

A fairy tale for our times

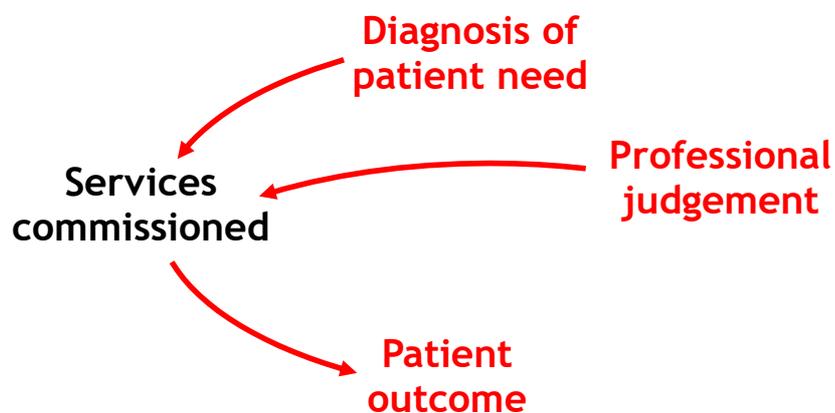
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(With thanks, and apologies, to H. C. Andersen!)

Once upon a time, not so long ago, in a small country town, not so far away, there lived a young doctor. She was happy. Not because the sun was always shining, for on many days, it rained; not because the birds were singing, although they were; not because she was in love with a handsome prince, for the handsome prince had already married her best friend Kate. But because she loved what she was doing. Ever since she had been a young girl, she had dreamed of being a doctor, of curing the sick, of healing the wounded. So she had worked hard at school, and even harder at university, until now she had become a junior partner in a small practice in a small country town. Every day, she rejoiced in successfully diagnosing her patients' needs, and using her skilled professional judgement to provide just the right remedies to achieve successful results. She was indeed happy.



*

One bright morning, when the sun was shining and the birds singing, there was a knock on her door.

“Come in!” she said, not really expecting to see a handsome prince.

Nor was it, for when the door opened, in walked a tall, very, very young-looking man.

* This is an example of a ‘causal loop diagram’, a primary form of representation within the methodology known as ‘systems thinking’: if this is unfamiliar territory, please refer to the appendix, page 10.

“Hello” she said, with a smile. “Please sit down. How can I help?”

“On the contrary,” replied Man-boy. “I’m here to help *you*!”

“Help me? But I don’t need any help today, thank you.”

“Ah! Yes you do, but you might not know it!”

“But if I think that I don’t need help, how is it that you, a stranger, and one so young too, knows, with such self-assurance, that I do?”

“Let me explain. I’m with McKenzie!”

“Mmm. I see…” mused Young Doctor. “Then it is surely you, not I, who could do with some help. But your problem is not one I’m qualified to treat.”

“You didn’t let me finish,” replied Man-boy somewhat peevishly. “I’m with McKenzie, working on an assignment reporting directly to the Great Minister, and I’m here to help you budget!”

“Help me budget?” queried Young Doctor. “I can assure you I can budget quite well, thank you. I am very careful how much I spend on food and clothes; I regularly send some money to my aged mother; and I can usually find just a little to put away for a rainy day.”

“Not *that* budget, silly!” retorted Man-boy. “I’m talking about your *clinical* budget!”

“Clinical budget? What’s that?”

“That’s the budget you have for providing clinical services.”

“But I don’t have a budget for providing clinical services. I just treat my patients. Which I do rather well. And that makes me happy.”

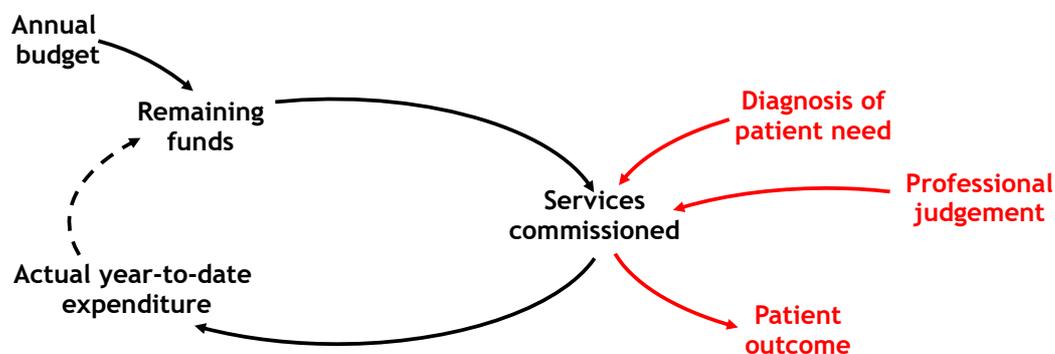
“Well, that’s why I’m here to help: for when the clock strikes twelve tonight, you will have your own, your very own, clinical budget! And one which the Great Minister has chosen to be just the right size for you!”

