

Pierson vs. Post Revisited

A Reconstruction using the Carneades Argumentation Framework

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Abstract. The Pierson vs. Post case [1] has become an important benchmark in the field of AI and Law for computational models of argumentation. In [2], Bench-Capon used Pierson vs. Post to motivate the use of values and value preferences in his theory-construction account of legal argument. And in a more recent paper by Atkinson, Bench-Capon and McBurney [3], it was used to illustrate a formalization of an argumentation scheme for practical reasoning. Here we offer yet another reconstruction of Pierson vs. Post, using our Carneades Argumentation Framework, a formal mathematical model of argument structure and evaluation based on Walton's theory of argumentation [4], and compare it to this prior work. Carneades, named in honor of the Greek skeptic philosopher who emphasized the importance of plausible reasoning, applies proof standards [5] to determine the defensibility of arguments and the acceptability of statements on an issue-by-issue basis.

Keywords. Legal Argument, Carneades Argumentation Framework, Pierson vs. Post

1. Introduction

The Pierson vs. Post case [1] has become an important benchmark in the field of AI and Law for computational models of argumentation. Pierson vs. Post is a classic property law case, widely used in legal education. Don Berman and Carole Hafner were the first in the Artificial Intelligence and Law community, to our knowledge, to use Pierson vs. Post, and related well-known property cases, as part of their research on the role of teleological reasoning in the law [6,7]. In a special issue of the Artificial Intelligence and Law Journal, in memory of Donald Berman, several articles presented models of teleological reasoning using the Pierson vs. Post case as a benchmark, including a paper by Bench-Capon [2]. Since then, Bench-Capon and his colleagues have continually made use of Pierson vs. Post as a testbed for their research on legal argumentation, including the 2005 ICAIL paper with Atkinson and McBurney [3].

In this paper, we offer yet another reconstruction of Pierson vs. Post, as a further step towards validating our Carneades Argumentation Framework. (Carneades is presented in a companion paper in this volume, [8]. We highly recommend reading this other paper first.)

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The rest of the paper is structured as follows. Section 2 presents our reconstruction of *Pierson vs. Post*, using Carneades. Section 3 compares this reconstruction with the one of Atkinson, Bench-Capon and McBurney [3]. The paper closes in Section 4 with a recapitulation of its main points and some problems for future research.

2. Reconstructing *Pierson vs Post*

The full text of the opinion of the Supreme Court of New York in *Pierson vs. Post* is available on the web.¹ To help evaluate the naturalness of the Carneades model, the reconstruction here will attempt to model the arguments in the opinion in the order they were presented by the court. Of course, as in all models, many details will be abstracted away. In the interest of saving space, we will not quote the entire text of the opinion here, but instead refer the reader to the online version mentioned above.

To help make this presentation more comprehensible and self-contained, let us first summarize the basic facts of the case and present the main issue before the court. *Pierson* and *Post* were both fox hunting “upon a certain wild and uninhibited, unpossessed and waste land”. *Post* was pursuing the fox, with his dogs, when *Pierson* intervened, shot and killed the fox and carried it off. *Post* sued and won. *Pierson* appealed. More precisely, *Pierson* petitioned the Supreme Court of New York for a so-called “writ of certiorari”. In this appellate proceeding, somewhat confusingly, *Pierson* is named as the plaintiff. As we will see, the main issue before the court is whether *Post*’s pursuit of the fox with his dogs should be deemed sufficient, as a matter of law, to acquire possession of the fox, and thus obtain property rights to the fox. Justice Tompkins, writing for the majority, argues that such a pursuit is not sufficient, by interpreting treatises and precedents narrowly and making several policy (“teleological”) arguments: legal certainty, avoiding a “fertile source of quarrels and litigation” and preserving “peace and order in society”. Justice Livingston, in his dissent, tries unsuccessfully to broaden existing doctrine. He proposes a rule which would deem a wild, “noxious” animal to be “mortally wounded”, and thus according to existing doctrine in the possession of the hunter, if the animal is being chased, as in this case, by large hunting dogs. The argument asserted by Justice Livingston to support this proposed rule is also teleological: to protect farmers by encouraging and rewarding the hunting of noxious wild animals.

Now, let us begin to model Justice Tompkins’ arguments.

