

17 Anecdotes: Epistemic Switching in Medical Narratives

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Abstract

This chapter examines the narrative and epistemic coordinates that underpin the way anecdotes notice and reason about the situations they recount. A selection of anecdotes from medical publications over the last two-and-a-half centuries is examined for the way they marshal their materials, present and reframe information, entertain explanations and bring situations and conceptual frameworks for their understanding into close relationship with each other. Through swapping perspectives on their objects of contemplation in heuristics centring on observational and conceptual vantage points, anecdotes bring before their audience's eyes scenes viewed in a new light. By changing the domains in which phenomena become explicable, anecdotes effect 'epistemic switches' – for example, from a biomedical to a sociopsychological domain or from a non-medical to a pathological one. In highly abbreviated tales of the unexpected, their 'nutshell narratives' persuade prime audiences that prior assumptions and understandings require to be adjusted in the light of experience.

[F]rom Procopius's *Anekdotia* onward [. . .] anecdotes have run counter to the order of imperial authorization. Peter Fenves, *Arresting Language*, 153.

The anecdote is a narration that claims to present (whether true or not, verifiable or not) a historical event, usually a single event detached from other events.

Paul Fleming, 'The Perfect Story: Anecdote and Exemplarity in Linnaeus and Blumenberg', 74.

17.1 Introduction

This chapter examines the narrative means anecdotes employ to marshal observations and entertain interpretations of them. It also examines the way anecdotes point to explanations of the situations they recount. A term of long lineage that originally invoked 'a revelation of events previously undivulged' (Burke 2012: 60), anecdote in the eighteenth century gained wider currency as

a striking account of an incident in a person's life (Johnson 1773); informative, entertaining and often memorable, it took the form of a bon mot on notable happenings or repartee that praised and mocked human accomplishments (Adams 1789).¹

The anecdotes considered here partake in some of the features of such closely worked accounts; however, the main focus of attention will be on their modes of noticing and narrative reasoning and how they bring situations and conceptual frameworks for understanding them into close relationship with each other. In *An Essay Concerning Human Understanding* (1690), John Locke recounted an anecdote concerning the behaviour of water, which contained a striking twist:

As it happened to a Dutch ambassador, who entertaining the King of Siam with the particularities of Holland, which he was inquisitive after, amongst other things told him that the water in his country would sometimes, in cold weather, be so hard that men walked upon it, and that it would bear an elephant, if he were there. To which the king replied, 'HITHERTO I HAVE BELIEVED THE STRANGE THINGS YOU HAVE TOLD ME, BECAUSE I LOOK UPON YOU AS A SOBER FAIR MAN, BUT NOW I AM SURE YOU LIE'. (Locke 1690: vol. 2, book IV, chap. 15, para. 5)

That the surface of water could support the weight of a human being proved too fantastical a particularity for the king to accept. Although a 'fair man', the Ambassador failed to overcome what Bernard Williams called the 'positional disadvantage' (Williams 2004: 55) of his royal interlocutor, a disadvantage that was geographical and above all perspectival.² To persuade the king of its truth – never having ventured into cold climates – the Ambassador would have to have reframed his notion of the fluid. His failure to do so stemmed from the overly narrow way he approached the task. Whether it was water's capacity to solidify or the nature of the solid once formed that was inconceivable, the unfamiliar object to the king was ice (not water). Had the Ambassador sought to expand the range of the king's conception of its physical states, he might have had more success.³ In the event, reliance solely on his own testimony did nothing to transform the intellectual frame the king brought to the fluid. The anecdote

¹ John McCumber explicates the etymology of the term as something '*not given out* [...] originally a young woman not yet married' (McCumber 2009: 58). Procopius's exposé of Justinian and Theodora's sixth-century CE rule is the earliest extant text bearing the title *Anekdotia*. Its divulgements were taken to grant anecdotes a role in writing history 'from the inside' and 'from below' (Burke 2012: 61). The historian Antoine Varillas applauded 'Anecdoto-graphers [...] who draw a Picture through Conversation and Witness', but argued for their selective deployment only if they illuminated 'peculiar Connexion[s]' and 'notable Events' (Varillas, 1686: unpaginated).

² Where the balance of competing testimonies favoured an informant's claims, Locke counted witnesses with integrity and skill as credible sources of knowledge. In the face of such testimony, this anecdote can be read as a caution against 'extreme incredulity' (Daston 1988: 307).

³ The Ambassador might have approached the task by pointing to changes with temperature in the state of substances known in Siam, such as water to steam and solidification of hot cheese and molten metal; and by advising the king of activities conducted on ice in cold climates, such as

offered a pointed example of how the credibility of a witness's claims turns on their conformity with the experiential and conceptual frames of an audience (Shapin 1995: 244).

