# Incomplete Arguments in Legal Discourse: a Case Study

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**Abstract.** This paper investigates to what extent natural-language arguments in legal discourse can be regarded as containing unexpressed premises. In a study of a Dutch civil dispute it is found that many seemingly incomplete arguments can plausibly be regarded as containing an unstated premise, especially statutory rules, legal classification rules, and empirical commonsense generalisations. However, several other such arguments are found to be only seemingly incomplete, since they can be regarded as based on the defeasible argumentation schemes of temporal persistence and appeal to witness testimony. It is also argued that all seemingly incomplete arguments in the case can be reconstructed in one of these two ways, so that there seems no need to distinguish a class of 'rhetorical' arguments.

## 1 Introduction

Theoretical analysts and modellers of natural language argumentation have often struggled with the phenomenon of incomplete arguments. The problem is to reconcile a theoretical account of argument validity with the fact that natural-language arguments often seem incomplete but not simply invalid. The question then is, can we say that the speaker had an unexpressed premise in mind, or is perhaps the argument valid by other than deductive standards? In the fields of philosophy and argumentation theory various answers to this question have been given (for a recent overview see Gerritsen (2001)). *Deductivists* (e.g. Groarke (1999)) claim that all natural-language arguments can be understood as attempts to formulate deductive arguments. Consider, for instance, the following argument:

> Ninety-six percent of adult Americans watch television more than ten hours per week. Davis is an adult American. Therefore Davis watches television more than ten hours a week.

Groarke proposes that this argument can be made deductively valid as follows:

> Ninety-six percent of adult Americans watch television more than ten hours per week. Davis is an adult American. *Davis is among this ninety-six percent*. Therefore Davis watches television more than ten hours a week.

According to Groarke, an important benefit of such a deductive reconstruction of an argument is that it highlights hidden assumptions that may need to become the focus of discussion when we decide whether an argument should be accepted.

Against this, *inductivists* such as Govier (1987) argue that such deductive reconstructions of incomplete arguments fail to capture the fact that often the added premise is based on a general principle of nondeductive reasoning. If such a reasoning principle is recognised, the seeming incompleteness of an argument disappears. For instance, the above argument can be regarded as an instance of the statistical syllogism (cf. Pollock (1995)). Others, e.g. Walton (1996), have observed that such nondeductive reasoning principles may be found in the study of so-called presumptive argumentation schemes.

A third approach is the *rhetorical* one, (cf. Gerritsen (2001, pp. 53-4)) which claims that there is a class of arguments to which the categories 'complete' and 'incomplete' do not apply, since they are used to persuade an audience in a particular context to adopt the argument's conclusion. It would make no sense to apply validity criteria to such arguments, since the only criterion for assessing them, so it is claimed, is whether they are likely to succeed in persuading the audience. A recent proponent of this view in AI & Law is Lodder (1999).

In AI & Law the problem of incomplete arguments has been discussed in research on dialogical models of legal argument. Several such models, such as (Gordon; 1995; Bench-Capon; 1998) and (Lodder; 1999), allow for stating and conceding logically incomplete arguments. Although this is a desirable feature (since it agrees with natural-language practice), theoretically it is not the whole story, since in actual examples of argumentation it often seems obvious from the context what is left implicit. This issue is also relevant for implemented systems that are meant to generate arguments: it is likely that users will find such systems easier to use if the arguments are presented to them in a natural way, and leaving out obvious premises may be more natural. Accordingly, the objective of this paper is to explore to what extent actual legal arguments are incomplete, and how incomplete arguments can be best completed. I will do so by analysing an actual legal dispute, viz. a Dutch civil case.

The rest of this paper is organised as follows. To begin with, in Section 2 I will discuss the criteria used in the case study, after which in Section 3 I give a brief overview of the study of argumentation schemes. The heart of this paper, Section 4, consists of the case study, from which in Section 5 some conclusions will be drawn.