He starts off by stating the main issue to be decided:

The question ... is, whether ... *Post*, by the pursuit with his hounds ... acquired ... property in, the fox ...

The main issue is quickly reduced to the question of possession (“occupancy”), with the following argument:

It is admitted that a fox is an animal *ferae naturae*, and that property in such animals is acquired by occupancy only. These admissions narrow the discussion to the simple question of what acts as occupancy ...?

This argument can be reconstructed as shown in Figure 1. The statements which have been accepted are shown with a gray background. Statements which are acceptable

¹<http://www.saucyintruder.org/pages/pierson.html>

given the arguments, as evaluated by Carneades, will also be visualized with a gray background, unless they have been rejected.²

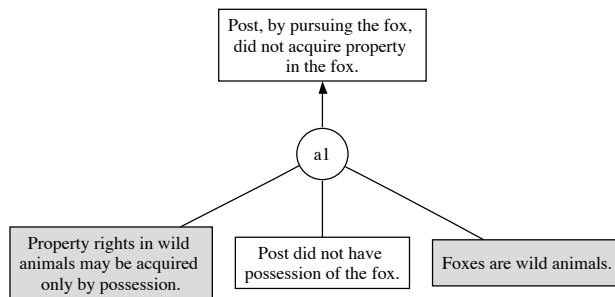


Figure 1. Argument 1

Next, Justice Tompkins argues the pursuit alone is not sufficient to constitute possession, by reference to several treatises, i.e. jurisprudential works by academic lawyers:

Justinian's Institutes, lib. 2, tit. 1, s.13, and Fleta, lib. 3, c.2, p. 175, adopt the principle, that pursuit alone vests no property or right in the huntsman; and that even pursuit, accompanied with wounding, is equally ineffectual for that purpose, unless the animal be actually taken. The same principle is recognized by Bracton, lib. 2, c.1, p. 8.

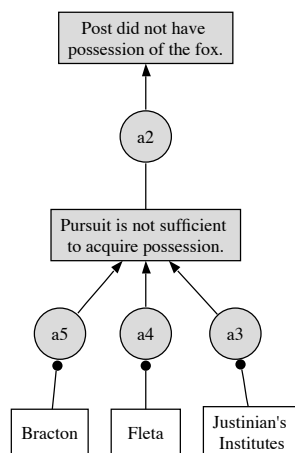


Figure 2. Argument 2

The three treatises have been modelled as presumptions, as shown in Figure 2, both because they were accepted implicitly without argument and to illustrate this feature of Carneades. Alternatively they could have been modelled as ordinary premises, but then

²Thus this simple visualization method does not distinguish statements which have been accepted but are not acceptable or statements which are acceptable but have been rejected, even though the underlying Carneades formal model does support these distinctions.

it would have been necessary to accept them, for the arguments to “go through”, even though they were not explicitly accepted in the reported opinion.

The DV proof standard (“dialectical validity”) will be used throughout this reconstruction. Other proof standards will be considered later, in the discussion section.

Notice that this argument is already sufficient to support the statement that Post did not have possession of the fox, which is now acceptable and hence displayed with a gray background. The gray backgrounds of four arguments shown in Figure 2 indicate they are currently defensible.

Justice Tompkins is not content to leave it at that. Even though he now has a defensible argument for the decision of the court, that Post did not, by pursuing the fox, acquire property in the fox, he provides a further argument, by asserting that actual, physical (“corporal”) possession of the fox is required:

Puffendorf, lib. 4, c.6, s.2, and 10, defines occupancy of beasts *ferae naturae*, to be the actual corporal possession of them, and Bynkershoek is cited as coinciding in this definition.

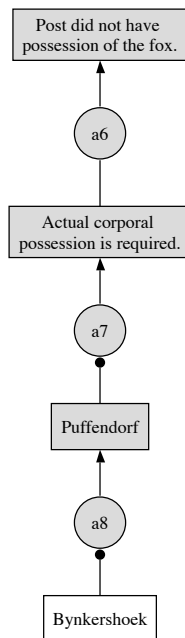


Figure 3. Argument 6

The reconstruction of this additional argument is shown in Figure 3. Notice again that references to treatises have been modelled as presumptions. Thus, Justice Tompkins’ reference to Bynkershoek’s treatise was not strictly necessary; citing Puffendorf alone would have sufficed. Either he was closing off a potential avenue of attack or just wanted to drive this point home with additional support.

