjunctions as partial answers to “W”-questions. He claims that (14) provides a full answer as being “either odd or even” is a general characteristic of numbers. It might be stressed that (14) is not a full characterization of numbers, but Joseph’s idea regarding partial and full answers seems sufficiently clear. Yet, the example is probably best formalized when the model is enriched with the universal quantifier, providing  $\forall x (Ox \vee Ex)$  as the least controversial interpretation.

As the case study provided no similar examples or, more precisely, exceptions to the felicity condition of alternativeness, this thesis should disregard the last three exceptions as their inclusion would unnecessarily complicate any formulation of a model.

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<sup>13</sup>Note that the bold text is emphasized in speech and the upward pointing arrow shows rising intonation.

### 2.3.3 Inquisitive Disjunction

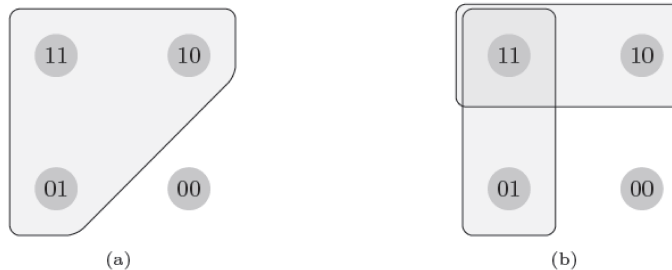
Groenendijk and Roelofsen formulated an appropriate model to capture the alternativeness of disjunction through the concepts of informativeness and inquisitiveness. A statement is inquisitive if it includes at least two possibilities. [Groenendijk and Roelofsen, 2009, p. 9] For example, a statement that includes the possibilities “it is raining” and “it is not raining” is considered inquisitive. An utterance is informative if it includes a possibility and also excludes a possibility. [*ibid.*] For example, “it is raining” includes the possibility that it is raining and excludes the possibility that it is not raining. In inquisitive semantics, disjunction provides alternative possibilities between which the interlocutor may choose.

(15) It is raining or it is not raining.

(15) is considered inquisitive as it organizes the logical space into alternative possibilities; those in which it is raining and those in which it is not raining. Thus,  $\varphi \vee \neg\varphi$  can be abbreviated to  $?\varphi$ . [Groenendijk and Roelofsen, 2009, p. 7] Yet, disjunctive statements can also be informative. This is captured by the statement:

(16) Woofie is Black or Woofie is White.

Let us provide an illustrative example of the difference between inquisitive (b) and purely truth functional (a) disjunction:



01 depicts a possible world on which “Woofie is White” is true and “Woofie is Black” is false. 10 depicts a world on which “Woofie is Black” is true and “Woofie is White” is false. 11 and 00 are possible worlds on which both or neither are true, respectively. In traditional semantics, (16) encompasses possibilities in which one or either of the disjuncts is true. In inquisitive semantics, such a statement proposes two alternatives, one in which “Woofie is Black” is true and another in which “Woofie is White” is true. The disjunction also eliminates one possibility, the one in which both “Woofie is Black” and “Woofie is White” are false. Thus, a disjunctive utterance can be informative (it tells you that it is not true that neither of the disjuncts are true, or formally  $\neg(\neg p \wedge \neg q)$ ) as well as inquisitive (it asks someone to clarify whether “Woofie is Black” or “Woofie

is White.”). Statements that are both inquisitive and informative are called hybrids.

There are some differences between the views of Grice and Mandy Simons and that of inquisitive semantics. Firstly and foremostly, Groenendijk and Roelofsen have built the pragmatic elements into the semantics. But also, when one looks at the details certain differences arise. For example, Grice believed that disjunction cannot be informative and not inquisitive [Grice, 1989a, p. 74]. Groenendijk and Roelofsen provide for such a possibility for the exceptions that were discussed in the previous section - the cases in which a disjunctive leaves only one possibility. These are noted down as  $!(p \vee q)$ . At first glance,  $!(p \vee q)$  seems to correspond to the use of disjunctives as “contingency planning” [Grice, 1989a, p. 73] which Grice introduced with the example of his aunt arriving via an unknown means of transport. Contingency planning allows one to reject improbable options (such as her arriving via submarine) but does not allow one to differentiate between viable options such as her arriving at a train station or airport. Yet, Grice rejects the idea himself and contends that even though one might not be able to resolve the issue between  $p$  and  $q$  (Aunt arriving at the train station or airport), it remains part of an overall procedure that “seeks total or partial progress in the solution of “W”-questions. [Grice, 1989a, p. 74]

#### 2.3.4 Embedded Alternatives

As we saw, alternativeness is widely accepted to be a felicity condition of disjunction, and, for example, inquisitive semantics is based on a reading that requires disjunctions to provide alternative possibilities. The panel that drafted the discourse of dispute 27 often use disjunction to specify possibilities, or in other words, provide alternatives. For example, consider paragraph 7.93 of the Panel Report:

“In this connection, we find that the failure of Ecuador’s Protocol of Accession to address banana-related issues does not mean that Ecuador must accept the validity of the BFA as contained in the EC’s Schedule or that it is precluded from invoking *Article XIII:2 or XIII:4*. [emphasis added]”

In this case, the panel used the disjunctive to specify relevant articles that could be challenged by Ecuador, despite the counterarguments of the European Communities. In other words, the panel provided the possibilities - a list of articles - that would require investigation in the subsequent pages of the panel report. In this, they have raised an issue that will require the attention of the panel.

One should also note, though, that the models considered so far are insufficient for an accurate interpretation of the use of disjunction in this example. A careful reader will notice that the model needs to be enriched in two aspects. Firstly, as the account raises an issue for the panel to consider, the next sections will provide an account of pragmatic principles necessary for the analysis of WTO practice in dealing with issues. Secondly, the attentive reader might have noticed that disjunction is embedded under the modality “must” which affects the interpretation of disjunction in this case. This shall be considered in section 4.1.

Furthermore, paragraph 7.225 of the panel report cites article X:1 of GATT and consequently provides an example of another case of embedded disjunction.

"Laws, regulations, judicial decisions and administrative rulings of general application, made effective by any Member, pertaining to the classification or the valuation of products for customs purposes, or to rates of duty, taxes or other charges, or to requirements, restrictions or prohibitions on imports or exports or on the transfer of payments therefor, or affecting their sale, distribution, transportation, insurance, warehousing, inspection, exhibition, processing, mixing or other use ...".

