

Attention is the behavioral and cognitive process of selectively concentrating on a discrete aspect of information while ignoring other perceivable information. That implies an intelligence making the selective concentration.

But, how is Attention controlled and directed ? And, who is it that is so doing ?

That is the subject of the next, final Section.

THE SELF

SECTION 9

Purposive Behavior

We humans continuously experience the “feeling” of ourselves as distinct specific independent beings: knowing, wanting, deciding, acting, thinking. It is true, we do do all of that therefore there must be a mechanism by means of which it happens, a mechanism somewhere in our brains, a seat of Self. But, where, how ?

No matter how difficult it is to answer that question there must be an answer. Consciousness happens; it must do so by means of the brain; therefore there is a way that it happens, a mechanism. That mechanism is the *Master Schema* [MS]. In the search for where in the brain the Self is located, the person in charge, it is the MS in the OS. The MS operates by calling up *Goals Schema*.

PROBLEMS AND GOALS

Purposive behavior is behavior that involves goals and making choices from among alternative options. For example:

Purposive Behavior

Deciding when or
what to eat
Holding the breath
temporarily
Reading a book

Non-Purposive Behavior

Digesting
Routine Breathing
Dreaming.

A Goal is a purely abstract thought. That is, it is one of a number of occurrences of thoughts that are activated by neural associations, alone, with no sensory inputs. The goal itself, the objective, may be material or abstract. A material Goal might be, for example, turning on a water valve. An abstract Goal might be to do the sum of 21 plus 32 "in one's head".

A material Goal is an abstract thought describing, corresponding to, a material state that does not presently exist but which state is to be sought to be obtained. That it is a goal, only an abstract objective, is indicated by it having no sensor inputs; it is solely abstract and any material content is only concepts of imagined or conceived sensor input.

An abstract Goal is an abstract thought describing a matter to be comprehended, a process to understand, an analysis or resolution of a problem.

As an abstract thought a goal is a firing of a subset of neurons that signal a specific set of universals, the set of universals that describe the goal.

Each goal is tied to a corresponding course of action for resolving that goal as developed by experience, learning and practice. That is the evolutionarily developed goal and its resolution process is part of the evolutionarily developed goal. The course of action is not an independently selectable memory object; selecting the goal with which it is connected is the selecting of its course of action. That is the goal's *schema*.

Every goal is a thought, a memory, a "video" stored in the memory system and consisting of the ID of the goal and the goal-course-of action as an overall *schema*. Every goal is a problem that was originally seeking a solution, a course of action; but once a solution is found the goal is a problem and a related course of action. The evolutionarily developed action to resolve the pain / problem / too much signal is a course of action that deals with, corrects, cures the problem. All of that is packaged in a *schema* for each problem.

We function by executing those *schemas*, selected by our OS, by its MS. Out of the myriad *schemas* that we develop over a lifetime we function, at any one time, through the operation of a subset of several of our *schemas* more or less simultaneously. At any time they might be handling: "Tying my shoe lace", eating with a fork, estimating how much time I have left before having to leave for an appointment, and on and on.

THE OS OPERATING IN THE ES IS NOT DISCRETE

The OS operating in the ES is a continuous continuum of excitations and firings. That continuous continuum involves the signaling process "circularly" from the brain's sensor memories to the MMS to the ES and back to the MMS to the brain's memory.

- The brains special dedicated various regions for the senses, for thought, for motor, etc., all output a continuum of neural firings because they are continuously impacted [their neurons' dendrites excited] with signals, neural firings from the various sensors [vision, hearing, etc.] and regions that "drive" those various regions.

- The MMS delivers a continuum of firings because it is continuously impacted [its neurons' dendrites excited] by firings from the just cited brain's special dedicated various sense, thought, and motor regions.

- The ES is continuously "driven" by the just cited MMS firings.

- The ES contains simultaneously [to the extent not over-written by more recent copies] a copy of the overall MMS for each set of inputs delivered to the MMS from all of the sources "driving" it. Each of those is a retrievable

[recallable, rememberable] memory ID. The selection and activation of one such memory ID causes activation of the corresponding MMS state and contents, the activation of which causes the activation, neural firing, of the corresponding statistically valid sample in each of the sensor regions' records, which is the experience of remembering that memory object .

See Figure 8-1 [repeated] below.

