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**Lecture 13: Game Theory and the Law**

1. Liability
   1. *Liability* is a bound obligation to pay a debt. When a problem happens, like a motorist hitting a pedestrian with his car, the question is who suffers the cost of that problem. Who is held liable?
   2. In most legal regimes, the related question is who took *due care*, or the amount of care that is socially optimal.
      1. Below is a game of no liability: if the pedestrian gets hit then the pedestrian ***always*** suffers the cost. (We assume there’s a 10% of accident if both take due care.)

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| --- | --- | --- | --- |
|  | | *Pedestrian* | |
| Due Care | No Care |
| *Motorist* | Due Care | -10,-20 | -10,-100 |
| No Care | 0,-110 | 0,-100 |

* + 1. What’s the Motorist’s dominant strategy? Where’s NE?
  1. Legal scholars have long recognized we should incentivize motorists to be careful so we have an alternative: strict liability. If the pedestrian then the pedestrian ***never*** suffers the cost.

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| --- | --- | --- | --- |
|  | | *Pedestrian* | |
| Due Care | No Care |
| *Motorist* | Due Care | -20,-10 | -110,0 |
| No Care | -100,-10 | -100,0 |

* + 1. What about NE and dominant strategies here?
  1. So both of these approaches are pretty lousy but they have their role.
     1. Some things have strict liability like robbery or airplane crash victims. There is no due care for the victim to take (or, more accurately, the due care is very expensive to take). If I leave my computer somewhere, the thief doesn’t get to take it. If caught, s/he will still be arrested.
     2. Other things have no liability like if you go to a restaurant and the service is bad. Knowing that they can’t sue for damages, customers take due care (by looking at Yelp ratings, for example). Again, note the benefit to legally requiring the service to take due care is small compared with the cost. After all, they already have a strong incentive to take due care.
        1. Some might call into question the role of health inspectors and licensing requirement based on this observation. When does it make sense and when does it not?
  2. But most of the time, we’d like a balance between the two. So there is negligence plus contributory negligence. The pedestrian gets cost of damages only if s/he took due care and the motorist did not.

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| --- | --- | --- | --- |
|  | | *Pedestrian* | |
| Due Care | No Care |
| *Motorist* | Due Care | -20,-10 | -10,-100 |
| No Care | -100,-10 | 0,-100 |

* + 1. What’s the dominate strategy? Where’s NE?
  1. Some argue that due care shouldn’t be an absolute standard—if the victim falls just short of due care, should she be held completely responsible? Thus we sometimes see regimes of *comparative negligence*. There are two main types.
     1. Juries are assigned to determine what “percent” of the accident is each party’s fault and payment is derived from that. Obviously there is some given in the exact percent (which can easily translate into millions of dollars).
     2. Otherwise, the plaintiff recovers damages only if she was less negligent than the defendant. This incentivizes not to take due care but just a little bit more care than the other party. Yet the game theory claims each party will arrive at complete due care.
     3. Alabama, Maryland, Virginia, DC, and North Carolina follow some version of this rule.

1. Learned Hand Formula
   1. Crafted by Judge Learned Hand in 1947, the Hand formula describes someone should be held responsible due to negligence if:
      1. Where **B** is the burden of avoiding the accident,
      2. **p** is the probability the accident will occur, and
      3. **L** is the cost of the accident.
   2. So if there are no handrails (which are cheap to install) to prevent people from falling off a balcony (which is common and dangerous), the owner will be held liable.
   3. But if an owner didn’t clear the sidewalk of ice shortly after it formed (which is expensive to do) to prevent people from slipping (uncommon given the time constraint and not very harmful if it happens), the owner won’t be held liable.
      1. *U.S. v. Carroll Towing Co.* (1947) describes a case involving the federal government hiring the Connors Company to ship flour. The flour was on a barge tied to the pier when Carroll Towing’s tugboat attempted to move a different barge. It hits the barge with the flour, broke from the pier, and collided with a propeller. It, and the flour, sunk. Because Connors didn’t have a watchman on the barge, not only was Carroll found negligent but Connors as well. Because the pier was so busy, and this was usual, Connors should have anticipated this problem.
   4. The economic justification for the Hand formula is not just balancing expected costs (from the accident) to the certain costs (from the prevention) but also ensuring that the victim has taken due care. For some problems, it is cheaper for one party to prevent a problem than another party. This brings in contributory negligence.
      1. In *Butterfield v. Forrester* (1809), Forrester placed a pole across the road while repairing his house. Another passage in the same direction—via a different street—was left free. At about eight, while still light out, Butterfield rides into the pole. Not only that, he was riding quite hard. He attempts to blame Forrester for the injuries. But the court rules in favor of Forrester since Butterfield acted recklessly.
2. Contract
   1. Courts want contracts to mean something, so they like to enforce them even when it’s a bad decision for one of the parties. They do this only to encourage careful thought.
   2. But if the court can undo such a contract without worrying about any moral hazard issue, it will do so.