Next, Justice Tompkins discusses another treatise, by Barbeyrac, which takes the position that possession may be deemed in certain circumstances, without requiring actual physical possession, in particular when the animal has been “mortally wounded”:

Barbeyrac, in his notes on Puffendorf ... affirms, that actual bodily seizure is not, in all cases, necessary to constitute possession of wild animals. ... the mortal wounding of such beasts, ... may ... be deemed possession ... Barbeyrac seems to have adopted ... the more accurate opinion of Grotius ...

Justice Tompkins dismisses this argument by simply suggesting that none of these counterarguments apply in this case.

The case now under consideration is one of mere pursuit, and presents no circumstances or acts which can bring it within the definition of occupancy by Puffendorf, or Grotius, or the ideas of Barbeyrac upon that subject.

The reconstruction of these arguments is shown in Figure 4. We've restricted our attention to the exception for mortally wounded animals, since, as we will see, this is the exception that Justice Livingston uses in his dissent. Notice that Barbeyrac's position has been modelled as a rebuttal, i.e. con argument. Justice Tompkins' argument against the conclusion that the fox was mortally wounded could have been modelled explicitly in Carneades as a con argument. We have not done so, however, since the premise of this argument would simply have been the denial of the conclusion. Rather, we interpret Justice Tompkins instead challenging Justice Livingston to provide arguments supporting this conclusion. Indeed, as we will see soon, Justice Livingston accepted this invitation.

Notice that the conclusion of the argument shown in Figure 4, that "actual corporal possession is required", is not acceptable in the diagram, even though Justice Tompkins has argued that such possession is required. This is only because this part of Justice Tompkins' argument is modeled here in isolation, rather than integrated with his prior argument, as shown previously in Figure 3.

We are nearing the conclusion of Justice Tompkins' opinion for the majority. He next distinguishes a precedent case, *Keeble vs. Hickergill* (referred to as 11 Mod. 74-130 in the quotation below), which deems the owner of property to be in possession of wild animals on his property, at least if the owner hunts these animals for a living. Interestingly, *Keeble* is the only precedent cited in the entire opinion, by either Justice Tompkins or Justice Livingston. *Pierson vs. Post* may be an atypical U.S. appellate court opinion.³

The case cited from 11 Mod. 74-130, I think clearly distinguishable from the present; inasmuch as there the action was for maliciously hindering and disturbing the plaintiff in the exercise and enjoyment of a private franchise; and ... the ducks were in the plaintiff's decoy pond, and so in his possession ...

Figure 5 shows our reconstruction of this argument. It is much like the prior argument about pursuit being sufficient if the animal had been mortally wounded. Justice Tompkins accepts the major premise or, to use Toulmin's term, the warrant of the counterargument, but simply denies that the minor premise is satisfied by the facts of this case. No arguments have been asserted supporting the premise that Post was pursuing his livelihood on his own land.

³*Pierson vs. Post* appears as one of a series of cases in the property law case books used in legal education. Prior work on case-based reasoning in AI and Law has used the whole series as a test bed. The goal typically has not been so much to model the reasoning of the court in *Pierson vs. Post*, as to understand how precedent cases may be used to generate arguments to help resolve issues in further cases.

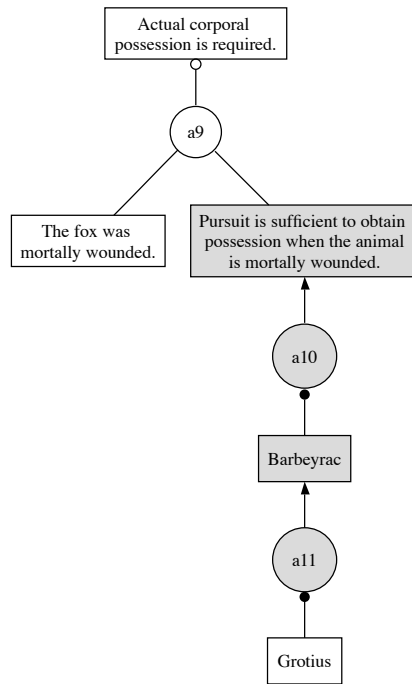


Figure 4. Argument 9

Justice Tompkins’ final argument is “teleological”, i.e. a policy argument about social values:

