

Noise: A flaw in human judgment

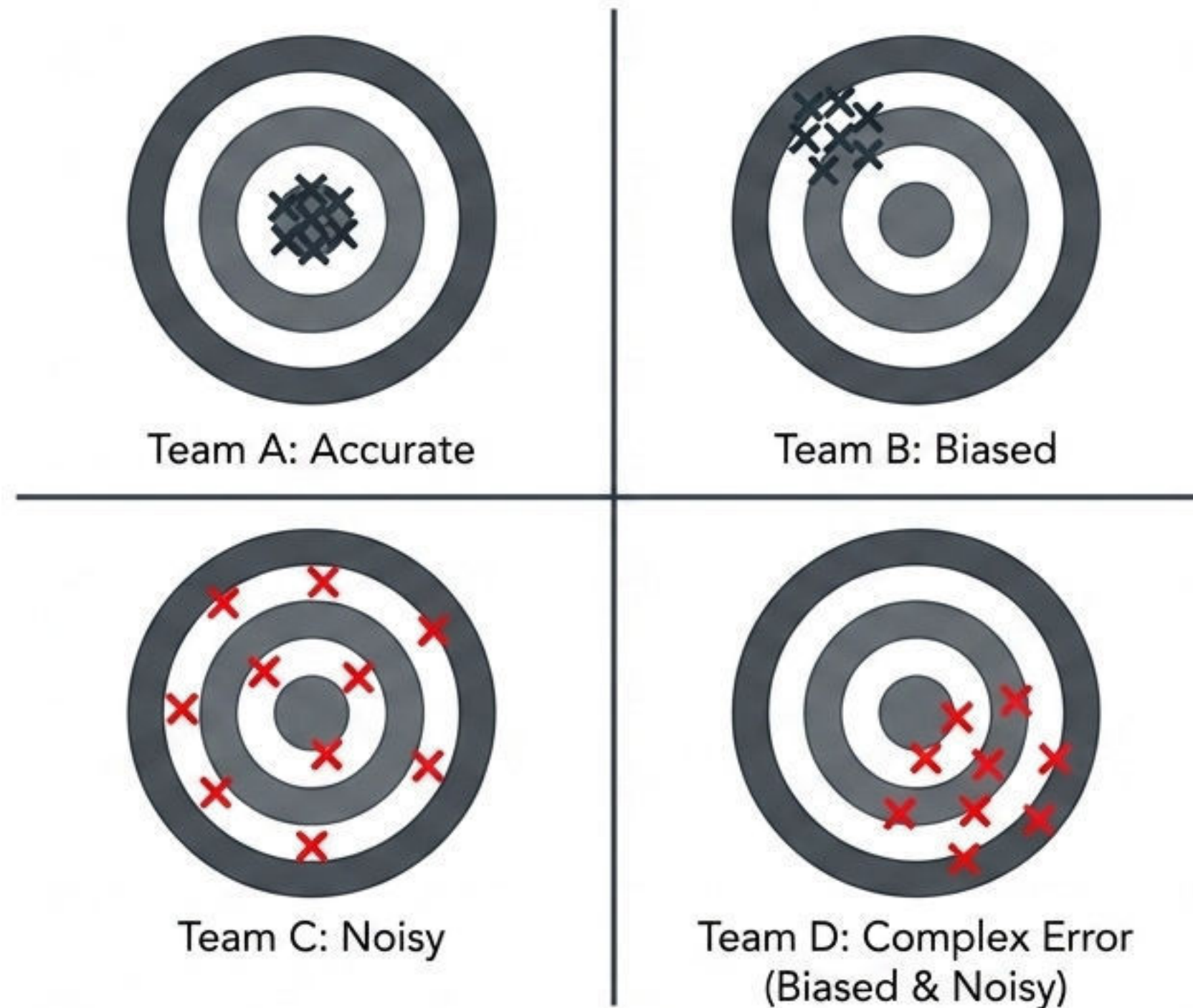


A practical summary based on the masterpiece by
Daniel Kahneman, Olivier Sibony, and Cass Sunstein

Imagine two doctors giving completely different diagnoses for the same patient, or two judges issuing contradictory sentences for the exact same crime.

This difference isn't "bias"; it's "**noise**." An invisible error costing organizations billions of dollars.

The critical difference between bias and noise



Bias means the **average** of judgments is wrong (Team B). **Noise** means the judgments are scattered (Team C). The world focuses on **bias**, but **noise is a silent killer of accuracy**.

Noise is everywhere and more prevalent than you think

Medicine



Different doctors examining the same patient give different diagnoses regarding cancer and heart disease.

Even the exact same doctor has different opinions in the morning versus the evening.

Criminal Justice



For the exact same crime, one judge dictates 5 years in prison while another dictates freedom.

Defendants' lives depend on a "lottery" of the assigned judge.

Business



Managers' estimates for project completion vary by up to 71%.