## 2 Criteria for the case study

Anyone analysing a discourse with incomplete arguments faces the following questions. How can it be recognised whether an argument is complete (i.e., valid), incomplete or simply invalid? And if an argument is incomplete, what is the best way to complete it? Given criteria for answering these questions, rhetorical arguments can then be found by elimination of other possible classifications. In fact, the only candidate rhetorical arguments seem those that must otherwise be regarded as invalid.

An argument is complete if its explicit form instantiates a valid inference rule. Thus completeness depends on the set of inference rules endorsed by the analyst. A deductivist will only recognise an argument as complete if it instantiates a deductive inference rule, while an inductivist will also regard it as valid if it conforms to a nondeductive inference principle; the deductivist will instead regard such nondeductive principles as schemes for identifying hidden premises (see e.g. Groarke (1999)). My analysis takes the inductivist approach, although it will be equally relevant to a deductivist: when I identify an argument as based on a nondeductive principle, a deductivist can simply add an implicit premise based on this principle.

As for the criteria of validity I will, besides those of standard deductive logic, endorse the

presumptive argumentation schemes discussed by Walton (1996) and the defeasible reasoning principles discussed by Pollock (1995) (acknowledging that there may be more suitable principles). These principles will be briefly discussed in Section 3. In addition, I will assume a scheme for the application of defeasible conditional statements, since, as will turn out, many implicit conditionals are in fact defeasible (whether empirical, linguistic or normative), so that the argument cannot be completed as a deductive argument. Finally, it is important to note that the 'validity' of nondeductive arguments does not mean that they survive the competition with their counterarguments, but simply that they count as an argument.

Finally, in determining the line between incomplete and invalid arguments and in finding a plausible completion of an incomplete argument, I will look at what a typical rational person in the given circumstances (i.e., a typical Dutch solicitor in a civil dispute) can reasonably be said to have in mind when making certain utterances. An argument is incomplete if such a person can be said to have one or more hidden premises in mind which, when made explicit, make the argument valid; otherwise it is either invalid or a rhetorical argument.

## 3 Argumentation schemes

The notion of argumentation schemes is one of the central topics in current argumentation theory. For a recent overview see (Garssen; 2001). As studied by Walton (1996), argument schemes technically have the form of an inference rule. Consider, for instance, the following scheme of appeal to witness testimony:

(1) Witness $W$ says that $p$
(2) Witness $W$ is sincere
(3) Witness $W$ is in the position to know about $p$

Therefore, $p$

However, such argumentation schemes differ in several respects from standard-logical inference rules. To begin with, they are not based on the meaning of logical operators, but on epistemological principles or principles of practical reasoning. In fact, different domains may have different sets of such principles. Furthermore, argumentation schemes come with a set of critical questions which have to be answered when assessing whether its application in a specific case is warranted. Some of these questions pertain to acceptability of the premises, such as 'is $W$ sincere?', and 'is $W$ in the position to know about $p$?'. A final difference is that argumentation schemes are meant to be defeasible. This is reflected in two ways. The first is that in many dialogical contexts (such as legal procedure) certain answers to some critical questions may be presumed. For instance, in many uses of the witness testimony scheme positive answers to the sincerity and position-to-know questions are presumed. Moreover, the possibility of counterargument is left open, for instance, by negative answers to critical questions, or by a conflicting application of the same or another scheme. For example, one witness may have said $p$ while another said $\neg p$; or a witness testimony may be rebutted with an argument from another scheme, such as appeal to expert opinion.

There is an obvious relation between the study of argumentation schemes and the study in AI of defeasible reasoning. In particular John Pollock, e.g. Pollock (1995), has investigated how arguments can be constructed on the basis of general epistemological principles. One such principle is the *perception principle*:

> Having a percept with content $p$ is a prima facie reason to believe $p$.

Another example is the *temporal persistence* scheme:

> Believing that $p$ is true at $T_1$ is a prima facie reason for believing $p$ at a later time $T_2$ (where the strength of the reason decreases as time proceeds).