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| **Court Is Neutral** | | | |
|  | | *Seller* | |
| Ignorant | Aware |
| *Buyer* | Ignorant | 0,0 | -1,3 |
| Aware | 3,-1 | 2,2 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Court Sides With Buyer** | | | |
|  | | *Seller* | |
| Ignorant | Aware |
| *Buyer* | Ignorant | 0,0 | 4,-2 |
| Aware | 3,-1 | 2,2 |

* + 1. In these games, I assume it cost 1 to be aware of the details of the exchange. If one party can utilize an information advantage, that party gets a payoff of 4 while the other loses 1. If both are ignorant, there is no exchange.[[1]](#footnote-1)
  1. Unenforcablity: where the court rips up the contract.
     1. In *Harris v. Tyson* (1855), Tyson buys land from Harris knowing that it contained chrome deposits. Harris was ignorant of how valuable his land truly was and Tyson didn’t tell him. Upon discovery that he’s been taken, Harris sues Tyson. The court sides with Tyson stating,

Every man must bear the loss of a bad bargain legally and honestly made. If not, he could not enjoy in safety the fruits of a good one. Besides, we do not feel sure that the contract has made the plaintiff any poorer, for it is not improbable that he would never have discovered the value of the mineral deposit…

By siding with Tyson, the court incentivizes people to make use of their knowledge. But note this is a buyer “swindling” a seller; why would the opposite probably not have worked out the same way?

* + 1. In *Wilkin v. 1st Source Bank* (1990), a family buys a messy house once owned by the painter Ivan Mestrovic. As part of the deal, the family would clean the house on their own expense but be allowed to keep any possessions. Because of the extreme level of clutter, the family finds works of art the bank didn’t notice. Neither party knew any works of art would be inside. The family claimed ownership of the art and the bank challenged; because there was no meeting of minds, the court sides with the bank. A house with art is fundamentally different than a house without art; what the parties were bargaining on doesn’t technically exist.
  1. Efficient breach: the court says the contract is valid, but in this circumstance it is fine to breach it.
     1. In *Eastern S.S. Lines v. United States* (1953), the defendant was under contract to restore a ship owned by the plaintiff, a contract established in 1942. After the war, the cost of labor has increased so much, and the value of restored ships fell so much, that it would cost more to restore the ship than the ship was worth. The government refused to pay for restoration and the court agreed.

…neither party anticipated…that the market for old ships one the one hand, and the market for labor and materials, one the other, would be such as to make the restoration of old ships a useless and wasteful expenditure of public funds.

* + 1. In *Transatlantic Financing Corporation v. United States* (1966), the US government contracted the plaintiff to ship wheat from Texas to Iran. The plaintiff planned to send the ship through the Suez Canal to get there. In 1956, war broke out and the Suez Canal shut down. The plaintiff claims it is now not commercially practical to deliver the wheat and thus doesn’t have to. However, because the political turmoil in Egypt at the time (including the nationalization of the Canal) was known when the contract was made, this was not an unforeseeable change. The court sides with the defendant.

1. You could play an alternative game where if both are ignorant, each gets 1 (in the first game) to reflect a poorly thought out exchange. In the second game, that will change to 4,-1; the result will be the same. It should be noted that this is a game I’ve made up for class. I was unable to find an established example reflecting this idea. [↑](#footnote-ref-1)