THE UNACCOUNTABILITY MACHINE

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Why Big Systems Make Terrible Decisions – and How the World Lost Its Mind

DAN DAVIES

Profile Books

First published in Great Britain in 2024 by
Profile Books Ltd
29 Cloth Fair
London
EC1A 7JQ

www.profilebooks.com

1 3 5 7 9 10 8 6 4 2

Typeset in Sabon by MacGuru Ltd
Printed and bound in Great Britain by
Clays Ltd, Elcograf S.p.A.

A CIP catalogue record for this book is available from the British Library.

ISBN 978 1 78816 954 7
eISBN 978 1 78283 925 5

To Tess, Joe, Poppy and Rosie

And also, to the middle managers of the world, the designers of spreadsheets and the writers of policies. Your work may be prosaic, but you are the ones who shape the world we live in.

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Author's Note

A great deal of intellectual energy is wasted on trying to attribute events to the categories of 'conspiracy or cock-up', when most of them should probably be blamed on something more abstract. History is the study of decisions, not of events, and many decisions are best understood as the outcome of larger systems rather than individual acts of will.

Systems don't have motivations, so they don't have hidden motivations. If the system consistently produces a particular outcome, then that's its purpose. But on the other hand, systems don't make mistakes. Just as it's impossible to get lost if you don't know where you're going, a decision-making system does what it does and then either lives with the consequences or dies of them.

This book talks about a lot of people, and at various points it might look like I'm criticising someone, often quite harshly. That's usually not what I'm trying to do. The people are brought into the story because that's the only way to sensibly describe the systems they were part of. If it hadn't been them, it would have been someone else. If this book had a real villain, we might identify it as 'the regrettable tendency of complex systems to have opaque and volatile dynamics'.

PART ONE

THE NATURE OF THE CRISIS

Introduction

> What counts as a crisis is the expectation of loss of control; in other words, cybernetic breakdown in an institution.
>
> Stafford Beer, *Brain of the Firm* (2nd edn), 1981

When we avoid making a decision, what happens to it?

This is a book about the industrialisation of decision-making – the methods by which, over the last century, the developed world has arranged its society and economy so that important institutions are run by processes and systems, operating on standardised sets of information, rather than by individual human beings reacting to individual circumstances. This has led to a fundamental change in the relationship between decision makers and those affected by their decisions, the vast population of what might be called 'the decided-upon'. That relationship used to be what we called 'accountability', and this book is about the ways in which accountability has atrophied.

In 1954, for example, Sir Thomas Dugdale resigned from the British cabinet over something thereafter known as 'the Crichel Down affair' (a relatively trivial piece of malpractice relating to some farmland which had been requisitioned during the Second World War). It was unclear whether he had actually been involved in the decision, but in the climate of the day his position was untenable – as the minister in charge, he bore responsibility for what happened. This small but honourable act ensured that Dugdale's name will live on eternally; both he and the small area of Dorset which brought about his downfall are mentioned every time a modern British politician dodges the blame.

On the other side of the Atlantic, in 1953, President Harry S. Truman had a sign on his desk reading 'The Buck Stops Here'. Sixty-six years later, President Donald Trump mused that 'the buck stops with everybody' when asked who bore responsibility for a government shutdown. Anyone who has dealt with a corporation or bureaucracy of any size, and who is over the age of forty, is likely to have a vague sense that you used to be able to speak to a person and get things done; the world wasn't always a maze of options menus.

Industrial societies have been given a great deal of warning that something like this was going to happen. In the 1940s, the 'managerial revolution' was regarded as the likely outcome of the increasing complexity of the economic system and the scale of private and public-sector organisations which had developed to deal with it. The decline in individual accountability for unpopular decisions is not – or not only – a form of moral decline on the part of our rulers. It's also a consequence of the fact that there are fewer decision *makers* than there used to be. Nearly all the commands and constraints which afflict the modern individual, the decisions which used to be made by identifiable rulers and bosses, are now the result of systems and processes.