Other principles studied by Pollock are, for instance, the statistical syllogism and principles of memory and induction. Pollock also studies counterparts of critical questions, in the form of so-called *undercutters*, which are principles for denying the connection between premises and conclusion of a defeasible argument. For instance, if somebody perceives an object of red colour, then an undercutter of the perception principle is that the object is illuminated by a red light. Or if somebody observes $p$ at $T_1$, then the temporal persistence principle can be undercut by a percept of $\neg p$ at a time $T_3$ that lies between $T_1$ and $T_2$.

## 4 The case study

### *4.1 The case*

The case concerns a Dutch civil dispute concerning ownership of a large holiday tent. It was earlier partly analysed by Leenes (1998). The complete case files have been published by Leclerq (1990). Plaintiff (Nieborg) and his wife were friends of Van de Velde, who owned a large tent at a camp site. At some point van de Velde mentioned that the tent was for sale for dfl. 850 (about EURO 385). Nieborg replied that he was interested but could not afford the price. Van de Velde still made his tent available to Nieborg, who in return helped van de Velde to paint his house, while Mrs. Nieborg for some period assisted Mrs. van de Velde with her domestic work. At some stage, Nieborg claimed that he and his wife had done enough work to pay the sales price for the tent. This made van de Velde very angry and he demanded the tent back since, so he argued, he had never sold the tent but only made it available to Nieborg for the period that he himself did not need it; he had done so since Nieborg had told him that he and his wife had never had have enough money to go on holiday. When Nieborg refused to return the tent, van de Velde, assisted by a group of people, threw Nieborg's son (who was the only person present) out of the tent and took it away. A few months later, van de Velde sold the tent to defendant (van de Weg) and his wife. The sales price (dfl. 850) was paid with domestic work by Mrs. van de Weg in assistance of Mrs. van de Velde.

In court, Nieborg (plaintiff) claimed return of the tent to him on the basis of his ownership. Van de Weg (defendant) disputed Nieborg's claim on the grounds that van de Velde had not sold the tent to Nieborg but only given it on loan, and that the work done by Nieborg and his wife was not done to pay the sales price but out of gratitude.

The relevant law is quite intricate and will not be explained here. The main issue of the case was whether van de Velde had sold the tent to Nieborg, so that Nieborg was owner at the time of the violent events, or whether van de Velde had just given the tent on loan, so that van de Velde had remained the owner. Van de Weg was allocated the burden of proving that Nieborg had obtained the tent on loan. To meet his burden, he provided three witnesses, Van de Velde and two of his acquaintances, Gjaltema and van der Sluis. Nieborg's main attack on van de Weg's evidence was that the witnesses were not credible: van de Velde had a personal interest in a win by van de Weg, and all three witnesses had declared something that Nieborg claimed was demonstrably false. However, the judge was convinced of their credibility, since

their declarations supported each other and since Van de Weg had abstained from presenting counterwitnesses. Nieborg therefore lost the case.

### *4.2 An analysis*

An analysis of the case is helped by the fact that it almost entirely consists of the exchange of written documents. However, reconstructing the case still turned out to be a considerable task, for several reasons. First of all, legal disputes take place against the background of a large body of relevant law, most of which is left unstated. Furthermore, in the documents exchanged by the adversaries most arguments are not neatly laid out with a clear premise - conclusion structure. In fact, sometimes it is hard to decide whether something is meant as an argument, or as a comment, explanation or something else. Obviously, such problems make it hard to identify which arguments are seemingly incomplete in the first place. And, of course, any analyst has his or her own theoretical bias as to the structure of arguments. Nevertheless, I hope that my reconstruction is sufficiently plausible to be the basis for discussion. For space limitations I can discuss only some example reconstructions; a full reconstruction of the dispute can be found in (Prakken; 2002).

In the dispute two phases can be distinguished, viz. the phases before and after the distribution of the burden of proof by the judge. In the pre-evidence phase, the parties state their legal claims and defences, and support them with 'legal-operative' facts (for instance, "defendant must return the tent to me since it was violently taken away from me at $T_1$ when I owned the tent, and defendant holds the tent"). After the judge has allocated the burden of proof with respect the stated facts, the parties provide evidence to prove these 'probanda' (for instance, "the tent was given in use as proven by these witness testimonies").

