

The Missing Link Revisited: The Role of Teleology in Representing Legal Argument¹

T.J.M. BENCH-CAPON

Department of Computer Science, The University of Liverpool, Liverpool, UK. E-mail: tbc@csc.liv.ac.uk

Abstract: In this paper I recapitulate the ideas of Berman and Hafner (1993) regarding the role of teleology in legal argument. I show how these ideas can be used to address some issues arising from more recent work on legal argument, and how this relates to ideas associated with the “New Rhetoric” of Perelman. I illustrate the points with a discussion of the classic problem of which vehicles should be allowed in parks.

1. Introduction

The first morning of ICAIL 1993 in Amsterdam concerned argument. The first two papers presented, Henry Prakken’s logical framework for modelling legal argument (Prakken 1993) and Tom Gordon’s paper on using dialogue games to model legal argument (Gordon 1993), have been enormously influential and there has followed a great volume of work articulating, developing and combining these approaches. Just before lunch on that morning a no less interesting paper with an entirely different approach was presented, Don Berman and Carole Hafner’s *Representing Teleological Structure in Case Based Legal Reasoning: The Missing Link* (Berman and Hafner 1993). Unfortunately this has not produced anything like the same degree of subsequent research. In this paper I want to recapitulate the ideas in that paper and to re-examine them in the light of what we have learnt about modelling legal argument since 1993. In doing so I hope to establish that the time is ripe to pay some very serious attention to their ideas.

2. Hunting, Shooting and Fishing

The paper presented in Amsterdam (Berman and Hafner 1993) was based on three cases, commonly used in teaching American students law. In the first, *Pierson v Post*, the plaintiff was hunting a fox, on open land, in the traditional manner using horse and hound when the defendant killed and carried off the fox. The plaintiff was held to have no right to the fox because he had gained no possession of it. In the second case, *Keeble v Hickeringill*, the plaintiff owned a pond and made his living by luring wild ducks to the pond with decoys, shooting them and selling them. Out of malice the defendant used guns to scare the ducks away from the pond. Here the plaintiff won. In a third case, *Young v Hitchens*, both parties were commercial fisherman. The plaintiff spread a net, some half a mile in length, and began to close it. When the opening was no more than a few dozen feet wide, the defendant sped into the gap, spread his own net and caught the fish which had been trapped by the plaintiff as he closed his net. In this case the defendant won.

Berman and Hafner then constructed an argument for the defendant in *Young*, against the background of *Pierson* and *Keeble*. They say that they are following the approach used in HYPO (Ashley 1990). They do indeed use the three-ply style of argument developed in HYPO, in which a party to the case cites a precedent, the opponent responds and the original party attempts to rebut the response. Their representation of the cases, however, differs somewhat from the original conception of HYPO (e.g. Ashley and Rissland 1988). Berman and Hafner use *factors*, which are features of the case which may be present or absent and which, if present, favour either the plaintiff (pro-plaintiff factor) or the defendant (pro-defendant factor). HYPO in contrast used *dimensions*, which are features of the case

¹ This paper was originally written in December 1999. Since then it has received responses from Henry Prakken and Giovanni Sartor (in this volume), and has been developed in on-going work, both by Henry Prakken and by myself in collaboration with Giovanni Sartor. The most recent expression of my views can be found in Bench-Capon and Sartor (2001). In preparing this paper for publication I have attempted to remain faithful to my original views, and not to anticipate too much later developments, although I have taken the opportunity to correct some mistakes in the original version.

which can take a range of possible values, ordered according as to the extent to which they favour a particular side. Consider the question of whether the hunter had possession of the animal. Seen as a factor, we simply ask whether the animal was caught or not. Seen as a dimension, we can have a range of possibilities progressively more favourable to the defendant, running from *caught* to *no contact at all*, and passing through some intermediate positions such as *mortal wounding*, *wounding*, *hot pursuit*, *started*, and *seen*. Using dimensions permits a richer representation of the case situation, and allows us to avoid some awkwardness in choosing factors, such as whether the factor should be *caught* (pro-plaintiff), or *not caught* (pro-defendant), or perhaps both, as well as not requiring us to make "all or nothing" decisions. Using factors, on the other hand, does make a useful simplification. In fact the use of factors has in recent years become rather more common than dimensions: the description of cases in CATO (Aleven 1997) and the reconstruction of case based reasoning of Prakken and Sartor (1998) both use factors rather than dimensions. In the remainder of this paper I shall use factors in this way, although I think dimensions remain important and interesting, and I hope to explore the difference that using them makes in some future work.

Berman and Hafner can be seen as identifying five factors. Two are pro-plaintiff: that the plaintiff was following his livelihood (LIVELIHOOD) and that the land was owned by the plaintiff (OWNLAND). Three are pro-defendant: that the animal was not caught (NOTCAUGHT), that the land was open (OPEN) and that the defendant was in competition with the plaintiff (COMPETE). *Pierson* contains NOTCAUGHT and OPEN, *Keeble* OWNLAND, LIVELIHOOD and NOTCAUGHT and *Young* NOTCAUGHT, OPEN and COMPETE. Actually Berman and Hafner speak of four factors, one of which, the status of the land, takes two values. This makes it look rather like a dimension (although if it were a dimension we might expect more than these two values, and include, for example, the possibility of the defendant owning the land). I think it is more consistent to see five factors, but to bear in mind that OWNLAND and OPEN are mutually exclusive.