It is most obvious that something has changed when a decision which used to be made by a human being is made by a literal algorithm – a computer program. For example, people worry a great deal about, and legislators attempt to regulate, the practice of using artificial intelligence to decide whether you are turned down for a loan or denied insurance coverage. But a decision-making system is not just a computer. Financial and other decisions have been made on the basis of handbooks and lists of criteria since the days in which they were recorded with quill pens. The very parliamentary committees that attempt to regulate artificial intelligence are themselves bound by opaque and complicated rule books, designed to standardise their proceedings and to avoid having decisions attributed to any individual human being.

For a while, in the early days of this profound social change, people tried to understand what was going on. The study of decision-making systems was a big thing – they called it 'cybernetics'. But for a number of reasons, it never took off.

The most important reason was that the new science was a victim of its own technological success. The key figures in the early days of cybernetics – people like Norbert Wiener, John von Neumann and Claude Shannon – are almost all much more famous as pioneers of computing. In trying to invent a mathematical language to describe their problem, they quickly made a lot of discoveries relating to the representation of information and the operations that could be performed on it. These discoveries turned out to be extremely useful in the design of electronic circuits. Consequently, there was a huge and rapid brain drain away from the abstract study of decision-making systems and into the new industry of manufacturing computers. In many ways, when presented with such a golden opportunity, you would have had to have been rather odd not to have taken it.

Related to this fact, many of the people who were involved in the early days of cybernetics were a bit odd. In this book, we'll look at Stafford Beer, a British management scientist and consultant. Among other things in his life, he designed a method of holding conferences based on an icosahedron, and he tried to use an algae-filled pond as a computer. And he was the sensible one – the cybernetician who obtained high-powered consultancy jobs in industry and provided huge amounts of support to the *real* oddballs working in the field. The more I have looked into the science of 'management cybernetics', the more I have realised that there is no way to rid it of a fundamental core of eccentricity.

But something else also happened, because cybernetics didn't die a natural death. The most obvious place for these ideas about the organisation of a modern economy would surely have been within the subject of economics, but they didn't end up there. Some elements of management cybernetics – even some of the ideas of Stafford Beer himself – live on in business schools, usually as personal idiosyncrasies of individual researchers. In the economics departments, however, they have their own theories.

The way in which the economics profession ignored most of the work done in information theory is striking. It ignored its own traditions relating to uncertainty and decision-making, instead ploughing ahead with a frighteningly simplistic view of the world in which everything could be reduced to a single goal of shareholder value maximisation.

Why did they do this? Any account of how we got to where we are must cover three intellectual and organisational revolutions. There was one that happened but we forgot about it – the managerial revolution, where control was transferred from owners and capitalists to professional administrators. There was one that looked like it was going somewhere interesting but never arrived – the cybernetic revolution, which might have helped us understand that what mattered were the systems of professional management rather than the individual managers. And then, sometime in the early 1970s, we had the neoliberal revolution, which succeeded in shaping our society and its discontents, right up to the present day.

In a more fortunate counterfactual history, this book might have told the story of an academic debate between the neoliberal economists and the management cyberneticians, on the nature of a corporation and the organisation of decision-making. But that debate didn't happen. Or rather, it did happen, but not with diagrams and equations. It played out, very suddenly, with helicopters and guns at the presidential palace of La Moneda, in Chile on 11 September 1973, when the government of Salvador Allende was brought down by a coup led by General Augusto Pinochet, and Stafford Beer's consultancy project to bring a new form of economic organisation to the country came to an abrupt end.

Cybernetics was arguably in trouble long before the coup, but that was the moment that the world finally chose a different path. In doing so, we began to get into the habit of ignoring the fact that every year, more of the decisions that affect our lives are made not by people but by systems. Strange, alien intelligences with desires and drives quite different from our own. They're taking over the world – and not only that, for it seems that some of them are going mad.