#### 4.2.1 The pre-evidence phase

In the pre-evidence phase of the case I identified 17 arguments, which are of four types:

- Arguments applying statutory legal rules;
- Arguments on the classification of facts as an instance of a legal concept;
- Arguments applying legal definitions or interpretations;
- Temporal-persistence arguments, concluding from the creation of a legal relation at one point in time that the relation still exists at a later point in time.

I have identified nine arguments that apply a statutory rule. Four of these arguments paraphrase the content of the rule, one just refers to the name of the rule, and four leave the rule entirely implicit. In three of the latter cases it was obvious which rule was left implicit, but one argument seems to confuse the application of two statutory rules on ownership, viz. 2014,1 BW (old) that says that possession in good faith is a presumption of ownership, and the general rule of 639 BW (old) that says that one becomes owner by delivery of the good by the previous owner (defendant speaks of becoming the owner "in good faith" by buying the tent from van de Velde and paying the sales price).

I found one, rather trivial interpretation argument, which from the legal conclusion that Nieborg had obtained the tent on loan concluded that Nieborg therefore had not become

owner of the tent. Strictly speaking this is not just application of one rule but interpretation of the various relevant rules on absolute rights to goods. In defendant's interpretation argument all these rules were left implicit.

Further, I have identified three classification arguments, all of which have the form 'facts, therefore, instance of concept', and thus leave the reason for the classification implicit. For instance, plaintiff argues:

> (1) At $T_1$ my son was in the tent
> (2) At $T_1$ van de Velde came with 15 other people, forced my son to leave the tent and took it away
> Therefore, (3) at $T_1$ the tent was violently taken away from me.

Arguably this leaves implicit a universally quantified version of

If 1 & 2 then 3

I found three arguments that apply the scheme of temporal persistence, inferring from the (assumed) fact that a person became owner (or in one case the holder) of the tent at a certain point in time, he was still the owner (holder) at a later point in time. This is a very common pattern in arguments that certain legal relations exist: one first proves that the relation was created and then implicitly assumes that nothing later affected the relation. In fact, one of these three arguments is an example of an incomplete nondeductive argument: defendant argued that plaintiff obtained the tent on loan from van de Velde at $T_1$ and therefore was holder of the tent at the time of the law suit; this is a temporal-persistence argument that implicitly assumes a legal definition (of holdership).

I found one argument that leaves both a classification rule and a specific fact implicit, viz. defendant's argument that he became owner of the tent by buying it from van de Velde and paying the sales price: this leaves implicit both the relevant legal rule and the fact that van de Velde delivered the tent to van de Weg.

In sum, of the 17 arguments identified in the pre-evidence phase, seven are complete, of which five by the scheme of defeasible-rule application and two by another presumptive argumentation scheme. Of the ten remaining arguments two can be completed with one or more legal interpretation rules, four with a statutory rule, and four by adding a classification rule (in one case by further adding a specific fact).

Finally, I found one case where an three-step argument was left implicit. In attack on defendant's argument that van de Weg became owner of the tent by buying it from van de Velde, plaintiff (presumably interpreting it as an application of 639 BW) states that this is irrelevant since Nieborg owned the tent when van de Velde violently took it away from him (at $T_1$). Here the following argument is left implicit: Nieborg owned the tent at $T_1$, therefore (by temporal persistence) he owned it at $T_2$ when van de Velde sold it to van de Weg, therefore (by legal definition), van de Velde did not own the tent at $T_2$, therefore (by legal rule 639 BW), van de Weg did not become owner at $T_2$. This example illustrates that reconstructing the argumentative structure of a case often requires extensive interpretation.

In how many cases was there more than one reasonable way to complete an incomplete argument? The most interesting cases are the incomplete classification arguments. One way to complete them is to add a rule 'if facts then instance of concept', as I did above. However, in many legal disputes a party starts with a simple 'facts, therefore instance of concept' argument and gives a more elaborate argument if this argument is challenged (see Loui and Norman

(1995) for a computational model of such argument moves). Concluding, it seems reasonable to complete a classification argument with a simple *if premises then conclusion* rule, but only if the dialogical context is taken into account.

