



PART 3

Read the text below and answer questions 27–40.

HEURISTICS AND BIASES IN HUMAN JUDGMENT

Human judgement is often assessed against an ideal of deliberative rationality: the careful weighing of evidence, the explicit calculation of probabilities, and the revision of beliefs when counterevidence appears. Yet this ideal rarely matches the conditions in which real decisions are made. Everyday life imposes constraints of time, attention, and incomplete information, so cognition must operate economically. Dual Process Theory captures this by distinguishing between two interacting modes of thought. System 1 is rapid, automatic, and associative, generating impressions and preferences with minimal effort; System 2 is slower, reflective, and computationally costly, capable of checking impulses and applying formal reasoning. The important point, however, is not that one system is “good” and the other “bad,” but that they trade speed for scrutiny. Because the mind is a cognitive miser, System 1 frequently sets the default, while System 2 intervenes only intermittently—often when stakes are obvious, rules are explicit, or doubt becomes uncomfortable.

From this starting point emerged the research programme most associated with Daniel Kahneman and Amos Tversky. Their “Heuristics and Biases” tradition argues that the reliance on intuitive shortcuts is not merely an efficient adaptation; it also produces systematic deviations from normative standards of judgement, especially in probabilistic reasoning. Heuristics can be described as mental compression algorithms: they reduce complexity by substituting an easier question for a harder one. When asked “How likely is this event?”, people may unconsciously answer “How easily can I recall examples?”; when asked “Which category does this belong to?”, they may answer “How similar is it to my prototype?” The resulting errors are not random noise but patterned distortions—predictable enough to be demonstrated repeatedly, even when participants are motivated to be accurate.

The availability heuristic illustrates this substitution clearly. Events that are dramatic, emotionally charged, or frequently reported—plane crashes, spectacular frauds, rare diseases—are more retrievable from memory than mundane harms. As a consequence, they feel more frequent than they are, inflating subjective probability and shaping collective fear. Modern media ecosystems intensify this mechanism by rehearsing vivid cases at scale, thereby increasing cognitive accessibility without increasing objective prevalence. Representativeness produces a different but equally consequential error: base-rate neglect. When a description resembles a stereotype—say, the quiet, bookish “librarian” profile—people often judge that category as more likely even when base-rate



information would strongly favour another outcome. Similarity is treated as evidence, while prevalence is discounted. The mind, in effect, privileges narrative coherence over statistical weight, yielding judgements that “make sense” psychologically while remaining fragile by the standards of probability theory.

Other biases show that judgement is not only about estimating likelihoods but also about protecting coherence. Confirmation bias—seeking, interpreting, and remembering information that supports existing beliefs—illustrates how System 1 can recruit System 2 as a lawyer rather than as a judge. People scrutinise counterevidence aggressively yet accept supportive evidence with minimal friction, creating an asymmetry that stabilises beliefs even in the face of high-quality contradiction. Anchoring demonstrates how numbers can function as cognitive magnets. Exposure to an initial value, relevant or not, shapes subsequent estimates because adjustment is typically insufficient; the anchor provides a reference point that feels “reasonable,” and deliberation often begins from that starting value rather than from a neutral baseline. These effects matter because they migrate into high-stakes contexts—financial negotiations, medical risk communication, legal sentencing—where precision is not merely academic.

Yet a second intellectual tradition disputes the implication that heuristics should be treated primarily as flaws. Gerd Gigerenzer and colleagues, representing the “Fast and Frugal” school, argue that many demonstrations of bias rely on stylised tasks that privilege abstract rationality over ecological validity. In real environments, information is noisy and costly, and the goal is not to approximate an omniscient statistician but to make workable decisions under constraints. On this view, heuristics are adaptive tools whose performance depends on the structure of the environment. A rule of thumb can outperform complex calculation when it exploits stable regularities—when “less is more,” because a few high-validity cues dominate. Gigerenzer’s critique is therefore not a denial of error, but a challenge to the benchmark: to label a heuristic irrational, one must justify why the laboratory norm is the appropriate standard for the decision ecology in question. What looks like bias in a textbook problem may be a sensible strategy in a world where feedback is delayed, data are incomplete, and opportunity costs are real.

A balanced assessment must therefore avoid caricature. Kahneman’s emphasis on systematic deviation remains compelling in domains where probabilistic reasoning is the explicit goal—insurance pricing, epidemiological modelling, investment risk, or scientific inference. In such settings, intuitive coherence can be actively dangerous, because errors do not merely affect private choices; they can scale through institutions. Gigerenzer’s emphasis on adaptation is equally persuasive in domains where decisions must be made quickly with sparse information, and where the environment rewards robust simplification



rather than fragile optimisation. The philosophical tension, then, is not whether humans are “rational,” but which form of rationality is at stake: norm compliance in formal models, or fitness to the informational ecology in which choices are made.

