

CHAPTER I

The Cliff Death

A woman is found dead at the foot of a cliff. Dashed against the rocks. Her body lodged in a crevice ten metres from the cliff face. The cove is a local beauty spot but also a notorious suicide location.

I presume you are already speculating about what happened. Did the woman jump or was she pushed? If she was pushed, who did it and why? You need more facts to draw any firm conclusions, but your mind has been triggered into action. There is a problem to solve. You make a few tentative inferences. Her death was probably caused by the fall. But why did she fall? Perhaps she slipped while walking near the cliff edge. Unlikely but not impossible, especially if it was dark and the path unsafe. Or she might have jumped; in which case what drove her to suicide? But maybe she wasn't alone. She could have slipped during an argument with someone. More sinisterly, she might have been deliberately pushed. But why? Who would do such a thing?

Given what little information we have, suicide seems most likely. After all, at a location like this, suicide is more common than murder. But hang on – the body landed ten metres from the cliff face. How could a woman jump that far away from the cliff edge?

Whatever your perspective – whether you are hearing about a real case or reading a crime novel or watching a TV drama – you cannot resist speculating, trying to build up a picture of what happened and why. If you were an investigator, these conjectures would guide your decisions – telling you what evidence to search for, what forensic tests to carry out, and whom to trace and interview. As an armchair detective, they help you make sense of the unfolding narrative, telling you what to expect next and how to interpret new information.

Even with the slenderest of evidence we generate feasible causes – slipping, pushing, jumping – and causes of these causes – accident, suicide, murder. These are only guesses, not yet deserving the name of theories.

But they are a necessary start to enquiry. We need some initial frame, however skeletal, to guide our investigation.

It's amazing how readily we generate explanations. The hypotheses we create, even at this early stage in an enquiry, are often plausible and relevant. We are blessed with the ability to construct *causal models* and to simulate possible sequences of events. We can imagine a body being thrown from a cliff and landing some distance from the cliff face, or a man plotting to murder his partner, simulating the ways in which he might carry this out. Our causal imagination allows us to explore a rich world of possibility and conjecture.

In this chapter I use the cliff death to introduce the main questions to be addressed throughout the book. How do people build explanations from sparse information? How do investigators and lawyers construct a case against a suspect? How do jurors decide a legal case given a mass of complex and confusing evidence? While the expertise, knowledge and experience of these decision-makers vary widely, I will argue that they all use the same core reasoning principles and share similar strengths and weaknesses.

Let us return to the cliff death. You learn more details.¹

The woman was twenty-four. Engaged to her boyfriend for three years, but dissatisfied with the relationship. She was seeing a psychiatrist due to bouts of depression. Her boyfriend worked for a notorious businessman, and both men were under investigation for an insurance fraud. The woman knew about the fraud, and this was another reason for tension in their relationship. The police focus their attention on the victim's partner. The boyfriend has an alibi – he was chauffeuring his boss that afternoon and then spent the evening at home alone. But two witnesses contradict his account. The owners of a local cafe near the cliff claim to have seen the woman with her boyfriend and another man that afternoon. Moreover, the police believe that the woman's body landed too far from the foot of the cliff for the woman to have jumped, even with a run-up. They think she must have been thrown.

The discovery of the woman's body was bizarre. Late that night the boyfriend drove to see his girlfriend's father and brother, saying that she had not returned home and he had a sense that she was in the cliff area (where they often used to go for picnics). The boyfriend was in a panic.

¹ This case is loosely based on a real case that took place in Australia, simplified and amended but retaining most of the key points: http://en.wikipedia.org/wiki/Death_of_Caroline_Byrne

The Cliff Death

3

Together they drove to the cove, and saw her car parked near the path to the cliff. They searched along the cliff top, and suddenly the boyfriend claimed to spot her body down on the rocks. It was pitch dark, and the others could not see anything. But later that night the police discovered the body in the exact location the boyfriend had indicated. How had he known that she was there?

Now you have more substance upon which to theorize. A mixture of facts, claims and counterclaims. You seek a story that makes sense of the evidence but also fits with your presumptions about human behaviour. There are several candidate stories. She might have committed suicide due to depression and a failing relationship. She might have gone walking alone on the cliff and slipped. She might have argued with her boyfriend and fallen during a heated row. She might have been killed by her boyfriend because she knew too much about his business scam. These are just a few possibilities that come to mind – we are incredibly adept at generating stories.