With these five factors, *Pierson* looks rather clear: the plaintiff does not own the land, did not catch the beast and was looking for pleasure rather than business, so only pro-defendant factors are present. *Keeble*, although the plaintiff was not in possession of the ducks, had the pro-plaintiff factors that the land was owned and he was engaged in a commercial pursuit, and we know that these were sufficient to overcome the pro-defendant factor NOTCAUGHT.

If we wish to make an argument for the defendant in *Young*, we can propose that *Pierson* is followed. The plaintiff can reply by distinguishing on the grounds that the plaintiff is making his living, and cite *Keeble* to show that not having captured the prey is not fatal to the plaintiff's case. The defendant can now give a rebuttal, since he can distinguish *Keeble*, on the grounds that in *Young* the water is not owned by the plaintiff, and further add that the motive of the defendant was not malice but business competition. So the issues are identified, but the question remains as to whether are persuaded (or are able to persuade a judge) that the extra pro-defendant factor and the missing pro-plaintiff factor in *Young* are sufficient to cause us to reject *Keeble*.

And this is where the reasoning in this model runs out. Although we have identified some candidate cases, the question remains as to which should govern *Young*, and why it should do so. To find clues as to whether we can give reasons for following *Pierson* rather than *Keeble* we need to examine the texts of the decisions. Importantly these texts refer to the *purposes* that the judges saw as being promoted by their decisions. *Pierson* was found in favour of the defendant

For the sake of certainty, and preserving peace and order in society. If first seeing, starting or pursuing such animals . . . should afford the basis of actions . . . it would provide a fertile source of quarrels and actions. (Quoted in Berman and Hafner 1993, italics mine).

One judge dissented: for him the pursuit and destruction of foxes was of sufficient social value to be encouraged and protected by law. Two points should be noted: first that the reason why capturing the animal matters is because only that is considered sufficiently clear evidence of a right to the animal, and second that what seemed to be a clear case containing only pro-defendant factors was in fact disputed. Perhaps we should have included in our analysis an extra, pro-plaintiff, factor, relating to the social value of the plaintiff's activity, to reflect that the case was in fact decided *by weighing competing*

*social values*². In the second case, *Keeble*, the social utility is greater, and the evidence for this is that the plaintiff could earn a living from hunting ducks. Although the right to make one's living undisturbed is alluded to, the crucial point is that:

When decoys have been used ... *in order to take a profit* for the owner of the pond ... and whereby the markets of the nation may be furnished; *there is great reason to give encouragement thereunto* (Quoted in Berman and Hafner 1993, italics mine).

In other words here (unlike in *Pierson*) we can be sure that the plaintiff's activity is valuable because we know he can make a living from it, and so people are prepared to pay for his activity. We can assuage our doubts with respect to certainty because we have a clear criterion for saying that the activity is one to be encouraged. When we come to *Young*, the social benefit is neutral – the same fish furnish the markets of the nation whether they are delivered by Young or Hitchens. Having removed this reason, the appeal to the need for certainty can prevail, just as it did in *Pierson*. Arguably, in addition in this case the decision can also be seen as encouraging vigorous competition, which may have even greater economic benefits.

Seen from this teleological perspective, and informed by the reasons for the rules as well as the rules themselves we can see two things:

- That we can come to a rational³ decision as to the case to follow;
- That apparent similarities and differences (the open land in *Pierson* and the owned land in *Keeble*, and the engagement in making a living in both *Keeble* and *Young*) may be more or less useful. Distinguishing on the ownership of the land weakens the effect of *Keeble* for the plaintiff in *Young*, but does little to positively promote a decision for the defendant, unless we wish to argue that potential presence of ducks on a pond confers possession of the ducks on the pond owner.

Berman and Hafner then proceed to an analysis of an example of reasoning performed by Branting's GREBE system (Branting 1991). Here they clearly show how relying on rules manifested in cases without reference to the purposes of these rules leads the reasoner astray, through pursuing false similarities and differences between the cases.

The last section of the paper gives some suggestions for augmenting a representation of cases in terms of factors with the legal purposes which explain why each of the factors favours the plaintiff or the defendant. Now we can judge competing arguments not only on the importance of the factors themselves, but on the *value we accord to the purposes from which they arise*. This both makes the arguments more realistic, and the choice between competing arguments less arbitrary.

3. Theory Construction and Theory Coherence

I have recapitulated Berman and Hafner (1993) at some length, both because it is an excellent paper, and because it provides a strong argument that working from decisions without their reasons will often leave us with no reason to prefer one precedent to another, and can even lead us into error. In this section I shall consider one of the leading approaches to modelling legal argument that has been developed since 1993, and suggest that it also is unable to resolve disputes because it ignores the purpose of the rules it employs.

