

# Outline

- Types of uncertainty
- Uncertainty in homicide
- Missing persons as homicides
- Uncertainty in the court process
- Gaps in theory
- Unsolved homicides
- Conclusions

# Uncertainty and Homicide: Identifying the gaps in theory and practice

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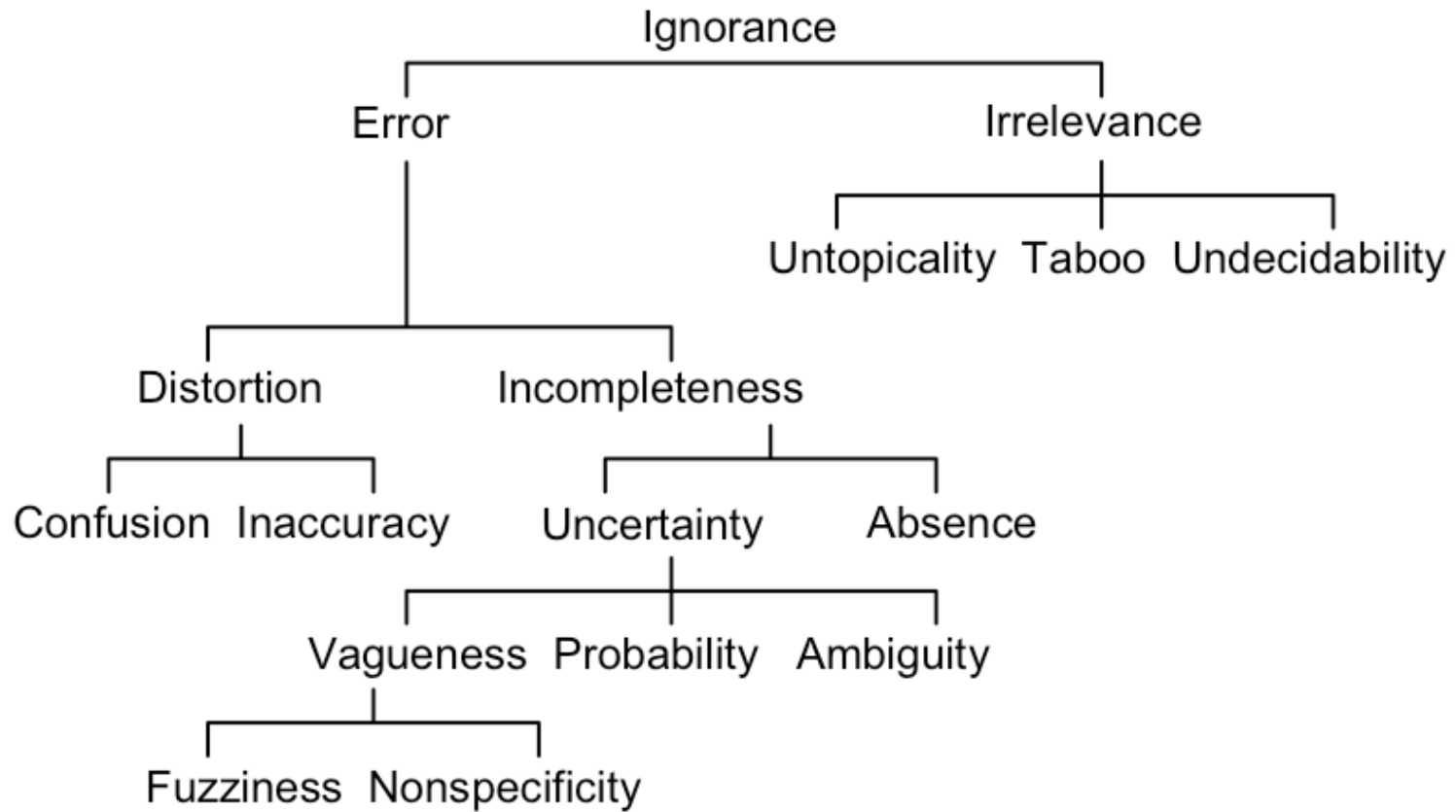
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# Types of Uncertainty

- Typology (Smithson 1989)
  - ❖ Distortion (confusion or inaccuracy) – underreporting and unsolved homicides
  - ❖ Incompleteness (absence or uncertainty) – Reasonable doubt in criminal trials
- Reducible and irreducible unknowns
- Uncertainty entails tradeoffs

# Typology of Uncertainty



(Source: Smithson, 1989)

# Identifying Homicides

- Australian homicide rate of 1.5 per 100,000 population (2005-06)
  - ❖ Approx 300 victims per year
- Non-report rates (“dark figure”) probably low
- Uncertainty in true rate of homicide low

# Missing Persons

- Missing person rate 1.7 per 1,000 population
  - ❖ Approx 35,000 missing persons per year
  - ❖ 90 percent located in seven says (Victoria)
  - ❖ Little published information on how many missing persons are homicides
  - ❖ 0.6 percent found dead in UK (2000-02)
  - ❖ Approx 5 missing persons per year are homicides in Australia at UK rates
  - ❖ Does not greatly distort Australian homicide rate

# Missing Persons as Homicides

- Risk factors have been identified for missing persons at risk of foul play
- Demographic factors unreliable predictors
- Statistical models tend to outperform professional judgement (eg., medical diagnosis)
- Rarity of deaths makes prediction difficult
- Example of an irreducible uncertainty

# Uncertainty in the court process

- Homicide acquittals
  - ❖ Little research on acquittal for homicide
  - ❖ Victoria 1981-1987:
    - Murder charge: 16% acquitted
    - Manslaughter charge: 25% acquitted
  - ❖ Victoria 1997-2001
    - Criminal homicide charge: 10% acquitted
- Little comparative data
  - ❖ Rape 1997-1998 (Victoria): 50% acquittal
- Acquittals may be errors of judgement by police/prosecutor or judge/jury



# Homicide data

- Proportion of homicide incidents cleared
  - ❖ Australia: 92% (2006-05); 89% (1990-2000)
  - ❖ US: 62% (2006); 94% (1961)
  - ❖ UK: 8.3%
  - ❖ Japan: 95%
  - ❖ Germany: 96%

# Unsolved homicides

- Not all homicides equally likely to remain unsolved
- Characteristics associated with unsolved homicides
  - ❖ Increased clearance rate: young, female
  - ❖ Decreased clearance rate: firearms, other crimes
- Little consideration of different types of homicides
- More likely to be unsolved if 'unknown' scenario

# Gaps in the theory

- Homicide datasets widely used for theory formation and hypothesis testing
  - ❖ Datasets often incomplete
- Significant gap in knowledge with regard to uncleared cases
- Some types of homicide will be underrepresented
  - ❖ more likely to be unsolved

# What it takes to solve homicides?

- Prediction models that distinguish between solved and unsolved cases may help with investigative resource allocation
- May be able to model resources needed to clear the case
- Survival analysis on solved and unsolved homicides
  - ❖ Data is well suited to the analysis
  - ❖ No suitable databases available?

# Conclusions

- Between missing persons, unsolved cases and acquittals, up to 20% of homicides may be unknown
- Not all homicides are equally likely to be solved
  - ❖ Young victims & female victims more likely solved
  - ❖ Homicides involving firearms and “felony homicides” more likely to be unsolved
- Implications for homicide theory
- Implications for investigative resource allocation