In this case, disjunction is embedded under the word “pertaining” and the interpretation of disjunction as a list of alternatives becomes less salient. The effects of embedding disjunction under the word “pertaining” is scarcely covered in the literature but requires our attention. Instead, this seems to be a case of conjunctive disjunction, or in other words, disjunction that may be interpreted as conjunction. “Pertaining to the classification or the valuation of products” seems intuitively equivalent to the statement “pertaining to the classification and the valuation of products.” This brings us back to the initial problem outlined in the introduction of this thesis that disjunction and conjunction may be interpreted interchangeably. The following sections will further enrich the semantics and, especially, pragmatics being considered to test the feasibility of providing a model for interpreting disjunction embedded under modality and other words.

### 3 Pragmatic Felicity Conditions of Disjunction

#### 3.1 Information Exchange

Semantic meaning has been historically associated with the accuracy with which a statement describes the world. Yet, most statements do not arise in a static

environment, they are formed in discourse. Sometimes people need to communicate common problems and try to resolve them together. At other times they have conflicting interests and need to resolve the conflict.

The purpose of this section is to differentiate between two different pragmatic environments, those of information exchange and disputes. Pragmatic dispute environments will be introduced and separated from information exchange in the following section. Yet, both have a common basis that needs to be explained prior to either of the environments.

Both kinds of communication include inquisitive statements which do not describe the world, but instead give structure and direction to the discourse. For example, the statement that “the apple is red” makes little conversational sense without the listener knowing that it has been uttered in response to a question such as: “Which colour was the apple that was poisoned for Snow White?” Consequently, the felicity of an utterance could also depend on how it is related to the proposed issues and solutions.

We take the meaning of a sentence to be the proposition that it expresses as a set of possible worlds compatible with the information that the sentence provides. Stalnaker provided a conversational framework<sup>14</sup> in which the meaning of a sentence is associated with its potential to change the common ground - the body of common information as established by the conversation.<sup>15</sup> This is the external common ground, but all parties also have information states which, when combined, determine their internal common ground, the content of which is to a large extent unknown to other interlocutors. Due to this ignorance, interlocutors do not know they share common ground unless they make public statements that propose changes to the common ground which, in turn, are accepted by other interlocutors.

Inquisitive semantics investigates information exchange, the aim of which is to enhance the common ground which might enhance the information that an individual interlocutor possesses or bring awareness of the common ground to all interlocutors so as to facilitate coordinated action. [Groenendijk and Roelofsen, 2009] An individual interlocutor may enhance her or his own information by raising questions and receiving solutions from others. Action can be coordinated by uttering an inquisitive sentence that will give the interlocutors a choice between alternatives so as to decide on a solution common to all. Furthermore, by forming common ground through utterances, the interlocutors guarantee that all participants are aware of the common ground. The communicative effect of a statement becomes to enhance the common ground by excluding possible worlds incompatible with the beliefs of some interlocutors and by bringing awareness

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<sup>14</sup>See [Stalnaker, 1972, 1973, 1974, 1978, 2002].

<sup>15</sup>This notion seems to have originated with Grice: see [Grice, 1989a, p. 65, 274].

of the common ground itself.

Each conversational participant has an information state that embodies what the participant knows, even though it only includes those possibilities which the participant is aware that he or she knows. An information state is represented in the traditional way by a set of possible worlds or, in other words, ways in which the participant can imagine the world to be. If the set is empty, the information state is inconsistent. The union of the information states of participants forms the internal common ground that consists of common information that the participants share, even if they are unaware of this fact before they actually communicate the information. Once the participants exchange inquisitive and informative statements, they shall also form a public or external common ground. This is modeled after Stalnaker to stand for information shared during a particular conversation. [Stalnaker, 2002, 1978]

The common ground develops through updates from statements made in a conversation. Each time a participant utters a statement, he or she proposes to update the common ground with the information or alternatives in the statement. An update provides information about how the world is and thus eliminates possible worlds from among the possibilities in the common ground.<sup>16</sup> Groenendijk and Roelofsen propose that in pragmatic dialogue management, an utterance does not immediately update the common ground, instead, the hearer must either directly or indirectly accept or support the statement. [Groenendijk and Roelofsen, 2009] If an update with an utterance would be contradictory with what the interlocutor is aware of knowing, an explicit cancellation<sup>17</sup> is required to maintain the common ground. [Groenendijk and Roelofsen, 2009, p. 12] Through accepted updates, the common ground ultimately grows in information and shrinks in terms of the number of possible worlds it embodies. To be able to converse, one needs to trust the interlocutors in a conversation. But there is a limit to this, as one should not accept information that contradicts your own knowledge and make this public in conversation.

### 3.2 Dispute Environments

This section will introduce dispute environments and show the difference between information exchange - establishing common ground by externalizing the internal information states of participants - and disputes - establishing common ground via an adjudicator's decision.

<sup>16</sup>While humans are experts at lying to others and even themselves, we shall assume that interlocutors are honest and maintain their information state so that they agree to only that which is consistent with what they are aware of knowing.

<sup>17</sup>which should not to be confused with the cancellability of generalised conversational implicatures.

The purpose of the communicative exchange viewed in this section is to establish common ground for policy decisions. This roughly corresponds to the second purpose suggested by Groenendijk and Roelofsen [Groenendijk and Roelofsen, 2009, 15] for information exchange but the difference between the two accounts is rooted in the fact that the conversation begins with an unsolved dispute. The two participants have information states that, on communication, provide an inconsistency between the internal information states of the interlocutors. Consequently, the participants are unable to update the common ground and need to seek an adjudicator who would establish common ground for all participants so that all interlocutors would know which actions are permitted and which are not. Thus, the common ground between the interlocutors (including the adjudicator) first needs to be updated with a question to raise the main issue. It is likely that this issue will then need to be split into sub-issues by asking more questions as the discourse develops<sup>18</sup>.

For Groenendijk and Roelofsen, the internal common ground is the union of information states of all participants. [Groenendijk and Roelofsen, 2009, p. 14] Yet, Jelle Gerbrandy, in his dissertation [Gerbrandy, 1999, p. 66], considers common ground to be an intersection, which follows Fagin *et al.* [Ronald Fagin and Vardi, 1995] in that all possible worlds/indices that any participant considers impossible are eliminated. It is the perspective that an omniscient spectator would have of the information shared by the participants. Jelle Gerbrandy calls this distributed knowledge and he discussed the possibility of common ground yielding further extension of information than any single information set. For example, *A* knows  $\varphi$  and *B* knows  $\varphi \rightarrow \psi$  and neither knows  $\psi$ . Now, through conversation they can know  $\psi$ . He also discussed combined knowledge which is distributed information after it has been communicated. This corresponds to external common ground and we can easily monitor the conversational moves that affect it.

