Intentions and motives in legal reasoning and legal narratives

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Abstract Narratives concerning legal facts contain both elements of stories and elements describing their associated legal interpretation. This paper investigates the concepts of intention and motive, ascribed to social agents, analysing what is their role in story construction and legal reasoning.

Keywords Legal reasoning, Legal narratives, Legal interpretation, Intentions, Intentional agents

Legal reasoning Several interpretations of legal reasoning can be found amongst legal theorists, and, in different forms, in the field of AI & Law. In both domains, however, the approach towards this concept have been moving over the time between two dimensions. The first, directed towards the law, deals with reasoning *about the law*, referring to the sources of law and their positioning in the legal order. The second deals with how courts, and in general any administrative organization, should decide on actual cases, *applying the law*. This form of reasoning is also called *legal interpretation*, or, in the specific case of court interpretation, *judicial interpretation*.

Judicial interpretation A first requirement for adjudication is to reconstruct a story of what happened, collecting evidence, declarations from witnesses, arguments brought by the involved parties. Wigmore argued in [15] that the formulation of rational principles for reasoning with evidence are independent from the rules of law. The focus of *evidential reasoning* is on the *process of proof*: the facts of the case are determined, without entering in any related legal issues. Based on the story construction, *legal interpretation* follows, that consists firstly in selecting which norms should be applicable for the case, then in connecting the case to its legal consequences. A model of this case-based reasoning has been presented for example by [1], incorporating the concepts of *theory construction* and *promotion of*

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values. However, in our opinion, the picture is not yet complete: there is another intermediate abstraction between the factual case and the constructed theory domain. As a first support for this claim, we notice that, looking for precedents, it is already necessary to create a sort of abstract scheme in which to compare different cases.

Binding precedents In the story of common law, the principle of binding precedent emerged gradually. It started more as a good practice, expressed by the ancient maxim *stare decisis et non quieta movere*. Only in the XVIII century, with the introduction of *Law Reports*, the research for applicable precedents became more reliable. As a result, the practice of using binding precedents during the adjudication became a norm for the jurisprudential community. But, if the *stare decisis* was certainly a necessary condition to legitimate this jurisprudential normative production, called opportunely *case law* – and distinct from *statutory law*, produced by the legislator – the recording, the publication and the maintenance of the court proceedings were foundational preconditions. As a matter of fact, they permitted to consider court decisions, in the form of legal narratives, as a knowledge base of reference for the whole community of legal practitioners[2].

Legal narratives A *legal narrative* is by definition any narrative concerning legal facts. For this reason, it is always ascribed to some legal interpretation of the facts, although often only partially or implicitly described. However, large parts of the legal reasoning process are still stated in the narrative, at least because any decision is supported by reference to the law. A systematic analysis of a legal narrative can highlight the entities that according the narrator have played a role and how; in addition, it can trace all the missing causality connections, which typically belong to background theories given as implicit by the narrator, for example because considered part of common-sense knowledge.

Different opinions in the court We take as first example the well known *Pierson vs Post (1805)*. Briefly, Post was hunting a fox with a horse and hounds. Pierson, although he consciously recognized the plan of Post, intercepted the fox, killed it and took the animal. The court found for Pierson. The claim that Post had the right on the animal is attacked by the fact that, actually, he had not caught the animal; however, the court accepted also that he was likely to do that. According to Justinian, the pursuit is not a sufficient condition for the claim

2 This is relevant also in civil law jurisprudences: even if precedents do not have a normative force, they still have a important heuristic function.

(1); however, according to Barbeyrac, the seizure of the body is not necessary to the claim (2). Bench-Capon and Sartor provide in [2] a formal interpretation of the case. They describe the logic with which the judges have resolved the gap between (1) and (2), tracing assumptions about the values promoted with each alternative choice. According this approach, judges solve the normative conflict with setting a priority of values. Specifically, the position (1) does not leave space for ambiguity, and thus promotes *clarity* (or, equivalently, *less litigation*). The position (2) accepts that a less clear situation of possession is tolerated and encourages *entrepreneurship*, because expresses a greater possibility to obtain a return from investments. In this case, the court opted to promote the value of clarity.