In one of the earliest treatments of anecdotes in English, Isaac D'Israeli found this 'species of composition' (Anon. 1799: 181) to comprise 'minute notices of human nature, and of human learning' (D'Israeli 1793: 80–81). Impressed by its special kind of realism, the twentieth-century literary scholar Jürgen Hein noted the propensity of anecdotes to present 'a differentiated incident' and a 'dramatically shaped action or saying [...] through a social story-telling situation' (Hein 1981: 15–18).⁴ As a stripped-down account claiming import and significance beyond the particulars recounted, the literary scholar Joel Fineman found anecdotes provide 'pointed, referential access to the real' in structured formats that carry 'peculiar and eventful narrative force' (Fineman 1989: 67), a forcefulness, I argue, that derives from epistemic vantage points, narrative branchings, reversals and punchlines (Beatty 2016; 2017).

The anecdotes to be discussed appeared in medical publications over the past two-and-a-half centuries. Selected for their narrative and epistemic articulations and the way they connect healthcare scenarios to general propositions and frameworks, these accounts effect 'epistemic switches', a term Richard Wollheim coined in relation to a thought experiment of A. J. Ayer's, concerning a man whose knowledge of something was initially based on the testimony of others, until he found the source of it – unchanged in content – in his own memory. For Wollheim (1979: 199), 'epistemic switch' referred to a change in the reasons for a true belief. I adapt it here to include a sudden change of evidential base, which alters the explanatory level of a phenomenon, by changing the domain in which it is explained from, for example, a biomedical to a socio-psychological domain or from a normal to a pathological one. By swapping perspectives on their objects of contemplation, anecdotes bring before the mind's eye scenes viewed in a new light.

17.2 Epistemic Effects of Medical Anecdotes

A dialogue published in *The Lancet* in 1824 headed 'Anecdote', involved Michel-Philippe Bouvart (1717–87), a French physician to Louis XV's court, and his patient, a Marquis recovering from a severe illness:

'Good day to you, Mr. Bouvart, I feel quite in spirits, and think my fever has left me.' – 'I am sure of it,' replied the doctor, 'the very first expression you used convinced me of it.' – 'Pray explain yourself.' – 'Nothing more easy. In the first days of your illness,

ice-skating and frost fairs. Had he indicated that ice was not a bizarre particularity but a temperature-dependent property of water he could have helped the king escape his experiential and conceptual landscape.

⁴ Translated and cited in Marion C. Moeser, *The Anecdote in Mark, the Classical World and the Rabbis* (London: Sheffield Academic Press, 2002), 32–33.

when your life was in danger, I was your *dearest friend*; as you began to get better, I was your *good Bouvart*; and now I am Mr. Bouvart: depend upon it you are quite recovered'. *Ward's [sic] Nugæ Chirurgicæ* (Anon. 1824: 256)

The proposition advanced is that bedside salutations can be medically noteworthy. In response to the Marquis's declaration of buoyant spirits, the doctor positioned his greetings – hitherto peripheral to the Marquis – as central to his clinical assessment of him and claimed that his expressions of affiliation were a function of the disruptive effects of illness. The contention could have been based on an antecedent generalization: that familiarity of greeting varies inversely with recuperation, recovery restoring social and inter-personal distance. But how well established was such a generalization? Was it grounded in Bouvart's personal observations – in contemporary terms, a small, biased sample likely to engender overgeneralization – or in an accepted maxim or hunch, entertained for suppositional purposes? Whatever its source and standing, the claim put a spotlight on social exchanges in clinical practice, elevating their notice to a level of prognostic significance. In proposing that greeting style carried meaning beyond simple etiquette, the dialogue showed how clinical attention could move from biomedical considerations to a domain of socio-psychological observation that encompassed interpersonal aspects of doctoring.

James Wood finds anecdotes in the Enlightenment played an important role in advocating the naturalistic study of customs (Wood 2019). From this perspective, what the Marquis relayed to Bouvart – regarding his spirits and lack of fever – was less important to the medical assessment of him than the Marquis's recourse to plain 'Mr.', which Bouvart located within a series 'dearest', 'good' and 'Mr.', a pattern that pointed to recovery. Even before the Marquis disclosed how he was feeling, the pattern supplied Bouvart with foreknowledge of his well-being.

Within Bouvart's diagnostic process, an 'epistemic switch' takes place, which grants greeting style an evidential value. The scenario shows how medical consideration moves away from reported feelings and symptoms to focus on inadvertently expressed greetings which match a pattern of signs or clues; cognitively, the switch persuades readers that social and interpersonal relations could be a source of valuable information.

In creating a 'picture through conversation and witness' (Varillas 1686: unpaginated), the anecdote revealed a doctor drawing out meaning from social interactions which otherwise appeared incidental and mundane. Whatever doubts we may harbour today about its embedded generalization, the acuity of Bouvart's discernment lends the account plausibility. If we remain sceptical about its central claim, the dialogue prompts less specific considerations, such as that other facets of healthcare exchange could vary with illness; concerning

what sort of courtesy it is that intensifies at moments of extreme dependency; and about the levelling of birth and social rank by serious illness. Read in these ways, the anecdote brings a plurality of possibilities to the fore (Paskins and Morgan 2019), including radical and ironical meanings.

