involves a danger. The opponent of the claim with which the dialogue begins has an interest in denying everything the proponent claims and in opposing every attempt to get her committed to anything. The law knows several means to limits the effects of such a destructive strategy. The first means is to have initial commitments for both parties to some facts that are assumed by default, for instance facts that are generally known to obtain.

The second means is to assign the burden of proof for particular facts to one of the parties. By assigning some dialogue party a burden of proof, a default decision is made about the presence of facts: some facts are assumed (not) to obtain, unless the party that has the burden of proof proves otherwise. In this way it becomes possible to add facts so that the possibility arises to determine the legal consequences of the case.

The burden of proof may be more or less severe. Freeman and Farley distinguish five levels of support that can be given to a claim[65]:

- *scintilla of evidence*, where there is at least one defensible argument for the claim;
- *preponderance of evidence*, where there is at least one defensible argument that outweighs all arguments of the opponent for the opposite conclusion;
- *dialectical validity*, where there is at least one credible, defensible argument for the claim and where all arguments of the opponent for the opposite claim are defeated;
- *beyond a reasonable doubt*, where there is at least one strong, defensible argument for the claim and where all arguments of the opponent for the opposite claim are defeated;
- *beyond a doubt*, where there is at least one valid, defensible argument for the claim and where all arguments of the opponent for the opposite claim are defeated.

Since the work of Freeman and Farley is based on a static dialectical theory, where the set of premises is fixed, their theory about the burden of proof does not help against an opponent who refuses to co-operate in establishing the facts. Although it specifies the amount of proof that is available given a set of premises, which is useful for a division of the burden of proof between the dialogue parties, it leaves the question open where the basic facts of the case, from which the other ones must be proven, come from.

Here is where the arbiter has her role.[66] She can make decisions about (factual) issues that bind the dialogue parties. Such a decision can be

[65] Freeman and Farley 1996.

straightforward, when some fact is decided to obtain, whether the parties agree or not. It may also be somewhat more circumspect, such as when one of the parties is assigned to the burden to prove (the absence of) some facts.

The role of an arbiter is unavoidable in law-establishing dialogues.[67] It is, however, a problematic role, because a decision of the arbiter on an issue makes a dialogue about this issue superfluous. The idea of having an arbiter is against the very spirit of dialogue games.[68] Nevertheless, arbiters are unavoidable and the best way to cope with them is to limit their role. How this should be done is beyond the scope of this chapter.[69]

11. MEDIATING SYSTEMS

If the law is seen as having a rhetorical nature, the natural role for dialogical systems is that they support legal dialogues, rather than to assess their rationality. Systems that fulfill such a supporting role are called 'mediating systems'. In the recent literature on Artificial Intelligence and Law, four such mediating systems have been proposed. One of them is the ZENO argumentation framework by Gordon and Karacapilidis[70], another one the Room 5 system by Loui et al.[71], the third one is the DiaLaw system by Lodder[72] and the fourth is Verheij's Argumed.[73]

The ZENO argumentation framework makes use of a discussion model that contains messages that are exchanged by the participants in a discussion.

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[66] To avoid misunderstandings, it may be useful to point out that the arbiter is not necessarily the same person as the judge who was introduced in the previous section in connection with legal issues. The roles of the arbiter and the judge are not the same. In actual legal procedures, the two roles tend to be merged in the person of the judge.

[67] In merely dialectical systems, an arbiter is superfluous, because if a claim cannot be proven, it is invalid. In systems as the Pleadings Game, the role of the arbiter only becomes important when the pleadings game has finished. The arbiter may have to decide about the remaining issues. Gordon assigns this function of the arbiter to the Trial Game.

[68] For this reason, the role of the arbiter is not implemented in Lodder's DiaLaw system. See Lodder 1999, 29.

[69] In Hage e.a. 1994 the proposal was made to allow a call to the arbiter only if there is no winning strategy for or against the issue at stake. This limitation of the role of the arbiter does not go far enough, because it allows a call to the arbiter at the beginning of almost every dialogue about the facts of a case.

Prakken 2001 tries to model the role of judges in Dutch civil procedure in a formal dialogue game.

[70] Gordon and Karacapilidis 1997.

[71] Loui e.a. 1997.

[72] Lodder 1998 and 1999.

[73] Verheij 2003 (AAA) and 2004.