To motivate the view of Groenendijk and Roelofsen, recollect the view of Paul Grice on communication. Even when people argue, they cooperate. At least to the extent that they recognize “a common purpose or a set of purposes, or at least a mutually accepted direction.” [Grice, 1989b, p. 26] This is elaborated upon well by John R. Searle [Searle, 1996]. He argues that for, example, prize fighters need to first agree to have a fight and that is fundamentally different from someone attacking another in a dark alleyway. A similar principle is also codified in the treaty Dispute Settlement Understanding (DSU) of the World Trade Organization: members must not view a dispute - ie. engaging in consultations and, possibly, adjudication - as a contentious act, so it is in their common interest to, in good faith, attempt to resolve the dispute. [See article

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<sup>18</sup>More on this in the empirical section.

3.10 of the DSU] Article 23.2(2) of the DSU provides that

“Members are prohibited from making a determination to the effect that a violation has occurred, that benefits have been nullified or impaired, or that the attainment of any objective of the covered agreements has been impeded, except through recourse to dispute settlement in accordance with the rules and procedures of the DSU.”

So, a dispute should be viewed as an act of cooperative communication in which the interlocutors have juxtaposed information states. It cannot be said that the complainant and respondent know what they take themselves to know, at least in the strictest sense in which knowledge presumes correspondence with reality, as the dispute settlement procedure assumes that it cannot be known in beforehand whether interlocutor A or B is correct. So the juxtaposed information states should be joined by union so that the contradiction raises the issue of the dispute.

(17) A:  $\varphi$

B:  $\neg\varphi$

Issue:  $\varphi \vee \neg\varphi$

The use of the word dispute is different from its use in the WTO. They also consider the 60 day phase of diplomatic consultations, mandated by DSU article 4.7, part of a dispute. Unfortunately all discourse during this consultation phase is treated confidentially[See article 4.6 of the DSU], which deprives the analyst of its materials and requires us to circumscribe the scope of disputes to written panel reports that are available. The consultation phase is important for the purposes of reaching the preferred conclusion of each dispute: a mutually agreed solution.<sup>19</sup> When the two parties, through consultations, agree that no dispute remains and their information states provide for consistent common ground, the panel is not formed. This suggests that information exchange is also preferred to a dispute.<sup>20</sup>

The panel also acts as the recorder of the dispute. The statements of the complainant and respondent are not published in their entirety, rather a summary is provided of the various arguments (with an interim review period intended to allow either side to comment on possible omissions or misconstruals). The panel report takes the following structure: 1) the complainant provides an interpretation that demonstrates that the respondent has enacted some policy that is inconsistent with a specific article of a WTO treaty; 2) the respondent replies

<sup>19</sup>DSU provides in Article 3.7 that “[a] solution mutually acceptable to the parties to a dispute and consistent with the covered agreements is clearly to be preferred.”

<sup>20</sup>This might seem a trivial conclusion, yet it was seen as sufficiently important to require mention in one of the 27 articles of the DSU.

with an interpretation of the article in question which demonstrates that the policy is consistent with that article. The two parties may send additional letters to clarify their respective position in light of the statements of the other or questions from the panel, but the structure of two alternative interpretations<sup>21</sup> remains intact.

The role of the panel is to formulate the issue raised by the alternative interpretation by the complainant and respondent, and any sub-issues that need to be clarified for a solution to the issue to be possible, then to choose between the alternatives and establish or construct common ground. This is unlike information exchange in which common ground would be achieved through more natural conversation. As an example, consider paragraphs 7.274-286 of the panel report. The following example has several sections and even paragraphs omitted but, as this thesis is not interested in the substantive arguments, the structure of discourse should remain clear and demonstrate a similarity to the formation of an issue as proposed in the beginning of the section.

7.274 “The Complainants claim that the EC regime for the importation, sale and distribution of bananas is inconsistent with the EC’s obligations under Articles II (Most-Favoured-Nation Treatment) and XVII (National Treatment) of GATS in that it discriminates against distributors of Latin American and non-traditional ACP bananas in favour of distributors of EC and traditional ACP bananas.”

7.275 “The EC rejects the claims with respect to the GATS arguing, *inter alia*, that the measures in respect of which the Complainants have made claims were measures directed at trade in goods and not trade in services. Therefore, they could not be considered “measures affecting trade in services” within the meaning of the GATS.”

7.286 “We therefore find that there is no legal basis for an a priori exclusion of measures within the EC banana import licensing regime from the scope of the GATS.”

In the above example, the complainants argued that an European Communities policy is inconsistent with a specific article. The respondent denied the allegation. The respondent did not provide an alternative interpretation in substance but rather in scope, so that, according to this interpretation, the inconsistency

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<sup>21</sup>As the positions are intended to be mutually exclusive, one might wonder whether exclusive disjunction would not be more suitable. Yet, the difficulties encountered with the semantics of “exclusive or” do not need discussion in this thesis as the panel did not consider the disjuncts mutually exclusive. For example, as regards article XIII interpretations, they found the European Communities policies to be inconsistent, yet, simultaneously, allowed under the Lome Waiver.

could not be sustained in light of the inapplicability of the treaty to that particular policy. As we can see, the complainant and the respondent are unable to update the common ground due to the inconsistency in their views on the matter, thus the Panel must intervene. The panel proceeded to find a solution to the issue and decided that the interpretation of scope should be rejected. Therefore, the panel solved the issue in favour of the complainant. The following section will cast more light on the interpretative process of solving issues in the WTO.

### 3.3 Solving Issues in the WTO

This section will study the practice of the WTO in dealing with issues and consider the specific application of other pragmatic notions such as consistency to determine whether confounds exist between realistic discourse and currently available pragmatic models. While the previous excerpts from texts have demonstrated and mentioned various solutions to dealing with issues, the following quotation from paragraph 7.73 of the panel report provides a useful example for further analysis:

“The question then is whether country-specific shares can also be allocated to Members that do not have a substantial interest in supplying the product ... As to the first point, we note that the first sentence of Article XIII:2(d) refers to allocation of a quota "among supplying countries". This could be read to imply that an allocation may also be made to Members that do not have a substantial interest in supplying the product. If this interpretation is accepted, any such allocation must, however, meet the requirements of Article XIII:1 and the general rule in the chapeau to Article XIII:2(d). Therefore, if a Member wishes to allocate shares of a tariff quota to some suppliers without a substantial interest, then such shares must be allocated to all such suppliers. Otherwise, imports from Members would not be similarly restricted as required by Article XIII:1.

