Abstract. Dialogue protocols in Artificial Intelligence and Law have become increasingly stylised, intended to examine the logic of particular legal phenomena such as burden of proof, rather than the procedures within which these phenomena occur. While such work has provided some valuable insights, the original motivation still matters, and so in this paper we will return to the original idea of using dialogue moves to model particular procedures by examining some very particular dialogues - those found in oral hearings of the US Supreme Court. We will characterise these dialogues, and illustrate the paper with examples taken from a close analysis of a case often modelled in AI and Law, California v Carney (1985). This paper presents the preliminary investigation required to identify tools to provide computational support for the analysis of oral hearings.

Keywords: Legal argumentation, persuasion, deliberation, values, dialogue

1 Introduction

Dialogue games were originally introduced into AI and Law as a way of modelling legal procedures [8], but more recently they have been used rather to capture the logic of aspects of legal reasoning, such as reasoning with cases (e.g. [10]) or particular legal phenomena such as burden of proof (e.g. [11]), and in consequence have become somewhat stylised and unrelated to any particular legal dialogue. That work has produced some valuable insights, but in this paper we will return to the original motivation and consider some particular dialogues that form a clearly defined stage of the US Supreme Court process, namely the Oral Hearings stage. Manual analysis of transcripts of these dialogues plays an important part in building systems to reason with cases in particular legal domains, such as CATO [1] for U.S. Trades Secret Law. Our immediate aim is to present the preliminary investigation required to identify tools to provide computational support for the analysis of oral hearings: in the longer term we hope to provide a suite of tools to support other parts of the Supreme Court process.

We begin by providing some necessary background. We will recall the notion of dialogue types used in [13], briefly describe the Supreme Court processes and the role played by the oral hearings, and describe the particular case we will use as a running example, California v Carney (471 U.S. 386 (1985)). The full transcript of the Oral Hearing and the opinions are available at http://holmes.oyez.org/cases/1980-1989/1984/1984_83_859.
1.1 Characterising Types of Dialogue

When analysing dialogues, it is important to be aware of the type of the dialogue, since shifts between dialogue types often lead to misunderstandings and fallacies; the dialogue types identify the speech acts available and provide the context to interpret them. Walton and Krabbe [13] characterise dialogue types based on:

– The dialogue initial situation, which identifies the initial conditions that give rise to the dialogue.
– The overall collective goal, shared by all participants, which defines the characteristics of a successful dialogue outcome.
– The individual goals of the participants, which help to determine the reasons for particular move choices by the participants, which should lead towards the main goal, while at the same time respecting their own best interests.

In section 2.1 we will identify the initial situation and goals appropriate to Oral Hearings of the US Supreme Court, which will help to drive our analysis of the dialogues.

1.2 Supreme Court Process

Typically the Supreme Court reviews cases that have been decided in lower courts, either affirming or reversing the lower court decision. The Supreme Court receives a number of certiorari requests from parties who are not satisfied with lower court decisions asking for a review of their cases. Normally, when a case for consideration of certiorari is accepted, the petitioner and respondent write briefs setting out their positions and recommendations to prepare the Justices for the oral argumentation. Briefs may also be supplied by other interested parties, such as the Solicitor General. These are the so-called amicus curiae (friend of the court) briefs. When the justices have considered all the briefs, the oral hearings take place. The total time for the oral argumentation is just one hour, thirty minutes for each party. Normally the petitioner will begin, reserving some of his thirty minutes for rebuttal. The respondent will follow for thirty minutes, and the petitioner will finish taking the remaining time for a rebuttal (cf the 3-ply structure of argumentation in HYPO [3] and CATO [1]). Following the oral hearing, the justices meet in a justice conference to discuss and vote on the case. Following this the opinions are prepared: one justice will be chosen to write the opinion of the Court, and the other justices may, if they wish, write their own concurring or dissenting opinions. Figure 1 below illustrates the procedure of the Supreme Court from the time of receiving the certiorari until the case is decided.

