Burdens of proof and presumptions

Henry Prakken & Giovanni Sartor

Guangzhou, April, 2018

Universiteit Utrecht

rijksuniversiteit groningen

European University Institute

Florence

Burdens of proof (legally)

- Burden of production for P: who loses on P if no evidence for P is provided during a proceeding?
- Burden of persuasion for P: who loses on P in the end if the evidence on P is balanced?
- Tactical burden: who would likely lose on P if the present stage were the final stage?

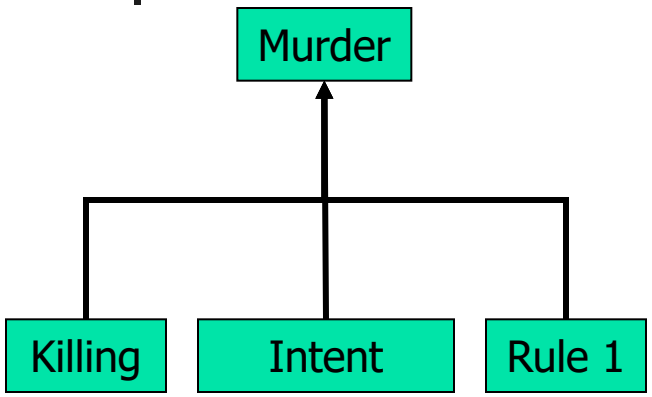
Dialectical status of conclusions

- P is justified = P is the conclusion of a justified argument
- P is overruled = all arguments for P are overruled (and there exists at least one such argument for P)
- P is defensible = P is not justified and P is the conclusion of a defensible argument

Defining burden of proof (formally)

- Burden of *production* for P = task to construct a sensible argument for P during the initial stage at which P becomes relevant
  - Does not shift
- Burden of *persuasion* for P = task to have a justified argument for P in the final stage
  - Does not shift
- Tactical burden on P: do something to make your favoured outcome on P likely if the resulting stage were the final stage
  - Can shift any number of times
- Argumentation logic is applied to each stage in a proceeding

Burdens of proof: example



Prosecution has *burden of production and persuasion* for Murder, Killing and Intent

R1: If Killing & Intent then Murder
R2: If Selfdefence then not R1

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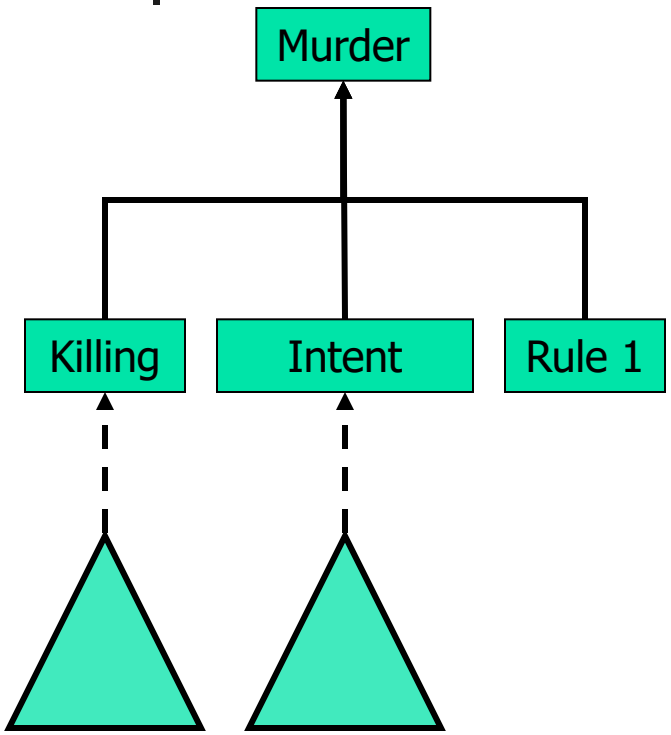

Prosecution has *burden of persuasion* for Murder, Killing and Intent

Defence has *tactical burden* to do something, and *burden of production* for Selfdefence

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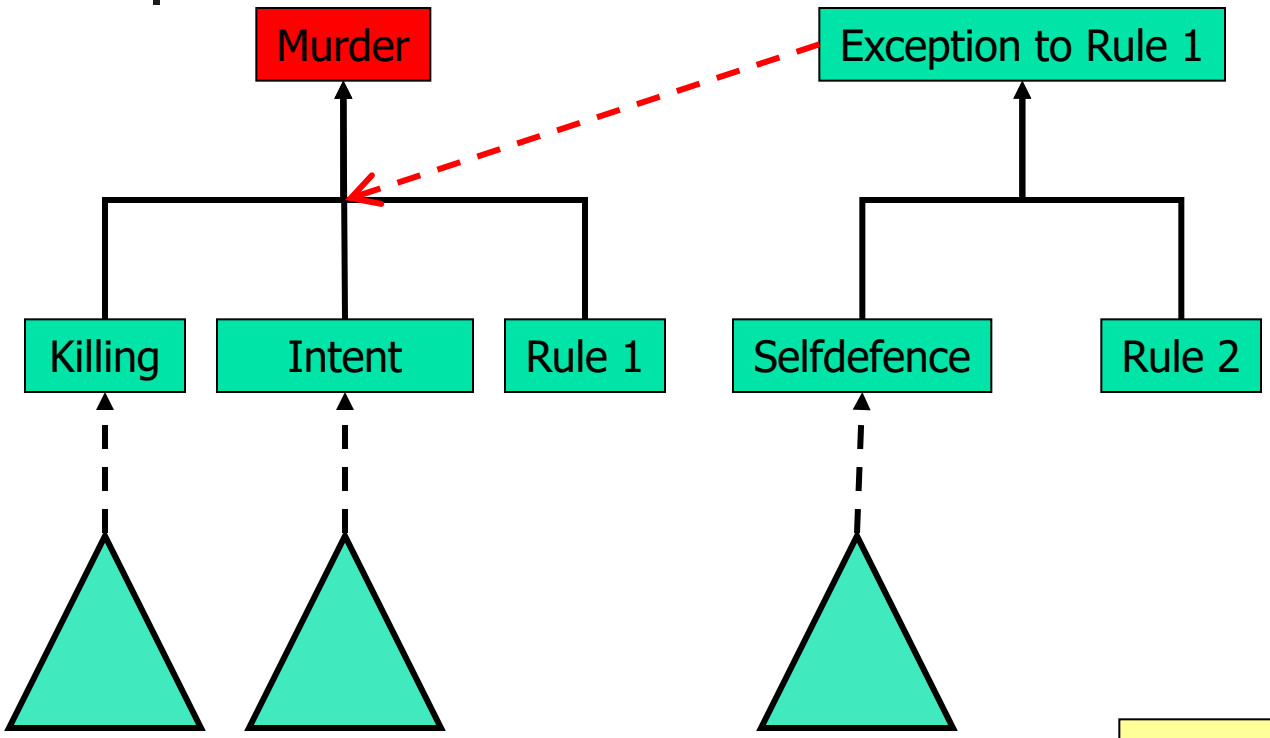

