

4.1 Seeing systems everywhere

There is a common adage that “History does not repeat itself, but it rhymes”, and this is especially true of systemic structures. A complex, systemic problem is rarely unique. There are several common or archetypical structures that underlie a large number of situations. Knowledge of archetypes facilitates the resolution of complex problems. We more readily understand how the system works as well as where the possible leverage points are.

The simplest archetypes are the reinforcing feedback loop and the balancing feedback loop. We have already seen that a large number of situations can be explained by these two simple loops.

Let’s take an example from the online press. I found this article by Michelle Obama about schooling of young girls and the benefits it can have for their position in society. There is no chart in the article to help us, but the words used by the author point to a reinforcing feedback loop. The author states that:

“when educated girls become healthy, financially secure, empowered women, they’re far better equipped to advocate for their needs and aspirations, and challenge unjust laws and harmful practices and beliefs. So really, this can be a virtuous cycle.”

Can you picture the reinforcing action of education on their social situation?

You may remember from a previous unit that if there is talk of “virtuous” or “vicious cycles”, “word of mouth”, “buzz” or any phenomenon of grassroots, reinforcing growth or decline then there is most probably a reinforcing loop at work.

Let’s see if we can draw the loop. Recall that a feedback loop is made up of at least two variables: a growing action and a performance variable.

What would the growing action be here? Well, because the author is presenting the positive effects of education, the number of educated girls would be our growing action. The performance variable could be the societal conditions for women.

We could include an intermediate variable called “Health, financial security and empowerment” to better explain the causal link between education and societal conditions, and another variable called “capacity to advocate and challenge” between the performance variable and the growing action.

We can then use our understanding of the structure to identify some useful actions, called leverage points. Here for example we can see that by encouraging education, we can set a positive reinforcing loop in motion that could improve the condition of women in society.

Another archetype that you already know is the balancing loop. Here is another article from the online press about the resignation of Rome’s mayor, Ignazio Marino. The title of the article from Reuters first grabbed my attention, “Ousting of Rome mayor shows Italy’s resistance to change”: any resistance to change generally points to a balancing loop. Not surprisingly, we can read in the article that a number of parties managed to remove the Mayor to preserve the status quo. A former anti-mafia prosecutor explains in the article that:

"Marino trod on the toes of too many vested interests who didn't want to give up their privileges. They boycotted him and, without the need for any plot or alliance, they managed to bring him down."

The article concludes that Marino's demise "offers an insight into Italy as a whole, where official attempts to reduce the power of insiders are regularly beaten back."

We saw earlier in our class that a balancing loop is a goal seeking or limit imposing mechanism. Here the parties acted to preserve their status quo. The main leverage point here is identifying the goal or limit and then weakening its influence or eliminating it.

Seeing such generic or archetypical structures in the world around us involves generic thinking. The important thing to remember is that each structure explains a story. The preeminent systems thinker, Peter Senge and his colleagues suggest a family tree of archetypes to help quickly identify the structure that may be at work in a given situation. This tree is provided in the additional materials below. In our next unit we are going to take a whirlwind tour and meet hear eight of these stories in record time.