The Supreme Court is expected to give a decision in the case under review, but it needs to look to the past and the future as well. The decision needs to be expressed as a rule which will be applicable to future cases, and which will, as far as possible, be consistent with previous decisions of the Court: see e.g. [9]. The rule not only binds future courts, but provides guidance for those responsible for enforcing the law. Thus Carney, for example, provides police officers with
a particular test to determine whether the automobile exception to the fourth amendment applies or not.

1.3 A case study: California v Carney

This case is concerned with whether the exception for automobiles to the protection against unreasonable search provided by the Fourth Amendment applies to mobile homes, in particular motor homes in which the living area is an integral part of the vehicle. The Fourth Amendment protects the “right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.” A search is considered reasonable if a warrant has been obtained. The exception for automobiles was introduced in the Carroll\(^1\) case in 1925, when a car carrying contraband was stopped and searched without a warrant. In Carroll, there is no mention of privacy: the justification was in terms of exigency, that the law could not be enforced if a warrant were required as the evidence would simply disappear into the night and another jurisdiction. The facts of this case (sedan on freeway) are as strong as can be in terms of exigency.

The notion of an automobile exception developed over the years through a series of cases, with elements of privacy being considered as well as exigency. South Dakota v Opperman (1976) gives a clear statement incorporating the reduced expectations of privacy appropriate to automobiles in addition to exigency, and this statement of the exception was used as the current rule by the majority in Carney. In Opperman an illegally parked car was impounded and searched without a warrant. Marijuana was found in the glove compartment. Note that in Opperman there was no exigency at all.

\(^1\) Carroll v. United States, 267 U.S. 132 (1925)
California v Carney arose when drug agent officers arrested Carney who was distributing marijuana from inside a motor home parked in a public parking lot in the downtown of San Diego for unknown period of time. After entering the motor home, without first obtaining a warrant, the police officer observed marijuana. This motor home was an integral vehicle with wheels, engine, back portion and registered as a house car which requires a special driving license in California. On the other hand, it has some interior home attributes such as refrigerator, cupboard, table, scale, bag and curtains covering all the windows. The question was whether warrantless search was permissible in this case, satisfying the exception to the fourth amendment for automobiles. The California Superior Court affirmed the warrantless search because of the automobile exception. However, The California Supreme Court reversed the lower court decision indicating that the search violated the fourth amendment rule. After granting a certiori, The U.S. Supreme Court held that the search was reasonable and did not violate the fourth amendment rule and so reversed the California Supreme Court decision.

California v Carney has often been used in AI and Law to explore Supreme Court oral argument (e.g. [12], [3]), and to consider the interaction of two competing values (e.g. [6]). In Carney, the competing values are enforceability of the law, which makes exigency important, and citizens’ rights, which include the right to privacy [5].

2 Models of Reasoning with Cases in AI and Law

Modelling reasoning with legal cases has been a central topic of AI and Law from the beginning, and there is now a good degree of consensus, especially with regard to the main elements involved. This consensus can be expressed as a tree of inference with a legal decision as the root and with evidence as the leaves. Between the two we have a number of distinct layers.

Immediately below the decision we have a level of issues [7], or values [4], which provide the reasons why the decision is made. The idea here is that laws are made (and applied) so as to promote social values: whether a value is promoted or not is an issue. Where more than one value is involved and they point to different decisions, the conflict needs to be resolved. Sometimes it is appropriate to give priority to one value over another (as in [4]), sometimes a balance needs to be struck (as in [7]). Thus the Fourth Amendment exists to protect Privacy, and the automobile exception to enable Law Enforcement: in a particular case the issues will be whether there was sufficient exigency and/or insufficient expectations of privacy. Note that the relation between issues may be seen as a matter of ordering, or requiring a balance between the values: there is as yet no consensus on this point [5].

At the next level down there are a number of factors [1]. Factors are stereotypical fact patterns which, if present in a case, favour one side or the other by promoting a value, and so are used to resolve the issues. Factors are required to enable generalisation across the infinitely varied fact situations that can arise,
and so permit the comparison of cases. Sometimes (as in [1]) it may be con-
venient to group several factors together under more abstract factors, so that
we may have two or three layers of factors, moving from the base level factors
through more abstract factors, before reaching the issues.