Prosecution has *tactical burden* to do something, and *burden of persuasion* against Selfdefence

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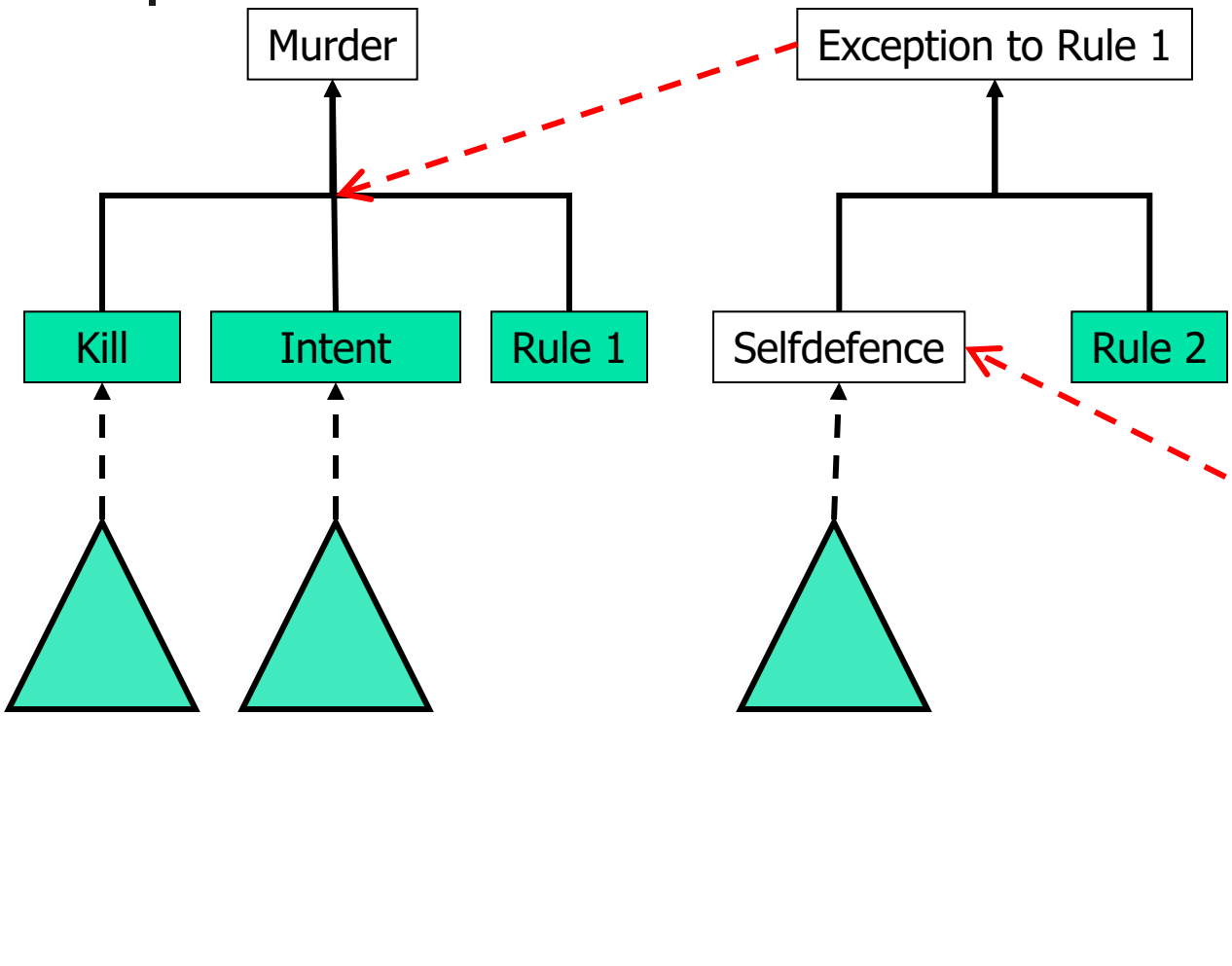

Prosecution has *burden of persuasion* against Selfdefence

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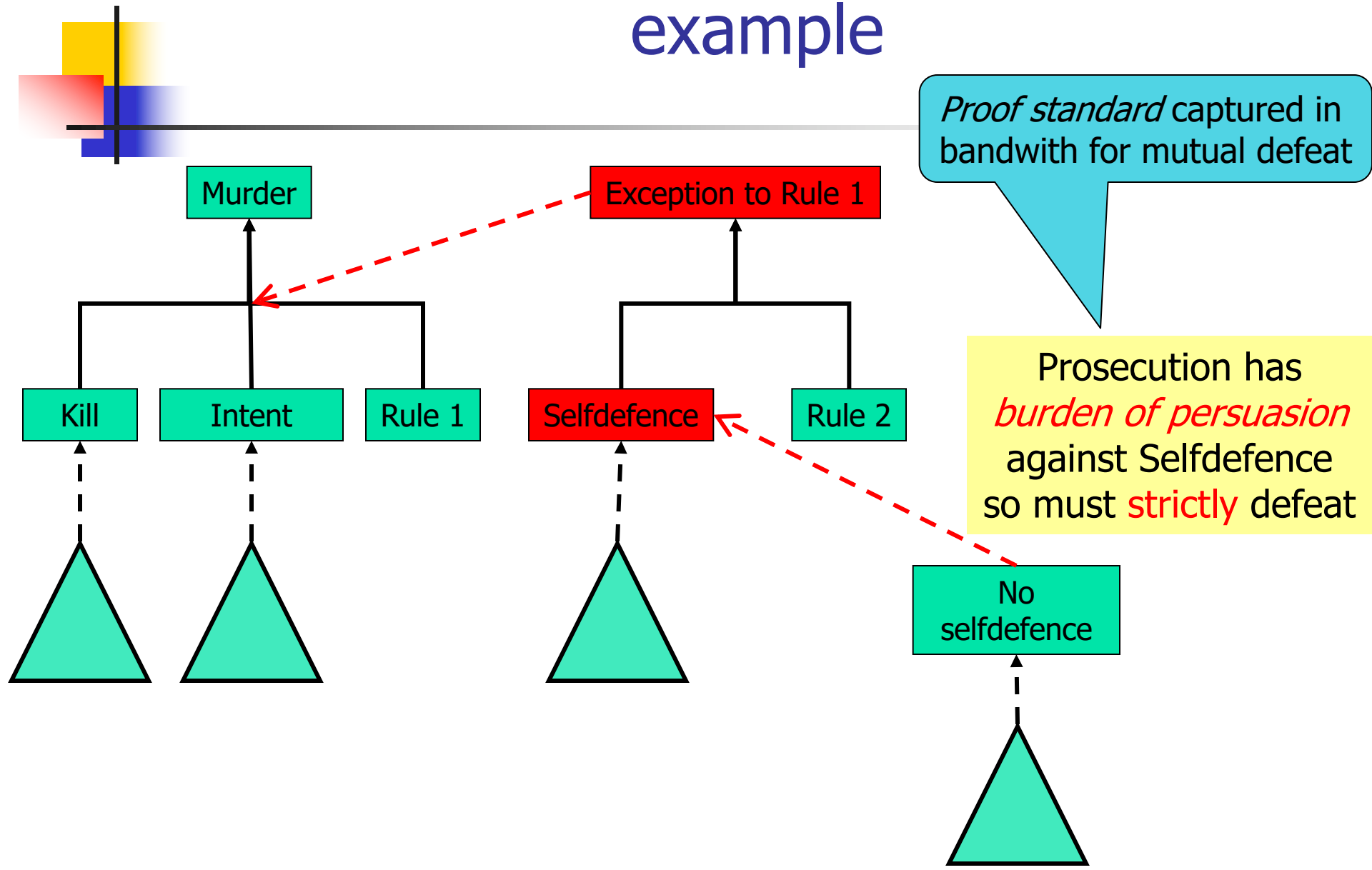
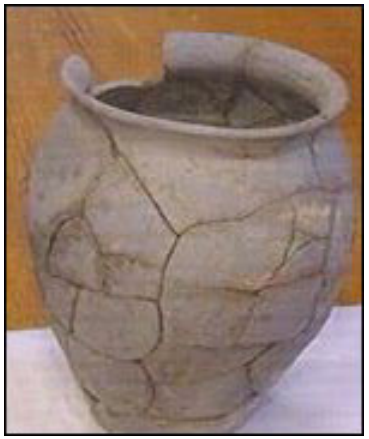