² If we were using dimensions instead of factors, we might propose a dimension of *motive* ranging from earning a living, through social altruism and pleasure to malice. Alternatively, or additionally, using a dimension which recognised hot pursuit as a step towards possession would provide some case for the plaintiff. Such a dimension would also help the plaintiff in *Young*, since the strict test used here, which would require the fish to have been landed on the boat, could be softened to reflect that the fish were under his control in that they were trapped in an almost closed net.

³ By rational, I mean only that reasons can be given, rather than that the decision is determined. The social purposes recognised, and the relative values ascribed to them can change over time, and vary from one jurisdiction to another. Moreover, the choice of factors has a very significant effect on the outcome predicted by the model.

In a series of papers, of which we can take Prakken and Sartor (1998) as representative, Henry Prakken and Giovanni Sartor have articulated a model of legal reasoning based on a logical formalisation, and the notion of a dialogue game. Their main aim is to allow conflicting norms to be reconciled, and the essential idea is that to win a case one must put forward an argument which can be defended against any attack. Attacks may either be undercutting, attacking a premise in the original argument, or defeating, establishing the negation of the conclusion of the original argument. An attack can be defended against either by attacking the attacking argument, or, in the case of a defeater, claiming a higher priority for the rule grounding the original argument than that grounding the putative defeater. As the debate proceeds, arguments introduce new rules, and their coherence with other rules is tested. What is happening here is that we are constructing a *theory* (in the logical sense), which is considered coherent if its sentences are able to withstand attack from within the theory. This is excellent as an *ex post* reconstruction of the reasoning, because here we can use the decision itself to reveal priorities. It, is however, less useful *ex ante*, since it is unclear where these priorities come from.

In Prakken and Sartor (1998) they make use of their account to reconstruct a style of factor based reasoning, such as we have seen above. Here each case gives rise to three rules:

- A rule of the form if *conjunction of all pro-plaintiff factors present* then *plaintiff*
- A rule of the form if *conjunction of all pro-defendant factors present* then *defendant*
- A rule expressing that one of these rules has a higher priority than the other, depending on the way the case was decided.

In Bench-Capon (1999) I showed how we could express these rules diagrammatically as a partial order of factor combinations. The idea is that we represent all combinations of pro-plaintiff factors and all combinations of pro-defendant arguments. Together these represent all possible pro-plaintiff and pro-defendant arguments. The ordering will express priorities between the arguments. We now order these arguments on the assumption that an argument with more factors is stronger than an argument with fewer factors. When we have a case we are able to order the pro-plaintiff and the pro-defendant arguments in that case, according to the preference expressed in the decision. These connections allow us to say something about the relative order on pro-plaintiff and pro-defendant arguments. The theory is *coherent* if there are no cycles in the resulting directed graph. Additionally, we can say that the theory is *complete* if for every pro-plaintiff argument and every pro-defendant argument we can see which is preferred.

Let us look at *Pierson*, *Keeble* and *Young* in this way, based on factors adapted from Berman and Hafner (1993)⁴.

The pro-plaintiff factors I shall use are:

- (A) – plaintiff was pursuing his livelihood
- (B) – the plaintiff was on his own land

The pro-defendant factors I shall use are:

- (C) – plaintiff was not in possession of the animal
- (D) – defendant was pursuing his livelihood
- (E) – the land was “open”

We now use Prakken and Sartor's method described above to identify the rules used in each of the three cases.

Pierson yields the rules:

- R1) – plaintiff (no factors in *Pierson* favour the plaintiff)
- R2) - if C and E then defendant
- R3) - R2 > R1

Keeble yields the rules

- R4) – if A and B then plaintiff

⁴ Here I use five factors, making OWNLAND and OPEN distinct factors. I have also replaced COMPETE by a factor true if the defendant is pursuing his livelihood. I believe that this subsumes COMPETE, and can be used as well if two people are engaged in earning their livelihoods in incompatible but not competitive ways, as for example if one was a duck hunter and the other a professional wildfowl painter. It will also cover cases where the defendant is earning a living and the plaintiff is not.

- R5) – if C then defendant
- R6) – R4 > R5

In *Young* we have:

- R7) - if A then plaintiff
- R8) - if C and D and E then defendant

And the point is to decide which of R7 and R8 has priority.