Below the factors we have the fact patterns used to determine their presence.
These may offer necessary and sufficient conditions, but more often they offer
either a set of sufficient conditions, or in less clear cut cases, a number of facts
supplying reasons for and against the presence of the factor which need to be
considered and weighed to make a judgment.

At the lowest level there is the evidence. Facts are determined by particular
items of evidence, and where evidence conflicts a judgment will need to be made:
often this judgment is made by a jury of lay people rather than lawyers. In the
lower courts there will be real items of evidence, particular witness testimonies
and the like. But by the time a case reaches the Supreme Court, the facts are
usually considered established and beyond challenge. The Supreme Court does,
however, need to consider what should count as evidence, and whether this will
be generally be available, so that the rule can be applied in future cases. For
example a birth certificate is normally required as evidence of age, other evidence
being considered unreliable, or unlikely to be available.

Thus a complete argument for a case will comprise a view on what can be
considered as evidence for relevant facts: what facts are required to establish
the presence of various factors, and how they relate; how the factors can be
used to determine the issues; and, where issues and values conflict, how these
conflicts should be resolved. In the next section we will consider the individual
and collective goals of the oral hearing dialogues.

2.1 Oral Hearings

In this section we will describe the initial situation, the individual goals and the
collective goal for Oral Hearings in terms of the computational understanding
developed in the previous section. As part of the Supreme Court procedure,
there are three nested dialogues in the main oral argumentation dialogue. The
overall aim is to establish the various elements, and the connections between
them, expressed as clearly and unambiguously as possible, which can be used by
the justices to construct the arguments they will use in their opinions. Each of
the three dialogues will involve a counsel and nine justices. We will not distin-
guish between the justices here. Essentially they will all ask critical questions to
clarify and challenge the argument elements proposed by counsel, although the
particular questions they pose may well be motivated by their own views of the
case, and their developing ideas of the argument they will use to decide the case.
The arguments produced in the opinion will essentially use a test, which will be
binding on future cases satisfying the test, and which will allow a decision to be
made by using the facts of the current case, to establish the presence of a set of
factors which will resolve the issues in favour of one of the parties.

In the initial state of the petitioner presentation, briefs from the petitioner,
respondent and any “friends of the court” are available. These will set out (and
justify) a set of tests which would provide candidate arguments: counsels will in
turn present the elements of a test which, if accepted, will ground an argument for
their clients. The briefs will also state the accepted facts of the case, and draw
attention to relevant precedent cases. The collective goal is to obtain a clear
statement of a set of elements that can form an argument which will resolve
the case. Individually the counsel will wish to present an acceptable test which
will lead to a decision for the petitioner and to answer any critical questions
satisfactorily: modifying his tests if necessary. The justices will wish to clarify
any points that had not been made clear in the original brief, and to pose
challenges arising from the other briefs.

The collective goal of the second dialogue, the respondent presentation, is to
obtain a clear statement of the test advocated for the respondent. The respondent
dialogue differs in its initial state because the petitioner has already presented.
Thus as well as presenting his own test, counsel for the respondent may wish
to find some difficulties with the test proposed by his adversary. The justices
remain interested in clarification and eliciting answers to questions arising from
the other briefs.

While the collective goal of the rebuttal dialogue is again a clear statement
of the tests and the elements composing them, and the choices that must be
made when deciding between the tests, the initial state now also contains the
respondent’s test and its elements, and the individual goal of the petitioner’s
counsel is to pose questions against this test. Justices usually say very little
during this stage, but they may wish to seek clarification of some points.

The goal of the three dialogues as a whole is to provide a clear statement of
possible tests and the elements used in them which the justices will employ to
decide the case and construct the arguments in their opinions.

2.2 Dialogue Moves for Oral Hearings

The goals of the dialogues involve identifying the elements that can be used to
construct tests that will provide arguments to resolve the case, and the relation-
ships between these elements. Speech acts will thus enable the proposal of these
elements, and a set of critical questions challenging the elements, or seeking ad-
ditional elements. Thus, although there is no conclusion, and hence no argument
as such, the moves have many similarities to those arising from argumentation
schemes. In this section we describe the moves, (each illustrated with an example
from California v Carney). Formal definition of these moves will form part of
the specification of a computational tool, which will be our next step.