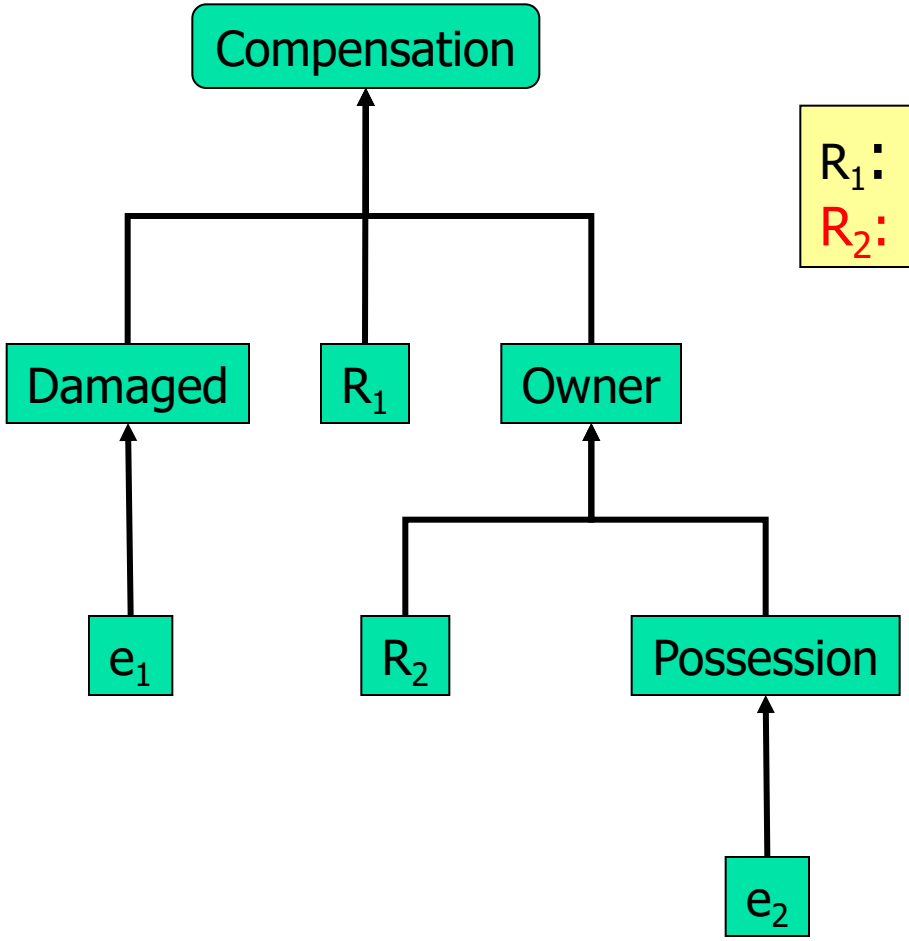
Presumptions: not used to allocate but to fulfill burden of proof

R_1: If Damaged & Owner then Compensation

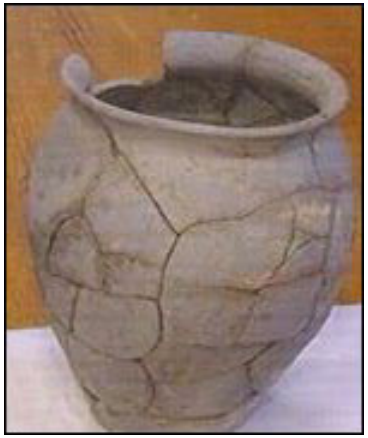
Possession creates a legal presumption for ownership