The contributions to the discussion can be given informally and are interpreted and formalized by a human mediator. The results of this interpretation and formalization are called marked messages. These are stored in the discussion model. The content of the discussion model can be modeled as a dialectical graph. In such a graph, the positions of the different parties in the discussion and the support and attack relations between them are modeled in the form of a tree. The root of the tree represents the issue at stake and the branches indicate lines of argumentation leading to different solutions for the issue. Given such a tree it is possible to define several levels of support for the solutions to the issue. Gordon and Karacapilidis distinguish five such levels, namely *scintilla of evidence*, *preponderance of the evidence*, *no better alternative*, *best choice* and *beyond a reasonable doubt*.[74] Positions taken by the parties are labeled as *in* or *out*, depending on whether they meet the level of proof that is selected for the issue. For instance, there is a *scintilla of evidence* for a particular position if there is at least one position, labeled as *in*, which supports the position at stake.

The Room 5 system by Loui et al. is similar to the ZENO-system in that it provides an environment for humans to conduct structured legal discussions. Its logical support is somewhat less than that of ZENO, but this is compensated by a facility for retrieving federal decisions on past cases.

Where the ZENO argumentation framework supports decision making processes in general, Lodder's DiaLaw aims at characterizing legal justification. A legal solution for a case is justified if the parties in a legal dialogue reach an agreement about this solution. The DiaLaw system supports legal dialogues by enforcing the dialogue protocol and by keeping track of the commitments of the parties in the dialogue.[75] As a consequence, it has reason-based logic[76] as its underlying logic. However, this logic is not used to evaluate the validity of arguments proposed by the dialogue parties, but rather to enable one party in a dialogue to force his opponent to accept what he was logically already committed to. In fact, it is one of Lodder's main claims that moves in dialogues need not lead to arguments that are valid according to some system of logic.[77] Let me use an example to illustrate this. Suppose that A has the position that O.J. murdered his wife. When challenged to defend this position, he adduces the argument that O.J. was found next to his wife's body with a smoking gun in his hand. If this

[74] As these alternatives suggest, the ZENO framework uses results from the work of Freeman and Farley (1996) to define the level of support or positions.

[75] The DiaLaw system is a strongly improved and implemented version of the dialogical variant of reason-based logic that was proposed in Hage e.a. 1994.

[76] Verheij 1996 and Hage 1996 and 1997. See also chapter 3.

[77] Lodder 1997, 1998 and 1999.

argument is accepted as providing sufficient support, A's position that O.J. murdered his wife counts as justified, despite the fact that there is no 'logical' relation between the positions that O.J. was found next to his wife's body with a smoking gun and that he murdered his wife.

Although justifying arguments need not be logically valid, logic plays a role in DiaLaw through the mechanism of forced commitment. If A's opponent has accepted that O.J. was found with a smoking gun and he has also accepted the rule of evidence that if somebody is found with a smoking gun next to a corpse, the person with the gun may be assumed to have committed the murder, he must accept that O.J. committed the murder, unless he can justify the position that there is an exception to the rule.

Verheij's Argumed system[78] is an argument assistance system based on Verheij's logic for defeasible reasoning DefLog (see section 4.3). The program provides the user with a graphical interface by means of which he can make the logical structure of arguments explicit. This logical structure is modeled by the logical means of DefLog, which means that statements can either support or attack each other. The ArguMed system keeps track of which statements are justified or defeated:

- A statement is justified if and only if
  - it is an assumption against which there is no defeating reason, or
  - it is an issue for which there is a justifying reason.
- A supporting reason is justifying if and only if the reason and the conditional underlying the corresponding supporting argument step are justified.
- An attacking reason is defeating if and only if the reason and the conditional underlying the corresponding supporting argument step are justified.

The ZENO framework, the Room 5 system, DiaLaw and Argumed have in common that they support human discussants by structuring their discussion and by providing logical tools to maintain a minimum level of rationality. They differ from systems as proposed by Loui and Norman[79] and Prakken and Sartor in that their purpose is not to provide a standard for the evaluation of the rationality of a dialogue, but rather to support discussants in having a rational dialogue. Although these purposes are not in opposition, there is a shift in emphasis that places ZENO, Room 5, DiaLaw and Argumed nearer to the dialogical pole on the gliding scale from dialectics to dialogues.