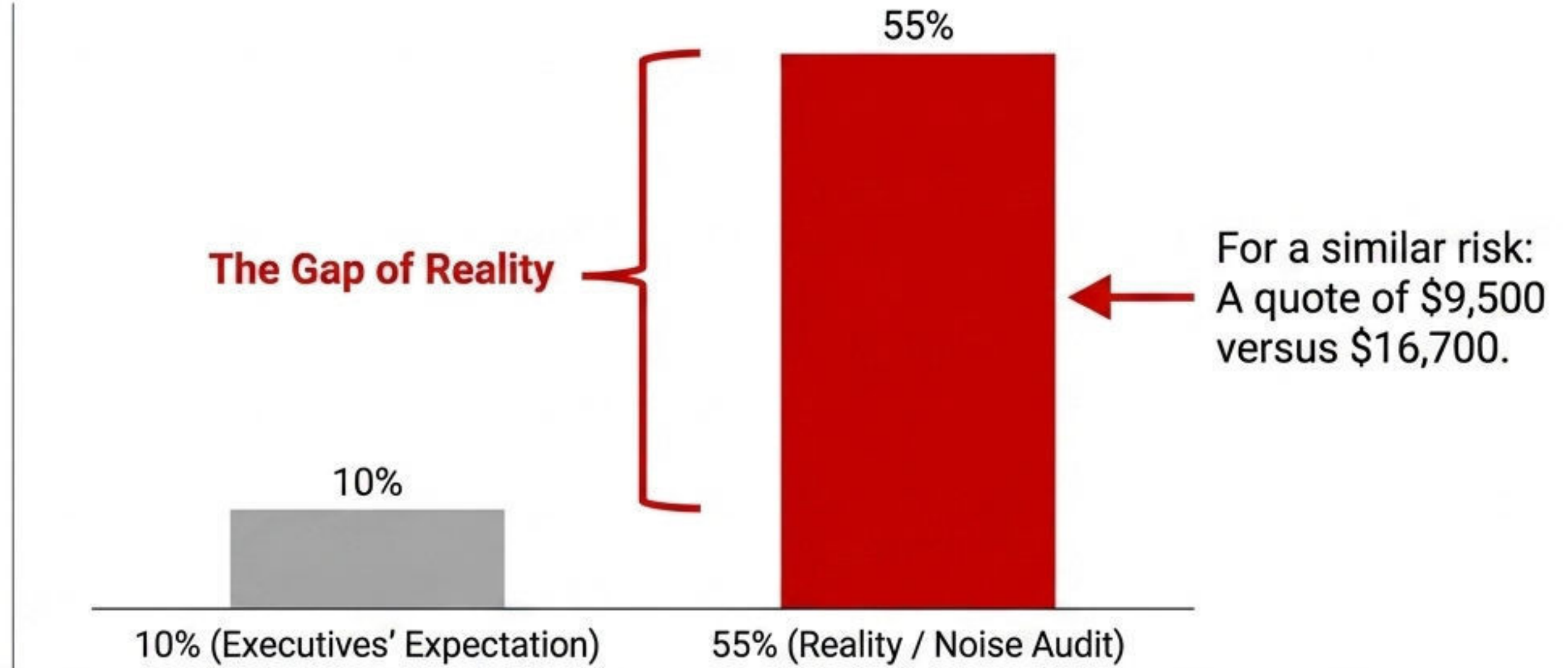
Interviewers hold completely contradictory opinions about the exact same job candidate.

Wherever there is 'judgment', there is 'noise'.

The illusion of agreement in an insurance case study

Executives of a large insurance company believed their experts had at most a 10% difference in their pricing policies.

