



# Levels of Perceptual Control

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## 11. System concepts



Level 11 controls combinations of principle level perceptions as a single unit, such that it forms a coherent organization of principles. For example, a worldview, an identity, a personality. Control at this level feels like something is true: it fits your worldview from which you consider everything you perceive.

## 10. Principles



Level 10 controls fuzzy concepts such as values and principles, for example safety or justice. The principle level controls our sense of meaning, what is important, what you want, why you do what you do. Control feels like intuitive knowing. Loss and gain of control is associated with feelings and emotions.

## 9. Programs



Level 9 controls programs: a structure of tests and selection points across sequences. In a branching series of if/then statements, choices are made based on information from lower levels. For example, following a recipe: add pasta when the water boils. Control is being able to make a choice.

## 8. Sequences



Level 8 orders combinations of underlying perceptions into sequences: a fixed order in time, place or process. For example: a melody is a sequence of separate notes (events). Following a clear path is sequence control. Control feels like predictability or being able to orientate in time or space.

## 7. Categories



Level 7 organizes perceptions that share properties into categories. This level allows clustering of perceptions into single categories and distinction between perceptions of different categories. For example, what you see is either a cat or not a cat. Control feels like knowing what things are.

## 6. Relationships



Level 6 controls how lower-level perceptions are related, creating perspective, before / after and causality. Space is the relationship between configurations (things:things), time between transitions (change:change), process between events (events:events). Control is a sense of connection.

## 5. Events



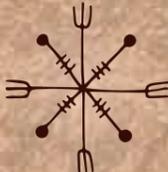
Level 5 controls a coherent pattern of short-term perceptions of underlying levels. It unites underlying perceptions into a single experience: an event. Something is happening, for example a sip of coffee, a crash, a festival. Control is like knowing that something happens.

## 4. Transitions



Level 4 controls perception of time, movement or change as configurations vary. For example water from the tap warming up, the increasing pitch of a sound. Control at this level is the perception of change.

## 3. Configurations



Level 3 controls configurations of sensations and creates a sense of order in patterns and shapes. Objects are perceived as a unity. Examples: perceptions of a chair, a house, an emotion (without the name or labels). Control is having a sense of order, consistency.

## 2. Sensations

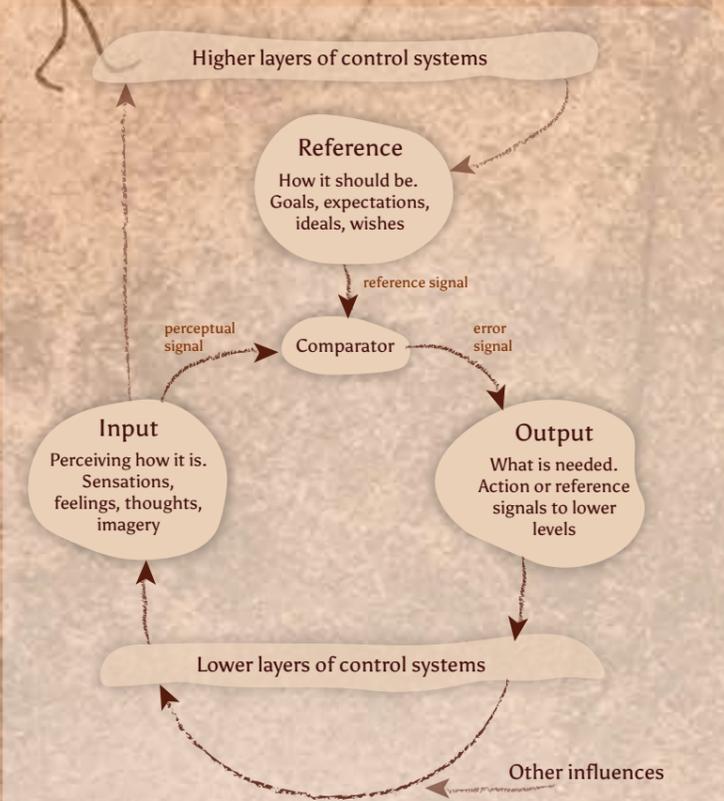


Level 2 compounds sensory information into a single sensation or feeling. For example the taste of lemonade (wet, sweet and sour) or the sensation of speech (sound and effort). Control is like feeling sensations, stimulated senses.

## 1. Intensities



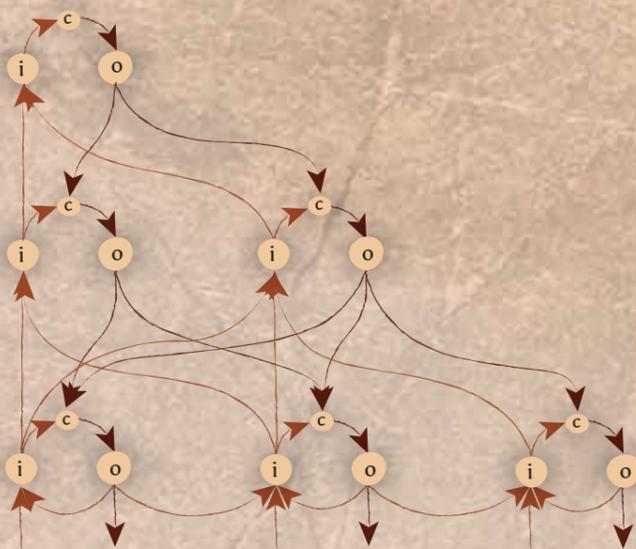
Level 1 controls the intensity of sensory information, allowing for feedback loops through the environment or internal organs. Output at this level is physical effort. Examples: Muscle tension, loudness of sound, heat, cold. Control is like contact with the physical world.



Behavior is the control of perception. Living organisms act to experience what they want to experience.

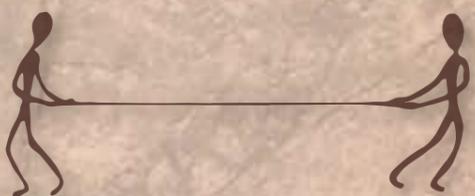
Control means that the current perception (input) is continuously compared to a reference signal for that perception.

The difference (the error) between how the experience is and should be drives the output: the amount of action needed to bring the error back to zero (negative feedback).



Hierarchical control means that layers of parallel control systems work together to allow control of many different types of perception. This is how humans are able to control complex experience without much effort.

The lowest level receives input from the senses. At each level, perceptions from lower levels are combined into a particular type of perception.



Conflict between control systems limits control: both sides don't get what they want. Control can be regained through reorganization: an innate process through which higher goals change.