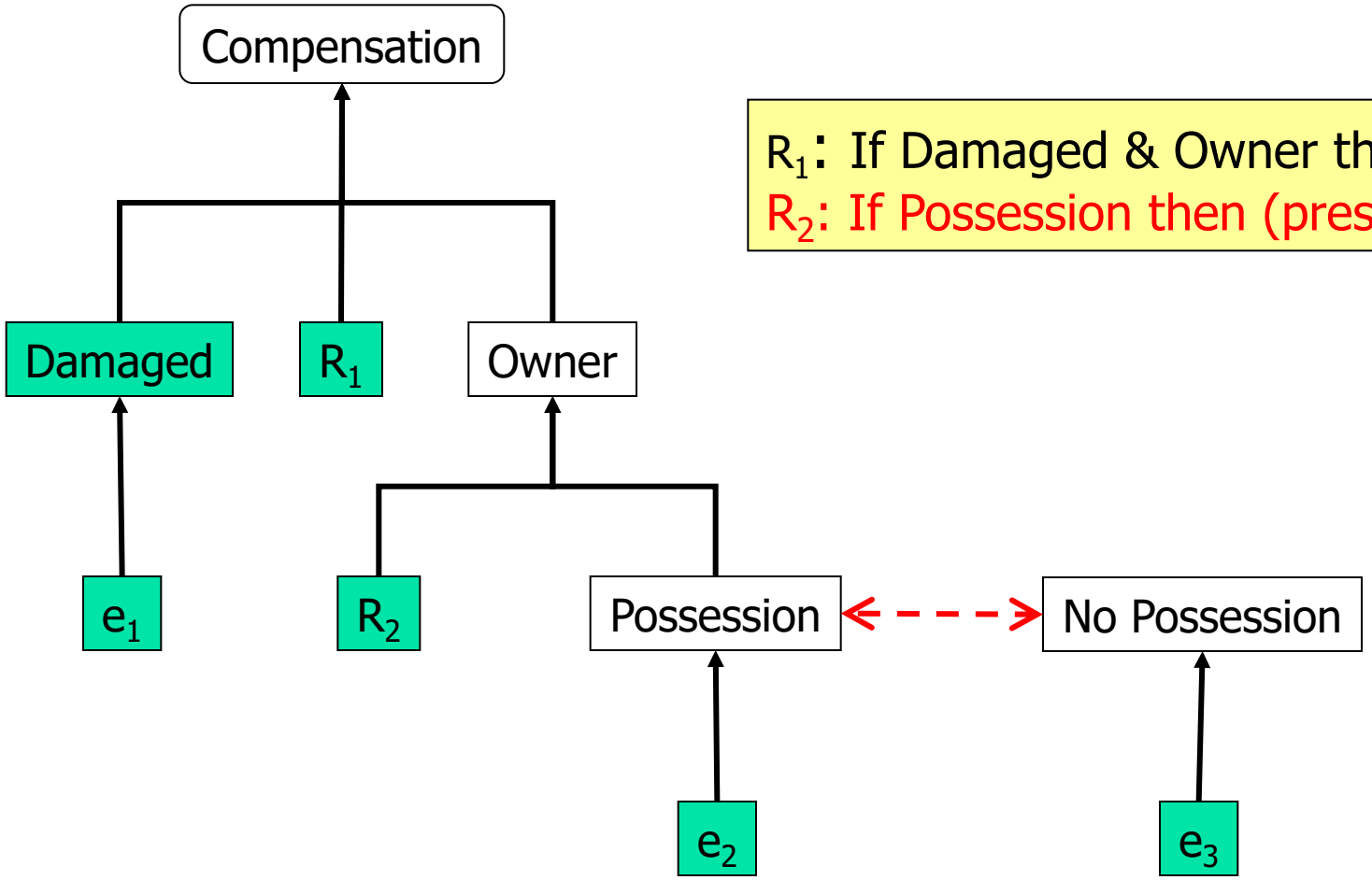
Presumptions: they are defeasible conditionals



R_1: If Damaged & Owner then Compensation
R_2: If Possession then (presumably) Owner



Their antecedent must be proven



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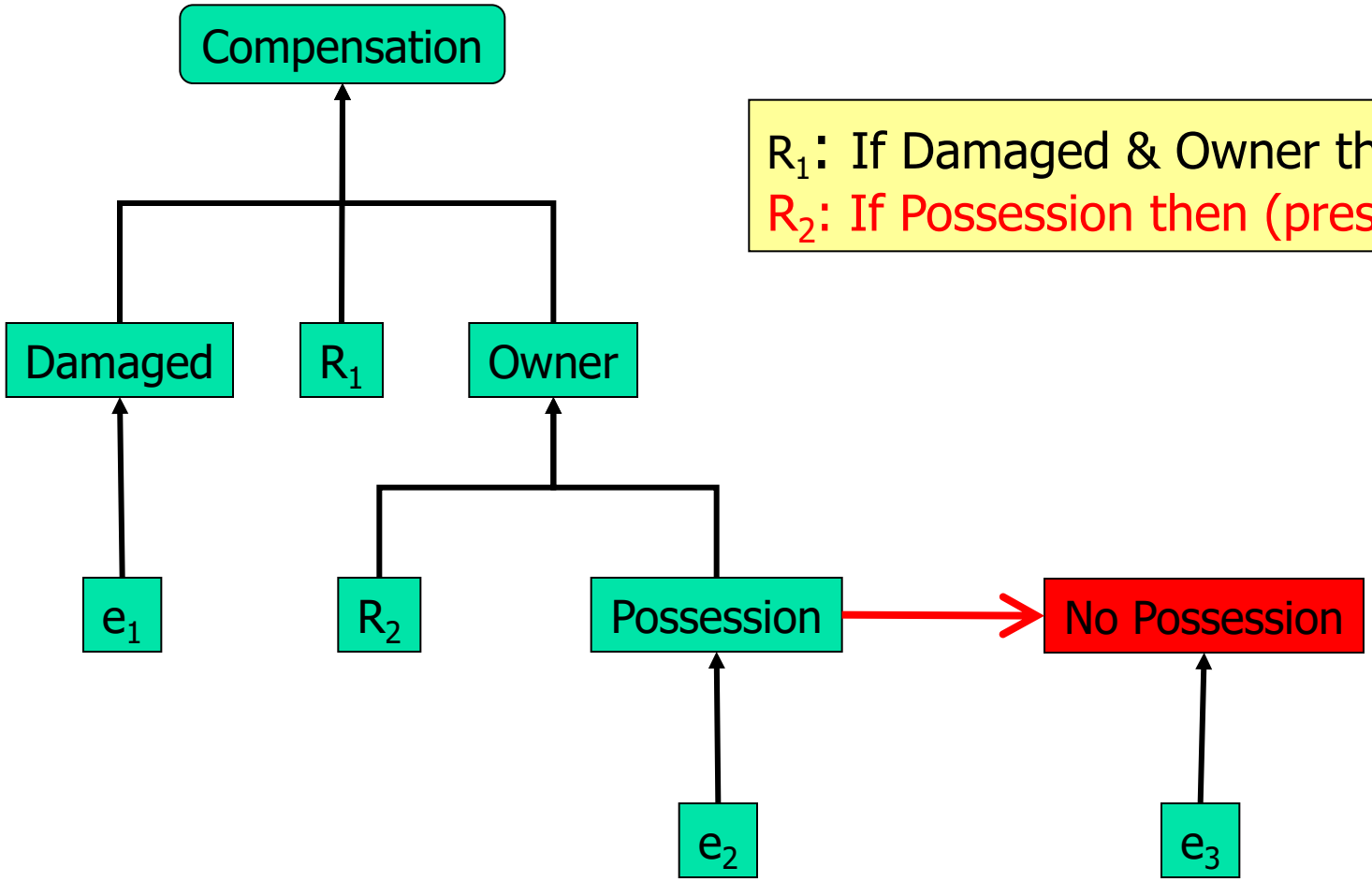