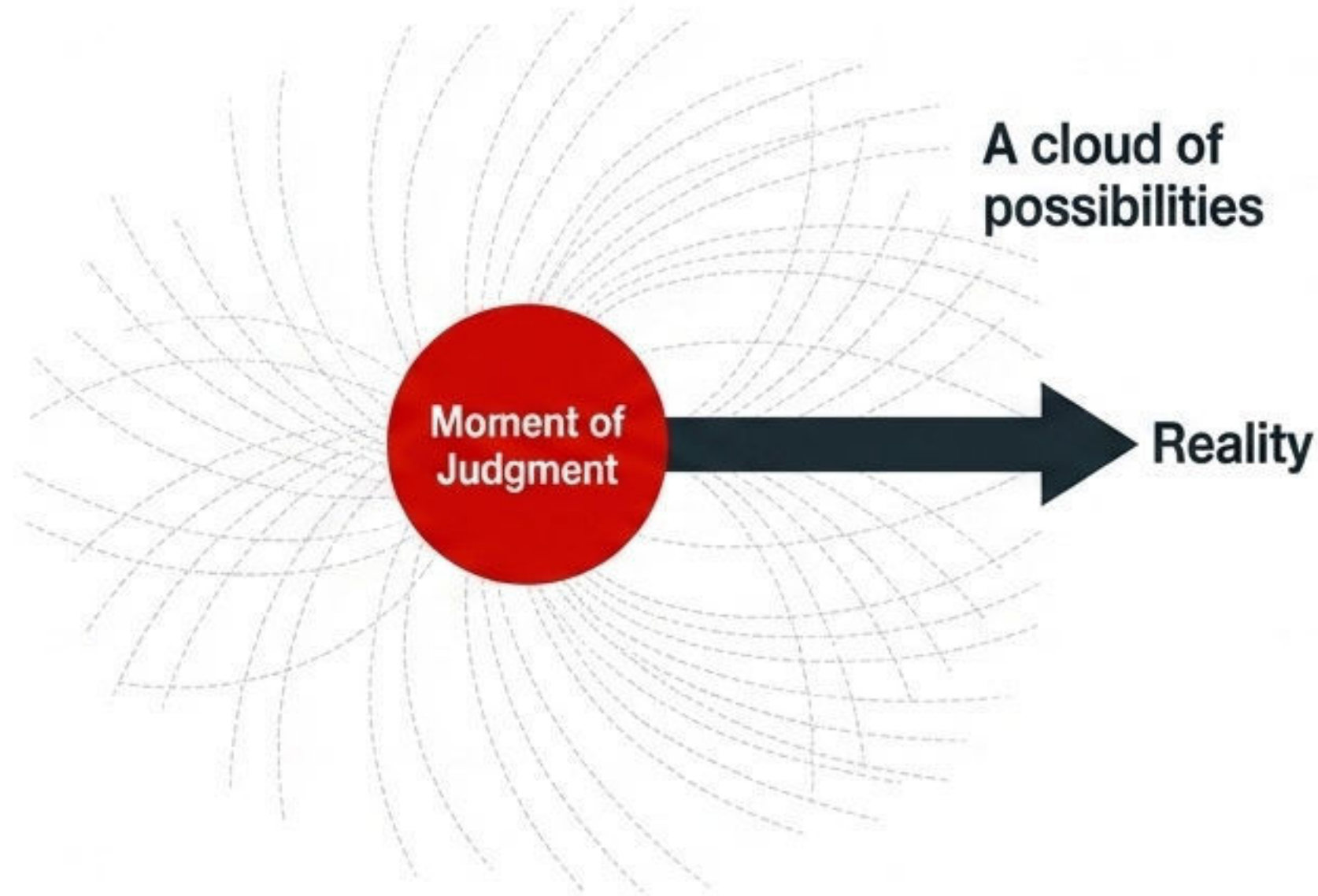
But the shocking reality was...



This noise costs the company hundreds of millions of dollars annually, without anyone noticing.

Your unique decision is just one sample