The diagram of the resulting partial order including the preferences R3 and R6 is shown in Figure 1:

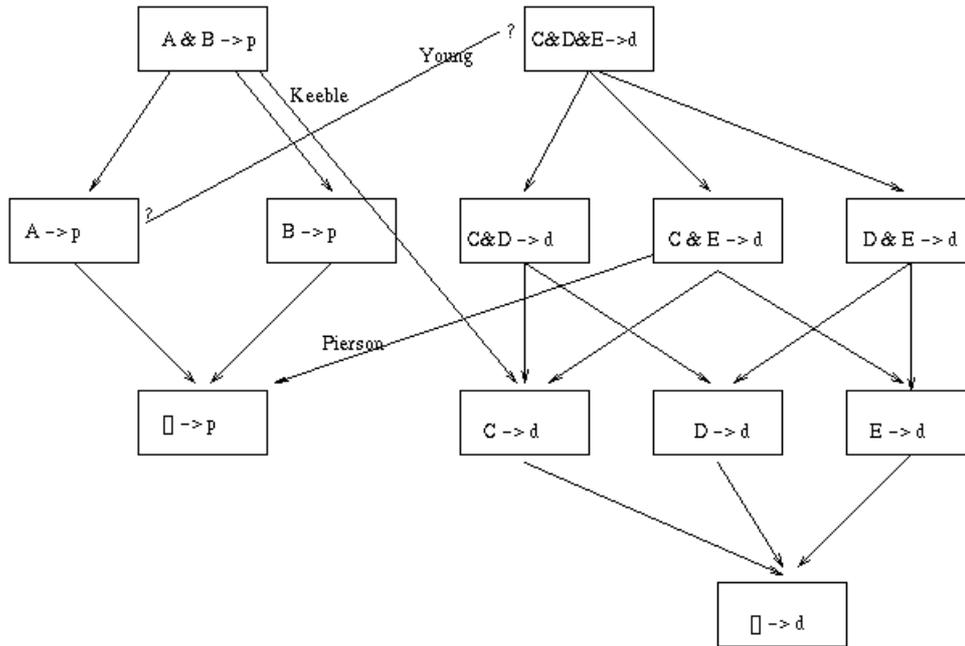


Figure 1: Partial Order for *Pierson*, *Keeble* and *Young*

As we can see the priorities gleaned from the previous cases are not helpful, or at any rate not decisive, in the case of *Young* since we cannot deduce the ordering on the pro-plaintiff and pro-defendant arguments in that case. The plaintiff must argue, on the basis of *Pierson* and *Keeble*, that his pursuit of his livelihood is sufficient to overcome the additional weight that the defendant’s case gets from the unowned land and the fact that the defendant was also pursuing his livelihood. As we know, the plaintiff’s case did not convince, but the partial order does not allow us to predict this. The problem is that the theory remains coherent whether we add R7 > R8 or R8 > R7. No cycle appears whichever way we direct the *Young* arc in Figure 1.

But could we not broaden our notion of coherence here to allow us to give a rational underpinning to the preference of one or other of these priorities? The idea is to restore the missing link of teleology by requiring theories not only to be coherent logically, but also to be coherent from the perspective of some ordering of the desired values promoted by the decisions. This idea also has jurisprudential foundations in the *New Rhetoric* (Perelman and Olbrechts-Tyteca (1969), Perelman (1980).

4. Coherence and Teleology

Let us start with a quotation from Perelman (1980).

“Since Descartes, however, only mathematical demonstration, the compelling proof, imposed by its evidence on every reasonable human being, has been judged worthy of attention. ... Arguments which justify our options, choices, and decisions, are never as compelling as demonstrative proofs; they are more or less strong, relevant, or convincing. ... in argumentation it is always possible to plead for or against, because arguments which support

one thesis do not entirely exclude the opposite one; this in no way means that all arguments are of the same value” (p 150).

What Perelman is arguing here is that while logic is important – violation of logical coherence requires a position to be abandoned because it is simply untenable – it is not the only ground for rational preference. Thus we can prefer an argument for good *reasons* even when those reasons are not coercive. Applied to our situation we may say that logical considerations should not be our only criterion of coherence; we also need to consider coherence from the perspective of purpose and values⁵.

Let us now consider the animal cases in this light,

We have 5 factors:

- (A) – plaintiff was pursuing his livelihood
- (B) – the plaintiff was on his own land
- (C) – plaintiff was not in possession of the animal
- (D) – defendant was pursuing his livelihood in competition with the plaintiff
- (E) – the land was “open” -

We also find from the decisions three values:

- V1: certainty - the need to have clear law to discourage speculative litigation;
- V2: promotion of a larger Gross National Product - to improve economic well-being; and
- V3: the sanctity of property - to allow people full enjoyment of what is rightly theirs.

The last is implicit, but underlies all the reasoning. In all three cases, only because the plaintiff was not in possession of the animal does the defendant have a case at all. Now we can say that values relate to factors as follows:

- V1: relates to C
- V2: relates to A and D
- V3: relates to C and putatively relates to B and E.

The reason why I say at this stage that V3 only putatively relates to B and E. is that wild animals of their nature move around and do not respect ownership rights. Thus the presence of a wild animal on one's own land is perhaps not sufficient to confer ownership, although it probably does confer rights of (possibly not exclusive) pursuit. Remember that in *Keeble* the defendant did not trespass, since the duck scaring was done from his own land. I am not sure of the law here: Section 4(4) of the United Kingdom Theft Act 1968 states that “Wild creatures, tamed or untamed, shall be regarded as property; but a person cannot steal a wild creature”, but this does not entirely clarify the matter for me. I do not think the issue is settled from the three cases: I address it later in the paper through the use of a hypothetical case.