[78] Verheij 2003 (AAA). This paper also describes the Argue! system, which I will not discuss here. See also Verheij 2005.

[79] Loui and Norman 1995.

12. CONCLUDING OBSERVATIONS

When the several systems for legal dialectics and dialogues are compared, it is possible to make a number of distinctions. In the course of this chapter I have mentioned a number of systems, without mentioning whether they were implemented or not. In fact, most of the mentioned systems are logical systems, which give a dialectical characterization of logical consequence. The Pleadings Game, ZENO, Room 5, DiaLaw and ArguMed, are computational systems, however.

A second distinction is between conflict resolution systems and mediating systems. Logical issues, if cast in a dialectical form, become a kind of conflicts. The systems of Lorenzen and Lorenz and those of the battle of argument-theoreticians, are systems that decide how these conflicts are to be resolved. Mediating systems, on the contrary, do not resolve conflicts. They rather help humans to resolve their conflicts themselves, by providing an environment for structured discussion.

Another distinction is also based on the function of the systems. Some systems are intended to give a dialectical characterization of a particular form of logic. The system of Lorenzen and Lorenz, to take a typical case, aims at a dialectical characterization of intuitionistic logic. The battle of arguments-theorists (e.g. Prakken and Sartor) aim at the characterization of non-monotonic logics. Other systems aim at the establishment of the premises of legal arguments either as a basis for legal justification[80] or as identification of the issues between parties in a legal debate (Gordon). Battles of arguments can also be used to model some form of bounded rationality (Loui and Norman). Finally, there are systems the purpose of which is to determine the law in actual cases (Hage, Leenes and Lodder).

A fourth distinction is between static and dynamic systems. Mediating systems are by nature dynamic ones, but not all dynamic systems are mediating systems. For instance, the system of Loui and Norman works with argument stages and is in that sense dynamic. Nevertheless, it operates with a fixed set of premises, which is atypical for dynamic systems. It is in a sense intermediate between static systems and mediating systems.

Verheij's CumulA[81] is dynamic in that both the set of premises and the set of arguments can change in time. It is not a mediating system, first because it is not implemented and second because it has no dialogue protocol that specifies how the sets of premises and arguments may change.

[80] Aarnio e.a. 1981.
[81] Verheij 1996.

All of these systems deal with some form of rationality. A major dividing line between them can be based on the question what kind of rationality they aim to model. Some systems deal with the rationality of argument *forms*. The work of Lorenzen and Lorenz and the battle of arguments-theories, falls in this category. These systems typically assume a fixed set of premises and regard all possible arguments based on these premises. The question with which they deal is whether some conclusion follows from the premises and this is the case if, in a dialectical setting, there is a winning strategy to defend the conclusion. Actual dialogues, for which human players are needed who must make choices between several possible dialogue moves, do not play a role in this connection. These are the systems that I called non-dialogical.

Other systems deal with the rationality of the outcome of dialogues. They are concerned with content, not merely with form. Typically they do not assume a fixed set of premises; the rationality of the outcome depends in part on the way in which the premises of the argument were established. They do not consider all possible arguments, but are rather concerned with actual dialogues that lead to a particular conclusion. For this reason, the systems cannot provide the dialogue moves themselves, but depend on human players. Implementations of such systems will be mediating systems, rather than reasoning systems. These are the systems that I called dynamic dialectical.

The category of dynamic systems can be subdivided into logic-related systems and law-related systems, although I want to emphasize that this distinction is a matter of degree. Logic-related systems have dialogue rules that reflect primarily the logic that underlies the dialogue system. Notice that all dialogue systems that have anything to do with reasoning must have some underlying logic and that the dialogue rules of such systems must reflect these underlying logics. For some systems it holds that almost all dialogue rules reflect the underlying logic and that there are few other rules. The Pleadings Game of Gordon falls in this category. The law-establishing systems (Hage, Leenes, Lodder) must incorporate legal rules in the dialogue rules, because otherwise the outcome of the dialogues could not be called law.

Law-establishing systems must both make sure that the dialogues take the law into account and that the dialogues are not frustrated by a non-cooperating party. To accommodate for these needs, the roles of a judge and of an arbiter are introduced in the dialogue game. These introductions change dialogues into procedures that involve more parties.