The panel has raised a sub-issue relevant to the policy of the European Communities and demonstrates in the same paragraph the manner in which they seek a solution. The method is not entirely dissimilar to the following steps. The panel finds the article with which an inconsistency has been claimed by the complainants, in this case Article XIII, and studies the relevant textual material within. They identify a relevant provision, in this case “allocation of a quota 'among supplying countries'”<sup>22</sup> and provide an interpretation of its text.

<sup>22</sup>The meaning of which in legal discourse remains irrelevant for the purposes of this thesis.

They also provide caveats or additional conditions to be met, outside of that contained in the text. These take the form of general rules, in this case another paragraph in the same article and the chapeau that provides object and purpose to the text.<sup>23</sup> A summary of the interpretation is provided at the end of the paragraph: “Therefore, if a Member wishes to allocate shares of a tariff quota to some suppliers without a substantial interest, then such shares must be allocated to all such suppliers.” In conclusion, the panel uses the method of textual interpretation to answer the issue at hand, or in other words, to choose between the possibilities proposed by the question at hand.

The aforementioned deserves a more thorough investigation to reveal the manner in which a panel interprets text. The panel report cites the Vienna Convention on the Law of the Treaties - an international convention on the rules and practices governing treaty interpretation - as the basis and method of interpretation.<sup>24</sup> Article 31 of the Vienna convention reads:

“A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.”

The above mentioned provision provides for three levels of interpretation - the ordinary meaning of terms, context and object and purpose - which the panel of dispute 27 dutifully followed. This particular panel report under the auspices of WTO law added a fourth level of interpretation which is consistency with previous panel reports.

Paragraph 7.26 provides the clearest example of the levels of interpretation being applied to solve an issue through textual interpretation.

“We turn therefore to an analysis of the EC claim in light of the interpretative rule of the Vienna Convention and of Article XVI of the WTO Agreement. In this connection, we examine (i) the ordinary meaning of the terms of Article 6.2, (ii) the context of the terms of Article 6.2, (iii) the object and purpose of Article 6.2 and (iv) past practice under Article 6.2 and its predecessor.”

While it would be tempting to associate the provisions of ordinary meaning with semantic analysis and context with pragmatics, as is customary, the following textual excerpts demonstrate that these terms have a specific meaning to a WTO panel. Fortunately, paragraphs 7.27 to 7.46 outline the interpretative sequence that the panel took and also labeled the sections according to whether

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<sup>23</sup>Chapeau's are parts of treaties that provide the interpreter with an overall purpose or object under which all specific provisions must fall. A more thorough analysis shall be provided below.

<sup>24</sup>See paragraph 4.174 of the panel report.

they were investigating the ordinary meaning, context, object and purpose or past practice for the solution. Even though this is not relevant for the purposes of this thesis, it might add clarity to mention that the issue at hand concerns whether or not the complainants provided a sufficiently clear complaint as to constitute an issue.

Under the label “ordinary meaning of treaty terms,” the panel discussed the relevant provision cited by, in this case, the respondent. We shall reiterate the relevant provisions of article 6.2 of the DSU that have been mentioned as the motivation for the two challenges raised by the European Communities. Article 6.2 of the DSU requires that the “specific measures at issue” be “identif[ied]” and that there be “a brief summary of the legal basis of the complaint sufficient to present the problem clearly”. While the panel find the first requirement, to identify specific measures, to have been met in the very same paragraph, the second they deem to require analysis on the levels mentioned before. The panel first provides an interpretation based on the following excerpts from article 6.2 of the DSU: “summary” and “present the *problem* clearly” [emphasis added by panel.] The interpretation is done in two steps. First they mention that “a complete elaboration of the complainant’s legal argument is not required. Secondly, the panel divides all the available complaints into three categories in descending order of presenting the problem clearly. The panel’s interpretation, in brief, is to set a minimum requirement of clarity which is specified as mentioning specific articles of a WTO treaty.<sup>25</sup> In conclusion, the panel used the stage under the label “ordinary meaning” to analyze and interpret excerpts of treaty texts from the article at issue.

The panel shifted its focus under the label “context” to encompass the purpose of the WTO dispute settlement system in their interpretation. This was linked to articles of the same treaty, the DSU articles 3.2 that provides that “[t]he dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system. ...” and article 3.3 which continues:

"The prompt settlement of situations in which a Member considers that any benefits accruing to it directly or indirectly under the covered agreements are being impaired by measures taken by another Member is essential to the effective functioning of the WTO and the maintenance of a proper balance between the rights and obligations of Members".

The formal difference should be limited by the fact that the panel did not stray from article texts and merely enlarged its point of focus to encompass other

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<sup>25</sup>See paragraph 7.29 of the panel report.

relevant articles. Yet, the constraint might not be entirely ubiquitous as the panel allowed itself some rather far-reaching conclusions about the purpose of the dispute settlement system. Its summary included a constrained summary of the articles mentioned above: “First and foremost, [the dispute settlement] system is designed to settle disputes.” but the panel also noted down the following reason:

“[I]f we were to rule that the panel request did not meet the requirements of Article 6.2 of the DSU and that the Complainant’s panel request was accordingly invalid, the resolution of this dispute would be delayed by at least 6 or 7 months. Yet, what purpose would that serve? Once the Complainants filed their first submission, there could be no doubt exactly what their claims were.”

One may conclude from this quotation that the panel allowed itself certain predictive powers and took the conclusions of this reasoning into account when finding that the contextual analysis “supports their preliminary finding”<sup>26</sup> under “ordinary meaning.” Also notice that the interpretation might be split into sections but is treated as one single interpretation as is also customary in linguistics in which one proceeds first with the dictionary meaning of terms before applying contextual analysis. For example, take the implicature theory of Paul Grice in which an implicature is identified when an utterance *p* is found to flout a maxim. Only after such identification at the level of dictionary meanings does a contextual analysis identify an utterance *q* the substitution of which with *p* would avoid the violation of the maxim in question. For more on this, see [Grice, 1989b].