Now *Pierson* contains factors C and E. From this we can see that in *Pierson* we can only be concerned with the values V1 and V3. Both these values are served by finding for the defendant. In *Keeble*, however, the factor A is present and so we need to consider another value, V2. From the text of the decision, this appears to be sufficient to win, and the presence of B and absence of E is not relied on. The relation of B and E to V3 is thus not clarified by this case. These two decisions suggest a possible ordering of values: V3, V2, V1. Possession of the animal would be decisive because it promotes V3, and does no harm to V1. *Keeble* shows V2 to be more important than V1, since although the facts considered alone might suggest that B was the crucial factor, with the decision relying on the preference of V3 to V1, the text of the decision makes very clear that V2 is the deciding issue. Other orderings are possible, but this is consistent with the decisions.

When we now turn to *Young*, we see that facts are neutral with respect to both V2, since D now applies, and V3 since B is absent and C is present, and so we can revert to a decision on the grounds of V1, and follow *Pierson*. The decision for the defendant in *Young*, can therefore be explained.

⁵ For a fuller discussion of Perelman's ideas, see Bench-Capon (2001).

If we take these values, and the preference revealed in *Keeble*, into account we can get ordering pictured in figure 2

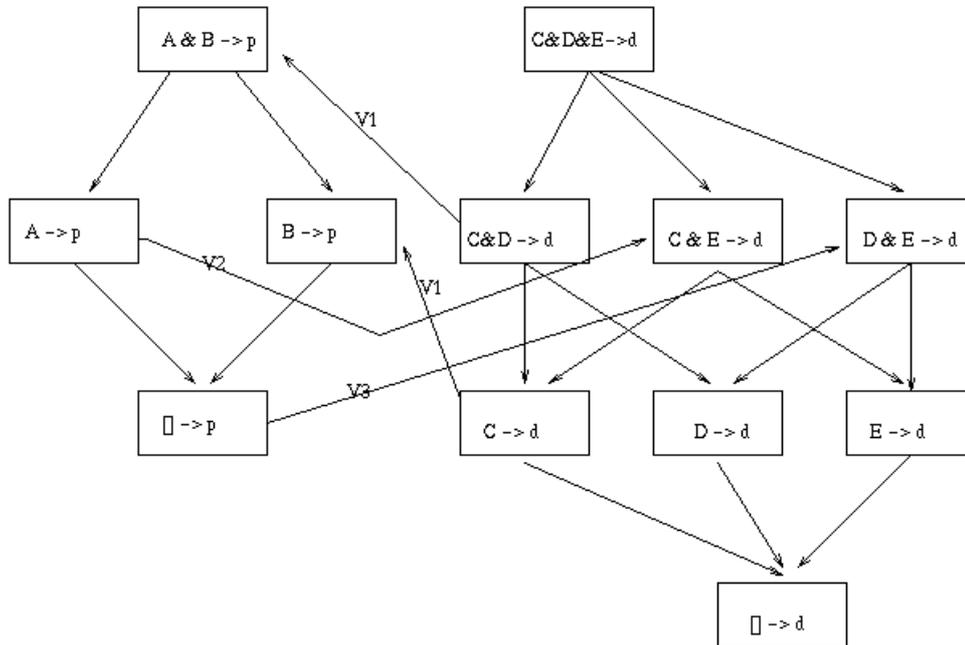


Figure 2: Factor preferences based on values.

Four lines have been inserted to represent these value judgements:

- We first put a line from $[\] \rightarrow p$ to $D \& E \rightarrow d$, to indicate that in the absence of C, the defendant has no case: where the plaintiff is in possession, no problems of certainty arise, GNP is unaffected, and so V3, the sanctity of property, is unchallenged. This is assumed to be implicit in the ruling of *Pierson*, which states that the defendant had not gained possession of the fox because he had neither captured nor mortally wounded it.
- Next we put a line from $A \rightarrow p$ to $C \& E \rightarrow d$. If the plaintiff's livelihood is in question and the defendant's is not, V2, GNP, holds sway. Thus A has priority over anything not containing D
- Third we put a line from $C \rightarrow d$ to $B \rightarrow p$. If GNP is unaffected, we say that V1, certainty, rules, so that C wins any case without A,
- The fourth line, from $C \& D \rightarrow d$ to $A \& B \rightarrow p$, is to indicate C also wins any case with both A and D, since where the case is neutral with respect to V2, V1 should govern..

This is one suggested interpretation, one which downplays the relevance of B and E to V3. This theory is complete and enables any case (involving these factors) to be decided. Moreover, we can see that *Pierson* is effectively decided by $(C \rightarrow d) > ([\] \rightarrow p)$: E is unnecessary for the defendant's case. *Keeble* is effectively decided by $A \rightarrow p > C \rightarrow d$: neither the presence of B nor the absence of E is necessary to the plaintiff's case; and we could predict that *Young* will be decided by $C \& D \rightarrow d > A \rightarrow p$: again we may say that E is irrelevant.