We are the more readily inclined to confine possession or occupancy of beasts *ferae naturae*, within the limits prescribed by the learned authors above cited, for the sake of certainty, and preserving peace and order in society. If the first seeing, starting, or pursuing such animals, without having so wounded, circumvented or ensnared them, so as to deprive them of their natural liberty, and subject them to the control of their pursuer, should afford the basis of actions against others for intercepting and killing them, it would prove a fertile source of quarrels and litigation.

Our reconstruction of this teleological argument is displayed in Figure 6. Both of the premises of this argument have been accepted in Justice Tompkins’s majority opinion; Hence the background of these premises is gray in the figure.

As Atkinson, Bench-Capon and McBurney point out [3], such teleological arguments can be viewed as instances of an argument scheme for practical reasoning. Here one premise states some action or policy would have some effect (“A bright-line rule creates legal certainty, preserving peace and order.”) and the other premise states this effect is desirable, as it satisfies some goal or promotes some value (“Peace and order is an important social value.”).

Depending on the formulation of the argumentation scheme for practical reasoning used, some of the premises of the argumentation scheme might not be instantiated in this particular instance of the scheme. But recall that not all premises of a scheme need to be made explicit in an argument. Arguments with implicit premises are called “en-

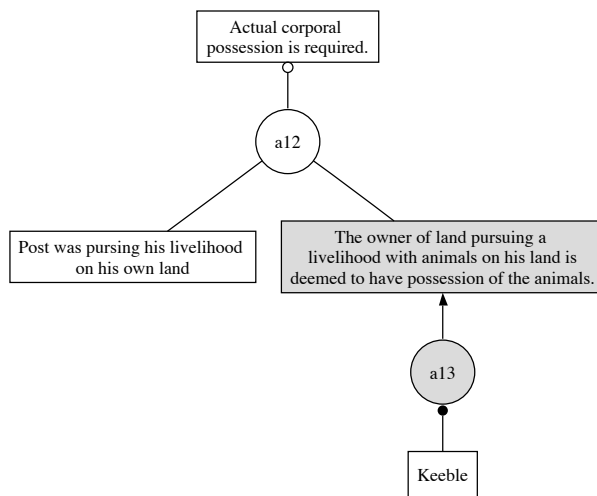


Figure 5. Argument 12

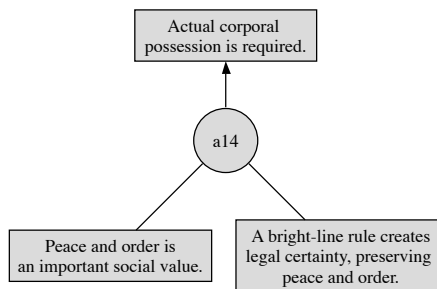


Figure 6. Argument 14

thymemes". These implicit premises can be revealed during the course of the dialog, for example by asking critical questions. In the example, one premise left implicit states that the conclusion of the argument ("Actual corporal possession is required") is indeed a bright-line rule.

Justice Tompkins concludes his majority opinion by stating the judgment of the court:

However uncourteous or unkind the conduct of Pierson towards Post, in this instance, may have been, yet his act was productive of no injury or damage from which a legal remedy can be applied. We are of opinion the judgment below was erroneous, and ought to be reversed.

Notice that this judgment does not explicitly state that Post did not acquire a property right in the fox. But surely this is what it means, since the opinion of the lower court is reversed. This text can also be understood as making an additional argument, rejecting the idea that Post's unsportmanlike conduct provides grounds for a legal remedy, but we have not modeled this argument in our reconstruction.

