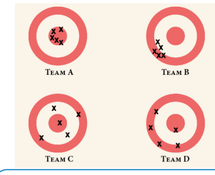
Daniel Kahneman - Noise: Part I. Finding Noise

- Introduction
  - Two Kinds of Error
    - 

    - Team A — Perfect
    - Team B — Biased — systematic deviation
    - Team C — Noisy — random scatter
    - Q: It looks like this problem could be solved simply by finding the midpoint. Isn't it a good solution?
    - Team D — Biased and Noisy
    - Bias — Is very widely recognised problem
    - Noise — Is sometimes more important, but not widely recognised — This book is about redressing the balance
  - Examples of noisy situations
    - Medicine
    - Child custody decisions
    - Forecasts
    - Asylum decisions — one judge admitted 5% of applicants, while another admitted 88%.
      - Why is this an example of noise and not bias of specific judges?
      - Can we think that noise == many individual biases?
    - Personnel decisions
    - Bail decisions
    - Forensic science
    - Decisions to grant patents
- Part I. Finding Noise
  - Wherever there is judgment, there is noise, and more of it than you think
- 1. Crime and Noisy Punishment
  - Judicial discretion
    - was a old and long-term idea
    - Criminal sensense should be based on
      - not only the crime
      - but also on defendants' character and circumstances
  - Marvin Frankel (a famous judge)
    - In 1973 drew public attention to the problem (bias and noise)
      - counterfeit checks
        - of $58.40 = 15 years
        - of $35.20 = 30 days
      - similar embezzlement actions
        - 117 days
        - 20 years
    - Called it "idiosyncratic ukases"
    - Suggested to use computers as an aid toward orderly thought in sentencing
    - Recommended the creation of a commission on sentencing
      - It would probably help to find the mid-point?
    - He and his followers conducted studies with judges
      - Found shocking level noise in decisions!
        - e.g. if judges are hungry, they are tougher
        - when it is hot outside, people are less likely to get asylum
  - Reducing Noise in Sentencing
    - Congress enacted the Sentencing Reform Act of 1984
      - Created the US Sentencing Commission (as Frankel recommended). To issue sentencing guidelines that
        - be mandatory
        - establish a restricted range for criminal sentences
    - Guideline
      - was based on history averages for similar crimes — it is the best they could do
      - considers
        - crime — forty-three "offense levels"
        - defendant's "criminal history" — the number and severity of a defendant's "previous convictions"
      - Judges can go outside of range but — this must be justified to an appellate court
    - The guidelines cut the noise
      - This is confirmed by several studies!
      - But! Should't such guidelines be regularly reviewed and updated? They could become outdated in the changing world
    - Criticism
      - Some judges think that some sentences are too severe — Biased
      - Some judges thing that guidelines are deeply unfair - they prohibited rom taking adequate account of the particulars of the case — Decisions are unacceptably mechanical
    - Supreme Court struck the guidelines down in 2005
      - the guidelines became merely advisory
      - As result interjudge disparities increased significantly after 2005
  - Key points
    - 1. judgment is difficult
    - 2. the extent of disagreements is much greater than we expect
      - few people object to the principle of judicial discretion
      - but almost everyone disapproves of the magnitude of the disparities it produces
    - 3. noise can be reduced
      - 1. Rules and guidelines are one approach
      - 2. Other approaches are better suited to other types of judgment
      - Some methods can reduce both noise and bias!
    - 4. efforts at noise reduction often raise objections and run into serious difficulties
  - BTW, Planning Poker is a good way to fix the problem
    - Removes the noise — Locate it (without influencing others judgements). Find the solution together.
    - Removes the team bias — Story Points used as measure
- 2. A Noisy System
  - In insurance company
    - Everyone agreed that consistency is desirable — to reduce noise
    - Everyone also agreed that these judgments could never be entirely consistent, because they are informal and partly subjective — Some noise is inevitable
  - A Lottery That Creates Noise
    - underwriters — quote premiums for financial risks
      - Too low premium likely to be accepted but not advantageous for the company
      - Too high premium is advantageous for the company but less likely to be accepted
    - adjusters — assigned to the claim to estimate the cost and negotiate
      - Too low cost may cause claimant to go to court and may be bad for the company
      - Too high cost is bad for the company
      - Also company need to make reserves according to cost estimates — However settlement is not guaranteed
  - Noise Audits Reveal System Noise
    - the same case is evaluated by many individuals — variability of their responses is made visible
    - Study shows
      - For underwriters, the median difference was 55%
      - For claims adjusters, the median ratio was 43%
      - Was it really noise - and not a bias?
  - Unwanted Variability vs Wanted Diversity
    - First phase — Variability in tastes, ideas and judgments is welcome — Because it can help to find innovative solutions
    - Second phase — The results of these judgments will be pitted against one another, and the best will triumph — Variability is undesirable here
    - Q: How to understand which phase we are at?
  - The Illusion of Agreement
    - Respected professionals maintain illusion of agreement — while in fact disagreeing in their daily professional judgments
    - We believe "Other people view the world much the way I do"
      - naive realism
      - Because we do not look for alternatives when we already have solution
- 3. Singular Decisions
  - Singular vs Recurrent
    - recurrent decisions
      - All the examples above about sentences and insurance premiums
      - Noise is easy to measure when — interchangeable professionals make decisions in similar cases
    - singular decisions
      - Harder to find and measure noise
      - Examples
        - important political decisions — e.g. dealing with Ebola in Africa in 2014
        - choosing a job, buying a house, or proposing marriage
  - Noise in Singular Decisions — Not possible to measure noise when there is only single case
  - Controlling Noise in Singular Decisions — We can't measure but we can use the same remedy that we use for recurrent! — Because a singular decision is a recurrent decision that happens only once