Now consider a hypothetical case. Suppose, for example, that a person owned a duck pond and a professional hunter killed ducks on it and sent them to market. Suppose the pond owner sues. The factors in this case are thus B, C and D. The above theory would suggest that the pond owner should lose. This is because in the above theory I am assuming that B and E do not concern V3 with sufficient certainty to override the promotion of V2. Were, however, the case to be decided in favour of the pond owner, since B is the only pro-plaintiff factor, the doubts as to whether or not B promoted our highest value, V3, would be removed. Now that we know that B promotes V3, we can say that, since V3 is our highest value, B is to be preferred to C and D. Adding this preference gives the theory shown in figure

3, the modification being that B can now be given the same effect as the absence of C, that owning the land is as good as being in possession of the animal. Note that nodes containing B are incomparable to nodes containing E, since the factors cannot co-occur. Figure 3 thus also represents a coherent (and complete) theory. Both Figures 2 and 3 offer complete and coherent theories: the difference between them is whether we want to say that B promotes V3 or not. This requires a case like our hypothetical to supply an answer: a decision for *PondOwner* in the hypothetical case would render the theory of Figure 2 incoherent.

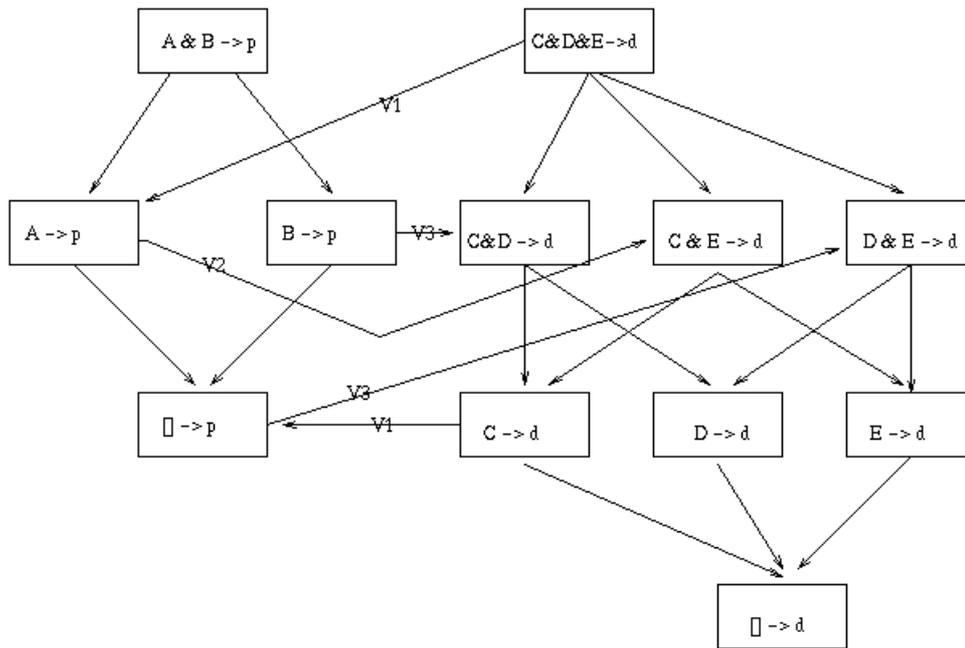


Figure 3: Theory on the assumption that ownership of the land confers possession of the animal

The key point here is that the cases in the example do not give us a decision as to whether ownership of the land confers possession of the animal, since that issue favoured the winner in each of our three cases anyway. The cases are thus neutral between the theories in Figures 2 and 3, although both suggest a decision for the defendant in *Young*. However, if we have a case like *Pond-Owner*, it is precisely this point that we need to argue. Note that we do not argue by starting from the rule of *Keeble* and arguing that that neither the fact that Pond-Owner was not pursuing his livelihood and Duck-Hunter was is sufficient to distinguish the case, but we must argue that ownership of the land confers possession of the animal and so promotes V3. If this is accepted victory for Pond-Owner will flow from our hierarchy of values.

I shall now apply this thinking to the classic example of open texture: the problem of vehicles in the park first raised by Hart.

5. Vehicles in the Park

Before turning to vehicles in the park I shall refer to a case told of by Recasens-Siche and quoted in Perelman (1980), which apparently took place in Poland at the beginning of the century. In a railway station a sign prohibited the use of the stairway to people with dogs. A peasant with a bear on a leash was annoyed to be refused entry, since no one could mistake his bear for a dog. The station master was, however, adamant in his refusal.

This is an example of an *a fortiori* argument: whatever reasons we have for excluding dogs we have also for excluding bears. Some might regard this as an argument from analogy: a bear is sufficiently like a dog to be excluded. But a bear is also unlike a dog – it is bigger, fiercer and generally more threatening. The point is these differences are all such as to give stronger reasons for excluding the bear. If we construe the argument as analogical, we need to recognise that what makes the similarities

and differences relevant is an appeal to a value which the rule is intended to promote, in this case the comfort and peace of mind of other passengers.