“That’s very nice of the Great Minister. But I’m sure I can do just as well without it. So please thank the Great Minister for me, but let him know that I won’t be taking up his kind offer.”

“I’m not sure you quite understand. All doctors are being given the blessing of their own budgets, which will not only make them happier, but also make them better managers too.”

“But I don’t want to be a better manager, thank you. I would like to be a better doctor though…”

“I’m sure you want to be a better manager too, for we all want to ensure we don’t overspend the Nation’s resources dedicated to health care, don’t we?” replied Man-boy, with rather more than just a hint of condescension in his voice. “Let me show you what I mean using this diagram...”



Young Doctor looked puzzled.

“Let me explain,” said Man-boy. “This is called a negative feedback loop. What it means is that you will always want to make sure you have enough funds remaining for the rest of the year. And what that means is that you will constantly be modifying your clinical decisions accordingly to stay within your annual budget. It’s all very simple.”

“That loop looks pretty negative to me,” replied Young Doctor despondently. “I don’t want to be bothered with all this. My job is to treat patients.”

“I understand. One of my higher degrees is in Change Manipulation, and I appreciate your apprehension. It is the first of four stages you will go through - you’ll get angry soon.”

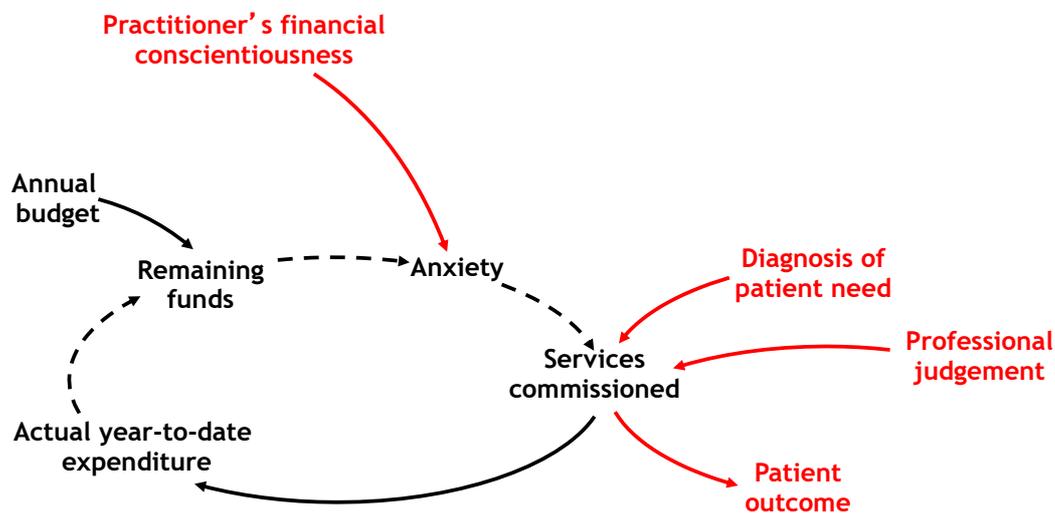
“You might be right there,” responded Young Doctor, feeling the anger rise. “Anyway, I really do have to treat some patients now, so you have to go.”

Man-boy rose from his chair, and before leaving, made sure he had left his business card, including his four email addresses, his Twitter hashtag, his Facebook link, and the numbers for his business fax, business phone, home fax, home phone and of course both his business and his personal mobile phones too. “You may reach me twenty-four seven on any of these,” Man-boy said reassuringly.

For the next few days, Young Doctor was happy, treating her patients. But she couldn’t forget the strange conversation she’d had with Man-boy. Somewhere, in the back of her mind, she kept thinking about how on earth a budget would ‘help’ her. And every evening, as she lay on her bed, her thoughts continued, like a pea under her mattress, disturbing her rest. “No,” she thought, “I’m not a ‘manager’. I don’t even know what a ‘manager’ is.