We have investigated the text of the original case[3]. Here we find a *dissent opinion*, in which different rules are taken into account for the theory construction. The first rule is given by a customary law, well known to "sportsmen" and/or "every votary of Diana": "a person who, with his own hounds, starts and hunts a fox on waste and uninhabited ground" has a right against another person that, conscious of the chase, captures the animal just in front of him (3). Furthermore, the fox is qualified by the pleadings as a "wild and noxious beast", *hostis humani generis*; "his depredations on farmers and on barnyards, have not been forgotten" (4); as a consequence of this ferocity, "to put him to death wherever found, is allowed to be meritorious" (5). Thus, someone that has "not shared the honors and labors of the chase" should not be allowed to "come in at the death" of the animal, and "bear away in triumph the object of pursuit" (6). Following to the value promotion approach, this last rule has been introduced in order to avoid that "gentlemen" renounce to get involved in the chase, or equivalently, in order to encourage the investment, because it reduces the risk of loss. For this reason, it may be considered a *fair competition* rule. Although (3) and (6) are very similar in content, they belong to two different institutional layers[4] (*hunting* and *protection against ferocious animals*), and promote different values (*fair playing* and *heroicity*). Furthermore, the norm (6) has also introduced a new qualification as necessary condition: ferocity. So, if the target of the hunting was a rabbit, the theory constructed in the dissent opinion would be weaker, because the qualification of ferocity and the related promotion of "heroicity" would not be valid any more.

3 See for example on: *http://www.facstaff.bucknell.edu/kinnaman/Pierson v.htm*
4 Our perspective on the institutional stance in agent-based modelling has been presented in [14].

Intentions in courts Going further, we consider a second case, *Keeble vs Hickeringill* (1707). Keeble owned a pond and made his living by catching wild ducks with decoys placed in the pond. Hickeringill was his neighbour, and used guns to scare the ducks away from the pond. The court found for Keeble. According to the reconstruction given in [2], the court decision prefers to promote the value of *economic usefulness* of the activity against the value of *clarity*. Like in *Pierson vs Post*, animals had not yet been caught, but the economic activity of the plaintiff is make explicit, for the fact that supported his livelihoods. Considering also in this case the original text, the "design to damnify the plaintiff" was recognised by the court as determining factor in the decision. It is explicitly stated that if "Hickeringill had set up another decoy on his own ground near the plaintiff's" and "had spoiled the custom of the plaintiff" the court would have found for him. Therefore, intentions played an important role in the court decision, not taken into account in the cited reconstruction.

Let us consider now a scheme similar to *Pierson vs Post*, but placing a bear at the place of the fox. The first hunter invests resources in order to hunt the animal and he is near to achieve a result. If the second hunter is capturing a bear with the purpose of selling its skin, he is in competition with the first one. However, if the hunter kills with the intention to protect himself (or his social group) he is not responding to a rule of economic competition. In that case, if the court accepts the fact that the action is executed with an intention related to another institutional domain, the debate would aim also to determine the relation binding both institutions. Thus, intentions turn out to be *coordinates of interpretation* in the court, because relate actions to a certain institutional frame, making them institutionally meaningful.

Intentions and intentional agents The concept of intention is strictly related to the concept of agency[5], and an agent is etymologically connected to the concept of action. An **action** is a process of change, that results in an event, the *act*, bringing the world from a certain state of affairs into another. Usually, the eventual outcome of the whole process is called *act*, too. Following an intentional stance, we observe that an actions are always performed with the purpose of reaching desired states of affairs, i.e. certain **goals**. Because of the scarcity of time and resources available for his actions, an agent is obliged to focus just on a limited number of goals. The result of this selection composes his *intents*. If an **intention** is the commitment to perform an action, **intent** means conscious and active purpose: *Goal* + *Intention* = *Intent*.