This tension becomes especially salient when considering debiasing. Research suggests that simply warning people about biases tends to have limited effect: awareness does not reliably override intuition, and System 2 is easily exhausted by cognitive load. Interventions that redesign the choice architecture often prove more effective. Checklists can force attention to base rates; structured analytic techniques can require the generation of alternatives; separating data collection from evaluation can limit motivated reasoning. Training can help when it is repeated and paired with feedback, but improvements may be narrow, failing to generalise across contexts because biases are cue-dependent. In other words, the most realistic route is not to demand heroically rational individuals, but to build procedures that make good judgement easier.

Technology adds a further complication. Statistical models can reduce human inconsistency, yet they can import bias through training data or institutional history. Moreover, people may exhibit automation bias—over-trusting an algorithmic output because it appears objective—thereby replacing one class of error with another. A genuinely “smart” decision system therefore requires not only accuracy metrics but also interpretability, governance, and human oversight. Ultimately, heuristics and biases point to a sober conclusion: cognition is designed for efficient functioning in typical environments, not for perfect fidelity to formal rationality. The practical challenge is to recognise when the economy of System 1 is adequate—and when the stakes demand the disciplined friction of System 2, supported by institutions that treat judgement as a design problem rather than a moral virtue.

Questions 27–32

Select the correct answer.

27 Why does the writer say that ideal deliberative reasoning often fails to describe real-life decision-making?

- A** People generally prefer intuitive answers even when unlimited evidence is available.
- B** Decisions are commonly made under limits of time, attention and available information.
- C** Formal probability rules are too difficult to apply outside scientific research.
- D** System 2 normally prevents people from revising their initial beliefs.

28 What does the passage imply about Dual Process Theory?



A It helps explain why intuitive responses often set a default that reflection only sometimes revises.

B It shows that System 1 operates only in emotional situations, whereas System 2 handles factual reasoning.

C It suggests that System 2 eliminates bias whenever people are sufficiently motivated.

D It implies that System 1 and System 2 work independently and rarely interact.

29 Why does the writer include the “Fast and Frugal” perspective?

A To argue that laboratory research on bias is invalid because it uses statistical tasks.

B To show that heuristics never produce error when feedback is available.

C To question whether formal probability norms are always the correct benchmark for judging real-world decisions.

D To claim that ecological validity proves humans are naturally good at probabilistic reasoning.

30 What is the writer’s stance on Kahneman and Tversky’s findings?

A They are largely exaggerated because people correct biases once they understand them.

B They matter only in trivial choices and do not scale to institutions.

C They are incompatible with the idea that heuristics can ever be useful.

D They remain highly relevant in domains where probabilistic accuracy is explicitly required.

31 What does the passage suggest about attempts to reduce bias?

A Bias can usually be removed by warning people immediately before a judgement task.

B Changing procedures and decision environments may work better than relying on individual self-control.

C Debiasing training reliably transfers to unrelated tasks once it is intensive enough.

D The best approach is to avoid using System 2, since it is too slow for real decisions.

32 What concern does the writer raise about algorithmic decision tools?

A People may over-trust outputs that appear objective, creating automation bias alongside inherited data bias.

B Algorithms eliminate anchoring because they do not use reference points.

C Technology prevents confirmation bias by forcing users to see counterarguments.

D Automated tools always reduce error because they apply consistent rules.

Questions 33–36



Complete the summary below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

Distortions in probability judgement

The availability heuristic can make striking events seem more **33** than they are because they are easier to retrieve from memory. Representativeness can produce **34** when resemblance to a stereotype is given more weight than population frequency. Modern media can further increase cognitive **35** by repeatedly presenting vivid examples, even though their objective **36** does not increase.

Questions 37–40

Choose **YES** if the statement agrees with the claims of the writer, choose **NO** if the statement contradicts the claims of the writer, or choose **NOT GIVEN** if it is impossible to say what the writer thinks about this.

37 The writer suggests that whether a heuristic is judged “good” depends partly on ecological validity.

38 The writer claims that simply informing people about biases is usually enough to remove them.

39 The writer suggests that improvements from debiasing training may fail to transfer successfully to other contexts.

40 The writer argues that algorithmic tools cannot introduce new forms of error beyond human bias.

Answer Key

27. B

28. A

29. C

30. D

31. B

32. A

33. frequent

34. base-rate neglect



35. accessibility

36. prevalence

37. YES

38. NO

39. YES

40. NO