The object and purpose section of the panel report provides an unambiguous analysis of the intent of the drafters of the text. In this case, the panel cites no sources for their interpretation, yet it gives a brief summary that the purpose of the article (as opposed to seeking the purpose of the entire treaty or system of disputes as under “context”) in question. The analysis is clear:

We see three purposes for Article 6.2 of the DSU. First, the request for the establishment of a panel under Article 6.2 will usually serve to set the terms of reference of the panel under Article 7 of the DSU. Second, the request informs the responding Member of the scope of the case against it. Third, the request informs potential third parties of the scope of the case, so that they can better decide whether they wish to assert third-party rights.

The article provides the scope of the dispute for the panel and informs both the respondent and any third parties of this scope.

<sup>26</sup>See paragraph 7.34 of the panel report.

We have seen under both contextual and object/purpose analysis by the panel that the interpretations that provide the solutions to the issue at the heart of the dispute are based on textual interpretation, yet the panel is allowed to go beyond the text and provide its own reasoning to motivate its findings. This was also the case in the additional level of analysis which the panel report labeled: “past practice.”

Consistency plays a significant role in both law and in pragmatics. In the former, predictability of findings ensures that, for example, WTO members may have expectations about their businesses receiving consistent and adequate protection from unlawful practices. This is also suggested by the panel when it provided the following:

“Adopted panel reports are an important part of the GATT *acquis*. They are often taken into account by subsequent panels. They create legitimate expectations among WTO Members, and, therefore should be taken into account where they are relevant to any dispute. However, they are not binding, except with respect to resolving the particular dispute between the parties to that dispute”

For the purpose of discourse analysis, the adjudicating panel should be considered a single interlocutor in all disputes as the participants may cite previous panel results as arguments in their favour, requiring the panel to retain consistency in much the same way an interlocutor in information exchange may expect a partner to be consistent. One should notice, though that in this case the consistency requirement is not binding and the panel may contradict the findings of a previous panel and publicly declare this inconsistency to maintain common ground. For example, in the case that we are following, the panel finds that:

“In any event, we recognize that past practice under the Tokyo Round Anti-Dumping Code may have been inconsistent with the result we reach. We recall that Article 3.3 of the DSU states that the prompt settlement of disputes is essential to the effective functioning of the WTO and we believe that our interpretation of Article 6.2 of the DSU best achieves that objective.” [7.43]

The panel is not being consistent with the reported findings of a prior panel, and publicly declared the inconsistency. This suggests that the pragmatic consistency rules required to describe dispute environments are more complex than strict consistency rules such as found in inquisitive semantics and pragmatics that would require an interlocutor to maintain the consistency of his or her information state. [Groenendijk and Roelofsen, 2009, p. 12-13] This means that

an interlocutor should not accept, directly or through inaction, any update to the common ground that contradicts his or her information state. Yet, the issue cannot be considered a confound as the purpose of information exchange includes the addition or learning of new information. As information is accumulated, the information state of the interlocutor - in this case, the panel - may begin to support different information than previously. Thus, a requirement of consistency is subservient to the principle of maintaining one's information state.

### 3.4 Disjunction as an Answer to an Issue

Following Grice, there appears to be consensus in the literature that disjunctions (and other informative utterances) have the overall goal of finding a solution to the issue at hand.<sup>27</sup> To take an example different from the one Grice used, it would be strange indeed if someone suddenly uttered:

(18) "The murderer was either MacQueen or Pierre Michel."

The sentence is unintelligible without the knowledge that this particular someone was enthusiastically following Hercule Poirot's adventure in Agatha Christie's "Murder in the Orient Express." Then it would be apparent that the reader would be attempting to answer the question: "Who killed Ratchett?" and providing two suspects from the book becomes a felicitous conversational act. Yet, the answer would hardly be satisfactory unless one is in a *pis aller* [Grice, 1989a, p. 68] situation where one does not know who the killer is. If the reader had finished the book, it would be considered teasing if he or she did not truthfully name the killer. Instead, Grice envisioned the disjunctive to be used as a step forward in a process which "seeks total or partial progress in the solution of "W"-questions." [Grice, 1989a, p. 74] If the first speaker had some sort of information to suggest that the killer was MacQueen or Pierre Michel, rather than Mrs. Hubbard, then an interlocutor may possess information about MacQueen having an alibi, thus solving the mystery by suggesting that Pierre Michel is the killer.<sup>28</sup> As it happens in the book, an interlocutor might instead disagree with the statement to reveal that Mrs. Hubbard could still be the killer.

Furthermore, all disjuncts must be possible answers to one "W"-question. Mandy Simons [Simons, 2000, 2001, 1999] provides the example:

(19) "Either there is dirt in the fuel line or it is raining in Tel-Aviv."

<sup>27</sup> Authors that understand questions as the topic of conversation include: [Carlson, 1983], [Ginzburg, 1995], [Roberts, 1996], [Simons, 2000, 2005b] and [Alonso-Ovalle, 2008].

<sup>28</sup> So far, the example seems to provide the same conversational moves as the one used by Grice in connection with Cock Robin.

This statement is infelicitous in most contexts as the first disjunct probably answers the question “What is wrong with my car?” and the other might answer the question “Why do I need a car?” In response to the question “What is wrong with my car?” the disjunction leaves open the possibility that there is dirt in the fuel line and there is no dirt in the fuel line and as it also does not eliminate all other possible faults to the car it does not progress the resolution of the issue. For the disjunction to become felicitous one would need to significantly alter background knowledge - perhaps by suggesting that rain-produced humidity and dirt in the fuel line produce similar malfunctions in a car, thus allowing both disjuncts to answer the question “Why does my car not work?”

Yet, one should notice that disjunction, while similar to a question in the Hamblin [Hamblin, 1973], G&S[Groenendijk and Stokhof, 1984], etc framework in that it also suggests possibilities, also provides information. Following a statement: “The murderer was either MacQueen or Pierre Michel.” one may assume that Princess Dragomiroff, Foscarelli and the other characters in the book should be eliminated from the list of possible murderers.