5 We proceed along the account of intentionality given in [7].

Therefore, any action is always associated to a certain intent: *Intent* → *Action*. However, there are other components to be considered to translate a plan into action, namely the contextual conditions that make the action possible or potentially successful, according the knowledge of the agent. This contextuality is two-fold: on the one hand it is related to the actual ability the agent, on the other hand, to correctly responding environmental features[6]. An informal representation of this would be: *Intent* + *Possibility of action* → *Action*. Considering a procedural perspective, a given intent may be not related to an atomic action, but to a whole sequence of actions[7], i.e. a **plan**. In this case, the intent triggers the execution of a plan, that may require in a certain moment the performance of another action/plan, thus generating a nested intention. Intention after intention, the agent maintains a sort of intentional stack in order to be coherent to his initial goal. The situation for an observer is the opposite. He identifies without difficulty the immediate intention associated to the physical action[8], but he has always to interpret the agent's whole behaviour in that context, if he wants to explain it, or, equivalently, abducing his intents.

Actus reus and mens rea As we already observed in the previous examples, intentions play an important role in court decisions. This is still more explicit in criminal law, where *criminal liability* is produced by the combination of *actus reus* and of *mens rea*: the qualification of unlawfulness associated to the act is not a sufficient condition to liability, because also the mental state of the incriminated person has to be qualified as *concurrent* to the unlawful act. Differently, in civil law it is usually not necessary to prove a mental element in order to establish liability. However, if a tort is intentionally committed or a contract is intentionally breached, such intent may modify the result of the court decision.

Motive and motivation From a legal perspective, a person commits a criminal act with intent when the conscious objective or purpose of that person was to engage in the act which the law forbids. On the other hand, a **motive** is the reason why a person chooses to undertake a criminal conduct and it is usually a fact, observed or acknowledged by the agent. We may extend this observation, considering the **motivation** as the subsuming mental process, that,

6 This connection is known in ecological psychology with the name of **affordance** [8]. In this direction, we are currently investigating the concept of *social affordances*, i.e. affordances related to institutional actions.

7 Furthermore, in certain cases, the very meaning of the action may be related to a definite sequence of other actions. For example, selling "contains" the action of offering, acknowledging an acceptance and delivering.

8 If I am writing, I have *evidently* the intention of writing. We call this an *immediate intention*, because related to an immediate intent, i.e. corresponding to the very performance the act. Searle has called it *intention-in-action* [13].

triggered by the motive, generates the intent: *Motivation* + *Motive* → *Intent*. Interestingly, motivations can be associated to **maintenance goals**, defined by states of affairs that should remain true (or false), rather than a state that should be achieved. These goals are particularly important: the continuous living activity of an agent is usually given by maintenance goals. For example, in case of animals, survival is a core maintenance goal. If someone is caught while trying to stab a person, his intention of killing is explicit. The reason behind that intention would be more difficult to investigate. However, evidence of a motive, or evidence of the lack of a motive, may be considered by the jury and may be important in the resulting legal interpretation.

Intention, recklessness and negligence Traditionally, at least three different positions of *mens rea* are taken into account, namely *intention*, *recklessness* and *negligence*, associated to different levels of culpability. In order to determine these positions a new concept has to be introduced: the *foresight*, i.e. the capability of foresee the results of the performance of an action. Recklessness occurs when the agent foresees the possibility of an unlawful result as a side-effect of his actions, but consciously takes the risk. According to the proposed approach, involving plans, intention is generally issued by a backward temporal projection (*conclusion, if conditions*: in order to bring about that result, the agent should execute that plan). Differently, recklessness requires the presence of a successful forward projection (*if condition, conclusion*: if the agent performs this action, there will be unlawful consequences), but consciously not taken in consideration[9]. To conclude, negligence is instead associated to the failure to foresee. The term of comparison to qualify the failure is a *reasonable person* standard, so as referring to common-sense knowledge.