R_1: If Damaged & Owner then Compensation

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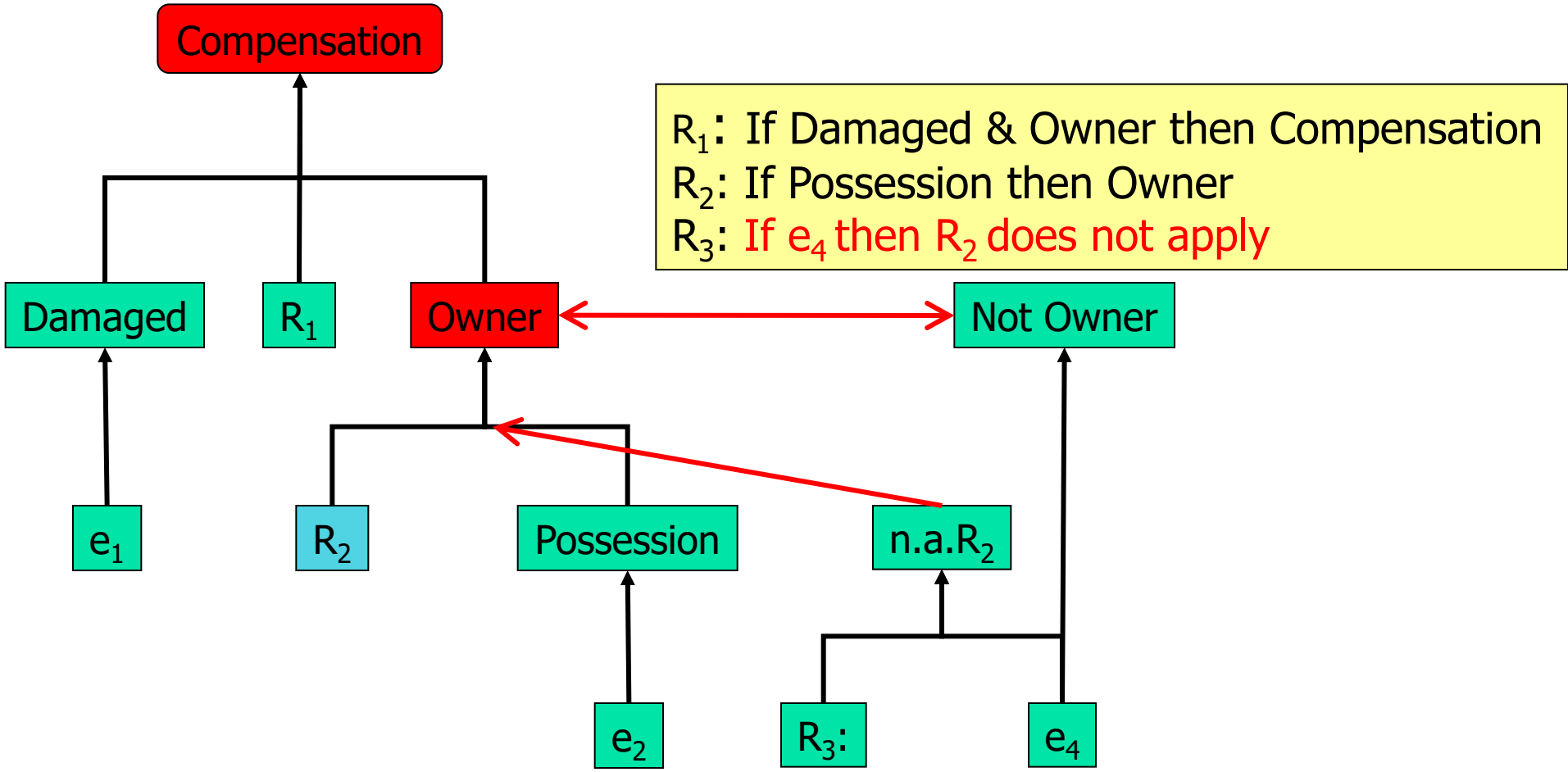
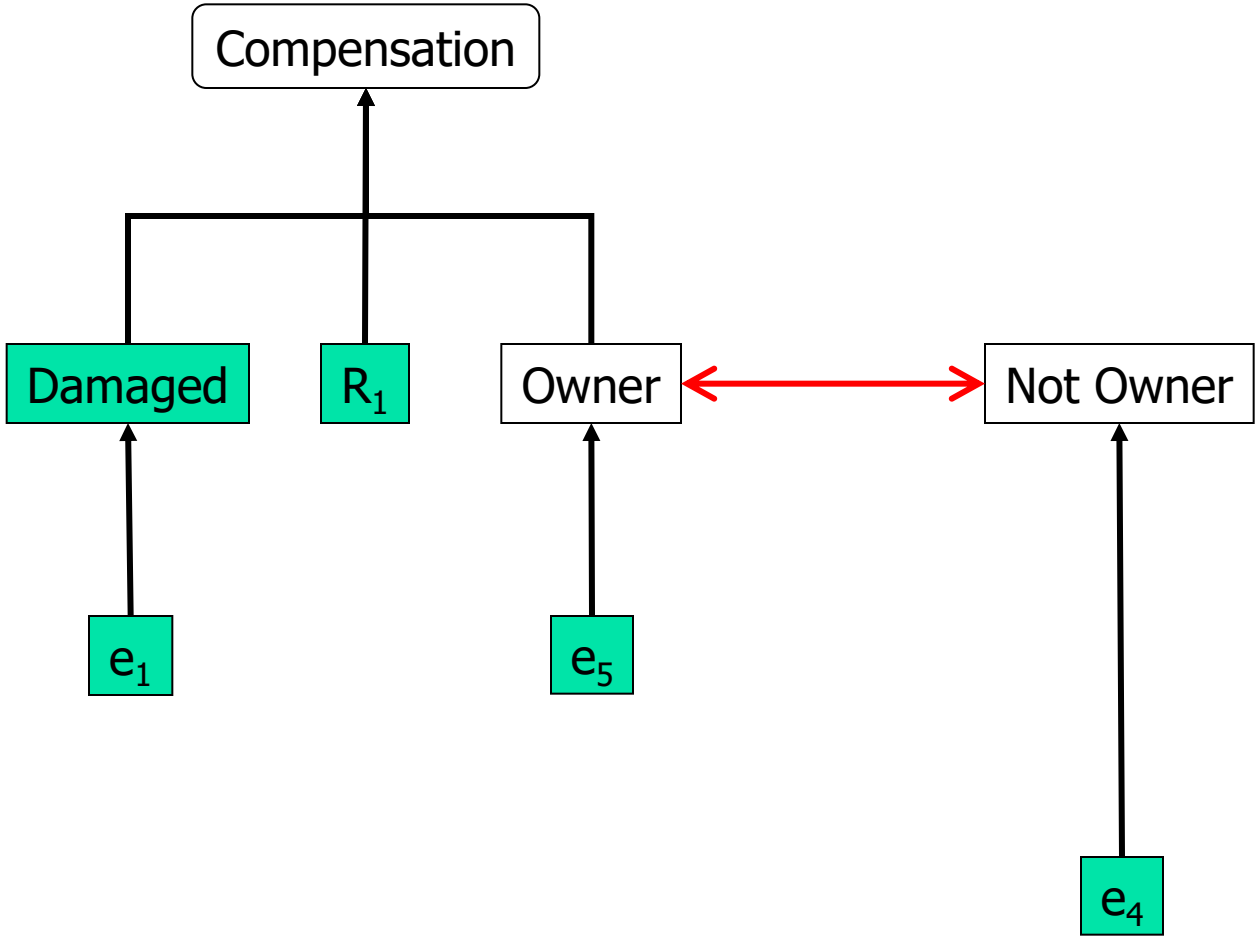
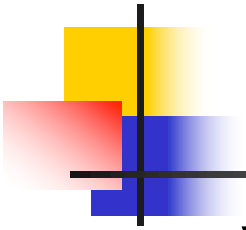
They cannot be used after counterevidence