Now we turn to Hart's example of the vehicle in the park. A local park has a by-law prohibiting vehicles. The by-law poses two problems: what is to count as a vehicle? For example are roller-skates, skateboards, cycles, and lawnmowers vehicles? And can we make exceptions? Should we allow ambulances in if there is an emergency, or a taxi in exceptional circumstances, or a tank designed as a memorial to local soldiers?

If we are going to use a teleological perspective to answer these questions we first need to construct a model of parks which links parks and their activities to values. I shall only sketch a model here, and some of my modelling may well be susceptible to (rational) disagreement.

Let us suppose that the City Fathers provide their parks with two main aims: to provide a place for citizens to relax in the fresh air, and to take exercise. I suppose that their picture is of their citizens sitting in the sunshine, or strolling through pleasant surroundings. Certain things are essential to achieve this: the park must be a safe, clean place, and must be an open space. Certain other things are conducive to their aims: attractive surroundings will encourage people to enter the park, and a quiet atmosphere aids relaxation. Other things are hostile to these aims: fast moving objects make the park dangerous, noise hinders relaxation and so forth. Anything which is essential to the values must be included; anything which entirely prevents the realisation of the values must be excluded. Other things can be considered on their merits as to whether they are more or less conducive or otherwise to the values. Note that the relationship is propagated: something conducive to a conducive thing is itself conducive, and something conducive to a hostile thing is hostile, and the like.

When fitting out the park, the City Fathers therefore provide lawns, benches, paths, flower borders, some statues and a lake. Also they provide a park keeper to keep the place safe and clean.

We can now consider some by-laws. What will guide us is the desire to provide a coherent ordering of the values. Should people be allowed on the grass? There is a conflict between our values here: allowing people on the grass promotes relaxation since it provides more sitting space and encourages sunbathing and dozing, but is hostile in that it makes the park less attractive, both because walking on the grass is bad for lawns, and because people lying around on them is generally untidy. The decision here depends on the view of the park and its clientele that the City Fathers take: is it essentially to be a "green lung" or a city showpiece? Let us introduce a third value "civic pride", and suppose that if this is given pre-eminence, then people will be kept off the grass.

Next consider ball games. Ball games are strongly conducive to exercise, but create noise and disturbance, are harmful to lawns, and potentially dangerous to both flowers and people. If people are excluded from the grass altogether, ball games can be banned on an *a fortiori* argument. Otherwise we have a conflict between the two values of exercise and relaxation: and on how these values are rated for the particular park in question our decision will depend.

Already we can see three different models of park emerging according to how the values are rated relative to each other. We can have a "recreation ground" style park where exercise is most highly valued, a standard park where relaxation is paramount, and a formal "garden" where civic pride is most important.

Now consider dogs. Dogs promote exercise, by encouraging their owners to walk, but can be harmful to lawns and flowers, can create noise and mess, and – in the case of some dogs – can compromise safety. In the case of a formal garden we might want to exclude them altogether, but in the other cases dogs might be permitted, although we might wish to mitigate their most harmful effects by imposing restrictions on their access by insisting that they are kept on leads, and that their owners are liable to remove their fouling.

Now, having established some context, we can turn to vehicles. Although today we see cars as the paradigmatic vehicle, recall that many of our parks (and their by-laws) predate the internal combustion engine. Probably therefore the correct central case is a horse drawn vehicle. Such vehicles promote none of our three values, and are harmful to them, as a source of noise, mess, and potential accidents. All of these apply *a fortiori* to motor cars. But what of the problem cases?

- *Roller skates, skate boards and cycles*: these can be seen as promoting exercise, and are less polluting than horse drawn or motor vehicles, but still present the safety hazards, and are disruptive of relaxation. My view is the above argument suggests that it would be coherent to class them as vehicles in parks where civic pride and relaxation are accorded sufficient weight as against exercise, but not in the recreation ground style park. So if the grass is out of bounds, ball games are prohibited and dogs must be kept on a lead, we would expect roller skates and skateboards to go also.
- *Lawnmowers*: These vehicles are as noisy, polluting and unsafe as any considered so far. However, they can be regarded as essential to the upkeep of lawns, whether for display or for ball games, and lawns are an important contributor to all three of our values. We would therefore expect them not be banned as vehicles, although we would expect their use to be restricted to authorised park staff. This also probably allows us to expect other vehicles used for maintenance, even quite large lorries, to be exempt from the ban.
- *Ambulances in an emergency*: Here we have something which clearly is a vehicle, but one which banning would compromise the safety of the park users, an essential precondition for achieving all of our values. Thus we would expect our by-law to be waived here.
- *Taxis, in exceptional circumstances*: Again these would probably be permitted, but the question as to what constitute exceptional circumstances would depend on the values governing the particular park. A mayor might be driven to an official ceremony in a showcase park to promote civic pride, but would be considered overbearing if he was driven through a recreation ground. Taxis might be permitted to give disabled access to less formal parks, etc.
- *A Tank as Memorial*: This will not exhibit any of the harmful aspects of vehicles, being stationary, other than its intrinsic unsightliness. If we want to ban it, we would be better advised to argue on aesthetic grounds rather than because it is a vehicle.