Regarding the notion that issues give direction to discourse, WTO panel reports make it explicit that interpretations are provided as solutions to issues. As an introduction, consider paragraph 7.73:

“The question then is whether country-specific shares can also be allocated to Members that do not have a substantial interest in supplying the product and, if so, what the method of allocation would have to be. As to the first point, we note that the first sentence of Article XIII:2(d) refers to allocation of a quota “among supplying countries”. This could be read to imply that an allocation may also be made to Members that do not have a substantial interest in supplying the product. If this interpretation is accepted, any such allocation must, however, meet the requirements of Article XIII:1 and the general rule in the chapeau to Article XIII:2(d). Therefore, if a Member wishes to allocate shares of a tariff quota to some suppliers without a substantial interest, then such shares must be allocated to all such suppliers. Otherwise, imports from Members would not be similarly restricted as required by Article XIII:1. As to the second point, in such a case it would be required to use the same method as was used to allocate the country-specific shares to the Members having a substantial interest in supplying the product, because otherwise the requirements of Article XIII:1 would also not be met.”

While the text is slightly obfuscated, the paragraph, written in the voice of the panel, begins with the wording of the issue and continues to seek a solution to it through proposing various examples from article XIII. This fits well to accommodate both the concept of “question under discussion” and provides an excellent environment for the investigation of the interplay between co-ordinands and “W”-questions.

Previously, we noted that questions and sub-questions need to be asked to achieve the purpose of communication. Yet, we did not consider when it is appropriate to ask questions. Information exchange provides for examples when asking a question is not a compliant move in discourse, such as after certain utterances.<sup>29</sup> Yet, WTO disputes have certain rules that constrain the raising of issues to preliminary stages. After those stages have passed, only sub-questions may be asked.<sup>30</sup> The difference between sub-questions and questions seems to lie in the fact that sub-questions may not be more difficult to answer than the question at hand.

As an example of a limitation, consider paragraph 7.25 of the panel report:

“In response, the Complainants argue that their request refers to the basic EC regulation that establishes the EC rules on banana imports and that this reference is sufficient to identify the measures at issue. They argue, in addition, that Article 6.2 does not require a panel request to tie each part of a contested measure to a specific provision of a WTO agreement that it is inconsistent with, but rather that submissions to panels serve that purpose. The Complainants further argue that the Tokyo Round Anti-Dumping Code cases are irrelevant. Moreover, *they note that the EC did not raise this issue at either DSB meeting at which the panel request was presented and cannot now claim that it was prejudiced by not knowing the claims of the Complainants.* Finally, the Complainants argue that this Panel may not rule on this claim because it is outside the Panel’s terms of reference.” [emphasis added]

The complainants suggest, ultimately successfully, that the respondent should have raised an issue during a specific DSB meeting and the fact that this was not done should substantially affect its interpretation. The rationale seems to lie in the fact that the dispute settlement system has an overall purpose of resolving disputes and the raising of issues could be continued *ad infinitum*, thereby rendering the Dispute Settlement Body procedurally ineffectual<sup>31</sup>. Furthermore,

<sup>29</sup>For an interesting case, see [Groenendijk and Roelofsen, 2009, p. 20]: after an initiative  $\psi$ - an assertion - is uttered, the only compliant response is another assertion. Questions are not compliant after such a statement.

<sup>30</sup>For treatment of sub-questions, see [Groenendijk and Roelofsen, 2009, 21-22].

<sup>31</sup>Also consider paragraph 7.32 of the panel report.

questions, even if sometimes used to delay, have a general goal of signaling the ignorance of an interlocutor as regards some specific information. If an issue is not raised in a timely manner, then the other participants are unable to provide the missing information.

The panel organizes the arguments according to issues raised. For example, the following complaints and counter-claims shown below, were organized as shown in table 2.

**Complainants:** 7.171 “The Complainants claim that the rules introducing operator categories, the eligibility criteria for Category B operators and the allocation to Category B operators of 30 per cent of the licenses required for the importation of third-country and non-traditional ACP bananas at the lower duty rate within the bound tariff quota are inconsistent with Article III:4 of GATT because this license allocation amounts to a requirement or incentive to purchase EC bananas in order to be eligible to import the bananas of Complainant’s origin.”

**Respondent:** 7.172 “The EC responds that the licensing regime applied to third-country imports within the tariff quota does not force any trader to purchase any quantity of EC bananas, but provides a tool for managing correctly the importation of third-country bananas according to the demand on the EC market. Likewise, the operator category rules and the allocation of 30 per cent of the licenses required for imports from third-country sources form part of the EC’s overall economic strategy and do not affect the volume of imports from third-country sources. Moreover, the EC reiterates that the licensing regime is applied at the border at the moment of importation, and not after the bananas have cleared customs and that, accordingly, all allegations concerning operator category rules under Article III are unfounded.”

Table 2

Issues	Solutions
7.174 [W]hether import licensing procedures are subject to the requirements of Article III.	7.174 In view of this interpretation of Article III:4, the fact that imported products may be subject to the collection of tariffs or the imposition of a licensing requirement taken as such, whereas the marketing of domestic products is obviously not, cannot per se violate Article III:4 of GATT.
7.175 [W]hether the EC procedures and requirements for the allocation of import licences for foreign products to eligible operators are measures that are included in the notion of "all laws, regulations and requirements affecting their internal sale, offering for sale, purchase ..." in the meaning of Article III:4.	7.178 [T]he argument that licensing procedures are beyond the purview of the GATT national treatment clause cannot, in our view, be sustained in light of the wording, context, object or purpose of Article III or with the findings of past GATT panel reports.
7.179 Turning now to the basic Article III claim of Complainants in respect of operator categories, we first recall the findings of the panel on EEC - Import Regime for Bananas ("second Banana panel"), which held with regard to operator categories. <sup>32</sup>	7.179 recalled 148 The Panel therefore found that the preferred allocation of part of the tariff quota to importers who purchase EEC bananas was inconsistent with Article III:4.

As one can observe in table 2, no structural similarity is visible between the initial arguments and the manner in which the panel poses the issues and sub-issues. In paragraph 7.182, the panel found that the issue is resolved towards the interpretation of the complainants:

“we find the allocation ... [policy of the European Communities]  
... is inconsistent with the requirements of Article III:4 of GATT.”

The dispute environment seems to be governed by its own rules and traditions, which are coupled with the inherent logic of solving issues in sequence of entailment, so as to guarantee against working on a solution that would be overruled by, for example, a scope issue that takes precedence. After all, if an issue falls outside of a specific article, it would not be sensible to make a ruling on the consistency of a particular policy under that article.<sup>33</sup>

## 4 Modality and other Unsolved Effects

Previous sections have analyzed examples from the case study and found that, with appropriate enrichment of semantic and pragmatic models that have been suggested in the literature, the linguistic interpretation of WTO legal texts is possible. Yet, the following two subsections demonstrate a phenomenon that is outside of the scope of current semantic and pragmatic models. They shall be presented in sequence, as the two examples are either of the same nature or at least bear a strong connection.