But we should start this story at the beginning.

1

'Something's Up'

> Capitalism is disappearing, but Socialism is not replacing it. What is now arising is a new kind of planned, centralised society which will be neither capitalist nor, in any accepted sense of the word, democratic. The rulers of this new society will be the people who effectively control the means of production: that is, business executives, technicians, bureaucrats and soldiers.
>
> George Orwell, 'James Burnham and the Managerial Revolution', 1946

'Yes. But those clowns put us in an awkward place where we're going to have to thread the needle.'

An executive at Fox News called Ron Mitchell wrote those words, in an email which later showed up in court documents, and you could hardly ask for a better summary of the state of Republican politics at the beginning of the 2020s. The litigation in which Mitchell was quoted related to a defamation case which ended up being settled for $787.5m, the second largest such case in American history

The nature of the defamation was about as serious as they get; over a period of months, Fox News had repeatedly accused Dominion Systems, a manufacturer of voting machines, of conspiring to rig the 2020 US presidential election. This was, to be clear, unequivocally false. Strangely, though, the emails and texts turned up in pre-trial disclosure seemed to confirm that nearly all the executives and journalists at Fox News knew that this was false, and that the people making the accusations were 'kooks', 'wackadoodle' and 'cruel and reckless'. But they kept broadcasting them anyway.

Why did they do it? This question never got put to them properly, because the case was settled on the courthouse steps. But the cache of emails suggests that they felt they had no choice. Having initially reported, correctly, that Donald Trump had lost the election, Fox News was completely unprepared for the consequent backlash from its viewers. The network had spent the previous four years working its audience up to a frenzy and the juggernaut couldn't be turned round – every attempt to break the bad news was treated as disrespect, and resulted in the loss of millions of viewers to less scrupulous broadcasters. In the words of one of Fox News's managing editors, 'weak ratings make good journalists do bad things'.

Many people destroyed their reputations and careers over the 2020 election, and the USA came considerably closer to an actual coup than anyone would have liked to have seen in the Capitol riots of 6 January 2021. The Fox News–Dominion litigation gives a window into what was happening, but it's a darkened window, through which it's difficult to really see the structure of cause and effect. Nearly all the individual people involved wanted to be doing almost anything else rather than what they actually did. Even when they were broadcasting things they must have known to be false, they hoped that they weren't believed. What was going on here? How did it come to this?

Crimes without criminals

I should probably introduce myself at this point. I have a professional interest in situations like this – cases where the exact thing that nobody wanted to happen has happened.

I was once an investment banker, and during the bouncing-rubble period of the last global financial crisis, I wrote a book called *Lying for Money*, about the history and economics of financial fraud. One of the big questions people were asking at that time was why, despite there being a strong popular perception that hanging was too good for them, bankers were not going to jail. I ended up reaching a pretty surprising conclusion: that although there were a number of bad reasons why prosecutors were reluctant to take on the vested financial interests, the basic problem was that in a democratic society, if you want to put someone in prison then you need them to intentionally carry out a specific criminal act.

Many years ago, in an earlier financial crisis linked to small savings banks in the USA during the 1980s, the fraud investigator Bill Black had coined the concept of a 'criminogenic organisation'. It referred to an institution in which incentives and management systems were structurally designed to ensure that crimes would be committed. This was an integral part of his theory of the savings bank crisis, that of a 'control fraud'. This occurred when a bank came under the control of a criminal, who was then able to set in place a system of incentives which ensured that fraudulent loans would be made and profits declared, which would naturally flow into the fraudster's pockets.

This solved several of the key problems that had bedevilled white-collar criminals over the years, the biggest of which was the need for overt acts of embezzlement. Stealing money by dishonesty had previously tended to require you to make illegal transactions – improper payments or false bookkeeping entries – which posed a risk of detection. In a control fraud, the dishonesty resided in the overall scheme and all the transfers of cash were legitimate – dividends, salaries, stock options and commercial transactions with parties connected to the management. Furthermore, there was often a number of layers between the guilty mind and the criminal act – unless there was a paper trail, most of the prosecutable things were done by people other than those that the authorities would naturally want to prosecute.