from a cloud of possibilities

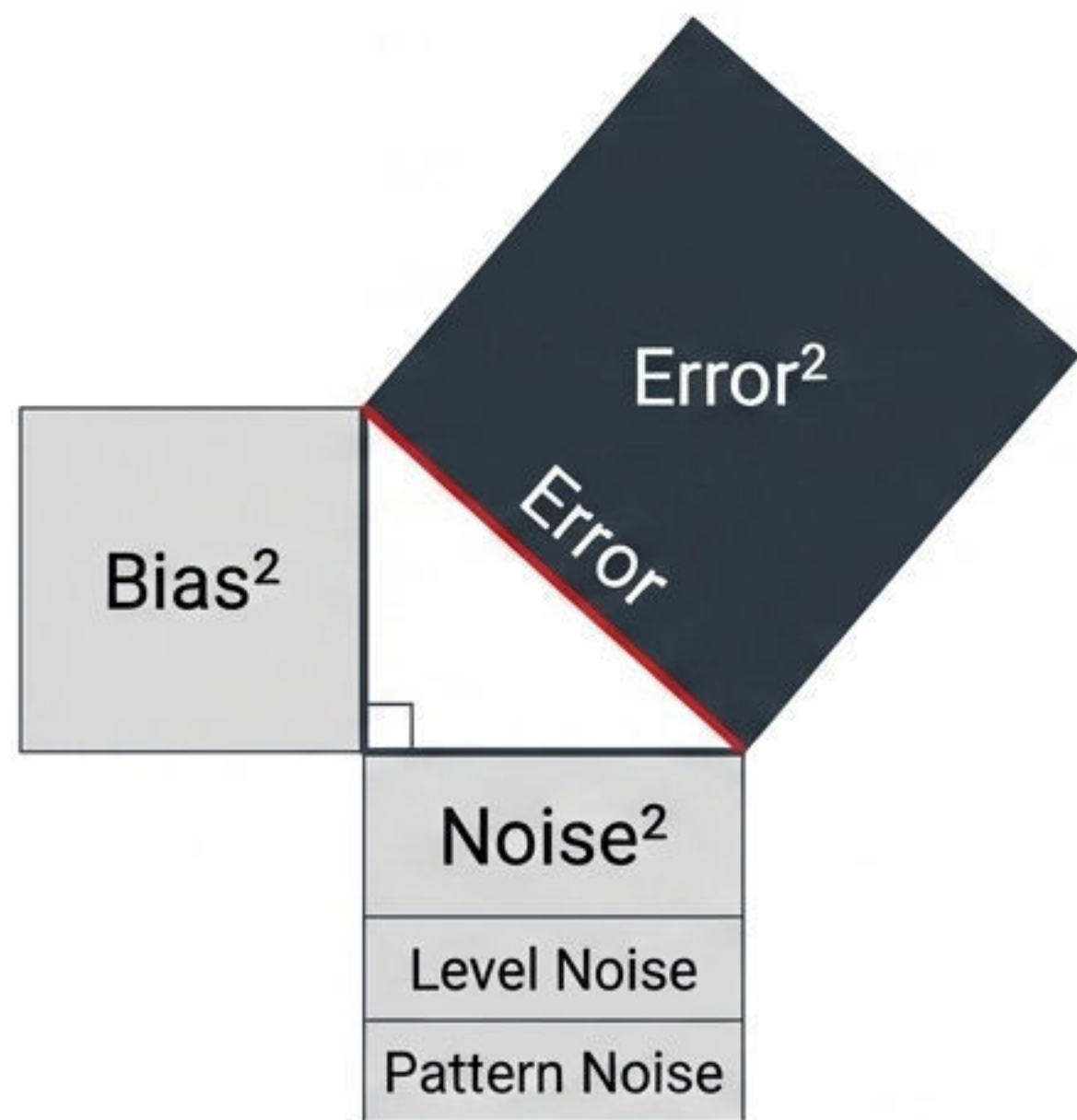
Many think noise only relates to repetitive decisions. But your decision is just one of thousands of possibilities that could happen.