No single story emerges as a clear winner. Each explains some of the evidence but also makes claims that go beyond the known information. And some stories seem inconsistent with the available evidence. For example, the suicide story is supported by the girlfriend's depression but not by the location of the body. The murder story explains the location of the body (and the boyfriend's knowledge of this), but there is little evidence of his motive, beside the fact that his girlfriend knew about his business fraud. Stories project a coherent picture of what happened but can be severely under-determined by the evidence. They also ignore questions about the reliability and quality of the evidence. How credible are the various witnesses? At least one witness must be mistaken or lying, because the cafe owners and the boyfriend assert contradictory things. How reliable is the police's claim about the trajectory of the fall? What about the claims regarding the woman's history of depression or the boyfriend's business dealings? These are key questions, yet initial stories of what happened assume the truth (or falsity) of the content of such claims and do not represent the reliability of the testimony itself.

Our propensity for telling stories and our facility for causal explanation go hand in hand. Each story represents one unique causal sequence – crafted from our causal knowledge but adapted to the specifics of the case. All stories end with the same effect – a dead body beneath the cliff – but differ in the route taken and the assumptions made.

From the wealth of possible stories, two dominate the enquiry: the police's story of murder and the boyfriend's story of innocence. You may

feel this tension too – vacillating between murder and suicide as you strive for a single coherent view.

Given the police's goals, it is inevitable they focus on stories that implicate the suspect. This dictates their evidence gathering: interviewing the boyfriend, scrutinizing his alibi, examining his movements on the day in question, sieving his life for cues about his character and motives. Given our goals as interested observers – trying to figure out what happened without a duty to control crime – we are less committed to finding the boyfriend guilty. But we are still driven to find a narrative explanation of the death, and a story that leads from an evil man to the murder of a young woman is compelling in its own right.

Despite the police's focus on the boyfriend, they also explore the possibility of suicide. They gather details about the girlfriend's history of depression, interviewing her doctor as well as family and friends. Finding out that her mother had committed suicide a few years before lends support to the possibility that her daughter was suicidal too. They examine the girlfriend's relationship with the boyfriend. Was it failing and about to end, as some of her friends claimed? Establishing problems in the relationship plays a dual role – it seems to reinforce the suicide story, but it could also be taken to support the murder story by giving the boyfriend a motive. The police also bring in forensic experts to re-examine the body's location in relation to the cliff edge. How feasible is it that she jumped unassisted?

In theory this process of accumulating evidence and revising hypotheses could continue indefinitely, but pressures of time and cost set practical limits. A turning point is reached when the investigators decide if they have sufficient evidence to prosecute the suspect. If so, they shift from an open-ended investigation to case construction – building a case against the suspect that will stand up in court. This is a 'meta-level' decision – at a higher level than simply deciding what evidence to pursue or updating one's beliefs in possible stories. It involves assessing the overall weight of the evidence gathered thus far, and whether it is suitably convincing to push ahead with a prosecution.² This kind of meta-level decision is prevalent in everyday reasoning too. We decide whether we have enough information to justify our claims, to stick our necks out and defend a position. If so, we then adopt a tighter confirmatory strategy: we seek to bolster our favoured story and defend it in the face of possible objections.

² In the United Kingdom this corresponds to a decision made by the Crown Prosecution Service on the basis that a successful conviction is more likely than not and in the public interest.

The Cliff Death

5

In the case of the cliff death, the police take several months before deciding that they have enough evidence to prosecute the boyfriend. He is charged with murder and retained in custody. The police switch to building a legal case against him. They seek to elaborate a story that will be convincing in court – a story that captures the what, the how and the why of the death. Evidence-gathering does not stop but takes on a different focus. The aim is to produce evidence that will satisfy legal requirements and hold up in court, to present a prosecution case that proves the suspect's guilt and rebuts the defence case.