As it happened, the technology was in its infancy in the 1980s and most of the crooks pursued by Bill Black were careless about leaving the kind of paper trail he needed. But by the beginning of this century things had got weirder. After investigating some of the biggest scandals of the financial crisis, I concluded that not only was there no paper trail between the low-level crooks and the bosses, in most cases there was *actually no connection*. I ended up coining the term 'self-organising control fraud'. The idea was that the financial system of the developed world, from around the fall of Communism in Europe, had reached a point where the overall system of incentives in the economy was so criminogenic that banks had a natural tendency to organise themselves into fraudulent behaviour. All the top executives had to do was set unrealistic profitability targets and underinvest in legal departments and compliance systems. It wasn't so much that anyone had told their traders what to do; more that nobody ever organised things in such a way that they *wouldn't* form a criminal conspiracy.

The polycrisis and me

There is a definite family resemblance between the self-organising criminogenicity of the 2008 financial crisis and the stuff that went on at Fox News in 2020 – the 'criminogenic organisation' might really just be a special case of the 'structurally bad decision-making organisation'. But, when provided with a lot of spare time during the pandemic, I started wondering more about the raw material of the Capitol Hill riots. These angry people, whose reactions were so frightening, so difficult to control – where did they come from?

To a certain extent, of course, Fox News made them. Over twenty-five years, it had become a media colossus, largely based on two creative insights. First, that some people enjoy being angry, and will consume their rage as a product. And second, that some presenters have the gift of making people angry, just like a comedian can make people laugh.

But there's more to it than that. Fox News couldn't actually control the rage of its audience, as it belatedly found out. And it's not intellectually satisfying to create a theory of Trump voters that only explains that one phenomenon. Because almost everywhere you look in the world over the last couple of decades, you will find popular movements and trends that look quite similar. Silvio Berlusconi was the Trump of Italy. Jair Bolsonaro was the Trump of Brazil. Angry people, politically incoherent populist politicians and media organisations that sell productised rage are everywhere. It can't be a coincidence; we need a theory that covers them all.

The historian and writer Adam Tooze refers to a 'polycrisis' of the twenty-first century. This is an umbrella term covering a lot of these phenomena, held together by a kind of structural resemblance. The defining characteristic of the polycrisis is a loss of control by the previously existing hierarchy. It's often associated with an economic crisis of some sort, as in Greece in the early 2010s, but not always. There's a sudden loss of prestige, as the professional and managerial class makes a high-profile mistake. And the populists and the merchants of rage step into that gap. So the questions that need to be answered are: how does this happen? And why?

The people who left and came back

One of the stylised facts that interested me is that the people most involved in the ground level of the polycrisis were often the ones who had been disenfranchised for long periods before it began. You could see this in the Brexit vote in the UK. The turnout for that referendum was shockingly high, compared to the previous decade of general elections. The winning vote came from people who had not voted for a long time.

But why would they have bothered voting? Think about the period from the fall of the Berlin Wall in 1989 to the bankruptcy of Lehman Brothers in 2008. There had been hardly any choices to make. If you wanted to vote against globalisation, you couldn't. Wanted to vote for higher top rates of income tax or tighter bank regulation? Couldn't. Or the level of interest rates – it wasn't even possible to have a political opinion about it. You might be able to vote against further privatisation, but there was no political party that would reverse the old ones. If you were against immigration, you had no party to vote for either. All you had were choices between moderate centrist technocrats, competing on the grounds of who might manage the system more competently, in an economic context of gently growing prosperity. People lost interest because it was rational for them to lose interest – nothing needed to change and there was no way to change it.