The following tables provide an overview of some of the distinctions made above:

SYSTEMS WITH FIXED PREMISES (deal with rationality of form)	
Static dialectical systems (deal with full rationality)	**Non-dialogical dynamic systems (1) (deal with bounded rationality)**
Systems that consider all possible arguments given some logic	Systems that consider only arguments that were actually adduced
a. Lorenzen and Lorenz 1978 b. Prakken and Sartor 1996	a. Loui and Norman 1995 b. Prakken 1995

SYSTEMS WITH DYNAMIC PREMISES (deal with rationality of content; mediating systems)	
Non-dialogical dynamic systems (2)	**Dialogical systems (law-establishing dialogs)**
Systems with a dialogue protocol that is largely logic-based	Systems with a dialogue protocol that is also domain-based
a. Gordon's Pleadings Game 1994, 1955 b. Hage, Leenes and Lodder 1994, the formal part c. Verheij's CumulA 1996 d. Lodder's DiaLaw 1998, 1999 e. Verheij 2003 (DL and AAA) and 2005.	a. Alexy's Theorie der juristischen Argumentation 1978 b. Hage, Leenes and Lodder 1994, the informal part

Chapter 9

LEGAL REASONING AND LEGAL INTEGRATION

1. INTRODUCTION

Asking the right question is half of the answer. This valuable insight is not only applicable to problems in our daily lives, but also – and maybe even more – in scientific research. Jurisprudence is no exception here and many a jurisprudential discussion has benefited from somebody asking the right questions. In the author's opinion, the main virtue of legal theory in its old fashioned sense of applying techniques from analytical philosophy to jurisprudential issues is that it helps asking the right questions. Given the right questions, 'ordinary' legal knowledge often suffices to answer them. The purpose of this chapter is to illustrate this general point by showing how techniques from modern legal logic can benefit the actual discussion about European legal integration.

In 1997 Pierre Legrand published an eloquent argument against the introduction of a European Civil Code as a means to achieve integration of European private law.[1] His argument rests on two pillars. One is that integration is not desirable. The other one is that integration cannot be achieved by means of a uniform European Civil Code. Legrand criticizes the proposal in favor of a European Civil Code on four grounds, one of which (the relevant one for our purposes) is that such a code 'would fail to effect the universal reach for which it stands'. The presence of one and the same

[1] Legrand 1997.

code cannot lead to the same law if this code is to operate within two fundamentally different legal cultures, namely the cultures of civil law and of common law.

Legrand writes in this connection about two different *mentalités*. On the one hand there is the mentalité of the civil law tradition. According to Legrand, using an analysis of Pitkin, the civil law tradition takes abstract rules as the starting point for decision making and sees decision making as 'deductive in the sense that the rules that structure it are posited prior to the practices that apply it'.[2] The common law tradition, on the contrary, takes its starting point in concrete cases. When reference is made to an old case in order to decide a new one, the old case is not abstracted into a general rule, but is rather taken integrally, that is with all its factual details in place. Legrand quotes Samuel in this connection: 'legal development is not a matter of inducing rules, terms or institutions out of a number of factual situations. Rather it is a matter of pushing outwards from within the facts themselves.'

These descriptions of the civil law tradition and the common law tradition are highly abstract. Legrand takes the effort to describe the supposed differences more extensively, but his argument retains its highly abstract level all the time. Maybe an example can make the same point in a more down to earth fashion.

2. THE CASE OF THE MURDEROUS SPOUSE

A rich old lady was nursed by a poor young man. After some time the two married without making any special arrangements about their properties. According to the Dutch law, this meant that their properties were joined together and became their common property.

Not long after their marriage the young man allegedly murdered his wife. He was punished for the murder, but that is not the issue at stake. The issue was whether he could receive half of the marital estate because the marriage had ended. That he could not *inherit* the other half was clear, because of a statutory rule stating that somebody cannot inherit from a person he murdered. The Dutch legislation does not contain a special rule for the division of the marital estate in case a husband murders his wife, however.