The police fixate on the story of a possessive and devious boyfriend throwing his girlfriend from the cliff. This theory provides the frame for further search and analysis. They enlist experts on 'fall dynamics' to reinforce the conclusion that she was thrown from the cliff. In doing so, they anticipate that the defence will produce their own experts who will claim that the woman jumped to her death. They also intensify the hunt for evidence that refutes the boyfriend's alibi, knowing that this will be a key point of contention in the courtroom. New evidence is interpreted to fit with theory. Thus, when a new witness claims to have seen the woman arguing with her boyfriend on the evening of her death, this is taken as strongly incriminating, reinforcing that the boyfriend had motive and opportunity, and showing that he was lying about his alibi. Similarly, when two fishermen near the cliff claim to have heard a piercing scream at about midnight, this is taken as confirmation that she was thrown.

In building a case against the suspect, the police and prosecutors anticipate and attempt to defuse the defence case. In counterpoint, the defence team seeks to attack the anticipated³ prosecution case and ideally provide an alternative story. In the case of the cliff death the defence has a clear-cut alternative – death by suicide. This account needs to be tailored to the available evidence and bolstered by any new evidence the defence can find. From a legal viewpoint, the defence is not compelled to present an alternative story, but it will often enhance their case. So, the defence usually has two lines of approach: to seek evidence that undermines the prosecution case and (perhaps independently) to seek evidence that supports their own story.

Fast forward one year. The boyfriend appears in court charged with murder. In a pre-trial hearing the judge has decided what evidence is

³ Rules on disclosure mean that shortly before the trial the defence will know what evidence the prosecution will present. Also, the prosecution is informed about aspects of the defence case, such as whether they are presenting an alibi defence.

admissible. He rules out evidence that the boyfriend drew substantial amounts of money from his girlfriend's account after she had died. This is deemed unfairly prejudicial against the defendant. The prosecution and defence teams have prepared their arguments, and their respective witnesses and experts are lined up to give evidence. The stage is set for the centrepiece of the criminal justice system – a trial by jury.⁴

Now imagine you are a juror in the trial. Together with your fellow jurors you must decide whether the suspect is guilty or innocent. Not just to form an opinion but to make a choice with life-changing consequences. This is an enormous responsibility. And if you are a typical juror you will have no training in law, no expertise in formal reasoning or forensic science, and no prior experience of jury service. Nevertheless, you are required to be a 'fact-finder' – to use only the evidence presented in court, combined with your common sense and everyday knowledge, to decide whether the suspect is guilty of murder. The judge will guide you in this task by providing instructions about the law and about how to deal with certain types of evidence. The judge will even summarize the case for you, outlining the key points to consider. But the ultimate decision will be yours.

This is a huge and multifaceted task. You will be presented with a complex mass of information: a tangled web of evidence, testimonies, claims and counterclaims. You will hear arguments from prosecution and defence, and both parties will call on a succession of witnesses (as well as exhibits such as videos, photographs and diagrams). The witnesses will vary in their credibility. Some will appear trustworthy and competent; others will appear dishonest or incompetent. These witnesses will be aggressively cross-examined, testing the consistency of their accounts and exposing the frailties of human perception, memory and integrity. Expert witnesses will also give evidence, their testimony couched in scientific terms and focused on subtle forensic details. This will add rigor to their claims, but you as a non-specialist might struggle to grasp or evaluate their arguments. How does a non-expert decide between two experts who state opposing opinions?

Uncertainty is pervasive – with regard to both the reliability of evidence itself and the implications that the evidence has for key hypotheses. You can doubt the credibility of a witness report but also be uncertain about

⁴ Trials by jury are actually quite rare, even in the United Kingdom and the United States, and some countries do not have them at all. However, they play a key role in discussions of fact-finding, and all the legal cases in this book were decided by a jury.