Then the 2008 financial crisis happened, followed by a long period of recession and austerity, and suddenly it turned out that the technocratic consensus wasn't as competent or moderate as it had appeared. Ten to twenty per cent of the electorate suddenly realised that they might have to take an interest in politics after all. So they started paying attention again, and they didn't have the basic assumptions of the mainstream. All they knew was that the people who used to be in charge seemed to have screwed things up mightily.

The accountability sinks

Bad things were happening, but they didn't seem to be anybody's fault. This was infuriating to everyone; the CEOs, political leaders and other figureheads had been drawing big salaries and bonuses, and telling all of us that they knew best, but it turned out that they didn't even know what was going on in their own organisations. There was no mechanism to punish individual human beings, so the hoi polloi defaulted to what seemed like the only alternative – to use the democratic powers available to them to tear down the whole system.

The relationship between experts, decision makers and the general public had become completely dysfunctional. This wasn't really a crisis of managerialism or a crisis of political legitimacy – it was a crisis of accountability. And if accountability was at the root of the crisis, then maybe the things to look at were the mechanisms that cause it to be diminished.

Consider, for example, the following situation. A characteristically modern form of social interaction, familiar from the rail and air travel industries, has become ubiquitous with the development of the call centre. Someone – an airline gate attendant, for example – tells you some bad news; perhaps you've been bumped from the flight in favour of someone with more frequent flyer points. You start to complain and point out how much you paid for your ticket, but you're brought up short by the undeniable fact that the gate attendant can't do anything about it. You ask to speak to someone who can do something about it, but you're told that's not company policy.

The unsettling thing about this conversation is that you progressively realise that the human being you are speaking to is only allowed to follow a set of processes and rules that pass on decisions made at a higher level of the corporate hierarchy. It's often a frustrating experience; you want to get angry, but you can't really blame the person you're talking to. Somehow, the airline has constructed a state of affairs where it can speak to you with the anonymous voice of an amorphous corporation, but you have to talk back to it as if it were a person like yourself.

Bad people react to this by getting angry at the gate attendant; good people walk away stewing with thwarted rage, and they may give some lacerating feedback online. Meanwhile, the managers who made the decision to prioritise Gold Elite members are able to maximise shareholder value without any distractions from the consequences of their actions. They have constructed an *accountability sink* to absorb unwanted negative emotion.

The fundamental law of accountability

It is important to be clear, at this stage, exactly what an accountability sink is, and how they are constructed.* It's not

* If nothing else, you'll have a few tips about how to set things up in your own job to divert any troublesome accountability that might be building up.

just the way in which the hourly paid worker has been set up to act as a human shield. In order to make the sink effective, you need a *combination* of things: that person, plus a policy that there's no way to appeal the decision by communicating with a higher level of management. (Even if you somehow managed to get the CEO's phone number, you would come up against the fact that the policy was in place precisely to protect them from making that decision personally.)

So the crucial thing at work here seems to be the delegation of the decision to a rule book, removing the human from the process and thereby severing the connection that's needed in order for the concept of accountability to make sense. You could even coin a sort of law of management here:

> The fundamental law of accountability: the extent to which you are able to change a decision is precisely the extent to which you can be accountable for it, and vice versa.

The construction of accountability sinks has damaging implications for the flow of information. For an accountability sink to function, it has to break a link; it has to prevent the feedback of the person affected by the decision from affecting the operation of the system. The decision has to be fully determined by the policy, which means that it cannot be altered by any information that wasn't anticipated. If somebody can override the accountability sink and overrule a policy that is in danger of generating a ridiculous or disgusting outcome, then that person is potentially accountable for the outcome.

When an organisation decides to create an accountability sink, it's taking a risk. Implicitly, every rule is a model of the world – you can see both a model and a rule book as a relationship between causes and effects, inputs and outputs. But because they can't be a model of the *whole* world, both a rule book and a model have to leave out a lot of detail. That means that, like a model, a rule has to be based on assumptions about the kinds of situations that might need to have decisions made about them. So a notice on the wall of an office that says 'STAFF HAVE NO ACCESS TO THE SAFE' implies a set of assumptions about the kind of person who might walk in off the street and ask staff to open the safe, while a notice that says 'NO REFUNDS – NO EXCEPTIONS' carries an implicit assumption that there will never be a case where a customer is entitled to a refund.

