

THE SCIENCE OF AVAILABILITY

Amos and I had our most productive year in 1971–72, which we spent in Eugene, Oregon. We were the guests of the Oregon Research Institute, which housed several future stars of all the fields in which we worked—judgment, decision making, and intuitive prediction. Our main host was Paul Slovic, who had been Amos’s classmate at Ann Arbor and remained a lifelong friend. Paul was on his way to becoming the leading psychologist among scholars of risk, a position he has held for decades, collecting many honors along the way. Paul and his wife, Roz, introduced us to life in Eugene, and soon we were doing what people in Eugene do—jogging, barbecuing, and taking children to basketball games. We also worked very hard, running dozens of experiments and writing our articles on judgment heuristics. At night I wrote *Attention and Effort*. It was a busy year.

One of our projects was the study of what we called the *availability heuristic*. We thought of that heuristic when we asked ourselves what people actually do when they wish to estimate the frequency of a category, such as “people who divorce after the age of 60” or “dangerous plants.” The answer was straightforward: instances of the class will be retrieved from memory, and if retrieval is easy and fluent, the category will be judged to be large. We defined the availability heuristic as the process of judging frequency by “the ease with which instances come to mind.” The statement seemed clear when we formulated it, but the concept of availability has been refined since then. The two-system approach had not yet been developed when we studied availability, and we did not attempt to determine whether this heuristic is a deliberate problem-

solving strategy or an automatic operation. We now know that both systems are involved.

A question we considered early was how many instances must be retrieved to get an impression of the ease with which they come to mind. We now know the answer: none. For an example, think of the number of words that can be constructed from the two sets of letters below.

XUZONLCJM

TAPCERHOB

You knew almost immediately, without generating any instances, that one set offers far more possibilities than the other, probably by a factor of 10 or more. Similarly, you do not need to retrieve specific news stories to have a good idea of the relative frequency with which different countries have appeared in the news during the past year (Belgium, China, France, Congo, Nicaragua, Romania ...).

The availability heuristic, like other heuristics of judgment, substitutes one question for another: you wish to estimate the size of a category or the frequency of an event, but you report an impression of the ease with which instances come to mind. Substitution of questions inevitably produces systematic errors. You can discover how the heuristic leads to biases by following a simple procedure: list factors other than frequency that make it easy to come up with instances. Each factor in your list will be a potential source of bias. Here are some examples:

- A salient event that attracts your attention will be easily retrieved from memory. Divorces among Hollywood celebrities and sex scandals among politicians attract much attention, and instances will come easily to mind. You are therefore likely to exaggerate the frequency of both Hollywood divorces and political sex scandals.
- A dramatic event temporarily increases the availability of its category. A plane crash that attracts media coverage will temporarily alter your feelings about the safety of flying.

Accidents are on your mind, for a while, after you see a car burning at the side of the road, and the world is for a while a more dangerous place.

- Personal experiences, pictures, and vivid examples are more available than incidents that happened to others, or mere words, or statistics. A judicial error that affects you will undermine your faith in the justice system more than a similar incident you read about in a newspaper.

Resisting this large collection of potential availability biases is possible, but tiresome. You must make the effort to reconsider your impressions and intuitions by asking such questions as, “Is our belief that thefts by teenagers are a major problem due to a few recent instances in our neighborhood?” or “Could it be that I feel no need to get a flu shot because none of my acquaintances got the flu last year?” Maintaining one’s vigilance against biases is a chore—but the chance to avoid a costly mistake is sometimes worth the effort.

One of the best-known studies of availability suggests that awareness of your own biases can contribute to peace in marriages, and probably in other joint projects. In a famous study, spouses were asked, “How large was your personal contribution to keeping the place tidy, in percentages?” They also answered similar questions about “taking out the garbage,” “initiating social engagements,” etc. Would the self-estimated contributions add up to 100%, or more, or less? As expected, the self-assessed contributions added up to more than 100%. The explanation is a simple *availability bias*: both spouses remember their own individual efforts and contributions much more clearly than those of the other, and the difference in availability leads to a difference in judged frequency. The bias is not necessarily self-serving: spouses also overestimated their contribution to causing quarrels, although to a smaller extent than their contributions to more desirable outcomes. The same bias contributes to the common observation that many members of a collaborative team feel they have done more than