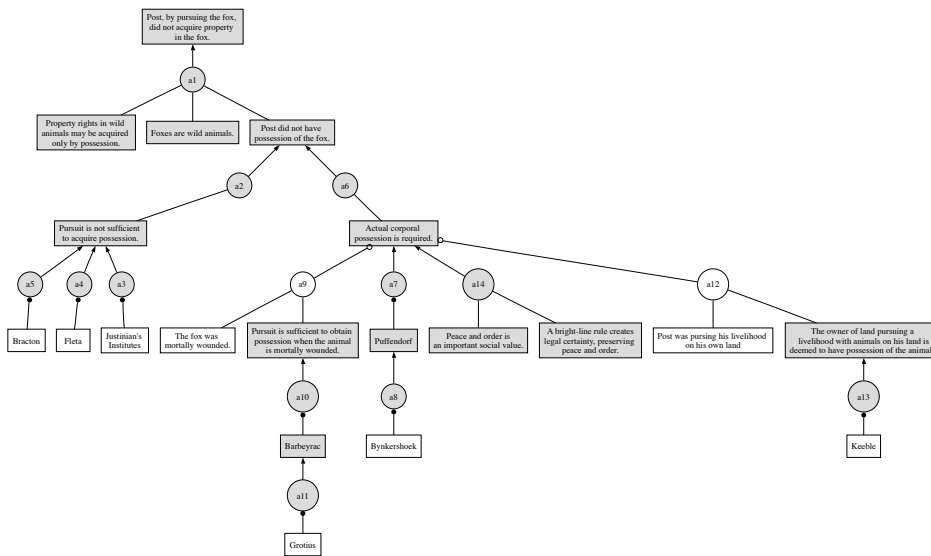


Figure 7. Tompkins' Opinion, for the Majority

Figure 7 integrates all of the arguments in our reconstruction of Justice Tompkins' opinion into a single argument graph. Here we can easily see that the judgment of the court is acceptable given the arguments in the opinion, at least in our formal reconstruction using the Carneades Argumentation Framework. Of course, this does not mean that the decision is necessarily correct or beyond criticism. It only means the court's reasoning can be understood using Carneades.

Let us now turn our attention to Justice Livingston's dissenting opinion. He focuses on a single issue, whether or not a fox should be considered mortally wounded if it is being pursued by a number of large dogs, and thus, following the position of Barbeyrac, accepted by the majority, be considered to be in possession of the hunter whose dogs are doing the pursuing. Justice Livingston asserts three arguments; the first argument refers to the pleadings to support the proposition that foxes are noxious beasts. The second argument proposes a rule, deeming noxious animals pursued by large hounds to be mortally wounded, and supports this rule with an appeal to policy, by arguing that such a rule would encourage and reward hunting, thus protecting farmers. That is, Justice Livingston too applies an argumentation scheme for practical reasoning to make a teleological argument. The third argument, less explicit in the text of the opinion, applies this proposed rule to the accepted facts of the case to reach the conclusion that the fox was mortally wounded, resolving the issue.

... By the pleadings it is admitted that a fox is a "wild and noxious beast" His deprivations on farmers and on barn yards have not been forgotten; and to put him to death wherever found, is allowed to be meritorious, and of public benefit. Hence it follows, that our decision should have in view the greatest possible encouragement to the destruction of an animal ... But who would keep a pack of hounds; or what gentlemen, at the sound of the horn, and at peep of day, would mount his steed, and for hours together, "sub jove frigido" or a vertical sun, pursue the windings of this wily quadruped, if, just as night came on, and his stratagems and strength were nearly

exhausted, a saucy intruder, who had not shared in the honours or labours of the chase, were permitted to come in at the death, and bear away in triumph the object of pursuit?

... After mature deliberation, I embrace that of Barbeyrac ... If at liberty, we might imitate the courtesy of a certain emperor, who ... ordained, that if a beast be followed with large dogs and hounds, he shall belong to the hunter, not to the chance occupant; and in like manner, if he be killed or wounded with a lance or sword; but if chased with beagles only, then he passed to the captor, not to the first pursuer. ...

...a pursuit like the present ... must inevitably ... terminate in corporal possession ...