When an unanticipated situation arises – either because something unusual has happened, or because the accountability sink was badly designed – there will be a mismatch between the input that the system anticipated, and what it actually got. And, because the system has been designed to work as an accountability sink, the outcome could be gruesome or absurd. Consider, for example, the tale of an airline and a few hundred furry mammals.

The squirrel shredders of Schiphol

Back in the 1990s, ground squirrels were briefly fashionable pets, but their popularity came to an abrupt end after an incident at Schiphol Airport on the outskirts of Amsterdam. In April 1999, a cargo of 440 of the rodents arrived on a KLM flight from Beijing, without the necessary import papers. Because of this, they could not be forwarded on to the customer in Athens. But nobody was able to correct the error and send them back either. What could be done with them?

It's hard to think there wasn't a better solution than the one that was carried out; faced with the paperwork issue, airport staff threw all 440 squirrels into an industrial shredder, apart from a few that had previously escaped from the animal containment facility. In later weeks, it transpired that this shredder was a specialised piece of machinery used in the poultry industry to dispose of worthless male chicks. Before the story hit the headlines, ground staff had over a period of months shredded 200 other squirrels, several dozen water turtles and a small flock of parakeets.

The press release in which KLM apologised for this horrible fiasco was a masterpiece of the genre that's still studied in business schools as an effective example of crisis PR. But it's less fascinating for its deflection of blame than for the underlying system that it revealed.

It turned out that the order to destroy the squirrels had come from the Dutch government's Department of Agriculture, Environment Management and Fishing. However, KLM's management, with the benefit of hindsight, said that 'this order, in this form and without feasible alternatives,* was unethical'. The employees had acted 'formally correctly' by obeying the order, but KLM acknowledged that they had made an 'assessment mistake' in doing so. The company's board expressed 'sincere regret' for the way things had turned out, and there's no reason to doubt their sincerity.

So what went wrong, and who was responsible for shredding the squirrels? The first question is easier to answer than the second. KLM had set up a system whereby decisions about animals with the wrong import paperwork were left to someone

* The De Meern Foundation for the Shelter of Squirrels, the Netherlands' only specialist squirrel rescue organisation, was particularly annoyed about not having been asked whether it could help.

at the agriculture department. In doing so, everyone involved had accepted that a low baseline level of animal destruction was tolerable – which is why they bought the poultry shredder. But, in so far as it is possible to reconstruct the reasoning, it was presumed that the destruction of living creatures would be rare, more used as a threat to encourage people to take care over their paperwork rather than something that would happen to hundreds of significantly larger mammals than the newborn chicks for which the shredder had been designed.

The characterisation of the employees' decision as an 'assessment mistake' is revealing; in retrospect, the only safeguard in this system was the nebulous expectation that the people tasked with disposing of the animals might decide to disobey direct instructions if the consequences of following them looked sufficiently grotesque. It's doubtful whether it had ever been communicated to them that they were meant to be second-guessing their instructions on ethical grounds; most of the time, people who work in sheds aren't given the authority to overrule the government. In any case, it is neither psychologically plausible nor managerially realistic to expect someone to follow orders 99 per cent of the time and then suddenly act independently on the hundredth instance.

For their part, the people in the agriculture ministry were a long way from the workers who had to carry out their instructions. They had a responsibility to protect the biosecurity of the Netherlands and implement the relevant European regulations that required health checks for imported squirrels. A policy stating that 'commercial imports of pets must provide veterinary paperwork, or else the animals will be returned to their port of origin or euthanised at the expense of the importer' looks sensible enough, and would cover the overwhelming majority of cases. And with the policy implemented, each decision to order the destruction of animal cargo is just a matter of following the policy.

