

SECOND LAW OF PHYSICS¹

“To Every Complex System it requires a Mandatory (Positive) Negative Feedback Loop for Stability”

Recognized by most scientist
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First we will discuss the instability hypothesis: instability always happens from small things. What causes instability? You will find it is one thing or a choice of one of many possibilities. In general it is a small part in the system that causes instability.

So for the instability hypothesis, it is seen in all engineering subjects that the cause of instability is a small thing not something big. For example in an electric circuit one burned or reduced value resistor or one burned transistor causing instability in the output. In structural the column instability happens by a load when exceeded by a small amount the column is unstable or buckles. Also, in structural one bolt can cause instability, so they require redundancies. This has happened before in collapsed bridges causing the domino effect of one bad weld or a bad bolt. A chair or a table becomes unstable if one leg is broken. In geotechnical the land slide happens when a small added value of weight causing the safety factor to be reduced from one. Slides also happen from water when pore pressure increases. In computers it does not take more than one bug in the program to crash the program. One bad chip or voltage spikes or transients, or heat can cause the computer to crash.

Whether or not the atmosphere has stability depends partially on the moisture content. In a car all it takes for the car to be unstable is one bad sparkplug. Oxygen (one element) causes corrosion. Instability in investment happens when a particular stock begins trading widely from highs to lows that are not within the normal range. In politics extremist revolts start by one person. In political elections, one false propaganda about the candidate can cause a land slide in the election. Wars can be initiated by one person. September 11, 2001 a terrorist attack by few people on the United States caused worldwide instability. Ben Laden was one person that started a terrorist group. Corruption in India has a terrible impact on the economy and causes huge social instability and riots. Local politics, tribalism and religious division can cause instability. **It does not take a lot to cause instability.**

In psychology and in medicine one syndrome can cause instability not many syndromes. What causes emotional instability? One of many things: a) overdependence on someone or something b) suppression of feelings c) human tendency to expect rather than accept d) environment e) one gene. One injury can cause physical instability. In any religion all it takes is breaking one commandment to cause guilt and instability. In music one note off key or out of tune destroys the whole song or the musical piece. In transportation all it takes is one accident to cause a traffic jam. In food, one bacterium can cause instability in the stomach. If you eat a meal at a restaurant that serves bad tasting food or you got sick from the food, what are the odds you would go back and even thinking about it turns your stomach? What breaks a marriage: one affair? What makes a plant or a tree die: not enough water or sun?

¹ Topic is from “Visualize Jesus: Ten Ways to Christian Meditation” Book by Farid A. Chouery Copyright 2016

Instability happens when someone hacks into your bank account and takes all your money, even when it is a small amount. Instability or panic happens when the Bubonic Plague appears, 14 people had it on September 2015, and so unrealistic fear becomes instability. Also, breaking the law causes instability and fear; breaking one law will do it. Water Scarcity May Cause Global Instability, U.S. Intelligence Agencies Say in Report March 2012. The rise of sea level by 10 inches in 2010 (a small amount by comparison) and continue to rise even a small increase can have devastating effects on coastal habitats and cause instabilities. Trace amounts of CO2 could cause political instability, severe drought, famine, ecosystem collapse and other changes that make the earth a decidedly inhospitable place to live. **So what cause instabilities: small things, the straw that broke the camel's back.**

One can also realize from control system engineering, stabilizing a system is done through a negative feedback loop. **It called negative feedback loop because it reduces the input but it is a positive action.** For example, psychotherapy is considered a feedback loop to stabilize a patient. In medicine, medications, surgery and blood tests are considered a feedback loop for healings. In systems, is taking something from the output and giving it back to the input to stabilize the system. Some simple systems do not require a feedback loop due to the required limit being small. So every complex system must have an input definition and an output definition and a mandatory negative feedback loop to stabilize the system see Figure 1.

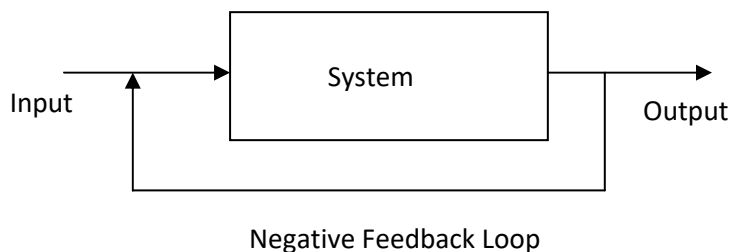


FIG. 1 - DEFINITION OF ANY COMPLEX SYSTEM

In an electric amplifier or the neurons in a humans brain (considered as an amplifier) if there is no feedback it will lead to distortions and the amplifier or the brain are not doing their job. Also, note too much feedback in an amplifier it will not do its job to amplify with a reasonable efficiency or it becomes less efficient or worthless. When neurons in the brain get too much feedback or no feedback from the use of too much psychoactive drugs or depressants, narcotics, alcohol or hallucinogens, then instability happens. So in a system the feedback has to be in balance to give the best results. So in any system what is the right feedback or the proper feedback?

The Perceptual Control Theory led to the Method of Levels in which the negative feedback loop is introduced by the therapist. The therapist works with the patient to resolve conflicts by helping the patient shift his or her awareness to higher levels of perception in order to allow reorganization to take place. I believe external negative feedback loops are not sufficient and internal negative feedback loops through meditation will expedite the healing.

Through Christian meditation the negative feedback loop is Christ himself, a higher power, and that becomes a primary feedback loop to stabilize the human system. Thus, the voice from within that Input System Output Negative Feedback tells us right from wrong is remarkably from God. So God's voice is our feedback. In my Christian meditation I get daily feedback from visualizing Jesus and talking to Him, mostly Jesus working with my fears and worries or helping me to solve problems and do His will. However, a vision, an apparition or a message from a miracle does not happen very often, only a few one. This kind of feedback is rare because it will cause a major change in someone's life and God knows that, as it did to me. So that means for the human system there are a variety of feedbacks not just one.