- Values Assertion: The following values are relevant to decide the legal
  question. Law Enforcement and Privacy are the values relevant to determin-
ing whether a case falls under the automobile exception.
- Issues Assertion: The values are considered as these issues. The issues are
  whether there was sufficient exigency (so that Law Enforcement is promoted)
  and insufficient expectations of privacy (so that privacy is not demoted) to
  permit a search without a warrant.
– **Issues Linkage Assertion**: The issues should be considered collectively as follows. *The issues are related as Sufficient Exigency \lor Insufficient Privacy.*

We then have a number moves to introduce factors relating to the issues.

– **Factors for Issue Assertion**: The following factors are relevant to resolving the issue. *Vehicle Configuration and Location are relevant to resolving Sufficient Exigency.*

– **Factor Linkage Assertion**: The factors relevant to the issue should be considered collectively as follows. *Sufficient Exigency is resolved by considering Vehicle Configuration \land Location.*

Finally we need a number assertions to identify the facts relevant to the various factors:

– **Facts for Factor Assertion**: The following facts are relevant to determining whether a factor is present. *Wheels and Means of Propulsion are relevant to determining Vehicle Configuration.*

– **Fact linkage Assertion**: The facts relevant to the issue should be considered collectively as follows. *The presence of Vehicle Configuration is determined by considering(Wheels \land Engine) \lor (Boat \land (Engine \lor Oars \lor Sail)).*

Note that we do not need to consider the evidence level: the facts to be used have already been determined by the lower court, although, as we shall see from the CQ10 below, we do need to consider how the facts will be determined in practice.

We can now consider the critical questions that can be posed against these assertions. The structure as a whole is meant to provide a test. The questions relate to the **test too broad** and **test too narrow** arguments of [3], but our more articulated moves offer a finer granularity since they identify various different aspects with respect to which the test may be deficient. In the following CQs, by relevant we mean relevant to deciding the case.

**CQ1**: Are all the issues relevant?
**CQ2**: Are there other issues that are relevant?
**CQ3**: Are the issues linked correctly?
**CQ4**: Are all the factors really relevant to this issue?
**CQ5**: Is there an additional factor relevant to this issue?
**CQ6**: Is the relationship between factors correct?
**CQ7**: Are all the facts relevant to determining the presence of this factor?
**CQ8**: Is there an additional fact relevant to the presence of this factor?
**CQ9**: Is the relationship between facts correct?
**CQ10**: Can these facts be observed by the appropriate person?

These CQs permit a test to be challenged as too broad or too narrow at all three levels, and in two ways. As well as challenging the breadth and narrowness in terms of the elements used (e.g. CQ1 and CQ2), the breadth and narrowness
can also be challenged in terms of the way the elements are combined, as in CQ3. It should also be noted that it is quite common to combine questions: for example CQ1 and CQ2 can be combined, effectively suggesting the substitution of one element for another. These could be expressed as additional CQs, but here we will rely on combinations of CQs. Note also that CQ10 relates to whether the tests can be applied by the person responsible for applying them in the operational situation: a test that cannot be applied in the actual situation is not acceptable, because ensuring that the test will be applicable in future cases is essential.

In [2] the response to such questions is said to be one of:

- **Save the test**: Effectively deny that the question is pertinent to the test; for example if CQ8 is posed suggesting that an additional fact would change the position with respect to some factor, it can be maintained that the same position continues to hold.
- **Modify the test**: Exclude an item (e.g. CQ1), add an item (e.g. CQ2) or change the linkage (e.g. CQ3);
- **Abandon the test**: This means withdrawing the current proposal and proposing a new one.

In the course of the hearing the various elements of the proposed tests emerge. The dialogue is often not well structured: the questions are not posed in any particular order, and may be interleaved with the presentation of the proposal, so that the proposal is modified as it is presented. None the less, the aim of each counsel is to present and defend the elements required for a test which will decide the case for their client, and the justices aim to get a clear statement of the various elements which they can use to build the arguments in their opinions.

### 3 Illustrations with *California v Carney*

Using the set of moves proposed above, we have analysed the oral hearings of *California v. Carney*. There is insufficient space to report the full analysis here, but we provide example extracts from each of three component dialogues, showing the moves proposed and some critical questions posed against them.