That's the purpose of making policies – to reduce the amount of time and effort spent making decisions on individual cases. However, it's also the root cause of this sort of problem. When you set a general policy, you either need to build in a system for making exceptions (and make sure that it is used), or you need to be confident that all the outcomes of enforcing that policy will be acceptable. In the case of the policy with regard to rodent imports, this wasn't the case; the Schiphol incident led to an emergency debate in the Dutch parliament. The top management of KLM were, in fact, so appalled that within a few months the airline had a new policy of refusing to ship any exotic animals at all – while Schiphol Airport came close to losing its certification as an import centre because the company that ran the 'animal hotel' there had gone bust.

Although dramatised by grim humour, the KLM squirrel debacle illustrates a few potentially important things about the underlying reality of management and information. A decision with no real owner had been created because it was the outcome of a process. The process worked well, until something that hadn't been anticipated (the pet squirrel craze) showed up, and then it delivered disastrous results. There was no effective way in which information could be fed back to the people who could change the policy, so the decisions continued to get worse. And then, when something so outrageous happened that it couldn't be kept out of the newspapers, there was nobody to blame.

This property of there being 'nobody to blame' is the definition of what constitutes an accountability sink. It's not clear what KLM should have done when faced with a consignment of 400 squirrels from a breeder who refused to obey the import regulations. The best solution would have been to refuse to load the cargo in Beijing, but the plane had already flown. Tragically, the decision to put them down and then bear the public opprobrium might even have been correct. But making a specific decision to kill the squirrels would have been much less psychologically tolerable for the policy-making managers than simply creating a system which ensured that they would be shredded unless a lowly employee disobeyed a specific order. In some ways, a disaster like the Schiphol squirrel episode can be seen as the policy mechanism providing one of its intended functions – acting like a car's crumple-zone to shield any individual manager from a disastrous decision.

Accountability and its discontents

There are a number of reasons why people might construct accountability sinks. The most fundamental one is that being held accountable for things is horrible. The key privilege of being a manager, surely, ought to be that you have the status of *being a manager* rather than one of the managed. Having your decisions questioned, and having pressure placed on you to change them – which, if the fundamental law above is correct, is the essence of accountability – is humiliating and unpleasant. Not only that, but in large organisations, the kind of conflict that's implicit in a system where individuals make decisions is potentially corrosive of trust and relationships. Let's consider, as an example, the accountability sink in the academic publishing industry, through which scholarly papers are gathered in journals and sold to university libraries.

Once upon a time, academic publishing was largely a non-profit affair – most scientific and humanities journals were published either by universities or by learned societies, to keep their members up to date with new research. The articles were selected by editors and put through a system of ‘peer review’ whereby journal publishers would request comments from academics who were specialists in the field (anonymously, to ensure that the reviewers were objective and so people would not fear the professional consequences of criticising a fellow scholar). On the basis of this review, papers would be revised, resubmitted and accepted for publication. It was (and is) a laborious process, and many owners of journals were glad to sell them to private-sector publishers.

Academic publishing is extremely profitable. The foundations of Robert Maxwell’s media empire were built on Pergamon Press, which was one of the first companies to realise that the business model has two incredibly favourable properties. Firstly, the customer base is captive and highly vulnerable to price gouging. A university library *has* to have access to the best journals, without which the members of the university can’t keep up with their field or do their own research.

Secondly, although the publishers who bought the titles took over the responsibility for their administration and distribution, this is a small part of the effort involved in producing an academic journal, compared to the actual work of writing the articles and peer-reviewing them. This service is provided to the publishers by academics, for free or for a nominal payment (often paid in books or subscriptions to journals). So not only does the industry have both a captive customer base and a captive source of free labour, these two commercial assets are for the most part the same group of people.