The above is intended to suggest is that the questions look more difficult when they are asked in isolation, divorced from the context in which they might arise. Consider roller skates: if people have different conceptions of a “park” they might well have different intuitions about whether roller skates should be allowed. If, however, we recognise that that are different styles of park, shaped by the values that they are intended to promote, we can explain these different intuitions. The style of park, and the values it is intended to promote, is in practice revealed by the context: particular features of the park, and other regulations and decisions made to organise the park. What we are trying to do is to develop a coherent theory which will explain the various aspects of the park and its regulations, not in terms of logical coherence – there is no logical contradiction between allowing ball games and banning roller skates – but in terms of the various elements tending towards the same ends. The last case, the tank as a memorial, also illustrates another way in which values can help: if we know why a thing is banned we can see what features of that thing cause it to be banned. If those features are removed, as the harmful features of vehicles are absent in a static and disabled memorial tank, the application of the rule in that case becomes pointless pedantry.

6. Conclusion

In this paper I have tried to revive the idea from Berman and Hafner (1993) that teleology indeed provides a missing link necessary to make sense of a body of law. This aspect has been neglected in recent years in favour of a purely logical account of legal argument. Useful as this is, it cannot tell the whole story: we have to recognise that arguments may have different value, even when either side of a case can be argued and neither side has a logically decisive argument.

“Logic underwent a brilliant development during the last century when, abandoning the old formulas, it set out to analyze the methods of proof used effectively by mathematicians. ... One result of this development is to limit its domain, since everything ignored by mathematicians is foreign to it. Logicians owe it to themselves to complete the theory of demonstration obtained in this way by a theory of argumentation” (Perelman and Olbrechts-Tyteca, 1969, p10).

Note that logic is not challenged – within its own domain – but is seen as failing to provide guidance in many areas that we can find important. This guidance can come from teleology, from notions of value, from consequences: in short from the *New Rhetoric*. These ideas have already been shown to be effective in the domain of health education (Grasso et al 2000). I think we understand the logic of legal argument quite well now, and we need to recognise that we “owe it to ourselves” to complete this

understanding, by adding in the purposes that our rules are intended to promote. The need was apparent in Berman and Hafner (1993), but the programme is still to be carried out.

Acknowledgement

I hope I may be permitted to make a short acknowledgement of the contribution of Don Berman. I first encountered him as an encouraging and supportive reviewer of some of my very early work in AI and Law. When I later met him I found him to be open, friendly and always excellent company. Don was always most helpful and supportive to new researchers, and a pertinent and constructive critic of the work of others. His own work was always insightful. Many people in the AI and Law community owe much to Don, and he is sorely missed.

I would also like to thank Edwina Rissland and an anonymous referee for their helpful comments on a previous version of this paper.

References

Ashley, K.D., and Rissland, E.L., (1988) A Case Based Approach to Modelling Legal Expertise. *IEEE Expert*, Fall 1988, pp 70-77.

Ashley, K. D., (1990). *Modeling Legal Reasoning*, MIT Press, Cambridge.

Bench-Capon, T.J. M., (1999). *Some Observations on Modelling Case Based Reasoning with Formal Argument Models*. In Proceedings of the Sixth International Conference on AI and Law, ACM Press, New York, pp36-42.

Bench-Capon, T.J.M., (2001). *George C. Christie, The Notion of an Ideal Audience in Legal Argument*, Artificial Intelligence and Law, Vol 9 No 1, pp. 59-71

Berman, D.H., and Hafner, C.D., (1993). *Representing Teleological Structure in Case Based Reasoning: The Missing Link*. In Proceedings of the Fourth International Conference on AI and Law, ACM Press, New York, pp 50-59.

Branting, L.K., (1991). *Reasoning with Portions of Precedent*. In Proceedings of the Third International Conference on AI and Law, ACM Press, New York, pp145-154.

Gordon, T.F., (1993). *The Pleadings Game: Formalizing Procedural Justice*. In Proceedings of the Fourth International Conference on AI and Law, ACM Press, New York, pp 10-19.

Grasso, F., Cawsey, A., and Jones, R. (2000) Dialectical argumentation to solve conflicts in advice giving: a case study in the promotion of healthy nutrition. *International Journal of Human-Computer Studies* 53, 1077-1115.

Perelman, Ch., (1980). *Justice, Law and Argument*, Reidal, Dordrecht.

Perelman, Ch., and Olbrechts-Tyteca, L., (1969). *The New Rhetoric: A Treatise on Argumentation*, University of Notre Dame Press, Notre Dame.

Prakken, H., (1993). *A Logical Framework for Modelling Legal Argument*. In Proceedings of the Fourth International Conference on AI and Law, ACM Press, New York, pp1-9.

Prakken, H., and Sartor, G., (1998). *Modelling Legal Reasoning With Precedents in a Formal Dialogue Game*. Artificial Intelligence and Law, Vol 6 Nos 2-4, pp231-287.