And I'm sure I don't think like one. After all, had I wanted to be a manager, I would have chosen to become one. But I didn't. I wanted to become a doctor..." Eventually, she drifted into unquiet sleep...

And as she slept, she dreamt. She dreamt of doctors and managers, of manager-doctors and doctor-managers, of manators and docagers... And she dreamt of diagrams with curious curly arrows going backwards and forwards, of solid arrows and dashed ones, and... suddenly she awoke! Yes! That was it! That was what was troubling her! She had stumbled across the flaw in Man-boy's diagram. A mistake. Surely a mistake. The diagram Man-boy had shown her was wrong. Wrong in two ways. Firstly, psychologically. The diagram might represent the mental model of a 'manager', a bureaucrat, a slave to being controlled by budgets. But it didn't, just didn't, represent what she knew so many doctors felt like. And that led to the second error: something was missing. In her mind, her clear, clear, mind, Young Doctor saw what was clearly the right diagram:



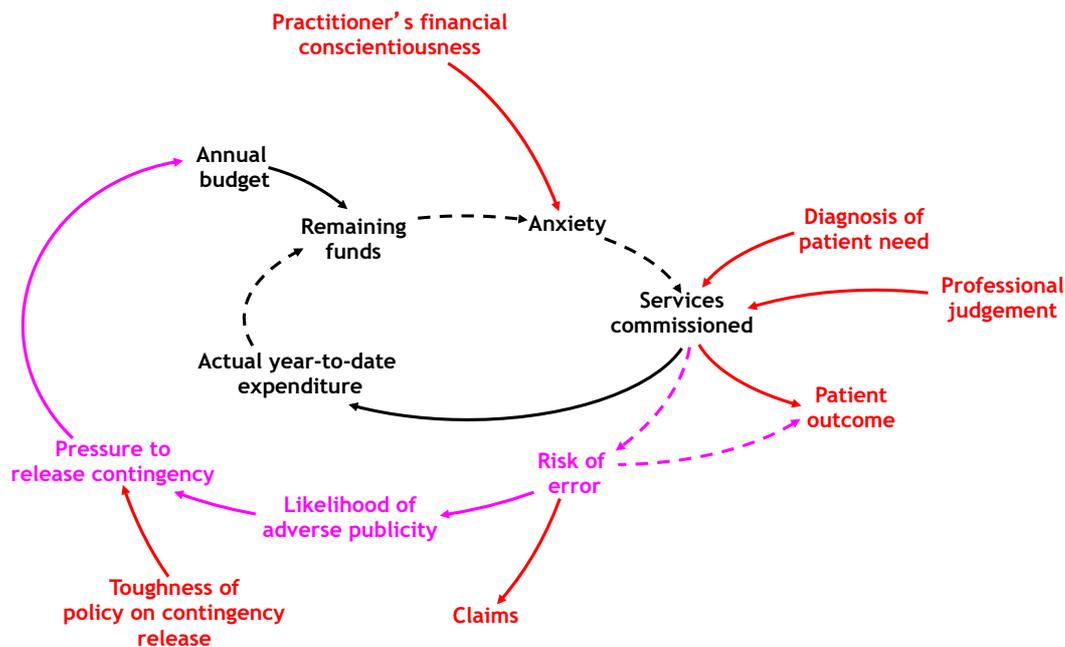
Yes, that's much better. The mind of the bureaucrat, she thought, was totally driven by a sense of financial anxiety that there wouldn't be enough money left in the budget in the future, and that it's therefore necessary to be prudent as regards what gets spent today. That's how the bureaucrat's mind works. But not the doctor's. Suppose, for example, that a doctor doesn't give a monkey's about whatever the remaining funds might be. That doctor will spend anyway - there could be nothing left, but the doctor won't care. In fact, one of Young Doctor's partners - Profligate - was just like that. Profligate was indeed a good doctor, but he did spend money with consummate ease. And come to think about it, Worried, Young Doctor's other partner, was exactly the other way. Although he was, in no sense, a 'manager', he was in a permanent state of anxiety, and being a given a budget would just give him more to worry about...

And her own style? She was somewhere in the middle: not a couldn't-give-a-damn spendthrift like Profligate, nor a quivering neurotic jelly like Worried. She just wanted to get on with her job, which made her happy.

Days passed. But, try as she might, she couldn't get Man-boy's 'offer to help', or those writhing diagrams, out of her head. And she'd just received an email - time stamped 03:42 that morning - 'asking' if Man-boy could visit her 'to see how things were getting along' the next day. Apparently, he was due to meet Profligate then, too. So Man-boy will be in for one big shock, she thought.