If you could turn back time and environmental conditions were slightly different, would you still make the same decision?

“Your judgment in a specific situation is just one sample from a cloud of possibilities.”

An autopsy of mistakes reveals the error equation

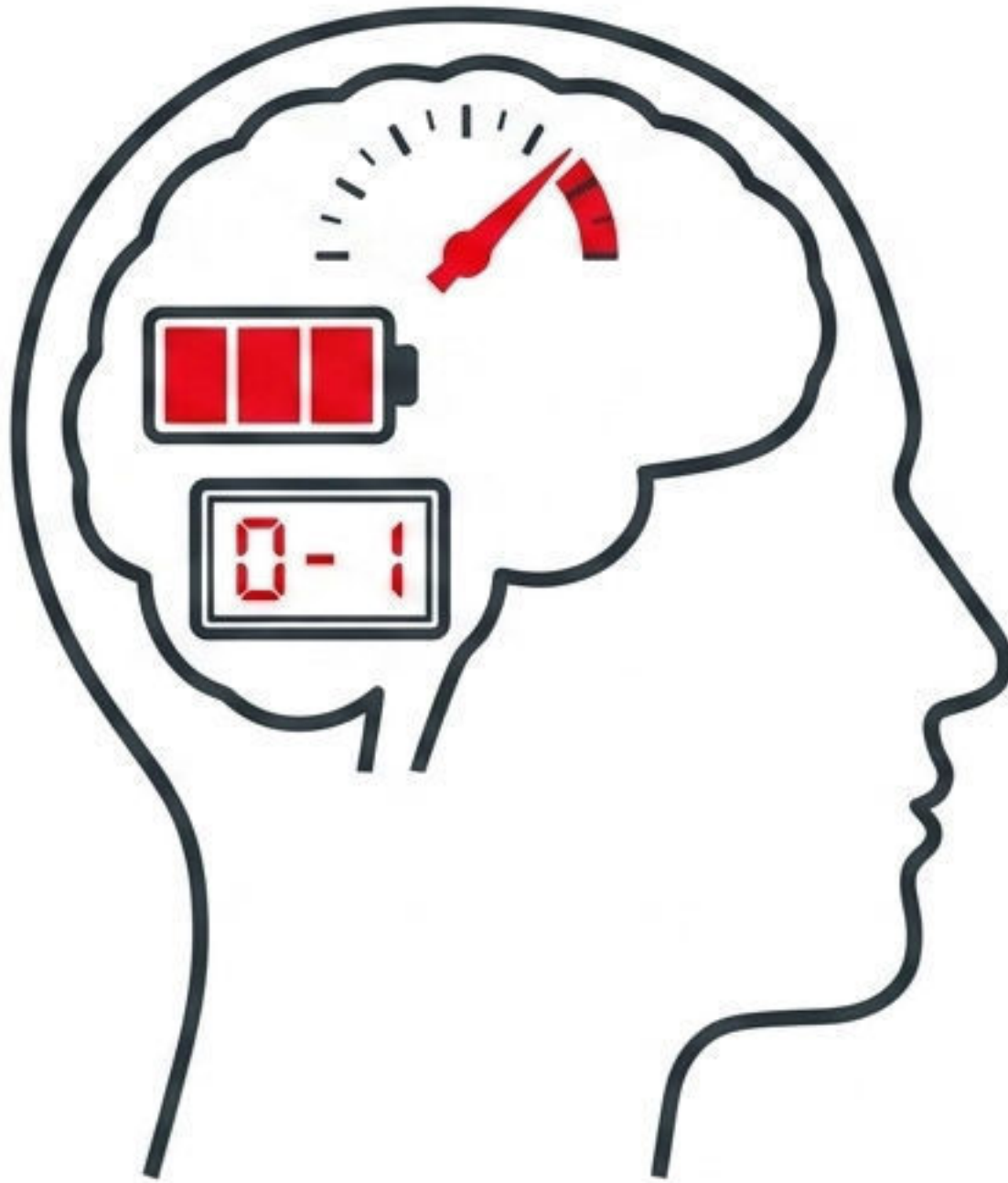


$$\mathbf{Error^2 = Bias^2 + Noise^2}$$

(Squared Error = Squared Bias + Squared Noise)

**To reduce error, merely eliminating bias is not enough.
Noise (scatter) has equal weight in creating error.**

Occasion noise means you are not always the same person

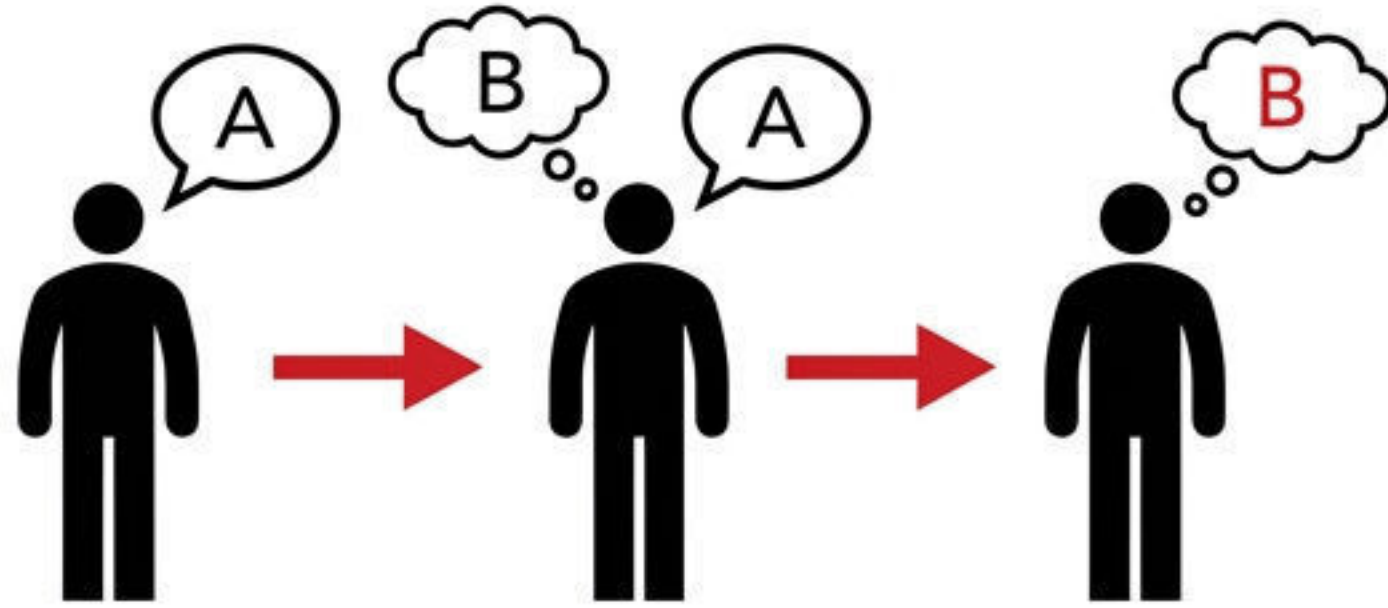


The Internal Lottery:

- * **Fatigue & Hunger:** Judges before lunch are stricter.
- * **Sports results:** The city's football team losing leads to heavier sentences the next day.
- * **Temperature:** On hot days, the probability of accepting asylum requests decreases.
- * **Sequence:** If two previous cases were rejected, the probability of accepting the third subconsciously increases.