### 4.2.2 The evidence phase

The evidence phase was especially hard to construct, for which reason I will not give precise statistics. Nevertheless, the general pattern of the main arguments is clear. They start from witness testimonies and connect them to the probanda via applications of the scheme from witness testimony (always left implicit) and empirical commonsense generalisations (always left implicit). In addition, sometimes linguistic interpretation rules are (always implicitly) used to interpret the testimonies, and legal classification rules (almost always implicitly) to link the empirical generalisations to the probanda.

Let us look at defendant's argument that Nieborg obtained the tent on loan from van de Velde. First from the three witness testimonies the three legal-operative facts necessary for concluding that the tent was given in loan are derived, viz. that the tent was given in use, that this use was free and that it was temporary. Then the legal rule concluding to the probandum is (explicitly) applied. Actually, upon closer examination defendant's use of the witness testimonies is more involved than the scheme discussed above in Section 3. Consider the following reconstruction of defendant's argument that the tent was given in use.

> Witness van de Velde says that he gave the tent in use to Nieborg
> Witness Gjaltema says that Nieborg had expressed to him his gratitude towards van der Velde that he could *use* the tent (*emphasis by defendant's solicitor, HP*)
> Witness van der Sluis says that Nieborg had expressed to him his gratitude towards van der Velde that he could *use* the tent (*emphasis by defendant's solicitor, HP*)
> Witness van der Sluis says that Nieborg said that van de Velde let him use the tent since van de Velde could not use it that summer
> Therefore, van de Velde gave the tent in use to Nieborg

Several remarks can be made about this argument. To begin with, it leaves the position-to-know and sincerity premises implicit (as do all other arguments based on testimony in this case). Furthermore, the argument seems to assume an unexpressed empirical generalisation that if legal laymen speak of "using" and "giving in use", they use these terms in a sense that is not too far from their legal meaning. Most importantly, the conclusion is derived not from one but from four witness statements, all about different states of affairs, while the testimonies of Gjaltema and van der Sluis contain a nested use of the witness testimony scheme. For these reasons it seems that the version of the witness testimony scheme discussed above in Section 3 must be extended and refined. However, a full discussion of this has to await another occasion; for present purposes it suffices to say that defendant's reasoning clearly involves some use of the scheme, combined with linguistic interpretation rules (all left implicit) and an empirical commonsense generalisation (left implicit).

Plaintiff attacks defendant's evidential arguments in two ways. First he provides a (rather weak) rebuttal of plaintiff's argument that the use of the tent was free: "From van de Velde's testimony it becomes apparent that the work of Mr. and Mrs. was directly related to the use

of the tent, therefore, there are indications that the use was not free.". This argument combines an application of the witness testimony scheme with implicit linguistic interpretation rules (implicit since plaintiff does not say why it became clear that . . . ) and an implicit legal classification rule (namely that if the performance of some service is directly related to the receiving of an object, the use of the object is not free).

All other of plaintiff's attacks challenge the sincerity of defendant's witnesses, i.e., they are negative answers to a critical question attached to the witness testimony scheme. All of these arguments combine appeals to witness testimonies with (supposed) commonsense empirical generalisations. The first one is a very interesting type of incomplete argument.

> van de Velde says that Mr. and Mrs. Nieborg's work was not payment
> van de Velde says that a few months later he accepted similar work as payment of the sales price by Mr. and Mrs. van de Weg
> It is very unlikely that the same person changes his mind about such a thing within a few months (*this was actually stated as a rhetorical question, HP*)

Here the argument stops, but it is clear that plaintiff invites the judge to draw the following conclusions himself (a well-known rhetorical device):

> Therefore, van de Velde's first statement is not true
> Van de Velde is in the position to know
> Therefore, van de Velde has lied on one occasion
> Therefore van de Velde's testimonies are incredible

Note that all steps in the argument can be completed with commonsense empirical generalisations, such as "if a witness who is in the position to know about $p$ says something that is not true about $p$, s/he lies". Just as with implicit legal classification rules, such empirical generalisations may be elaborated to any level of detail when contested.