And as she thought, she thought about how Profligate would be likely to behave. The concept of 'financial conscientiousness' was not, for sure, part of his consciousness, but he was a good doctor, and he was clever too - clever, perhaps, in a way in which she wasn't. For he understood how the bureaucracy worked, and how to get things done. She remembered a story he had told her once, a story about when he was a Houseman in a large general hospital. A children's ward he was working on was in a poor state of repair - crumbling plaster, peeling paintwork, that sort of thing. Nothing dangerous, but it looked a mess. He told her how for months he had been complaining through the 'normal channels', and trying to get the ward redecorated. Nothing happened. But then he had an idea. One of the children in the ward was the daughter of a local politician. One day, when the politician was visiting, he'd had a 'quiet word', resulting in a letter from the politician to the Chairman of the hospital's Board of Governors describing how his daughter was having nightmares because of the crumbly walls. Very soon thereafter, the plaster was fixed, and the walls repainted..

Yes, Profligate knew how to get things done. And he knows that if he scrimps on, for example, doing all the recommended diagnostics - even those that don't appear at first sight to be necessary - then there is the risk of a bad outcome for the patient. This is bad news indeed for the poor patient, but not just the patient - the Health Service gets a bad press too. "Aha! That's it..." she thought. "Profligate will use the *threat* of a disaster to squeeze more money..."



Young Doctor was feeling quite confident in drawing causal loop diagrams now - she'd just finished reading quite a good book on it* - and she noticed some interesting features of this one. The original balancing loop, with 'annual budget' as the target dangle, had now been subsumed in a larger balancing loop, so that the 'annual budget' was no longer a target dangle, but a variable inside a larger system. Clever. That strips the controlling power of the budget away. The larger system, though, has four dangles - 'diagnosis of patient need', 'professional judgement', 'practitioner's financial conscientiousness' and 'toughness of policy on contingency release'. Which of these would 'win', and so act as the true control?

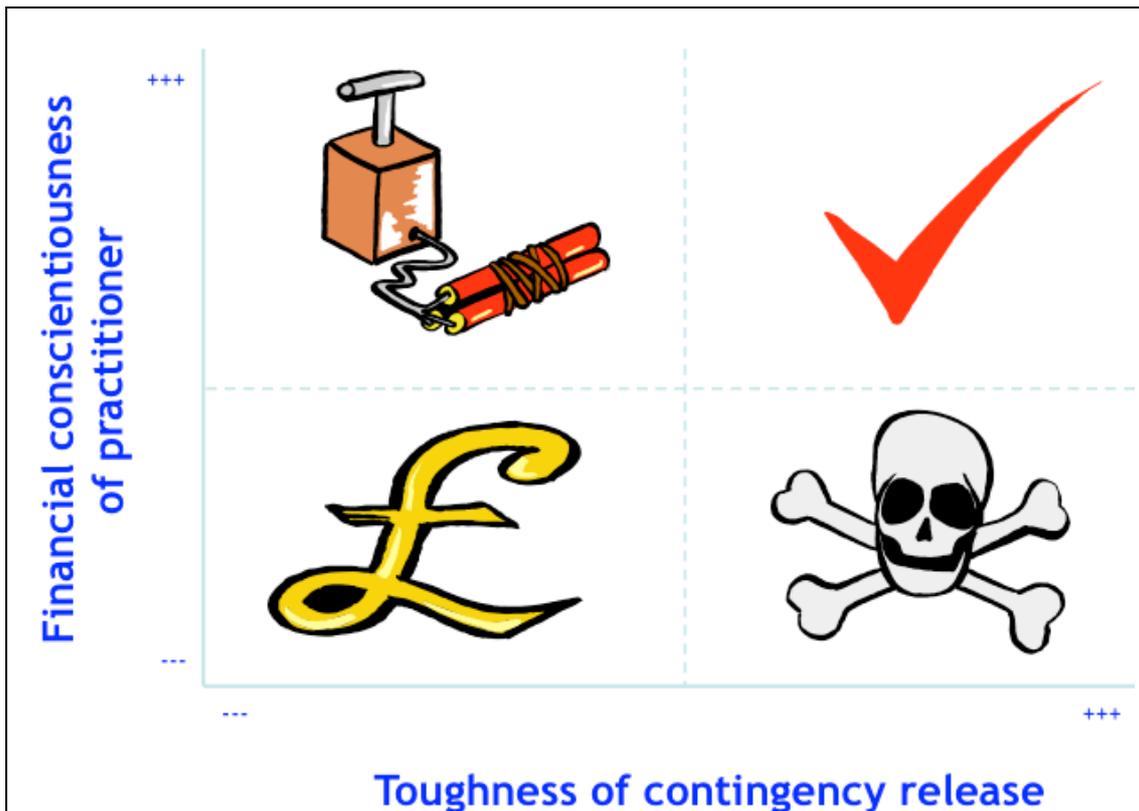
From Young Doctor's point of view, of course, this was a no-brainer: to her, the twin dangles of 'diagnosis of patient need' and 'professional judgement' would always win, and she would argue with whoever held the purse strings until, as the saying goes in her part of the country, the ducklings grow into swans. But what about Profligate? What would happen with him?