Thomas Wakley, founder editor of *The Lancet*, took the dialogue not from its earlier source in *L'Esprit des journaux*, but from William Wadd's *Nugæ Chirurgicæ*, published in London in 1824 (Wadd 1824: 199). The volume offered a miscellany of medical portraits in which Wadd announced his intention of 'blend[ing] the "utile" with the "dulce", the learned and the ignorant, the regulars and the irregulars [. . .] with the Republic of Medicine' (Wadd 1824: i), and of reforming the hierarchies and outdated medical practices of the *Ancien Régime*.⁵ By interlinking the social world and health – even in the case of a Marquis – the anecdote captured something of the rationalist universalism of post-Revolutionary medicine, and the cultural authority of medical men. That this socio-political context was occluded in *The Lancet*'s retelling of the dialogue is characteristic of the anecdotal form, which the literary scholar Paul Fleming takes to be 'a discrete isolated narrative' that lacks 'chronological connection to any surrounding narration of events' (Fleming 2011: 74). Although anecdotes may cite news reports, witness accounts and informants' memories as sources for events recounted, the literary scholar André Jolles found their defining characteristic to be a pronounced capacity to condense the 'flow of events', enabling diverse elements of a situation to be grasped in a 'bound factuality' (Jolles 2017: 161–174). As well as its sources, the anecdote's credibility for Jolles also derived from its capacity to realize events and people 'concretely', qualities it shares with the clinical case and its capacity to delineate particularities and reason about them (Hurwitz 2017).

In 1985, *The Lancet*'s 'In England Now' column recounted an anecdote about a man who upturned the conceptual framework of an X-ray report:

How often have we stumbled on a diagnosis by accident and then taken credit for a good examination? Like the man whose chest we X-rayed routinely to find a peculiar thin line stretching from one lung to the other through the mediastinum. Technical fault, said the report, but lungs normal. Only when the patient commented on the number of technical errors his X-rays caused, did the penny drop. A thoracotomy revealed a bicycle spoke lying within the chest cavity, a relic of a road accident some thirty years previously. It produced some pleural pain and an interesting publication. (Anon. 1985: 381)

There is something glib and 'off pat' about this account of how a patient was briefly recognized as a situated knower after he remarked how commonly

⁵ Although Wadd saw in Bouvart a doctor able to impress upon an aristocrat how dependent he'd been on his physician, Bouvart in fact seems always to have been identified with the *Ancien Régime* (Brockliss and Jones 1997: 475, 637).

a ‘technical fault’ appeared in his chest X-ray reports. The information made it a priori unlikely that yet another technical fault accounted for the X-ray appearance. His disclosure on the contrary suggested that the ‘peculiar thin line’ denoted a persistent lung abnormality. The patient’s mention of ‘pleural pain’ and a history of road accident constituted a decisive first-person vantage point from which the diagnosis inverted: no longer could it invoke ‘technical fault though lungs normal’ but instead ‘adequate image and lungs *abnormal*’, an epistemic switch that led to the removal of a spoke from his lungs!

The change in what the image signified was mediated through the patient’s attentiveness, memory and agency. His ‘context-dependent knowledge’ (Flyvbjerg 2006: 221) switched the interpretation of the X-ray from that of an artefact to that of pathology and led to publication of the image. Even so, the anecdote’s punchline implied minimal acknowledgement of the patient’s pivotal role in the diagnosis: although his vantage point changed the explanatory part of the explanation – the explanans – that applied to what required explanation – the explanandum – his role in the change appears not to have featured in the report.

An epistemic switch that removed the explanans of a phenomenon altogether occurred in an anecdote recounted by the general practitioner, writer and broadcaster Michael O’Donnell, in 2016:

A paediatrician travelling on a train grew intrigued by the state of an infant girl cradled in the arms of a woman who sat opposite him. He could see there was something abnormal about the child but couldn’t diagnose what it was. He carefully watched the respiratory movements of her chest, listened to the timbre of an occasional cry and whimper, observed the way she moved her limbs. But he remained baffled.

He described in *The Lancet* how 20 minutes passed before the penny dropped. The child had a condition that rarely came his way. She was perfectly healthy. (O’Donnell 2016: 10)

Once the object of observational interest – ‘the state of an infant girl’ – had fallen outside the doctor’s frame of reference, the classificatory gaze wielded at the start of the encounter proved nugatory by the end of it. The story is about ‘uncontrolled observation’ and the medicalization of everyday life, through imposition of a narrow conceptual frame on a non-medical context. The change of object, from a sick infant requiring pathological explanation, to one needing no explanation, amounted to a radical reframing that effected an epistemic switch. But, as the punchline makes clear, the apparent rarity of such an encounter for the doctor – even on a train – carried its own compensation: a report in an international journal. In responding to what was unfamiliar by attempting to diagnose it – and only later appreciating that what he thought was ‘something abnormal’ was in fact a healthy child – the doctor fell victim to the insidious power of medicalization. Through publication of a case in which the

medical framework had no grip – a case of nothing – the doctor’s mindset was rewarded and seemingly left intact his drive to deploy it again on the next train journey.