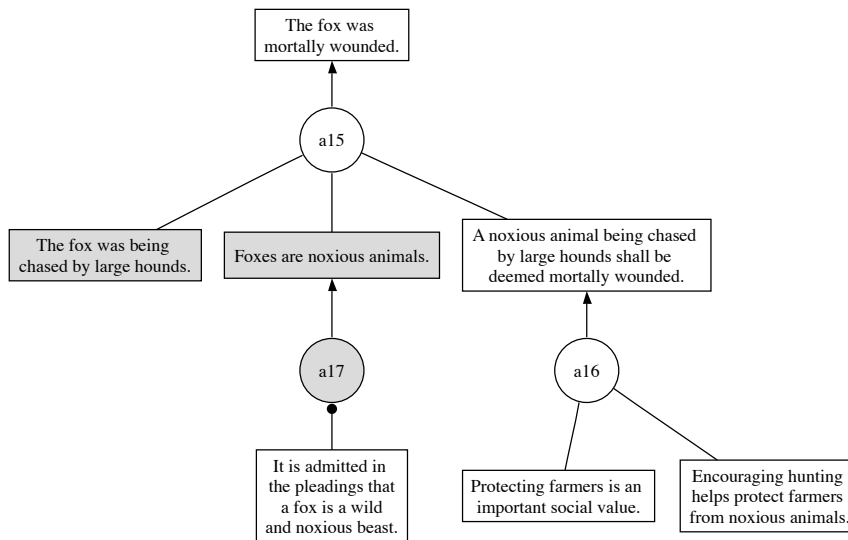


Figure 8. Livingston's Dissenting Opinion

Figure 8 visualizes our reconstruction in Carneades of the core arguments of Justice Livingston's dissent. As expected, since this is the dissenting opinion, his argument fails. The reason is simple: Justice Livingston's proposed rule was not accepted by the majority. Indeed, there is no indication in the published opinion that the majority accepts the premises of Justice Livingston's policy argument, about the importance of encouraging hunting so as to protect farmers. Justice Tompkins does not even mention this argument, let alone respond to it.

3. Discussion

Let us now consider whether our reconstruction of Pierson vs. Post in Carneades can shed any light on some prior models of legal argumentation, which also made use of this case, in particular work by Bench-Capon in [2] as well the work by Atkinson, Bench-Capon and McBurney in [3].

In [2], Bench-Capon's primary concern is to analyse the role of teleological reasoning in legal argument, motivated by the seminal paper by Berman and Hafner [6], which

identified limitations of the HYPO approach to case-based reasoning in the law [9]. Bench-Capon's central idea in [2] is that the rules and rule preferences cannot be derived solely from factors in precedent cases, but must also be informed by the purposes of the rules, i.e. by the values promoted by the rules. Shortly thereafter, Bench-Capon, in collaboration with Sartor, developed this basic idea into a theory-construction model of legal argument [10]. In this model, legal theories are constructed from precedent cases in a process which takes values and value preferences into consideration to derive and order rules, which may then be applied to the facts of cases to reach decisions.

The paper by Atkinson, Bench-Capon and McBurney [3] views legal reasoning as a kind of practical reasoning, following [11], and illustrates this view using *Pierson vs. Post*. Towards this end, an argumentation scheme for practical reasoning is developed and applied to model a simulated dialog among four agents, based on the facts and arguments in *Pierson vs. Post*.

In our view, each of these papers used *Pierson vs. Post* to illustrate computational models of particular argument schemes, rather than attempting to provide a general framework which can accommodate all the argumentation schemes actually used in the case.

In [12], many examples are presented illustrating the rich variety of argumentation schemes used in legal argumentation. Although the Carneades Argumentation Framework does not yet include a formal model of argumentation schemes, we can nonetheless attempt to manually identify some of the argumentation schemes applied in *Pierson vs. Post*. Seven of the arguments in *Pierson* are arguments from authority or perhaps expert opinion, i.e. from legal treatises written by jurisprudential scholars (Bracton, Fleta, Justinian's Institutes, Barbeyrac, Grotius, Puffendorf and Bynkershoek). Interestingly, there is but a single argument from legal precedent (Keeble) and only two arguments, in our opinion, may be understood as instances of an argumentation scheme for practical reasoning.