#### 3.1 Dialogue One - Petitioner Oral Hearing

The petitioner maintains throughout the dialogue the position that exigency is the only issue here, and that the relevant abstract factor of *inherent mobility*, that is, the capability of quickly becoming mobile, using the configuration of the vehicle as the base factor, ensures a sufficient exigency for the automobile exception to override the privacy protection of the fourth amendment. He proposes that this can be determined using easily observed facts such as *the vehicle has wheels* and the *vehicle is self-propelled*. One justice poses CQ7, suggesting that wheels might be enough, so that trailers are also covered, but the counsel rejects this suggestion and maintains his test. The question of boats is also raised.
suggesting that there must be some other consideration to cover boats. In this case the test is modified to disjoin boat with oars to provide an additional sufficient condition (CQ9).

Figure 2 illustrates some of the elements that make up the petitioner’s test. An important feature of the argument is that the issues of privacy and exigency are kept separate. A justice challenges this, using CQ3, based on the Solicitor General’s brief, which suggests that both must be considered.

**Unidentified Justice**: You prefer a single rationale for the exception to the warrant requirement. Namely, you think “mobility” is practically the sole criteria; and the Solicitor General at least thinks that there are two.

**Petitioner**: Well, I think there is more than one, and I think they’re independent of one another.

The Solicitor General argued that there are some circumstances where a mobile home results in expectation of privacy (privacy issue) that must be considered in addition to exigency (CQ3). One example of these circumstances is when the motor home is stationary in a mobile home park for a significant period of time (CQ5). The petitioner rejects the use of the length of time parked as this cannot be determined by the law enforcement officer (CQ10). The notion of location is, however, accepted as a factor additional to vehicle configuration relating to exigency (modifying the test in response to CQ5), claiming that while a vehicle in a residential location (such as a mobile home park) might not be considered inherently mobile, whereupon issues of privacy would become relevant, a vehicle in a regular parking lot can always be considered inherently mobile.

**Unidentified Justice**: Well, anyway, you certainly would differ with the Solicitor General as to the application of the exception in a park, in a mobile home park?

**Petitioner**: Under the circumstances that’s been presented, yes, I would.

**Unidentified Justice**: Of course that isn’t the issue here, is it? This is in a public parking lot.

**Petitioner**: That’s correct, Your Honor. That is not presented in this case.

And if I might address the Solicitor General’s position and explain why ours is a little bit different: The reason for our difference with the Solicitor General is because that a law enforcement officer in the field has to determine whether or not this vehicle is now placed in a constitutionally protected parking spot: if an individual is going to come upon this vehicle he’s not going to know whether it’s been parked in this particular motor home lot for a period of three months, or two weeks, or how long.
3.2 Dialogue Two - Respondent Oral Hearing

The respondent presents a rather different test. He insists that both exigency and privacy need to be considered. He aims to establish sufficient expectations of privacy on the grounds that the motor home is designed to be used for residential purposes as well as transportation unlike a regular passenger automobile (However, transportation is not its sole function) and this can be determined by the presence of facts about configuration such as: cab and the living quarters are part of a single unit. Also to be considered are whether there are attributes associated with a home, established using facts such as containing a bed and a refrigerator and whether it is used to store and transport personal items. Additionally he aims to show that the exigency is lessened since the vehicle is not ready to be moved (is inoperable), because there is no driver in position, and there are curtains drawn over the windscreen. Moreover because it was parked in downtown San Diego a warrant could easily have been obtained. The respondent’s test is viewed as a rebuttal of the petitioner’s argument, adding privacy as an issue (CQ2), and conjoins rather than disjoins the two issues (CQ3). Readiness to move and possibility of obtaining a warrant are introduced as additional factors for assessing exigency (CQ5). The additional factors capable of use as a home and used to store and transport personal items are proposed as additional factors relating to privacy (CQ5). The relationship between these factors was not discussed, although CQ6 was available to clarify it had any justice wished to do so.