The Cliff Death

7

the implications of that report even if it were true. Dealing with probabilities rather than certainties is crucial to the fact-finding process. But it is also incredibly taxing. This difficulty is compounded by the intricate interrelations between evidence and hypotheses. Rarely does a single fact speak directly to the ultimate hypothesis – each fact or supposition is like a thread in a spider’s web, drawing strength from surrounding or supporting items. Even so-called direct evidence, such as an eyewitness to the crime itself, depends on the credibility and reliability of the eyewitness. And circumstantial evidence is by definition indirect and dependent on other facts. It is this complex network of facts that dictates the overall ‘force’ or weight of the evidence against the accused. Eventually you must combine your understanding of the law with your judgment about what happened and decide if you are *sure* of the prosecution charge.⁵

Returning to our court case. The prosecution argues that the boyfriend deliberately killed his girlfriend. He is portrayed as a nasty piece of work: controlling and exploitative, and eager to make money quickly. She was kind and caring, from a wealthy family. They had been together for three years, but the relationship was souring, and he became angry and possessive. Amongst his nefarious dealings, he was involved in a major insurance fraud with his boss. She found out about the fraud and threatened to tell the police. This strained the relationship further. He drove her out to the cove area to try to resolve things, but they had a heated row. In a fit of anger, he threw her from the cliff to her death.

The prosecution calls on numerous witnesses to support this story. The two café owners testify that they saw the couple together near the cliff. A local artist testifies that he saw the couple arguing later that evening on the path to the cliff edge. All three witnesses seem highly credible. The prosecution also calls several witnesses to discredit the boyfriend’s alibi. A key witness is the boyfriend’s boss. In his police interview the boyfriend had claimed not to have gone to the cliff area that day. He said he was chauffeuring his boss in the afternoon, and they had a late lunch together. But his boss testifies that he had lunch with someone else that day and does not recall seeing the boyfriend. Given his shady business reputation, the boss does not seem a credible witness; however, it is unclear why he would falsely undermine his employee’s alibi. Overall, these witnesses serve to establish that the boyfriend had the opportunity to commit the crime. They also bring into question his honesty in the police interview.

⁵ Courts in the United Kingdom no longer ask for ‘proof beyond reasonable doubt’; instead judges ask the jury to be ‘satisfied that they are sure’ before they convict (Crown Court Compendium, 2020).

The prosecution argues that the boyfriend was motivated both by anger at her wanting to leave him and by the fear that she would betray him to the police. To support this claim, they call several witnesses who confirm the girlfriend knew about the insurance fraud and that the relationship was in decline. Numerous witnesses also testify to the kind and caring nature of the girlfriend, and the possessive and aggressive nature of the boyfriend.

Two fishermen testify that they heard a scream at midnight – a woman's voice that was clearly distressed. Several witnesses testify that they were with the boyfriend at the cliff top during the search for his girlfriend. According to them, he claimed to see her body down on the rocks, despite the fact that it was very dark and they could not see anything. The implication was that he already knew she was there.

Finally, the prosecution calls a forensic expert in fall dynamics. He argues that the location of the body was too far from the cliff face for a woman to have jumped unassisted. He refers to several experiments he has conducted, involving policewomen either jumping or being thrown into a swimming pool in order to establish the maximum distance they could travel. He concludes that the victim must have been forcibly thrown.

The defence team cross-examines the prosecution's witnesses at several points, aiming to rebut their claims and cast doubt on their credibility. The reliability of the cafe owners' testimony is probed: they are both shown to have shaky memories for the details of the day in question, and they both admit to only seeing a couple who 'looked like' the couple in question. Moreover, their initial identification was based on looking at a photograph of the boyfriend rather than a proper identity parade. The forensic expert is also questioned about the validity of his swimming pool tests. How well can such tests capture the reality of a body thrown from a cliff edge?

The defence then calls their own witnesses, designed to undermine the prosecution's murder story and support a story of suicide. The girlfriend's doctor testifies that for several years her patient had suffered from bouts of depression, including a severe episode one week before her death. The doctor referred her to a psychiatrist, but the appointment was on the day that she went missing. It is also established that the girlfriend's mother had committed suicide five years earlier, and the girlfriend herself had taken an overdose one year later (although her father claimed this was a cry for help rather than a serious suicide attempt).

An expert witness directly rebuts the claim that the woman's body was thrown from the cliff. He has conducted his own experiments, suggesting that the woman could have jumped given a sufficient run-up. The expert also highlights inaccuracies in the police's estimated location of her body

The Cliff Death

9

and argues that the body might have landed closer to the cliff edge than previously claimed.