As she thought about this, she realised that the system was being *designed* - probably unintentionally - to bring about a stand-off between Profligate, and those like him, and whoever has ultimate authority over money. Suppose, for example, that Profligate comes up against Kind Lord Pussy Cat, someone so soft - and so scared of bad publicity - that as soon as Profligate drops even the slightest hint that he needs more money ("or else something really bad might happen!"), he gets it. The original budget will be blown, and Profligate will win. But if he comes up against Old Miss Hard-as-Nails, then battle will rage, and something disastrous could well happen.

* *Seeing the Forest for the Trees - A manager's guide to applying systems thinking*, by Dennis Sherwood (Nicholas Brealey Publishing 2002, with translations available in German and Mandarin).

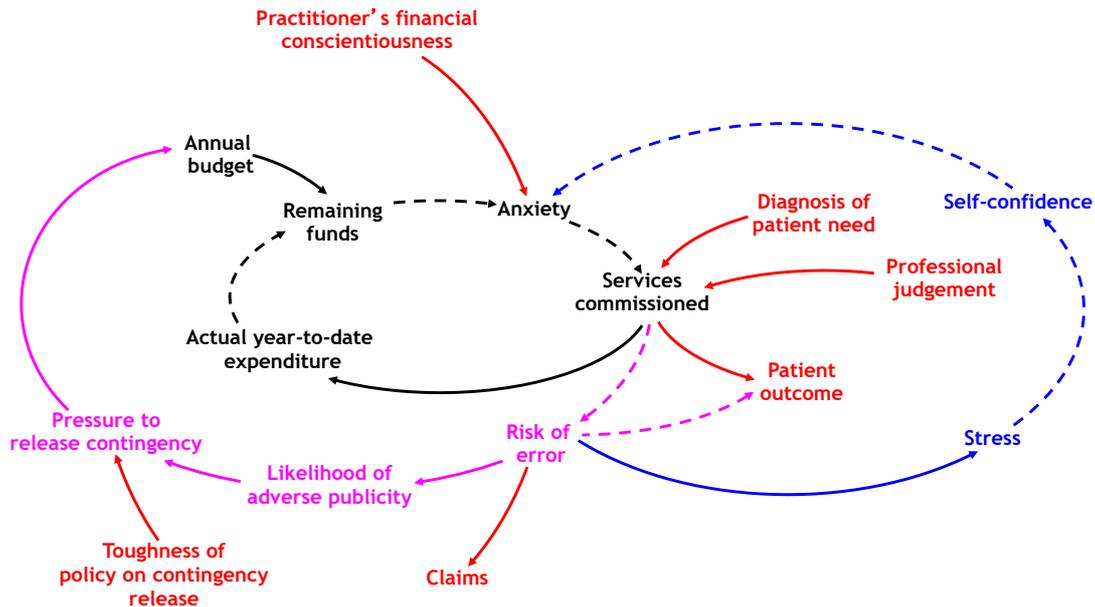
The system works most sensibly, of course, when a practitioner who is reasonably financially conscientious interacts with a purse-holder who is tough but sensible, not releasing contingency on a whim, but recognising that sometimes something happens - like a virulent flu outbreak in the winter - that genuinely warrants extra funds.

And there's a fourth possibility too: one that probably applies within a practice where one partner is a spender, and another very careful. Oh dear! Profligate and Worried! If Worried sees Profligate 'getting away with financial murder', that could lead to all sorts of tension within the partnership...



