HOMEOSTASIS: Track 1

This song is about the ways that the body maintains the conditions necessary for life such as temperature, pH and appropriate levels of nutrients, gases, and water. This is a basic difference between a living and non-living entity: that a living entity can use energy to maintain conditions different from those of its surroundings.

2nd Law of Thermodynamics
Says all things tend towards chaos
A body has to fight that everyday
Has to balance a gain with a loss

Keeping systemic parameters within limits
Uses energy, taken from what surrounds
Biological function requires conditions
Wherein metabolism abounds

Homeostasis is vitally important
It means keeping conditions the same
An organism affects its internal environs
Preserving its function, its life and its name

Control by cell, tissue, organ or organ system
Is autoregulation – change sets off control
Activities of the Nervous or endocrine
Are extrinsic regulation – ja vol

Our regulatory mechanisms include:
Receptor – senses the change, feels the danger
Control center – receives the alarm and sends commands
Effector – receives command starts changer

Effectors have a couple of choices
They can inhibit or exacerbate
Sometimes effectors reverse a change
Other times a quick finish is the best fate

As communication continues
Actions of the effector are received
The receptor picks this up and tells control center
Until the effector is relieved

Back and forth talking is feedback
Continuing it becomes a loop
The body uses positive and negative
Environmental forces to dupe

Negative feedback is most common
Responds by moving towards the middle
Keeping conditions from being too high or too low
A 2 party system with little room to fiddle

Positive feedback has an end in mind
Once begun it's best done fast
Stopping bleeding or giving birth
Is best for the bod when it's past

Feed forward: be prepared
Gets you ready just in case
Fight or flight: haven't decided
But you're ready with changes in place.

Of course no system is an island
None can control every function or part
Like a tiny UN with many languages
Integrating varied interests takes heart

When one system changes it affects the others
And so on and they told two friends
Dynamic equilibrium is our state of fluctuation
Creating a place we can live in the end

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