Let us now discuss the schemes used in some of the arguments. In the *Pierson vs. Post* case it says "if we have recourse to the ancient writers on general principles of law", and then it talks about sources like Justinian's Institutes as having adopted the principle that pursuit alone vests no property or right in the huntsman. The problem is to judge what type of argumentation scheme this represents. It looks like it could be argument from precedent, assuming these judgments represent previous rulings of courts. On the other hand, it uses the expression "ancient writers", suggesting an appeal to authority. This may suggest that the argumentation scheme is that for the argument from expert opinion. However, it has been recognized in the argumentation literature that there are different types of appeal to authority. One is appeal to expert opinion, but it has also been recognized that there is a species of appeal to institutional or judicial authority of a kind that is different from appeal to expert opinion, although related to it (*argumentum ad iudicium*). In [13, p. 76] it is shown how a distinction can be drawn between two meanings of the expression 'appeal to authority'. One meaning refers to an authority who has expertise in a domain of knowledge or skill. This type is sometimes called cognitive authority. Another important meaning of 'authority' refers to what is often called administrative authority: "the right to exercise command over others, or to make rulings binding on others through an invested office or recognized position of power". Both kinds of authority are clearly very important in law, where they may even be combined.

The term “principle” is used in the court opinion to describe the statement that pursuit alone vests no property or right in the huntsman. This seems to suggest that the source cited has adopted what amounts to a general rule. But it is hard to decide whether this “principle” is being cited as a rule of law that was previously accepted, or as a generalization stated or implied in the writings of a legal authority.

One reference is to Puffendorf’s cited definition, defining occupancy of wild beasts to be the actual corporal possession of them. Another source, Bynkershoek, is cited as agreeing with this definition. This move is interesting because it cites the argument from authority in an unusual way as supporting a definition. Thus the move combines argument from authority with argument from a definition, both well-known argumentation schemes.

Justice Tompkins writes that Barbeyrac, in his notes on Puffendorf, does not agree with the latter’s definition of occupancy, and advocates a different one. Justice Tompkins appears to be examining the two texts side by side, identifying the differences between them. He even examines the objections of the one to the definitions and principles of the other. This is a typical case of argumentation where a third party is examining the writings of two previous parties, identifying their views, checking the points at which they appear to be inconsistent, and even pitting the arguments of one against those of the objections, replies and counter-arguments of the other. This paragraph is fascinating, because it illustrates an application scenario for computational models of argument. One can imagine a future judge using such models to reconstruct the pro and con arguments of jurisprudential authorities. Moreover, it would appear that what is going on here is not just a simple case of appeal to authority. Rather, Justice Tompkins is critically analyzing the authorities, trying to reveal weaknesses in their arguments.

Over and above all these factors, *Pierson vs. Post* is a brilliant illustration of how argumentation in a legal case can turn on trying to find or apply exceptions to defeasible rules, as Justice Livingston does here when he tries to apply the exception identified by Barbeyrac to the requirement of physical possession, for animals which have been mortally wounded.

4. Conclusions

The Carneades Argumentation Framework is a formal, mathematical model of argument evaluation which applies proof standards to determine the defensibility of arguments and the acceptability of statements on an issue-by-issue basis. The formal model has been fully implemented, in the Carneades system, and tested on a number of examples from the Artificial Intelligence and Law literature, thus far yielding, we claim, intuitively acceptable results. This validation work is continuing.

The focus of this paper has been our attempt to reconstruct the actual arguments in the majority and dissenting opinions of the *Pierson vs. Post* case, which has become something of a benchmark in the AI and Law field. We feel this attempt has been successful. Using Carneades, we have been able in our model both to capture the structure of the arguments, at a high level of abstraction, and to evaluate these arguments automatically. The result of this evaluation is compatible with the decision of the court; the judgment of the court appears acceptable given the arguments in the opinion. This does not mean that the decision is necessarily correct or beyond criticism. On the contrary,

the model, and also its visualization, helps us to understand the arguments in the opinion and to reveal their weaknesses.

Pierson vs. Post has been used in the AI and Law field to illustrate computational models of particular argument schemes. But legal argumentation has in common with argumentation in general the application of a large variety of argumentation schemes. Our reconstruction of Pierson vs. Post in Carneades illustrates how a variety of argumentation schemes can be used together in a single case.

Not all features of Carneades could be evaluated by reconstructing the arguments in Pierson vs. Post. For example, more work is required to validate the models of the various proof standards, in particular the model of preponderance of the evidence, which uses weights. For this purpose, we plan to reconstruct examples of legal reasoning with evidence.

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