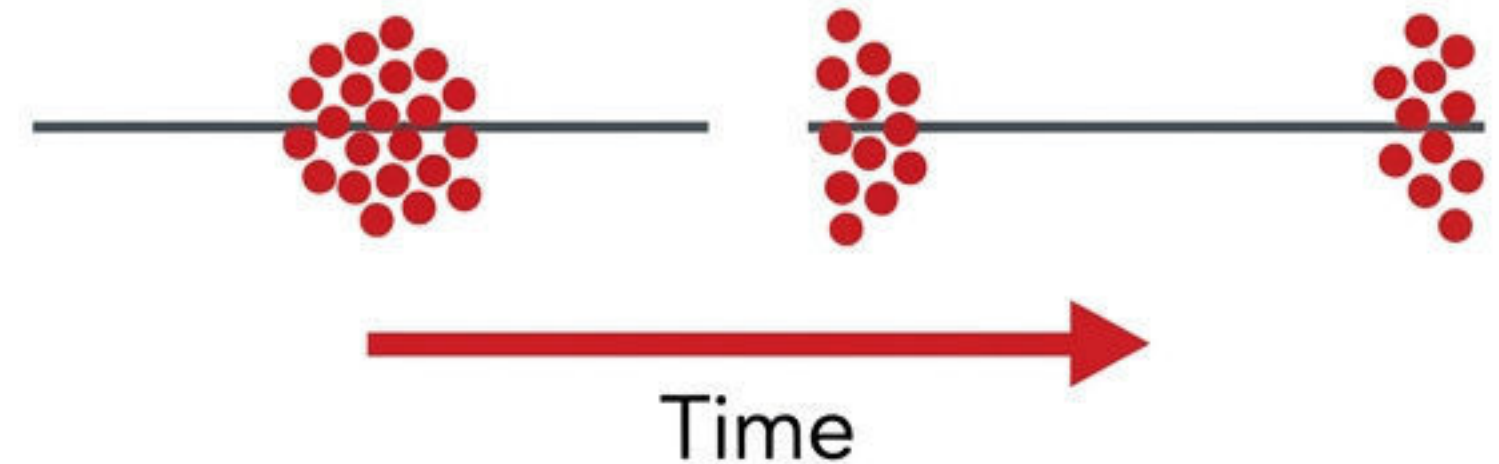
Group dynamics amplify noise rather than resolving it

Informational Cascade



Informational Cascade: People repeat the first person's opinion, even if they disagree.

Polarization



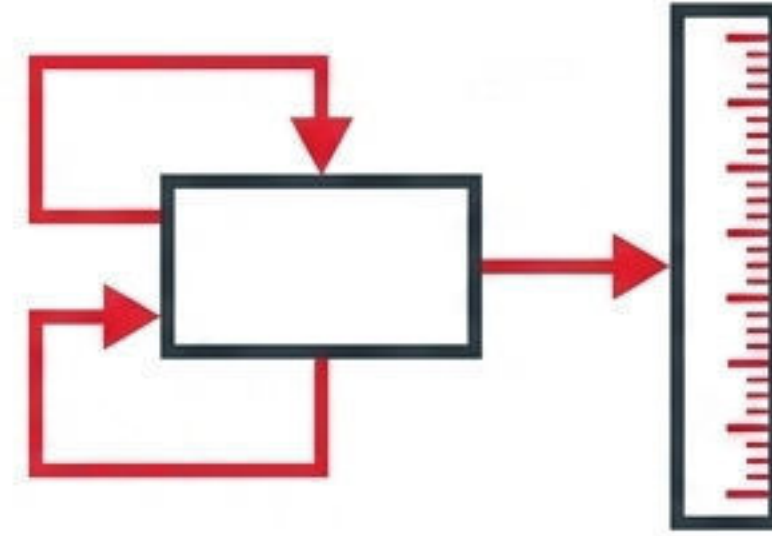
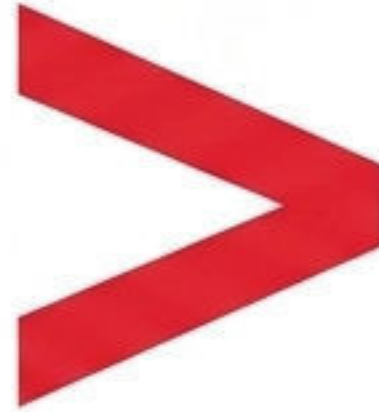
Polarization: Groups move toward more extreme opinions after discussion than their initial average.

"Diversity of opinions" is useful, but
"diversity in final judgment" is an error.

The sterile advantage of being a noise-free algorithm



Human
(Complex but noisy)



Algorithm / Rule
(Simple but noise-free)

Algorithms aren't necessarily 'smarter', but they are 'noise-free'. If an algorithm sees an input twice, it gives exactly the same output. Humans have noise.

Even a simple, imperfect rule often acts more accurately than expert judgment due to its absolute consistency.