Despite its brevity, O’Donnell’s anecdote is quite a layered story whose meanings emerge as the framing shifts.⁶ A prototype for this effect is suggested by Bernard Williams’s discussion of how differences in spatiotemporal observational position justify tellings, on the grounds that tellers were there when the audience was not (Williams 2004: 55). The situated and conversational aspects of such grounds were noted by ethnographer and sociologist Paul Atkinson, who observed anecdotes recounted by UK and US haematologists during clinical ward rounds in the 1970s:

One of the most striking characteristics of speech exchange in daily rounds is the deployment of personal narratives and reminiscences on the part of senior physicians [...] who] claim, tacitly, the right to tell stories and to relate medical knowledge back to their biographical experiences. The justification for the story as evidence does not derive from the warrant of textbooks, journals or other sources of biomedical science. (Atkinson 1995: 137–139)

Caught between personal, experiential accounts of medical phenomena and formal, impersonal accounts of medical knowledge, anecdotes occupy a contested space. On the one hand, they offer experience-based insights into healthcare phenomena, on the other, insights based on haphazardly collected observations. Within this space, anecdotes are viewed as anachronistic reports, ‘the enemy of objective, dispassionate observation [...] riddled with bias, faulty memory and “foolish optimism”’ (Campo 2006).

Despite such sampling problems and the lowly position anecdotes occupy in hierarchies of evidential credibility (Murad et al. 2016: 125–126), they continue to be published in medical journals. Since the *British Medical Journal* (*BMJ*) initiated its Minerva column in the 1880s and its subsequent ‘Literary Notes’ section a few decades later, it has carried snippets of anecdotal information, anonymous experienced-based testimonies, mirrored by *The Lancet*’s ‘In England Now’ column, and by its more recent ‘Uses of Error’ section, which featured personal accounts of medical mistakes.

Anecdotes remain prominent features of contemporary medicine’s written and oral culture, a circumstance that led the literary scholar Kathryn Montgomery Hunter to insist that ‘[s]omething so pervasive and so contrary to medicine’s scientific ideal [...] must have a function in the everyday business of medicine’ (Hunter 1991: 70). Within the schema of a ‘nutshell narrative’ (Morgan, Chapter 1), these functions include delineating modes of

⁶ Despite their brevity and portability, anecdotes do not always align with the ‘thin descriptions’ and narratives of the chemical reactions Paskins discusses in Chapter 13; some constitute thicker narratives.

noticing that effect epistemic switches that prime audiences to adjust their prior understandings of situations in the light of experience.

17.3 Colligating Medical Anecdotes

Anecdotes played a distinctive role in William Withering's discovery of the therapeutic value of the foxglove in the treatment of dropsy, a condition that caused bodily swelling. At the head of his *Account of the Foxglove* (1785), Withering featured several anecdotes, foremost of which was the following:

In the year 1775, my opinion was asked concerning a family receipt for the cure of the dropsy. I was told that it had long been kept a secret by an old woman in Shropshire, who had sometimes made cures after the more regular practitioners had failed. I was informed also, that the effects produced were violent vomiting and purging; for the diuretic effects seemed to have been overlooked. This medicine was composed of twenty or more different herbs; but it was not very difficult for one conversant in these subjects, to perceive, that the active herb could be no other than the Foxglove. (Withering 1785: 2)

With this anecdote Withering simultaneously proclaimed and reframed the therapeutic value of the remedy. The account depicted more than a sudden apprehension of the active ingredient of 'a family receipt', a recipe handed down from one generation to another; it also relayed his realization that diuresis accounted for its efficacy, not the 'violent vomiting and purging' the remedy also provoked, which had long been accepted as beneficial for dropsy. Withering bolstered this aperçu with further anecdotes: he 'knew of a woman in the neighbourhood of Warwick' and another 'in Yorkshire' who possessed a similar 'receipt', and relayed a 'circumstance' told to him by his 'truly valuable and respectable friend, Dr. Ash' that the Principal of Brasenose College, Oxford, had been cured of dropsy 'by an empirical exhibition of the root of the Foxglove, after some of the first physicians of the age had declared they could do no more for him' (Withering 1785: 3).