Now real evidence is needed



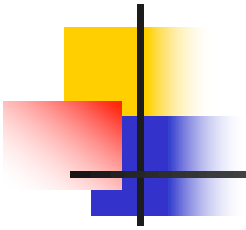


Summary

- Various notions of burdens and standards of proof can be defined in terms of defeasible argumentation
  - But dynamic setting is needed
- Presumptions can be logically understood as defeasible conditionals
  - Not used to allocate but to fulfill proof burdens

Presumptions vs generative norms

- Certain legal rules are generative (they link operative facts and legal effects)
  - Regulative rules
    - damage ⇒ Obligation to compensate
    - smokingSpace ⇒Permission to smoke
  - Constitutive rules
    - Has Italian Parents ⇒Is ItalianCitizen
    - Issued By Parliament ⇒Valid Law
    -



Presumptions

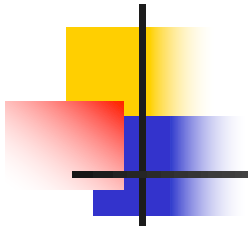
- Presumptions
  - Do not generate legal effects
  - They establish what has to be assumed, unless evidence to the contrary is provided
    - Possession $\Rightarrow_p$ Ownership
    - Doctor & HarmPatient $\Rightarrow_p$ DoctorNegligent
    - $\Rightarrow_p$Innocent
    - Possession $\Rightarrow_p$ InGoodFaith

What does a presumption do?

- The burden of production and of persuasion for the presumed conclusion is met by establishing the antecedent of the presumption-warrant
- If evidence is provided against the presumed conclusion, the presumption no longer applies.

How to model a presumption

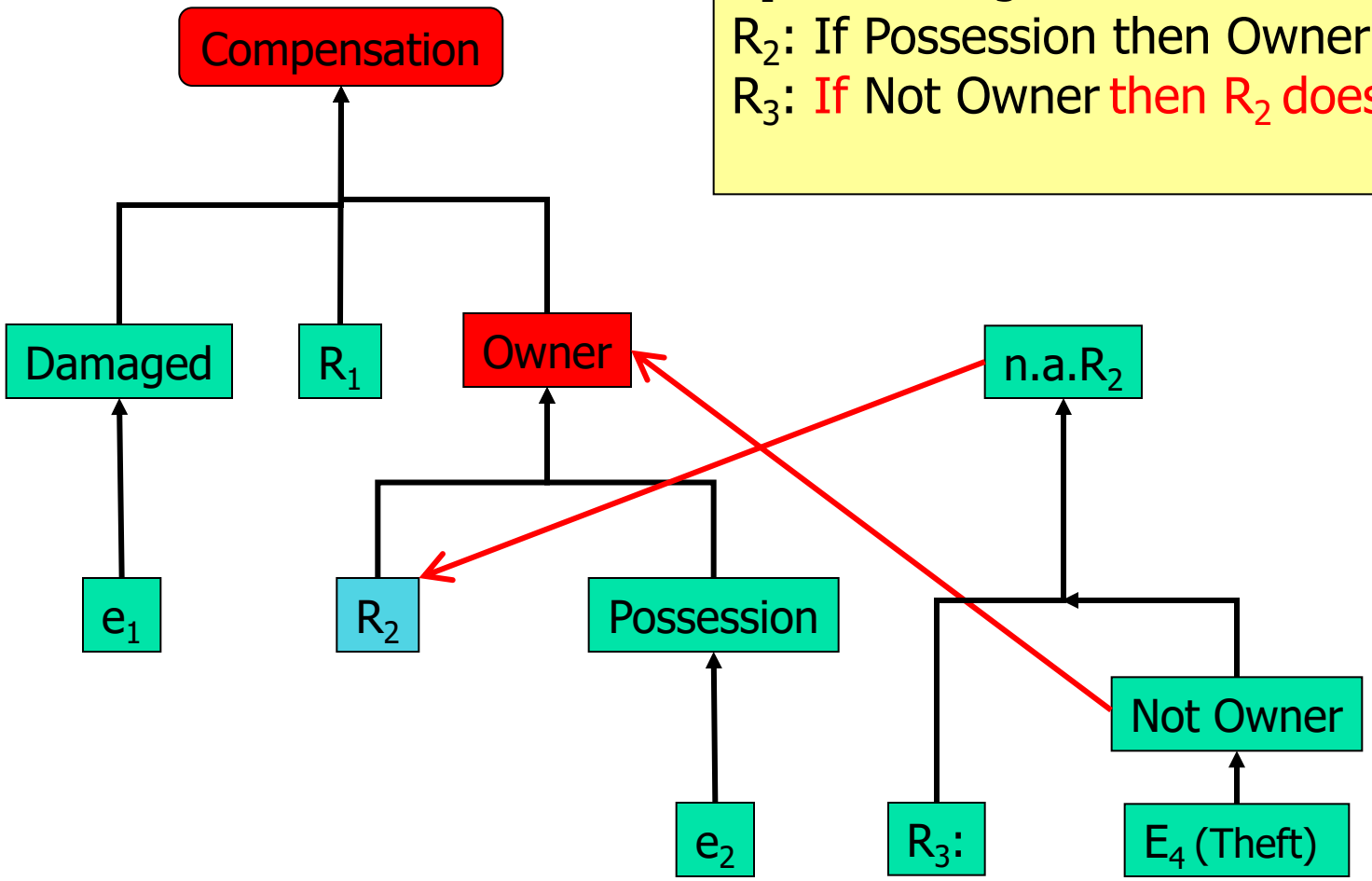
- One way:
  - P1: Possession & $\Rightarrow_p$ Ownership
  - R1: ¬Ownership ⇒ ¬ P1
- Another way:
  - P1: Possession & $\sim\neg$ Ownership $\Rightarrow_p$ Ownership
- Another way
  - P1: Possession & $\Rightarrow_p$ Ownership
  - R1: evidenceFor¬Ownership ⇒ ¬ P1