Solution 1: Conducting a noise audit to see the invisible

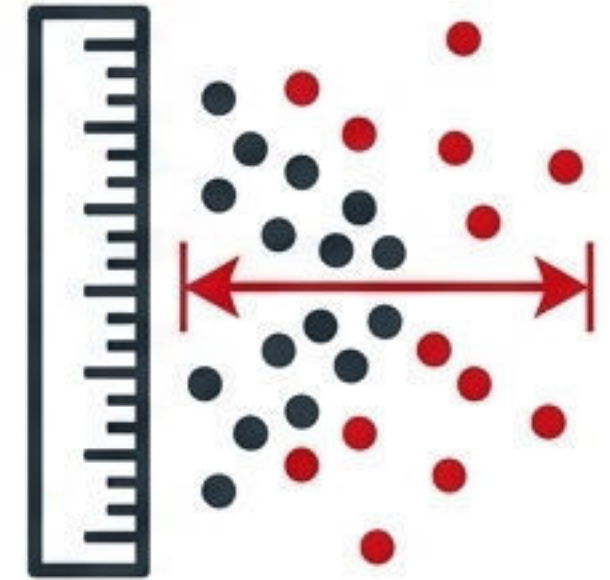
You cannot solve a problem that you cannot see.



1. Design files:
Select standard,
real-world cases.



2. Independent judgment:
Get experts' opinions without
them consulting each other.



3. Measure difference:
Calculate the mathematical
spread of opinions.

Goal: Shattering the 'Illusion of Agreement'.

Managers must see the **true depth of the disagreement disaster.**

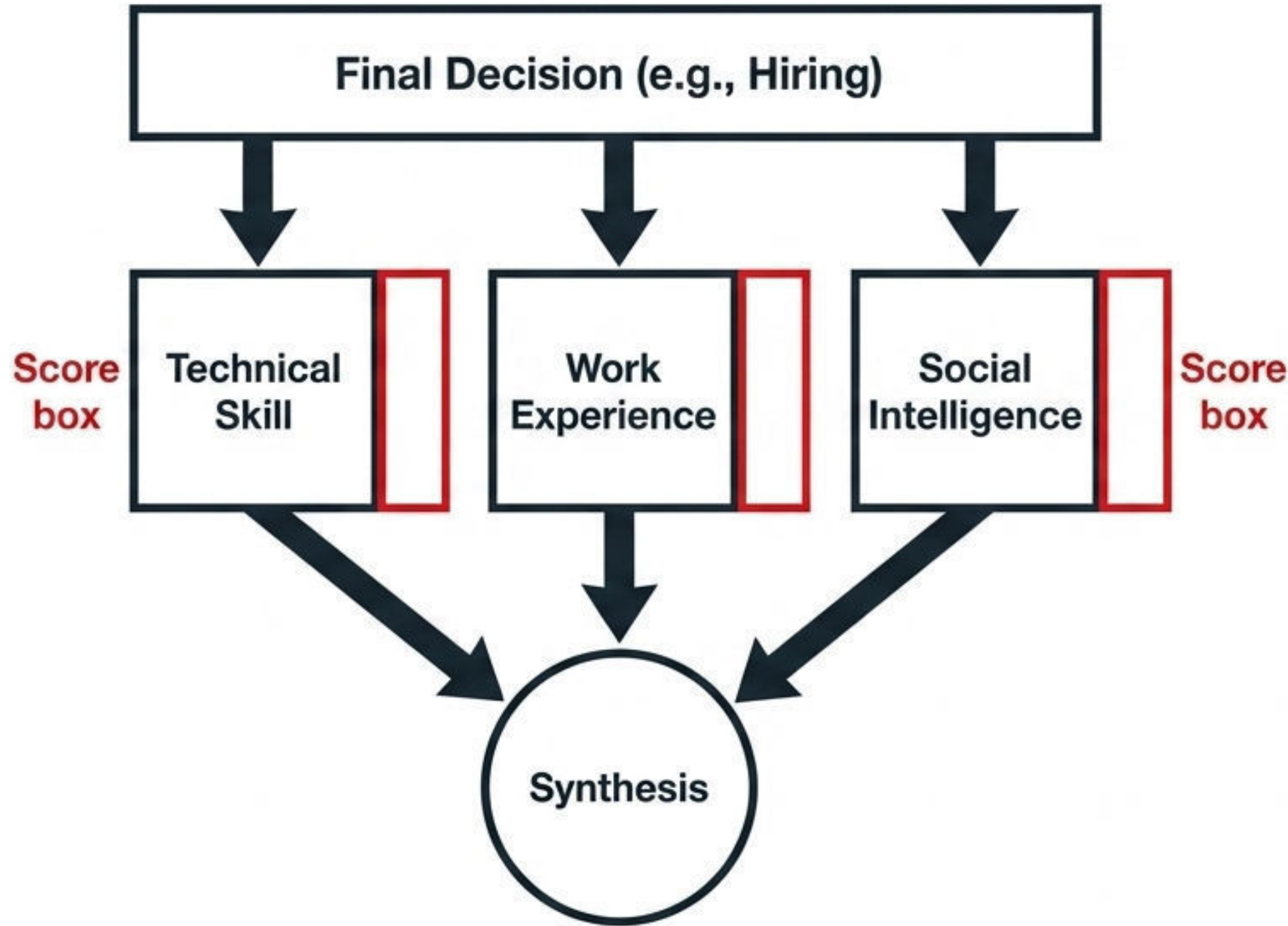
Solution 2: Practicing strict decision hygiene



Just like washing hands prevents the entry of unknown germs, decision hygiene prevents the invisible errors of (noise).