The source of these causal claims was lay experience,⁷ which proved rich in anecdotal remedies for dropsy in accounts that were not themselves case reports but testimonies which emerged 'from the empirical usages and experience of the populace' (Withering 1785: 1). At a time when such anecdotes featured in advertisements for quack remedies and false nostrums, Withering was well aware of the precarity of their credibility: 'There are men who will hardly admit of any thing which an author advances in support of a favorite medicine, and I allow they may have some cause for their hesitation' (Withering 1785: viii). Contrary to advertising testimonies – which were countered as 'cases of cures never performed, and copies of affidavits never sworn to'

⁷ Withering may not have been the first to identify the foxglove as the remedy's active ingredient; he records its use in Edinburgh in 1777 (Withering 1785: xx).

(Adair 1790: 256)⁸ – Withering drew attention to people harmed by the remedy in an anecdote that could not be so easily questioned or dismissed:

I recollect about two years ago being desired to visit a travelling Yorkshire tradesman. I found him incessantly vomiting, his vision indistinct, his pulse forty in a minute. Upon enquiry it came out, that his wife had stewed a large handful of green Foxglove leaves in half a pint of water, and given him the liquor, which he drank at one draught, in order to cure him of an asthmatic affection. This good woman knew the medicine of her country, but not the dose of it, for her husband narrowly escaped with his life. (Withering 1785: 9–10)

Withering's first anecdote contained more than a simple flash of inspiration: in positing the remedy's active ingredient and mechanism of action, he narrowed the explanandum and refined the type of explanans that accounted for its benefits, which no longer centred on purgings. The change fuelled the need to develop a different treatment regimen, based on careful dose adjustment, which Withering set out in a hierarchy of some 150 case histories that precisely reflected his capacity to vouch for their details.⁹ Whereas the anecdote that announced the discovery invoked observations by others, Withering's cases focused on his own observations, and how he maximized the remedy's benefits and minimized its harms. By standardizing the use of extracts and adjusting doses, he set out the candidate 'causal relations' and 'manipulable facts' that Rachel Ankeny identifies as some of the key contributions cases make to medical knowledge (Ankeny 2014: 1009).

Eighteenth-century case reports invoked intricate descriptions taken to reflect their authors' powers of perception, which helped underpin the verisimilitude claimed for their accounts (Da Costa 2002). Hess and Mendelsohn note that cases increasingly were treated as collections of observable data linked to specific individuals, based on information excerpted from their histories (Hess and Mendelsohn 2010; 2014). However, unlike cases, anecdotes remained as solitary micro-narratives which arose from fleeting, unformalized aspects of medical practice, demonstrated by the anecdote published in the *BMJ* in 1881, which turned on the perils of making inferences across cases:

The following tale has lately been reported. [...] An epidemic of typhoid fever broke out in a small village in the South of France. A locksmith fell ill, and called in the local medical man, who came, prescribed, and went away. The next day, during his

⁸ Cited in R. Porter, *Health for Sale: Quackery in England, 1660–1850* (Manchester: Manchester University Press, 1989).

⁹ In his *Account*, people assessed and treated at home by Withering were given pride of place, followed by those in hospital supervised by others for some of their stay; next came patients referred to him by other doctors whose complete course of treatment he did not observe; and lastly, those not seen by him but reported by others.

usual rounds, he called at the locksmith's, and asked his wife after the health of the interesting patient. She replied: 'Ah, sir, only imagine, whilst I went to fetch the medicine, my husband ate two pickled herrings and a dish of bean salad.' 'Good heavens! Then he is' 'Quite well, doctor. He went to work this morning as usual, and is as well as possible.' 'That is extraordinary', exclaimed the doctor; 'what a wonderful remedy for typhoid; I must make a note of it.' And he accordingly entered in his note-book: 'Typhoid fever: tried remedy, two pickled herrings and bean salad.' Two days afterwards, a bricklayer was attacked by the same disorder. 'Take', said the same doctor who was consulted, 'two pickled herrings and a dish of bean salad. I will come again to-morrow.' To-morrow-alas! the bricklayer was dead. The doctor, taking a logical view of his experimental method, again entered in the famous note-book: 'Typhoid fever. Remedy: pickled herrings and bean salad. Good for locksmiths, bad for bricklayers.' (Anon. 1881: 248)

To attribute a difference in outcome to a difference in occupation, the same treatment given to the locksmith would have to have been taken by the bricklayer. But whatever the medical man prescribed for the locksmith, assuming he took it, which is not certain, the doctor assumed it played no role in his unexpected recovery. In his surprise at the locksmith's recovery, the doctor purloined his contingent dietary likes as treatment for the next case of typhoid. As a burlesque on clinical reasoning and the doctor's 'experimental method', the account relayed a scenario built on the perils of inferring causation within and across individual cases. In striving for, and falling comically short of, a generalizable possibility (Hurwitz 2017), the anecdote parodies how easily certainty and uncertainty can be elided concerning the cause of a clinical outcome. It also prefigures how unreliable patient and practitioner testimonies would come to be considered in the following century.