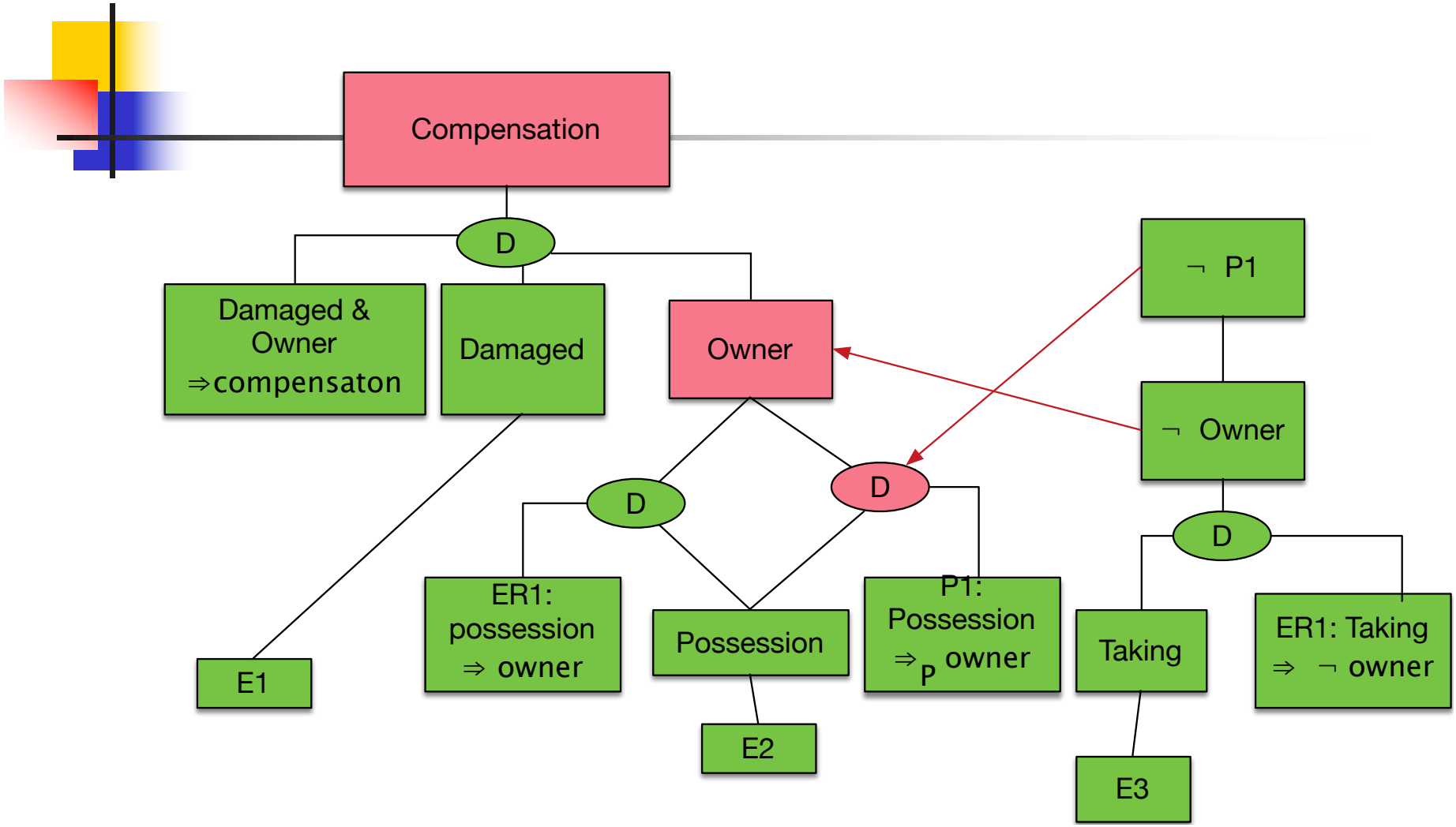


- First way:
  - P1: $\sim\neg$ Innocent $\Rightarrow_p$ Innocent
- Second way:
  - P1: $\Rightarrow_p$ Innocent
  - R1: $\neg$ Innocent $\Rightarrow$ $\neg$ P1

Arguments with presumptions

R_1: If Damaged & Owner then Compensation
R_2: If Possession then Owner
R_3: If Not Owner then R_2 does not apply