1. The goal is accuracy, not expression.	2. Statistical thinking: Relying on the outside view.
3. Independence in initial judgment.	4. Decomposing the problem into smaller, isolated components.

The Mediating Assessments Protocol is a clinical tool for judgment



1. **Decompose criteria:** Divide the decision into specific dimensions.
2. **Independent scoring:** Score each dimension separately.
3. **Delayed final judgment:** Only make a decision when all individual scores are specified.

Essential for preventing the Halo Effect.

Guidelines and checklists dact as the unames of noise

Guidelines drastically reduce noise by limiting gesoosh interpetation.



Apgar Score

Evaluating a newborn with 5 specific criteria instead of relying on the doctor's "overall feeling".

Result: A **dramatic reduction** in infant mortality.



Sentencing Guidelines

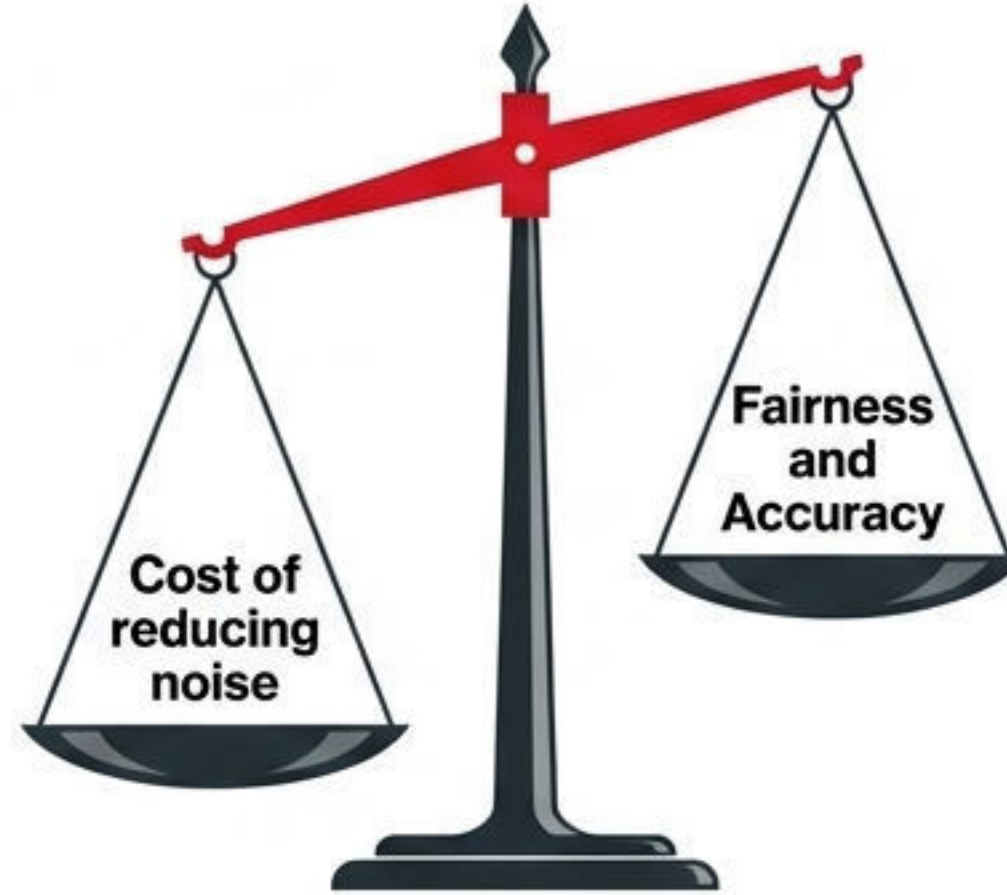
Defining specific structural ranges for sentences (e.g., 2 to 4 years) instead of granting judges absolute freedom.

It may feel like turning into a 'machine', but this is the necessary cost of justice and accuracy.

Balancing optimal noise against the cost of elimination

Financial cost: Hiring multiple independent people for one task is expensive.

Human dignity: People fundamentally do not want to be judged by algorithms.



Evolution: Sometimes disagreement and noise actively drive the progress of moral values.

However, the current level of noise in organizations is 'scandalous'. The goal isn't absolute zero, but much less than today.

A final checklist for operating in a less noisy world

The Checklist

- ☒ **Acceptance:** Accept that your organization is full of noise.
- ☒ **Audit:** Gauge the exact depth of the disaster with a noise audit.
- ☒ **Hygiene:** Utilize strict checklists and independent averaging.
- ☒ **Replacement:** Wherever possible, use algorithms and simple rules instead of vulnerable human judgment.

The Cured Outcome



"Wherever there is judgment, there is noise—and more of it than you think."