- **The practitioner is conscientious, and the policy on contingency release is tough (top right).** This situation is stable, as the practitioner is 'sensible', and will not precipitate 'difficult' situations. The holder of the contingency knows this, and so will be 'sensible' in return.
- **The practitioner is *not* conscientious, and the policy on contingency release is weak (bottom left).** This situation will haemorrhage money, as the profligate practitioner will exploit every opportunity to benefit from the weak policy.
- **The practitioner is *not* conscientious, and the policy on contingency release is tough (bottom right).** This situation is very difficult, as the tough holder of contingency seeks to bring the profligate practitioner 'into line'. Each will be testing the limits of the other.
- **The practitioner is conscientious, and the policy on contingency release is weak (top left).** This situation is more complex. In the case of a sole practitioner, the system should be stable, for the practitioner will 'police' him or herself. But in the case of a professional partnership or close-knit clinical team, the situation could become quite difficult: for example, there could be one profligate partner who is seen by the other partners, as a result of the weak policy, to be 'getting away with it'. In this case, there is likely to be tension within the partnership itself, which will test the extent to which the partners can exert peer pressure on one another without the situation becoming explosive.

And while she was thinking about Worried, she realised something else too...



Poor Worried. He was stressed out enough already. From his point of view, being worried about overspending his budget is only a small part of it. In addition, he'll go frantic at the possibility of making a mistake resulting from under-diagnosis, which will only add to his anxiety. That reinforcing loop is nasty, really nasty.

So, the next day, when Man-boy, arrogant as ever, arrived to 'help', he got one hell of a surprise.

"What sort of consultant designs a system like this?" challenged Young Doctor, thrusting her most recent causal loop diagram before Man-boy's startled face. "Surely, if you're designing a system, shouldn't you make sure the design actually works, with no 'unintended consequences', driving the right, not the wrong, behaviours?"

"Well...you don't understand the bigger picture..." Man-boy spluttered.

"Don't I?" responded Young Doctor, looking at him right in the eye.

Whether or not Young Doctor lived happily ever after, time will tell...

But we do know that Man-boy didn't learn. People like that never do.

Appendix - a brief overview of systems thinking

‘Systems thinking’ is the methodology-of-choice for understanding the behaviour of complex systems - where the word ‘system’ is being used not in the sense of ‘computer system’ but rather in the context of, say, the ‘health care system’. The behaviour of the system of interest is described in the form of a ‘causal loop diagram’, this being a representation of ‘chains of causality’.

Suppose, for example, that you believe that the *risk of error* causes *stress*. This causal relationship can be depicted as:



The manner in which this causal relationship acts is such that the greater the *risk of error*, the greater the *stress*; conversely, the lower the *risk of error*, the lower the *stress*. The variables at each end of the arrow move in the same direction, and so this is represented by a solid arrow, known as a **direct link**. Sometimes a direct link is also associated with a + sign, or the symbol *S*, at the head of the arrow, where *S* stands for 'same'.

One of the consequences of an increase in stress is a lowering of self-confidence, which we can represent as



where the dashed line, known as an **inverse link**, indicates that the variables at each end of the arrow move in opposite directions: increasing stress erodes self-confidence, and vice-versa. Sometimes an inverse link is represented as a solid line but with a – sign, or the symbol *O*, at the head of the arrow, where *O* stands for 'opposite'.

As we think through the behaviour of the system of interest, we build increasingly complex chains of causality, which usually form closed loops known as ‘feedback loops’. Feedback loops are of two, and only two, types:

- ‘reinforcing’ (or ‘positive’) loops, identified by having an even number of inverse links around the closed loop (with zero counting as an even number)
- ‘balancing’ (or ‘negative’) loops, identified by having an odd number of inverse links around the closed loop.

Each of these two types of feedback loop has a characteristic behaviour over time:

- reinforcing loops exhibit exponential growth or decline: whenever we speak of a virtuous or a vicious cycle, we are in fact referring to a reinforcing loop behaving either in growth or decline mode
- balancing loops typically converge on a target defined by a 'target dangle': all budgeting systems, for example, may be represented as balancing loops with the budget as the 'target dangle'.

One of the key insights of systems thinking is that all systems, even very complex ones, can be represented as networks of reinforcing and balancing feedback loops, as captured on a causal loop diagram. Study of the causal loop diagram then helps us understand the system's behaviour. But not only that: causal loop diagrams are a very insightful means of communicating how the system works to all interested parties, and are instrumental in designing good systems - systems that work in the 'right' way, and don't have 'unintended consequences'.