### 4.1 Deontic Disjunction

At the heart of the dispute between Latin American countries and the EC lies the interpretation of article XIII from the WTO legal text “General Agreement of Tariffs and Trade” (GATT) signed in the year 1947. Coincidentally, it also provides an interesting example for analysis on the difference between information exchange and dispute pragmatics.

The first paragraph reads as follows:

“No prohibition **or** restriction shall be applied by any contracting  
party on the importation of any product of the territory of any other

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<sup>33</sup>An interesting exception to such issue presentation sequence logic can be found with waivers. For example, the panel first found that the European Communities policies were inconsistent with article XIII of GATT, yet this inconsistency fell under the exception of the Lome Waiver. The order is remarkable, as the panel first presented all the material necessary to demonstrate the inconsistency and only thereafter presented the possibility of a waiver. This is especially remarkable considering that the arguments by the European Communities had been presented before the panel began organising their work and findings and, thus, the panel was well aware of the waiver to this inconsistency. No comments have been presented to explain this order of findings.

contracting party or on the exportation of any product destined for the territory of any other contracting party, unless the importation of the like product of all third countries or the exportation of the like product to all third countries is similarly prohibited or restricted.”  
[Emphasis added.]

Notice that the disjunction under question is embedded in a deontic environment. “Shall” is interpreted as mandatory and thus the first use of disjunction could be rephrased with relevant meaning unchanged as any of the equivalent notations below:

(20) “must not apply prohibitions or restrictions”

(21)  $\Box\neg(\psi \vee \varphi)$

(22)  $\Box\neg\psi \wedge \Box\neg\varphi$

Note that disjunction is considered equivalent with conjunction. The disjunction is embedded under modality and negation, the effect of which is well known in the literature. The disjunction behaves standardly, ie. not as disjunction embedded under modality but rather disjunction as such. [Simons, 2005b]

Yet, paragraph 2(b) provides a misbehaving example:

In cases in which quotas are not practicable, the restrictions *may* be applied by means of import licenses *or* permits without a quota  
[emphasis added]

The example should be read as:

(23)  $\Diamond(\psi \vee \varphi)$

Before we discuss its readings, recall that standard logical interpretation regards entailment relation between disjunction and its disjuncts in the following order:

(24)  $\psi \rightarrow \psi \vee \varphi$

This is called disjunction introduction or addition and is generally regarded a valid logical argument. Yet, as Hans Kamp discussed in the extensive 1973 article on Free Choice [Kamp, 1973], when disjunction is embedded under a modal operator, such as “may,” the direction of implication is reversed:

(25)  $\Diamond(\psi \vee \varphi) \rightarrow \Diamond\psi$

One can see that this is a valid argument as the addition of “permits without a quota” adds a possibility that is entailed in the disjunction.<sup>34</sup> It is very

<sup>34</sup>The method of reasoning, alas, is not straight-forward. The entailment reversal, while uncontroversial, is derived from the fact that  $\Diamond(\psi \vee \varphi)$  is equivalent with both  $\Diamond\psi \vee \Diamond\varphi$  and, crucially,  $\Diamond\psi \wedge \Diamond\varphi$ .

difficult, if not impossible, to construe a reading in which the drafters of article XIII attempted, through adding this disjunct, to weaken or limit the options of the relevant parties in regard of who the text was written.

These two examples are both well documented in the literature and various solutions have been suggested. Yet, all the following proposals fail to provide the second reading or the reversal of implication, unless they dismiss the Boolean interpretation of disjunction. For example, Zimmermann [Zimmermann, 2000] suggested that any  $\psi \vee \varphi$  has the semantics  $\diamond\psi \vee \diamond\varphi$ ; Aloni [Aloni, 2003] based her solution on interpretations based on alternative sets; Simons [Simons, 2005a], introduced a set formation operator and also divided up the domain through an additional requirement. While they succeed in providing a salient reading for disjunction under modality, such as (23), all of these proposals provide an unconventional reading for disjunction embedded under necessity and negation (20). The reading should be standard, yet these proposals provide the reading  $\neg\Box\psi \vee \neg\Box\varphi$  as opposed to the the most common reading (22).

This was noticed by Mandy Simons [Simons, 2005b], who elaborated that if one changes the Boolean interpretation of disjunction then one cannot derive the two interpretations of “may” and “must” with “negation.” If one leaves the Boolean interpretation of “or” one cannot derive a plausible reading for modality. This thesis will not suggest a solution to this puzzle, yet it is a phenomenon to be noted by those that wish to interpret disputes as the texts on which disputes are based are deontic and thus contain modalities.

For the purposes of clarity, it might be useful to elaborate on an issue associated with disjunction embedded under the modality “may.” Mandy Simons discusses two intuitively equivalent readings of the following statement. [Simons, 2005a]

(26) Jane may sing or dance.

(27)  $\diamond(\varphi \vee \psi)$

She claims that (26) has two readings, the first or the disjunctive reading is:

(28)  $\diamond\varphi \vee \diamond\psi$

The second and equivalent reading is one, traditionally dubbed “free choice”:

(29)  $\diamond\varphi \wedge \diamond\psi$

Of the two, (29) is generally regarded to be a more salient reading for (26) and what is striking in regard to these examples is that sometimes the most salient reading for examples of disjunction might be conjunction. It might be the appropriate time to remind the reader of the quote from the beginning of this thesis that summarizes the problems in conjunction with disjunction.

“[T]he words “or” and “and” in a statute may be construed as interchangeable when necessary to effectuate legislative intent.” [Solan, 1993, p. 45]

As we have seen through our analysis of disjunction, there are valid cases in which natural language “or” may be construed as “and.”

Not only has this section shown that current semantic and pragmatic models are unable to formally analyze the natural language reading of disjunction in deontic environments, and this phenomenon is widely recognized in the literature; it has also been shown that the problem as discussed in the first section might be not be a problem in the strictest sense, but rather a natural language phenomenon best investigated with a view on the fact that disjunction and conjunction may lie in an equivalence relation under certain conditions.