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¬ P1
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D
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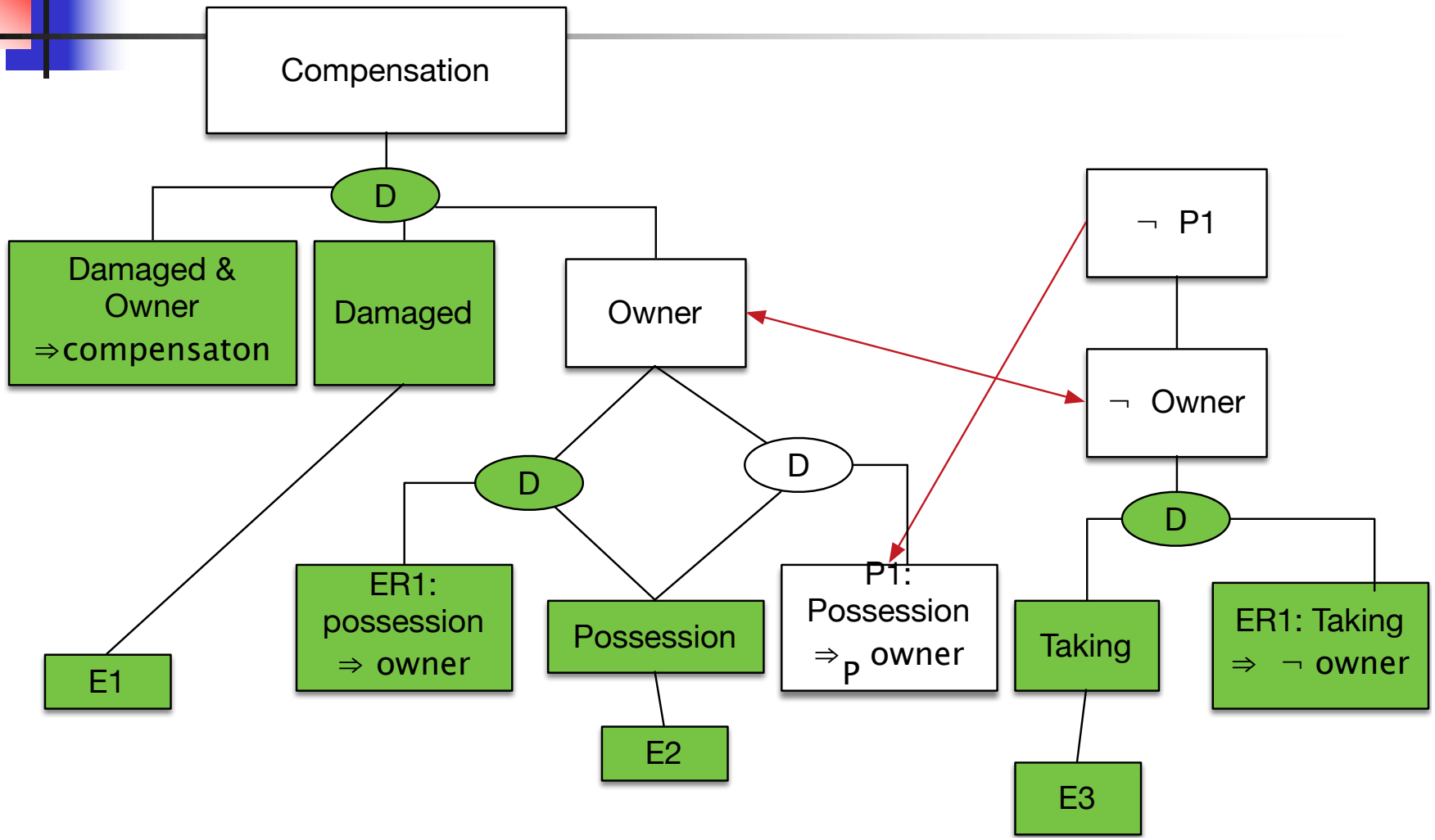
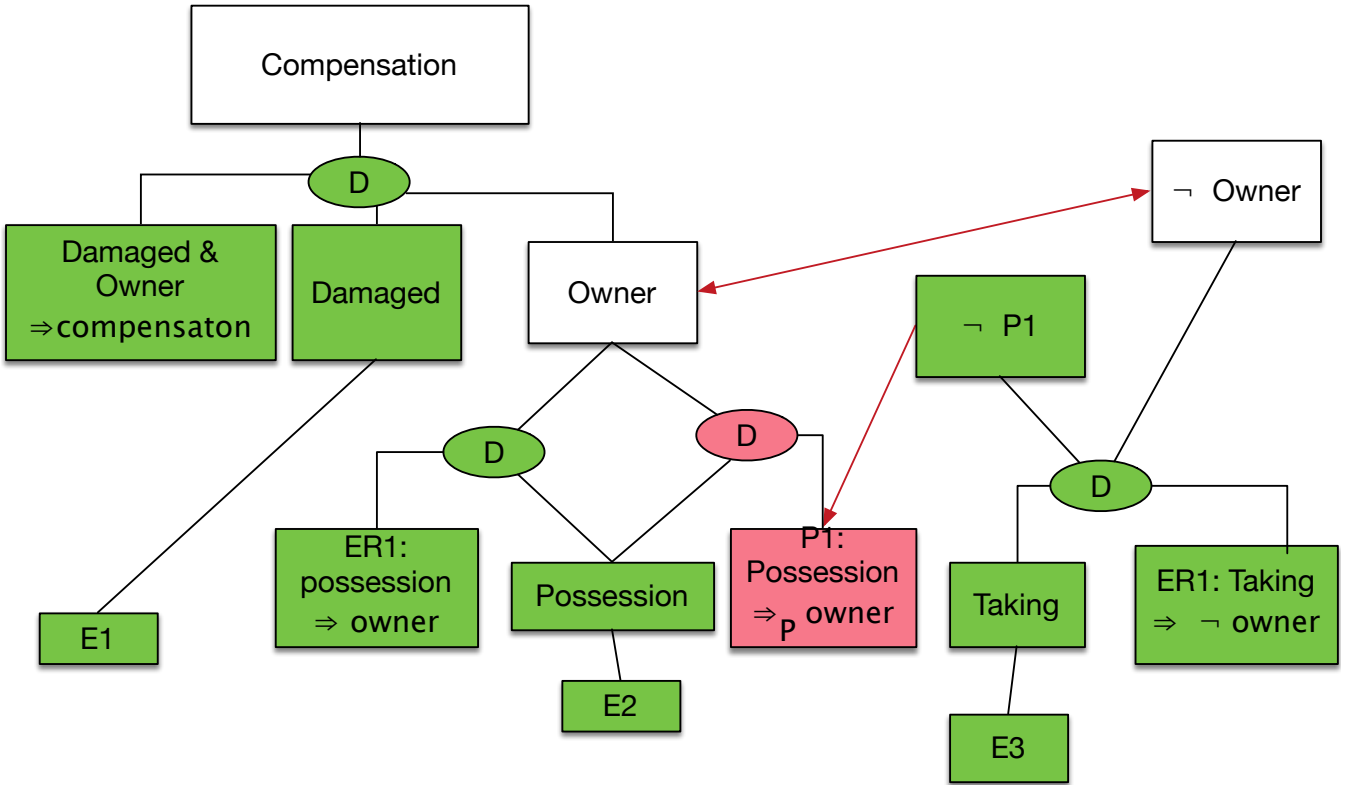
ER1: Taking ⇒ ¬ owner
E1
E2
E3

Arguments with presumptions

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Reasoning about the burden of persuasion

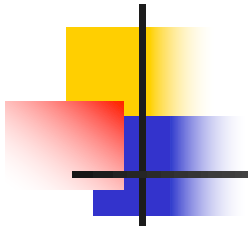
- f1: ⇒ ArchaeologicalItem(i)
- f2: ⇒ PossessedBy(i,)
- F3: PrivateBefore1909(a)
- F4: ¬PrivateBefore1909(a)
- r6: ArchaeologicalItem(x) & PossessedBy(x, y)
  ⇒ Burden(y, PrivateBefore1909(x))

Given A1 for A by x and A2 for ¬ A by Y, and third argument A3 stating that Burden(y, A), A1 strictly defeats A2

- Prakken & Sartor 2007

Default and inverted burdens of persuasion

- If plaintiff does not meet its default burden of persuasion on a proposition *p* supporting her claim, *p* is undetermined
- If a party does not meet an explicit, inverted burden on *p*, the complement *-p* is assumed
- E.g. If a doctor does not satisfy the burden of proving his non-negligence, his negligence is assumed
  - Prakken and Sartor 2011.



- Thanks for your attention.

- giovanni.Sartor@unibo.it