

THE ILLUSION OF VALIDITY

System 1 is designed to jump to conclusions from little evidence—and it is not designed to know the size of its jumps. Because of WYSIATI, only the evidence at hand counts. Because of confidence by coherence, the subjective confidence we have in our opinions reflects the coherence of the story that System 1 and System 2 have constructed. The amount of evidence and its quality do not count for much, because poor evidence can make a very good story. For some of our most important beliefs we have no evidence at all, except that people we love and trust hold these beliefs. Considering how little we know, the confidence we have in our beliefs is preposterous—and it is also essential.

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Many decades ago I spent what seemed like a great deal of time under a scorching sun, watching groups of sweaty soldiers as they solved a problem. I was doing my national service in the Israeli Army at the time. I had completed an undergraduate degree in psychology, and after a year as an infantry officer was assigned to the army's Psychology Branch, where one of my occasional duties was to help evaluate candidates for officer training. We used methods that had been developed by the British Army in World War II.

One test, called the “leaderless group challenge,” was conducted on an obstacle field. Eight candidates, strangers to each other, with all insignia of rank removed and only numbered tags to identify them, were instructed to lift a long log from the ground and haul it to a wall about six feet high. The entire group had to get to the

other side of the wall without the log touching either the ground or the wall, and without anyone touching the wall. If any of these things happened, they had to declare it and start again.

There was more than one way to solve the problem. A common solution was for the team to send several men to the other side by crawling over the pole as it was held at an angle, like a giant fishing rod, by other members of the group. Or else some soldiers would climb onto someone's shoulders and jump across. The last man would then have to jump up at the pole, held up at an angle by the rest of the group, shimmy his way along its length as the others kept him and the pole suspended in the air, and leap safely to the other side. Failure was common at this point, which required them to start all over again.

As a colleague and I monitored the exercise, we made note of who took charge, who tried to lead but was rebuffed, how cooperative each soldier was in contributing to the group effort. We saw who seemed to be stubborn, submissive, arrogant, patient, hot-tempered, persistent, or a quitter. We sometimes saw competitive spite when someone whose idea had been rejected by the group no longer worked very hard. And we saw reactions to crisis: who berated a comrade whose mistake had caused the whole group to fail, who stepped forward to lead when the exhausted team had to start over. Under the stress of the event, we felt, each man's true nature revealed itself. Our impression of each candidate's character was as direct and compelling as the color of the sky.

After watching the candidates make several attempts, we had to summarize our impressions of soldiers' leadership abilities and determine, with a numerical score, who should be eligible for officer training. We spent some time discussing each case and reviewing our impressions. The task was not difficult, because we felt we had already seen each soldier's leadership skills. Some of the men had looked like strong leaders, others had seemed like wimps or arrogant fools, others mediocre but not hopeless. Quite a few looked so weak that we ruled them out as candidates for officer rank. When our multiple observations of each candidate converged on a coherent story, we were completely confident in our evaluations and

felt that what we had seen pointed directly to the future. The soldier who took over when the group was in trouble and led the team over the wall was a leader at that moment. The obvious best guess about how he would do in training, or in combat, was that he would be as effective then as he had been at the wall. Any other prediction seemed inconsistent with the evidence before our eyes.

Because our impressions of how well each soldier had performed were generally coherent and clear, our formal predictions were just as definite. A single score usually came to mind and we rarely experienced doubts or formed conflicting impressions. We were quite willing to declare, "This one will never make it," "That fellow is mediocre, but he should do okay," or "He will be a star." We felt no need to question our forecasts, moderate them, or equivocate. If challenged, however, we were prepared to admit, "But of course anything could happen." We were willing to make that admission because, despite our definite impressions about individual candidates, we knew with certainty that our forecasts were largely useless.

The evidence that we could not forecast success accurately was overwhelming. Every few months we had a feedback session in which we learned how the cadets were doing at the officer-training school and could compare our assessments against the opinions of commanders who had been monitoring them for some time. The story was always the same: our ability to predict performance at the school was negligible. Our forecasts were better than blind guesses, but not by much.

We were downcast for a while after receiving the discouraging news. But this was the army. Useful or not, there was a routine to be followed and orders to be obeyed. Another batch of candidates arrived the next day. We took them to the obstacle field, we faced them with the wall, they lifted the log, and within a few minutes we saw their true natures revealed, as clearly as before. The dismal truth about the quality of our predictions had no effect whatsoever on how we evaluated candidates and very little effect on the confidence we felt in our judgments and predictions about individuals.

What happened was remarkable. The global evidence of our previous failure should have shaken our confidence in our judgments of the candidates, but it did not. It should also have caused us to moderate our predictions, but it did not. We knew as a general fact that our predictions were little better than random guesses, but we continued to feel and act as if each of our specific predictions was valid. I was reminded of the Müller-Lyer illusion, in which we know the lines are of equal length yet still see them as being different. I was so struck by the analogy that I coined a term for our experience: the *illusion of validity*.

I had discovered my first cognitive illusion.

Decades later, I can see many of the central themes of my thinking—and of this book—in that old story. Our expectations for the soldiers' future performance were a clear instance of substitution, and of the representativeness heuristic in particular. Having observed one hour of a soldier's behavior in an artificial situation, we felt we knew how well he would face the challenges of officer training and of leadership in combat. Our predictions were completely nonregressive—we had no reservations about predicting failure or outstanding success from weak evidence. This was a clear instance of WYSIATI. We had compelling impressions of the behavior we observed and no good way to represent our ignorance of the factors that would eventually determine how well the candidate would perform as an officer.

Looking back, the most striking part of the story is that our knowledge of the general rule—that we could not predict—had no effect on our confidence in individual cases. I can see now that our reaction was similar to that of Nisbett and Borgida's students when they were told that most people did not help a stranger suffering a seizure. They certainly believed the statistics they were shown, but the base rates did not influence their judgment of whether an individual they saw on the video would or would not help a stranger. Just as Nisbett and Borgida showed, people are often reluctant to infer the particular from the general.