17.4 Quirky, Anecdotal Testimony

In the second half of the twentieth century, testimony rooted in patient and practitioner experiences came to be viewed as profoundly unreliable. The contemporary clinical researchers Murray Enkin and Alejandro Jadad defined the anecdotal as 'any type of information informally gained, either from personal or clinical experience, one's own or that of others, in contradistinction to evidence generated by formal research studies' (Enkin and Jadad 1998: 963). The physician Mark Crislip put the position succinctly:

Anecdotes are how patients transmit the particulars of their disease to their health care providers. The medical history, as taken from the patient, is an extended anecdote, from which the particulars of the disease have to be extracted. (Crislip 2008)

On this account, patients' concerns and fears – the whole symptomatic realm – are viewed as anecdotes and placed at the very centre of practice. Steven Novella, an evidence-based neurologist, classed all 'uncontrolled subjective

observations' as anecdotal, although in the context of discovery he argued that they may still be useful:

Many medical discoveries started as anecdotal observations. But then those observations have to be tested with controlled observations or experiments – and most anecdotal observations will turn out to be wrong or misleading, because they are quirky and uncontrolled. (Novella 2010)

Yet the editors of *The Lancet* singled out anecdotes as the lingua franca of clinical exchange, information and learning, claiming that:

Clinicians learn from anecdotes – stories they heard at medical school, stories they tell each other, and stories their patients tell them. This is an efficient way to grasp new knowledge – even the most obscure hints and warnings can be made memorable if tagged to real people and actual events. (Bignall and Horton 1995)

Less formalized than case reports, although consonant with Withering's stance, the editors treat anecdotes as potential sources of knowledge 'if tagged to real people and actual events'. Without some reliance on anecdotal testimony it is difficult to see how therapeutic substances could ever have been developed. Jeff Aronson, a clinical pharmacologist, observes how commonly contemporary research and development of new drugs 'start with an anecdotal report of some sort' (Aronson 2008: xxxi), which provokes further tests of efficacy and toxicity in animal and human tissues, Phase 1 trials, then trials in larger, more representative human populations.

In 1992, fragmentary, unshaped anecdotal accounts concerning a quirky effect of a drug prompted the pharmaceutical company Pfizer to upturn the rationale of its testing programme on sildenafil citrate, a chemical it had synthesized in the 1980s as a possible treatment for high blood pressure and angina. Six years later, the company began marketing sildenafil under the brand name Viagra (Tozzi and Hopkins 2017; Duzendorfer 2004).

Sildenafil was the product of a 'rational drug design program' (Terrett et al 1996: 1819), targeted at inhibiting a family of enzymes believed to play a part in increasing thrombosis and vascular resistance. Synthesized in Pfizer's UK Discovery Chemistry and Biology Laboratories, the drug reached Phase 1 trials in 1992 in eight healthy South Wales miners. Twenty-five years later, David Brown, a Pfizer chemist, recalled the response to a routine question at the end of the study to the whole group of volunteers: 'Is there anything else you noticed you want to report?'

One of the men put up his hand and said, 'Well, I seemed to have more erections during the night than normal,' and all the others kind of smiled and said, 'So did we.' (Tozzi and Hopkins 2017)

Although Brown's recollection reconstructed the occasion as a moment of revelation, Ian Osterloh, who was in charge of research in Pfizer's laboratories, reported that: 'At the time, no one really thought, "This is fantastic, this is great news, we're really onto something here. We must switch the direction of this program"'. Nick Terrett, another Pfizer researcher, recalled that when asked about side effects of the drug, volunteers said: "'Yeah, I've got a headache. I feel a bit dizzy" and some added "I've got erections"', but these did not register as more significant than other side effects, such as backache, throbbing and stomach upsets (Friend 2017: 480–481). Osterloh recounted Pfizer's initial response:

None of us at Pfizer thought much of this side effect at the time. I remember thinking that even if it did work, who would want to take a drug on a Wednesday to get an erection on a Saturday? So we pushed on with the angina studies. (Osterloh 2015)

But when intravenous sildenafil showed little cardiovascular effect in volunteers, hopes of a tangible anti-anginal benefit faded and the three-year development programme faced closure (Jackson et al. 1999). Notwithstanding the costs already incurred, reports voiced as 'I *seemed* to have more erections', which were not 'thought much of' by Pfizer, and likely biases from a combination of embarrassment, self-censorship and embellishment in testimonies that could have become 'improved in the telling' (Gross 2006: xii) – 'all the others kind of smiled' (Tozzi and Hopkins 2017) – the company credited the miners' reports with sufficient warrant to commit additional funding to further investigate sildenafil.