The seemingly innocent observation that the Dutch legislation does not contain a special rule for the division of the marital estate in case a husband

2 Compare in this connection also Smits 2002, 82 on the syllogistic nature of legal reasoning in the civil law tradition.

murders his wife, gives rise to a difficult discussion. It is clear that the Dutch law does not contain a *written* rule that deals explicitly with the division of the marital estate in case one spouse murdered the other one. It is less clear that the Dutch law does not contain any rule dealing with this issue. If one assumes that a legal system has a rule for a particular type of situation if it has a solution for that kind of situation, one might well argue that there many cases which lack a suitable written rule, but which are nevertheless governed by some legal rule. The presence of a legal rule is then identified with the existence of a legally correct solution for a particular type of case. This view is defensible, but has the disadvantage that it diffuses the difference between, on the one hand, rules that were made to deal with some type of case and, on the other hand, the legal solutions for types of cases, which are sometimes based upon rules in the just mentioned sense.[3] When I use the expression 'rule' in this chapter, I refer to rules that were explicitly made and not to legal solutions for types of cases.

Let us concede to Legrand that in common law style reasoning there is ample room to deal with a case like the one of the murderous spouse in a proper way and that it is relatively easy to decide that the murderer should not receive half of the marital estate. If we may believe Legrand, such a solution would be hard to reach in a civil law tradition, however. There is in Dutch law only one rule that is by and large relevant and it states that if a marriage ends, the marital community of properties is divided between the partners. (If one of the partners has deceased, her portion is taken by her inheritors). This rule determines which facts of the case are relevant and these facts are merely that the marriage has ended (by the dead of one of the spouses). That the marriage ended because one spouse killed the other is not relevant, because the rule in question does not mention this fact. The relevant rule selects which facts are relevant and because the rule was 'posited prior to the practices that apply it' it could not take into account that the remaining spouse murdered the deceased one. On civil law style reasoning this would mean, at least according to Legrand, that the murderer would receive half of the marital estate.

Legrand might escape this conclusion by resorting to the view that rules are what I called 'legal solutions for types of cases'. On this broad view of rules, civil law systems might have a suitable rule for this type of case, although an unwritten one. Such a rule would be adapted to the needs of the

[3] This is approximately the same distinction as the one made by Kelsen between 'Rechtsnormen' and 'Rechtssätze' (Kelsen 1960, 73f.) and by Alchourrón and Bulygin (1981) between the expressive and the hyletic conception of norms. See also chapter 1, section 3 on Case Legal Consequence Pairs.

case at hand and would lead to the conclusion that the murderous spouse would not receive half of the marital estate. However, if Legrand would take this way out, his argument about the difference in mentality between the common law system and the civil law system loses its edge, because then rules would not be posited prior to the cases to which they are to be applied.

Let us therefore assume that the difference between civil law and common law really operates in the way Legrand suggests. Then Legrand would be right that the difference in *mentalité* between the civil law and the common law tradition would devastate the effects of a common civil code. I will argue, however, that the difference does not operate in this way and that, as a consequence, Legrand's argument is not as strong as it might seem at first sight. Later in this chapter I will return to the case of the murderous spouse and the way it was really dealt with in the Dutch civil law tradition. But first I must set out the path of the chapter.

I will argue that Legrand's argument hinges on the issue whether the law is an open system. In fact, his argument can be interpreted as stating that in a case-based system, the law is necessarily open, while in a rule-based system it is necessarily closed. This difference between a case-based approach and a rule-based approach makes that the introduction of a European civil code would not lead to uniform private law.

Legrand's argument might also be interpreted differently, namely as stating that common law systems just *happen* to be more open, without endorsing the view that this openness derives from common law systems being case-based. On this interpretation, the argument of this chapter loses much of its force, but the same counts for Legrand's argument, because it would not have presented any reason *that*, let alone *why* common law systems happen to be more open. So the argument of this chapter has two versions, directed against two interpretations of Legrand's theory. If Legrand does not presuppose that the difference in style of reasoning between the common law tradition and the civil law tradition stems from the difference between case-based reasoning and rule-based reasoning, his own argument is unfounded. However, if his argument is based on the assumption that the difference in style of reasoning between the common law tradition and the civil law tradition stems from the difference between case-based reasoning and rule-based reasoning, this chapter shows his assumption to be misguided. In both cases, Legrand's argument is refuted.

After a brief discussion of what the open nature of the law amounts to, I will elaborate Legrand's argument to show why the law might be open in common law and closed in civil law. I then resume my argument against Legrand by showing how the logic of rule application allows a civil law system to be open too. In this connection I will draw from recent results in the field of legal logic and in particular the analysis of legal reasoning by