## 4.2 Broad Pragmatic Effects of Disjunction

Recall the argument of the complainants in 7.171 as it provides an interesting example for the use of disjunction in dispute environments:

[The European Communities policy is] “... inconsistent with Article III:4 of GATT because this license allocation amounts to a **requirement or incentive** to purchase EC bananas.” [emphasis added.]

This use of the disjunction is notable due to its pragmatic effect on the panel report. Unlike the cases discussed in the previous section and in 2.3.4, the current issue does not arise due to embeddings, even though it is similar in effect.<sup>35</sup>

If we recall the discussion on the use of disjunction in modal environments, we will remember that unlike traditional logical disjunction, the order of entailment between disjuncts and the disjunction is reversed, instead of  $\psi \rightarrow \psi \vee \varphi$  one will have  $\diamond(\psi \vee \varphi) \rightarrow \diamond\psi$ . The rationale behind this, as known from Hans Kamp, [Kamp, 1973] is that one is allowed more possibilities. His example compared the statements:

(30) You may go to the beach

(31) You may go to the beach or the cinema.

The former provides for only one possibility, which is entailed by, an allowance to go to the beach or the cinema.

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<sup>35</sup>The precise and comprehensive interpretation of the effect still eludes the author but will hopefully be clarified in subsequent research.

Now, to reflect from this basis on the use of disjunction in the above example, the use of disjunction does not specify either of the disjuncts as true and, thus, does not require the panel to find *a requirement to purchase EC bananas*, nor *an incentive to purchase EC bananas*. The subsequent effect on the panel is to require an investigation into both terms, “requirement” and “incentive,” regardless of the truth or falsity of either individually. This is necessary because both providing an incentive and the, generally more stringent, requirement to purchase EC bananas is deemed illegal under WTO regulations. The use of disjunction is probably motivated by the desire of the complainants to guard against an unfavourable verdict in case one of the two disjuncts is to be found false. The disjunction only reiterates the possibility that either a requirement or an incentive could be found. Thus, the pragmatic effect of such phrasing is to mandate an investigation into both of the possibilities, so that the disjunction entails either of the single disjuncts.

(32) a requirement [to purchase EC bananas] or incentive to purchase EC bananas

(33) a requirement [to purchase EC bananas]

It should be obvious that (32) entails (33), rather than the reverse, which is predicted by standard interpretations of disjunction, due to the broader compulsion on the panel to investigate the claims of the complainant. The entailment seems to correspond to the following.

(34)  $(\psi \vee \varphi) \rightarrow \psi$

Such an effect is curious for it takes the same form as disjunction under modality, in that a disjunction entails either disjunct, rather than the opposite which we might expect from traditional semantics. As semantics does not predict such an interpretation, one might search for an explanation through pragmatics. Section 3.4 showed that disjunction, and disputes more generally, should be interpreted through a central issue. This statement was made in the course of raising an issue and the effect is that the panel must direct its attention to both possibilities. It might be the case that either of the disjuncts is true, and this requires investigation.

Clearly, an account of possibilities is required to explain this phenomenon, yet an appropriate one has not come to the attention of the author. Relevant literature has associated directing attention with the modal operator “might” and the interplay between raising issues and this operator could cast light on this phenomenon, but no further analysis be provided within this thesis. Do consider that this might be, but has not yet been shown to be, a pragmatic relation between the following.

$$(35) \quad \varphi \vee \psi$$

$$(36) \quad \diamond\varphi \wedge \diamond\psi^{36}$$

The fact that such a phenomenon requires investigation adds gravity to the claim that disjunction and conjunction may be used interchangeably.

## 5 Conclusions

This thesis proceeded to investigate the application of semantics and pragmatics in the interpretation of disjunction in dispute environments, ie. in the courts of law. It chose the World Trade Organization dispute no. 27 - the Banana Dispute - as its case study and analyzed examples taken from its panel report to determine whether semantic and pragmatic analysis was possible. The author hypothesized that semantic and pragmatic models would provide intuitive explanations to the examples found in the case study.

It was quickly verified that standard purely truth functional disjunction was inadequate to analyze the use of disjunction in the case study as the literature in semantics and pragmatics has long understood that, without the felicity condition of alternativeness, semantic models do not account for the prevalent use of disjunction to specify possibilities. Yet, semantic models do provide intuitive interpretations to disjunction if these adhere to the felicity condition of alternativeness, ie. disjunction is interpreted non-truth functionally with disjuncts raising an issue.

Furthermore, it was reiterated that semantic analysis of disjunction without attention to context-dependent effects lacks a well known account familiar from literature of the use of disjunction as an answer to an issue or, as Grice has phrased it, in response to a 'W'-question. Issues are seen as that which provide direction to the discourse and examples of the case study demonstrated that panel reports mold the structure of discourse so to ensure that it is guided by issues that require solutions. In this light, the semantics and pragmatics used to interpret dispute discourse in the WTO should also include an analysis of disjunction as a response to issues. The responses, on the other hand, provided a slight difficulty to the analysis of pragmatic consistency, as the panel is at the same time bound to follow previous panels consistently but self-admitted contradicting some panel results. The accommodation of such practices may require further investigation, but no confound was identified in the application of known pragmatic models on disjunction.

The case study highlighted two uses of disjunction to which no adequate analysis could be provided from the current semantic and pragmatic literature.

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<sup>36</sup>In this case,  $\diamond$  represents the modality "might."

The first is the well-documented free choice paradox which arises in cases where disjunction is embedded, for example under modality or, as was found in the case study, under the word “pertaining.” No model has yet provided an account which provides an intuitive account of both the modal interpretation and an interpretation of disjunction in which disjunction is embedded under modality and negation. Secondly, the case study revealed that the use of disjunction by complainants can have the pragmatic effect of mandating an investigation of all the disjuncts by the panel, thus contravening the standard implication from disjunct to disjunction.

(37) Standard order of implication:  $\psi \vee \varphi \leftarrow \psi$

(38) Example from case study:  $\diamond(\psi \vee \varphi) \rightarrow \diamond\psi$

As the results of the fourth section have no ready solution in the literature nor even investigations on the issue of the reverse implication, this thesis must find the use of semantics and pragmatics in the interpretation of legal disputes premature. An analysis provided by the most professional of semanticists could not be considered adequate to deal with the deontic and pragmatic effects outlined in this thesis. Furthermore, in the light of the findings of this thesis, the interpretation of disjunction and conjunction interchangeably has been shown to be based on complex but verified uses of language in which disjunction should be interpreted as conjunction.

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