Intentions and stories A general story scheme is given, for example, by: *Motive* → *Goal* → *Action* → *Consequences*[10]. Using the formulas introduced above we can extend it in this way: *Motivation* + *Motive* → *Intent* + *Possibility of action* → *Action* → *Consequences*[11], illustrated in Fig. 1. Typical consequences are traces, and they are the natural domain where to collect *evidence*, with the purpose of grounding a constructed story to the reality. Some actions occurred publicly so they could be ascribed as evidence too, but in a general case this

9 We may observe a connection between *recklessness* and neglecting known but undesired *side-effects* of a certain course of action.

10 This scheme is taken from [3], and synthetizes, in turn, what proposed in [12].

11 Notice the similarity with *Event Condition Action* (ECA), the paradigm for event driven architectures: in this framework motives would be events, possibilities of action the conditions field.

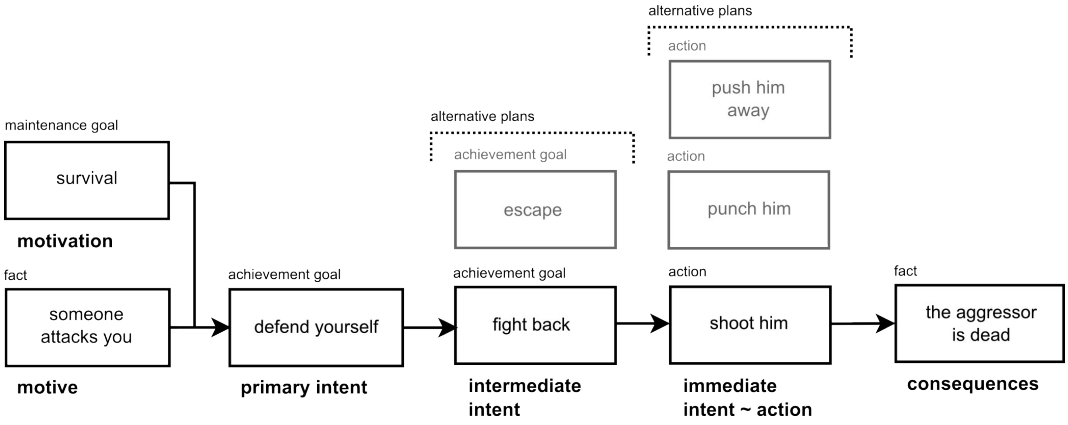

Figure 1: A murder story, reconstruction from the agent internal perspective

is not the case. Considering a murder, for example, the unlawful action may have occurred in an isolated area. Possibility of action includes the fact the murder was near the victim, that he had a weapon, and was able to use it. Below this level, however, we cannot proceed without an interpretation of the agent's behaviour and some assumptions about his mental state.

Investigations Both the investigative process and the process of proof in court handle the story reconstruction, starting from consequences and trying to remount until the motive, performing a typical *abductive reasoning*. However, investigators have a completely different perspective than the court. They have to take into account other factors: for example, evidence risks to be lost as time goes by. It is quite normal that, faced with some initial evidence, investigators tend to start from a range of standard scenarios as hypothetical story-lines. They have to choose which traces to collect, managing resources and time, and those scenarios offer a good compromise of efficiency, because hypothetical reasoning use the story scheme in a forward-chaining sense. For example, starting from the motive, evidence is collected in order to support or attack one of the scenarios, respectively grounding one solution or reducing the solution-space. In doing this, investigators are methodologically more subject to tunnel vision.