Testimony takes place within a context framed by a variety of practices and institutions that affect both its content and the level of warrant it purports to deliver. To interpret and assess it requires sensitivity to such contextual factors. Rather than concluding that testimony is in general warranted or that only the testimony of informants who are known to be reliable is warranted, we assess testimony in light of [...] not just who is talking and what she is saying, but also what is at issue, what is being assumed about the facts, the circumstances, the testifier, the audience, and the cognitive context. [...] A testifier can transmit no more warrant than she has. But her audience may have epistemic resources that she lacks [...] [which] is why testimony can be a vehicle for the advancement, not just the dissemination, of understanding. (Elgin 2002: 307)

To consider the anecdotal as solely comprised of claims is to miss the cognitive and other contexts in which anecdotes arise, are received, and made sense of. To the anecdotes he heard in the 1770s, Withering deployed highly developed epistemic resources not only for the historical and biographical purposes of announcing how he happened upon the discovery, but in granting anecdotes warrant for the remedy's therapeutic and harmful effects. In respect of the bicycle spoke in the lung anecdote, the information the patient provided proved decisive

evidence against the likelihood of another faulty X-ray, which threw doubt on the reliability of the diagnosis. In regard to the sildenafil testimonies, the epistemic resources of Pfizer's researchers appeared initially under-developed;¹⁰ it was not that they doubted the truth of the miners' reports, but the erectile effect was unexpected and their testimonies stood outside the anti-anginal framework in which the drug had been developed. At a time when there were no oral therapies for impotence and the biochemistry of tumescence was only partially understood, the testimonies lacked a framework in which to articulate the effect, which was medically and culturally unsituated (Giere 2006; Massimi 2018).

Consistent with Fleming's view that anecdotes can only be collected and 'not sewn together into a single story' (Fleming 2011: 74), Withering attempted no summation of his anecdotes. Although they carried evidential warrant, each stood alone in his *Account*. Pfizer attempted no summation of the anecdotal testimonies of the Welsh miners as their reports at best could only have been counted as a 'pre-cursor to [scientific] evidence' (DeWald 2013). Nevertheless, they proved sufficient to persuade Pfizer to turn around its research programme, a switch that would garner the company \$30 billion of revenue from sildenafil sales in the first two decades of the twenty-first century (Statista 2020).

Pfizer attempted no summation of the testimony of the volunteers who subsequently joined its sildenafil trials: instead, a different type of evidence was developed that reflected the experiences of men on and off the drug. This evidence pertained to several components of the erectile process – speed of onset, hardness and duration, capacity to penetrate – gauged from answers to questionnaires and records of measuring devices in studies that recruited over 4,000 men worldwide (Eardley et al. 2002). Key to these studies was the development of an International Index of Erectile Function, a self-completable measure that took little account of emotional, inter-relational, non-erectile aspects of sex (Burnett 2020), but proved sensitive and specific enough to detect treatment- and dose-related erectile effects within and between drug and placebo (Rosen et al. 1997; Goldstein et al. 1998).

Once the biochemical and physiological mechanisms underlying tumescence had been fully elucidated, the effects of sildenafil could be fitted into a causal account of human erection (Baier 2019) and the voices of the miners could be overlaid by a set of multidimensional scores of thousands of male heterosexual performances, on and off the drug. In place of their anecdotal testimonies stood a matrix of standardized, combinable, self-reported scores, averaged for separable components of the erectile process, partitioned by age, dosage and timing, severity and cause of erectile dysfunction.

¹⁰ The epistemic resources called on by anecdotes might be compared to the creative cognitive and affective processes that enable reconceptualization of mental models of the world (see Jajdelska, Chapter 18).

According to the philosopher Elizabeth Fricker, the paradigm of testimony is a face-to-face encounter in which expression of a knowledgeable belief is vouched for by a combination of the speaker's trustworthiness and 'choice of words' (Fricker 2006: 594), a model that fits the testimony of Withering's informants, the bicycle patient and Welsh miners. However, as we have seen, the miners' natural language testimonies came to be revocised in the 'de-anecdotalized', formal language of Pfizer's subsequent trial participants. In place of their 'choice of words' – which was never elicited – were scored responses to the closed questions of impotence researchers, expressed in data points derived from Lickert scales and channelled into a quantitative construct of erectile effectiveness.¹¹ These standardized and manipulable scores spoke the quantized language of mean differences in effect size between drug and placebo, and took the place of the anecdotal accounts of the miners.

17.5 Conclusions

In examining how anecdotes handle medical materials, size up situations and gain attention, the aim has not been to advocate a presumptive right for their claims to be believed. It has been to delineate the epistemic shifts interwoven in their narratives, which confer an immediacy of engagement with what is recounted.¹² In the Greco-Roman period, anecdotes provided a view of political power profoundly at odds with authorized accounts (Fenves 2001: 153); in the Renaissance, they became 'the principal register of the unexpected and hence of the encounter with difference' (Greenblatt 1991: 2–3), and in questioning the social order they recruited 'the unreliable, eccentric, and the improper' (Patterson 1997: 160). In the eighteenth century, their 'fragmentary, eye-witness character' fitted them to a 'variety of verbal practices, both oral and written, both popular and cultivated: the joke or the tall story; the jewel-like short narrative, with its witty punchline [. . .] usually containing a moral lesson' (Gossman 2003: 149–150).