A not-wholly-unfair analysis of academic publishing would be that it is an industry in which academics compete against one another for the privilege of providing free labour for a profit-making company, which then sells the results back to them at monopoly prices. It is, as you'd expect from that description, highly profitable – and passionately hated by the academics.

However, the model persists because somewhere along the way, the journal industry managed to insert itself into the staff promotion and recruitment function of universities all over the world. In doing so, it created an extremely useful accountability sink for senior academics and managers of universities, while also solving an awkward and unpleasant interpersonal problem for them – how to judge the quality of scholarship without offending the scholars.

The truly valuable output of the academic publishing industry is not journals, but citations. Academic papers cite one another, and the best ones get cited a lot. Some journals tend to systematically publish more of the highly cited papers than others, and so these are regarded as the best journals with the highest standards. If you can work out which are the best journals, and which scholars publish in them, and which papers get the most prestigious citations, then you can use fairly standard statistical techniques to generate a 'score' for every academic, describing how well-cited their work is compared to their peers. The process is quite similar to the PageRank algorithm used by Google to decide which web pages to show first in search results.

At this stage you might suggest that 'indexing billions of web pages' and 'assessing the influence and quality of scholarship' are very different tasks; surely nobody should expect an algorithm designed for one to be any good at the other. Set against that objection is the fact that if you have to decide which academics should be promoted or employed, the 'weighted citation count' is a perfect accountability sink. Academic politics is notoriously vicious, and academic careers tend to intersect a lot – what goes around comes around, and people need to collaborate. In that sort of environment, a system in which academics directly assessed each other's promotion cases would cause all sorts of interpersonal problems; it would be difficult to work productively with someone if you were known to have previously judged their research to be less excellent than one of their peers.

So although the citation index is in all probability a bad measure that seems to lock the universities into an expensive and unsatisfactory publishing model, the outsourcing of the academic performance measurement system is a solution rather than a problem. It redirects potentially destructive negative emotions to a place where they can be relatively harmlessly dissipated.

How health and safety goes mad

The accountability sink doesn't just dissipate resentment and jealousy – deployed correctly, it can shield organisations against legal liability and similar threats. A decision made by an individual can be second-guessed and questioned, and it can be the object of litigation. A policy, on the other hand, is harder to challenge, particularly if it is made public. Fairly obviously, if decisions are taken in line with a pre-existing policy, they cannot be characterised as the result of caprice or prejudice. And if a policy is made publicly available ahead of time, anyone who interacts with the organisation can be argued to have implicitly accepted it. None of these defences are bulletproof – KLM's policy didn't save them from public shaming in the squirrel-shredding episode – but they provide significant shields against material business risks.

Accountability sinks are even more important when the insurance industry gets involved. Insurance is a business of risk pooling – it only works because the average of a lot of similar events is much more predictable than any single event. Actuaries (the specialist mathematicians who set pricing and terms for insurance policies) work by creating averages and probability distributions, not by analysing the unique and specific characteristics of every possible outcome someone might want to insure. For this reason, insurance underwriters love consistent processes; standardisation is a key part of what they do. Once a risk assessment is subject to a set of rules, the class of uncertain events covered by the (corporate) policy can be covered by an (insurance) policy.

When a risk is covered by an insurance policy, however, being accountable for a decision becomes not just psychologically unpleasant, but financially risky. If you've agreed with your insurer that something will be required or forbidden, then even if it seems obvious that an exception should be made, it's possible that you would be invalidating your policy to do so. If something goes wrong, the insurance company is often not set up to listen to your explanations; it has hundreds of customers, and it would be unrealistically expensive for it to employ loss adjusters to adjudicate the validity of every single claim.

How crises happen?

I have to admit, I got pretty excited about the accountability-sink concept when I came up with it, a few years ago. We were looking at a crisis of legitimacy, which involved a crisis of managerialism, and they were both really crises of accountability. The last few decades had seen the rise of the professional and managerial class in the economy and society. These people had been able to reorganise and re-engineer many of the most important institutions from politics to business to finance and