Argumentation in courts Compared to investigators, judges are in a “neutral” position, at least according to their institutional role. Following the interpretation given in [1], their general motivation may be associated to the maintenance goal of promoting certain values in the frame of the rules of law, as given by an entity that is external to the judge, like the legislator or customary sources. This promotion, however, occurs during the theory

construction phase. Judges do not have any interest in considering a certain story reconstruction instead of another one. Thus, we may assume prior indifference between explanations for the adjudicator. Only with this perspective, the analysis performed during the process of proof may critically assess the facts brought to the court. However, a pragmatic image of the argumentative process between enforcer and potential suspect, or plaintiff and defendant, would be as a competitive game between parties, that rationally provide supports to the explanation less harmful for the party. It is in this point that we explicitly account another role for intentions, in this case, *externally* to the story. For example, witnesses or experts may lie or omit certain relevant facts, as a consequence of their own agenda.

In preparation to the debate in the court, a preliminary step is performed: the *discovery* process, during which parties share relevant information. They exchange each other all potential evidence, although they are not required to give any information concerning their intentions to admit this evidence, or about which role this evidence may play into their legal strategy. In this, attorneys may employ a variety of discovery devices to collect information that they consider to be relevant to the lawsuit, for instance interrogatories, depositions, requests for production and requests for admission. Furthermore, they may also examine physical evidence and inspect the scene of the accident as well as gather, analyze and process information collected during e-discovery. In this, judges play the neutral role of coordinators. This occurs not only during the *story construction*, but also with messages concerning the legal interpretation of the facts, in preparation to their *theory construction*, that will bring the case to its legal conclusions.

Administrative organisations On the other hand, administrative organisations possess a "semi-executive, semi-legislative, semi-judiciary" character in order to insure the application of the law [10]: even if partially, they play both the investigative and the adjudicative role. The concrete goals and plans (i.e. implementations of law) of an administrative organisation depend on the interpretation of law, on directions given by the executive branch and on the internal knowledge of the organisation. For example, as a consequence of its mandate, the tax administration has interest to find people that evade taxes. In this, they are similar to the investigators of the previous paragraph. Unfortunately, this means also that their position in observing the world is not neutral and the resulting qualification process could suffer from this bias. In this context, court cases are very important, because they test the neutrality of the

application of regulations before the law. Having a certain degree of design power on the legal system with which they operate, administrative organisations may directly change a certain interpretation of a regulation if a certain operational rule or process turned out not to correctly interpret the intentions of the legislator. In this sense, also dissenting or concurrent opinions may be precious, bringing new potential factors to be considered during the design phase.

Conclusions and further developments Legal interpretations in courts and administrative organizations have in common that, in order to grasp the meaning of legal rules, their application in a certain social reality has to be established. Explicit descriptions of this social reality, in the form of story-lines or scenarios (including social roles, intentions, beliefs of the stakeholders) help to get a good insight on the legal consequences of certain interpretations [4, 5]. As noticed in [11], following Hart and Honoré [9], "grounds for responsibility attribution do not have the status of logical or strictly rational conditions. They rather are widely accepted requirements, which generally grow out of tradition and that are progressively codified by legislators in the Law". This is actually the reason why, for instance, all courses of Property law present cases like *Pierson vs Post* or *Keeble vs Hickeringill*, together with many others. That corpus, chosen for didactic purposes, is meant to collect the most significant variations observed in court decisions, with the purpose of constructively inferring the *requirements* used to attribute responsibility (and accountability, and liability). Integrating a concept well known in AI [6], we observe that these cases (in a sufficient number) constitute an informal "*deep model*" of the domain, learnt to be used when interpreting a certain case. Our research objective is to develop a computational equivalent of this *deep model*, starting from interpretations of cases, expressed as stories, i.e. deterministic causality chains, involving intentional and institutional stances. Part of this conceptualization has been investigated in this paper, namely the role of intentions and motives. Once the stories are acquired, we may simulate (animate) them, in order to validate new regulations, or use a diagnoser agent in order to interpret a sequence of events, according to the collected *deep model*. Thus, the resulting agent-based environment may effectively support legal professionals involved in legal interpretation, like policy-makers, legislation drafters, administrative systems designers and judges.

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