The extract below is an attempt by a justice to suggest that the fact that the cab and the residential part are a single unit is not essential (CQ7) for the required vehicle configuration factor to be present. The respondent saves his test

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2 This is intended to align it with precedent cases involving luggage being transported in a car where the automobile exception did not apply. For example in U.S. v. Chadwick 433 U.S. 1 (1977) it was held that the warrantless search of a footlocker in the trunk of a car was reasonable.
by pointing out that if we have a trailer and tractor configuration, the greater expectations of privacy apply only to the trailer, and the exigency applies only to the tractor. Under pressure, however, the respondent eventually modifies the test by introducing the personal effects factor (CQ5). This extract is summarised graphically in figure 3.

Unidentified Justice: Assume now that the automobile vehicle is the tractor that would pull the otherwise immobile motor home, or whatever you want to call it. Now you could search the tractor, but not the-
Respondent: I think that’s true. And the reason is-
Unidentified Justice: –The tractor can take off down the street and go 70 miles an hour on the highway?
Respondent: –The reason is, the tractor has a privacy interest which society is less prepared to recognize. It’s a diminished privacy expectation, as opposed to the motor home or the trailer itself.
Unidentified Justice: Well, they’re equally... when they’re attached, they’re equally moveable, aren’t they?
Respondent: Exactly. But one is used for private living residential purposes, and the other is used for transportation. As a matter of fact–
Unidentified Justice: The other one isn’t used for transportation in the abstract, but only in connection with what it pulls. Isn’t that so?
Respondent: –Yes, that’s correct.
Unidentified Justice: People don’t go out on the highway on the tractor alone, do they?
Respondent: Ordinarily not. The tractor partakes more of the automobile, because it doesn’t have... it is not the kind of repository for personal effects.

Privacy and Exigency

Motor home configurations

Cab (tractor) and Residential part(trailer)

Bed, ref., cupboard... Personal Things

Figure 3: Some of The Elements Used in Respondent’s Test
3.3 Dialogue Three - Petitioner Rebuttal

In the last of the three nested dialogues, the petitioner attempts to rebut the tests introduced by the respondent by adding new facts and/or factors or showing the inapplicability of the tests to prove sufficient privacy.

According to the respondent test above, that the living quarters are an integral part a vehicle should attract sufficient privacy expectations. However, in the following extract the petitioner claims that it is not possible to determine these residential facts (CQ10), and in this particular case there was no evidence of food or personal items inside the motor home. So even if the personal effects factor were relevant, that is (the respondent’s CQ5) succeeds, it does not apply to Carney.

But the record does not at all support this particular assertion.
And in particular, if one examines the photographs that are a part of the record in this case that were submitted to this Court, looking at the picture of the refrigerator will show that there is marijuana in the refrigerator, but there is no food.
And when they examined the cupboards in this case, there’s no underwear, there’s no sheets, there’s marijuana.
There’s nothing in the record to suggest Mr. Carney was using this as his home, and in fact that is the problem.
There is no way to determine, in these particular class of vehicles, when they are and are not being utilized as a home, objectively.

4 Concluding Remarks

In this paper we have considered an important class of legal dialogues relating to reasoning about cases, namely the US Supreme Court Oral hearings.

We have:

– Located these dialogues in the overall Supreme Court process;
– Identified that the dialogue consists of three distinct sub-dialogues;
– Characterised the three sub-dialogues in terms of their initial state, and individual and collective goals;
– Presented a set of moves designed to enable the goals of the dialogues to be achieved in the form of assertions and associated critical questions;
– Illustrated all points throughout using extracts from the transcript of a case much discussed in the AI and Law literature.

In future work we will present our full analysis of the transcript of Carney; and apply the analysis to other related cases (e.g. those discussed in [5]). We will then specify a tool that will support the analysis of Oral Hearings by automatically constructing the corresponding tree from a transcript annotated with
our moves. We will next relate the argument components that emerge from the Oral Hearing to the arguments that are expressed in the opinions of the Justices. We conjecture that the move from oral hearing to opinion will involve selection between the options and justification of the choices made. This last point may be of relevance for work on argumentation schemes since it provides a reasoned acceptance or rejection of critical questions, a topic which is as yet relatively unexplored in computational argument.

References