The other credibility attacks are more straightforward. For instance:

> Van de Velde has an interest in the outcome of the case
> The law declares witnesses with lesser interests unfit to testify
> Therefore, van de Velde is not credible

This applies a (probably compressed) commonsense empirical generalisation that witnesses who have more interest in a case than persons declared unfit to testify, will be unsincere.

Finally, I come to the judge's final decision. The judge first states why he regards it as proven that the tent was given on loan. This argument has the same general structure as defendant's (although it is more precisely stated). Then the judge explicitly rejects plaintiff's attacks on van de Velde's credibility (although, remarkably, he is silent on plaintiff's attacks on the other two witnesses). It is worth quoting the judge in full.

> These considerations are not shaken by the fact that witness van de Velde has a considerable interest in a decision in favour of defendant; (1) it more often happens that witnesses have an interest in the outcome of a case.
> It must be taken into account (2) that the law does not declare van

> de Velde unfit to testify, (3) that his testimony is supported by the witnesses Gjaltema and van der Sluis, and (4) that Nieborg has abstained form calling counterwitnesses. (*numbering by me, HP*)

It seems obvious that this is not an additional argument for defendant's probandum, but a rebuttal of plaintiff's attacks on van der Velde's credibility. More precisely, it seems that premises (1) and (2) argue against the generalisation implicit in plaintiff's first argument, while premises (3) and (4) are reasons for van de Velde's credibility. Accordingly, plaintiff's first argument is attacked by:

1 & 2 & 3 & 4, therefore, plaintiff's first generalisation is incorrect

This leaves implicit a generalised version of

*If 1 & 2 & 3 & 4 then plaintiff's first generalisation is incorrect*

(Again this can be elaborated if desired.) And plaintiff's second argument is attacked by

3 & 4, therefore, Van de Velde is a credible witness

This seems to be assuming that *if a witness testimony is supported by other witnesses and there are no counterwitnesses, then the witness is credible*.

## 5 Discussion

The objective of this paper was to examine to what extent actual legal arguments are based on nondeductive argument schemes, to what extent they can be completed by making implicit premises explicit, and to what extent neither of these reconstructions is plausible. Clearly, as an empirical investigation the scope of this study is very restricted: just one case from a particular jurisdiction has been analysed, not containing some common forms of legal reasoning, such as reasoning about open-texturedness, value or policy. Furthermore, reconstructing large pieces of natural-language argument is a creative effort with considerable room for alternatives. However, with this in mind, the following can be said.

I have found two general nondeductive argument schemes that are frequently used in this case, temporal persistence and arguments from witness testimony (although all uses of the latter scheme are more complex than the simple schemes from the literature on argumentation theory). I also found several cases where a statutory rule was left implicit. The most interesting cases are of two kinds: those where legal classification rules seem to be left implicit and those (mostly evidence arguments) where empirical commonsense generalisations appear to be implicit. I have argued that in all these cases such premises can be plausibly added, although in doing so the dialogical context should be kept in mind, where often an initial coarse classification or commonsense rule is elaborated to any desired level of detail after attack. As for empirical commonsense rules, this claim is supported by Kadane and Schum (1996)'s detailed analysis of the evidential arguments in the famous Sacco and Vanzetti case. In my opinion, such cases cannot really be regarded as ambiguous: arguers are usually well aware that they leave an intricate line of reasoning implicit, and simply hope that it will not be made into an issue. Taking this into account, I found only a few cases where there could be genuine

doubt as to the most plausible completion. Apart from defendant's probable confusion of two statutory rules, the only hard completion decision was whether evidential statements must be conjoined in one argument or distributed over alternative arguments. Finally, as for rhetorical arguments, I did not identify possible candidates, since all arguments came out as (complete or incomplete) valid arguments. For proponents of the existence of rhetorical argument, the most obvious attacking point in my analysis seems that of implicit classification rules and empirical commonsense generalisations. However, to be convincing, such an attack would need to show that my reconstructions of the arguments of these kinds are implausible.

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