Such tropes are evident in the dramatic and humorous nature of anecdotes in the modern era, which may overshadow their epistemic coordinates. Michael O'Donnell valued anecdotes for their quick-witted formulation of 'uncertainties, paradoxes, life-affirming surprises and black comedy' (O'Donnell 2013: i). Within this heterogeneity, a variety of anecdote can be delineated, which draws together observations and dialogues from scattered zones of healthcare experiences, in a cognitively and affectively rousing narrative. It opens on a situation that quickly faces challenge from a new vantage point and

¹¹ For discussion of the differing natures of natural and formal languages, see Wise (Chapter 22).

¹² The sense of immediacy derives in part from epistemic switching that invokes not only a change in episteme, but also a switch of speaker and the voices heard in healthcare situations. See Hajek (Chapter 2) and Wise (Chapter 22).

perspective, which introduce other views that make different sense of the situation, and lead to a degree of resolution.

Within this minimalist format, altered appearances and understandings based on first-person perspectives immediately create unanticipated effects that can severely test epistemic resources. To make sense of the mental processes believed to govern the ability to place the parts of a familiar situation in context, the psychologist Francesca Happé argued that ‘the best way to convey what is meant by the tentative and exploratory notion of central coherence is to give an anecdote’:

A clinician testing a bright autistic boy presented him with a toy bed, and asked the child to name the parts. The child correctly labelled the bed, mattress, and quilt. The clinician then pointed to the pillow and asked, ‘And what is this?’. The boy replied, ‘It’s a piece of ravioli’. (Happé 1995: 173–174)

Happé emphasized that the boy was neither visually impaired nor joking and that his ‘clinician commented that the pillow did indeed look like a piece of ravioli’ (Happé 1991: 174). His uncanny response challenged researchers to explain how a cognitive process that correctly identified some of the accoutrements of a toy bed discounted dissimilarities in texture, function and socio-cultural context of a key component of the ensemble, allowing its place to be supplanted by a piece of pasta. The anecdote made the explanatory potential of weak central coherence the vantage point from which the boy’s response became explicable.

Walter Benjamin argued that anecdotes develop a ‘pathos of nearness’, which brings distant happenings spatiotemporally closer to us (Benjamin 1999: S1a, 3).¹³ It manifests by making apparent and proximate contours, patterns, frameworks and views of situations hitherto outside of the field of vision. Bernard Williams argued that an ‘epistemic division of labour’ (Williams 2004: 43) underpins viewpoint and perspective in the role observational position plays in the look of things. Although most of the anecdotes we have examined are not first-order accounts of sensory-based observations, but retellings of the noticings of others, Williams’s topological argument illuminates how observations made from different angles, conceptual, figurative, first-person vantage points and hypothetical positions, create different views of their objects of interest.¹⁴

In the context of a broadly observational and inferential practice such as medicine, anecdotes are the culturally mediated schemata that alert

¹³ Cited in R. S. Lehman, *Impossible Modernism: T. S. Eliot, Walter Benjamin, and the Critique of Historical Reason* (Stanford, CA: Stanford University Press, 2016), 145–146.

¹⁴ By extension, Williams’s point encompasses Maxwell’s advocacy of different ways of looking in elucidating the nature of electro-magnetic force lines; see Wise (Chapter 22). For how different views and perspectives on the same geological formation have given rise to different explanatory narratives, see Hopkins (Chapter 4).

audiences to the importance of epistemic vigilance, by demonstrating adjustment of prior understanding of a situation in the light of vantage points and experiences emergent from them (Herman 1999: 25).¹⁵ By bringing observational and conceptual frameworks into close relation with each other, anecdotes bring to the fore scenarios viewed in a new light before their audiences. Those we have encountered include a pattern in bedside greetings; a radical change in diagnosis and treatment; a switch of diagnostic mindset; a change in the mode of action of a remedy; and the intimation that a tentatively voiced side effect pointed to an unrecognized therapeutic effect.

Kathryn Hunter argues that ‘medicine both scorns the anecdotal and provides for the careful reporting of single instances’ (Hunter 1991: 118). Unlike case reports, which have become highly regulated medical accounts, anecdotes remain informally patrolled schema, cast in a vernacular language that has less recourse to technical and formal terminology than cases. Where anecdotes set out their own observations and descriptions, they do so in a register more humanly voiced in the idioms of conversation and hearsay than that of cases. Epistemic switches, comprehensibility and human-centred focus are interwoven features of anecdotal narratives and contribute to their pungency. Despite the increasingly formalized nature of bioscientific discourse, anecdotes retain a continuing presence in medical culture. They demonstrate how suffused with vantage point and perspective medical understanding is and how dependent medical knowledge remains on the speakers and voices heard in healthcare.¹⁶

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¹⁵ To adopt Mary Morgan’s terms, these schemata arise from a narrative-making practice that works and reworks healthcare materials to make new sense of them, in ways that can have ontological implications (Morgan, Chapter 1).

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