Crucially, the defendant himself does not take the stand. He exercises his right not to give evidence. He therefore foregoes the chance to defend himself from the prosecution accusations but also avoids exposing himself to cross-examination. He cannot give his own version of events, but he is also protected from having his story scrutinized and potentially undermined.

The prosecution and defence give their closing speeches, summarizing their respective stories and pointing to the main flaws in the opposing accounts. The prosecution restates the story it told in the opening address and argues that the defence has presented nothing to undermine this story. For them a key point is that the boyfriend knew the body's location on the rocks, despite the darkness and the inability of anyone else to make out a body. How else would he know this, unless he had been there when she was thrown? They also emphasize their expert's claim that the woman must have been thrown, and the inconsistencies and lies in the defendant's police interview. They note that the defendant failed to address these inconsistencies, despite having the opportunity to give his own version in court.

The defence argues that the prosecution has not proved its case and that there are numerous reasons for reasonable doubt. They reiterate the unreliability of the witnesses who claim to have seen the couple arguing. They point to the lack of a compelling motive for the murder and the inconclusiveness of the expert's opinion about the body's fall. Most importantly, they argue that the prosecution cannot conclusively rule out the possibility of suicide. Indeed, the girlfriend's heavy depression, her previous attempt and the mother's suicide all support this story. Not only has the prosecution failed to eliminate suicide as a possibility but, the defence contends, it is the most plausible explanation based on the totality of the evidence.

Finally, the judge sums up the case and instructs the jury. He tells them that the burden of proof lies with the prosecution: they need to prove that the boyfriend murdered his girlfriend; the defence does not need to prove that he is innocent. The judge cautions them not to read too much into the claim that the defendant gave a false alibi in his police interview. Even if the jury believes that the boyfriend did lie, this is not automatically evidence that he is guilty. Only if the jury is sure that there is no innocent reason for the defendant's lies should they draw inferences about his guilt. One possibility here is that the boyfriend was in fact at the cliff top with his girlfriend, but she fell accidentally. In his panic the boyfriend lied to police, saying he was not there, to avoid being accused of killing her. The judge also warns of the fallibility of eyewitness testimony, especially after a long period of time, when memories fade and are subject to bias.

Crucially, the judge instructs the jury that the defendant has a right to remain silent, and his failure to give evidence should not be used against him. What are you to make of this instruction? Why would an innocent man not seek to defend himself? Isn't it natural to infer that he must have something to hide, that he is afraid of being exposed by the prosecution? As with the question about his false alibi, there might be good reasons why he prefers to remain silent, even if innocent. Perhaps he is afraid that he will come across badly to the jury or that earlier misdemeanours will be used against him. Somehow you must balance the possibility of these innocent reasons against the inference that he has something to hide.

When summing up, the judge outlines the key points and highlights the strengths and weaknesses of either side's arguments. He focuses on a puzzle in one of the prosecution's main arguments. They contend that the reason the boyfriend accurately located the body when he claimed to see it from the cliff top was because he had thrown the body earlier that night. However, this argument is predicated on the fact that it was too dark for anyone to see the body from the cliff. But, given this darkness, how would the boyfriend have seen the exact positioning of the body, even if he had thrown it? The judge raises this point but does not offer a conclusion, leaving it as an issue for the jury to consider.

As a juror you hear all this evidence and argument over a protracted period. The case might last several months. It is a challenge to keep track of all the information: the stream of testimonies and cross-examinations, the cut-and-thrust of debate and counterargument, the legal rules and instructions. Moreover, at the outset you were explicitly told not to speculate or form any judgment until the end of the trial. But how can you resist? Is it humanly possible to hold back from speculation and judgment as the case progresses? Indeed, is it even desirable to withhold judgment, given that our minds are so carefully set up for sequential exposure to information? Memory is a cumulative and constructive process – we adapt and build on previous knowledge to make sense of new information. Without this capability we would struggle to remember anything at all, let alone understand and interpret the evidence in a meaningful way. But, as the legal strictures implicitly acknowledge, it is also dangerous to form opinions or interpretations too quickly, before the whole of the evidence has been presented and all parties have had their say.

At this point you might have a rough idea of whether you would vote guilty or not guilty. But you might still be wondering about several issues and how they fit together to determine a verdict. These questions have probably plagued you as you have been sitting through the trial (or reading