The Generalized Memory System

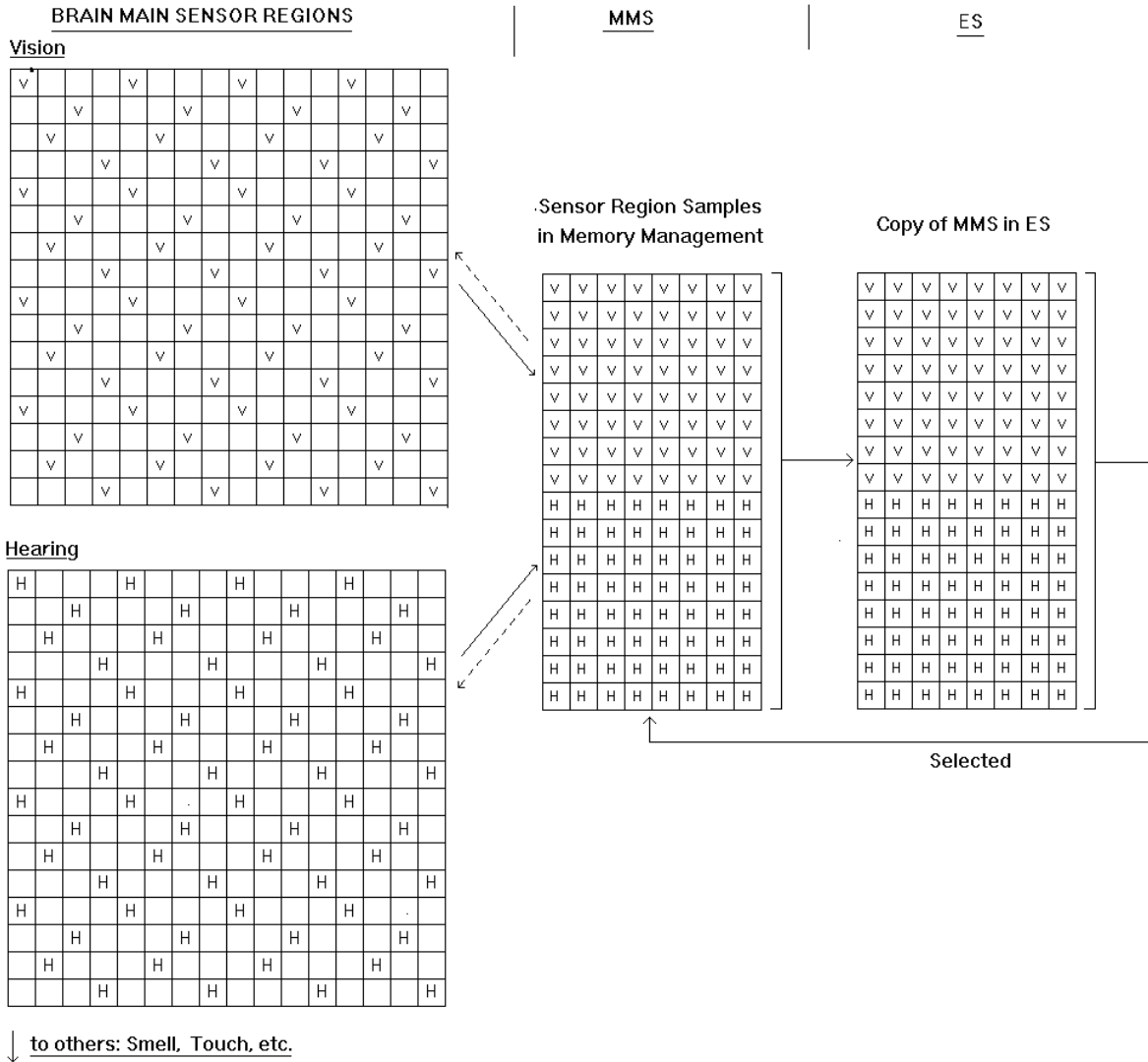


Figure 8-1 [repeated]

The input to all of that brain – MMS – ES action is from two sources: external and internal. The external source is signals from the various senses: vision, hearing, etc. The internal source is signals from both within the body: sense of touch, sense of body orientation, etc., and from within the brain: selected re-play of various memories, thoughts, emotions, etc.

Furthermore each neural firing and each neural non-firing tends to adjustment of the neural thresholds. In consequence there is continuous smooth progressive change in the successive sets of the neurons, in the universals activated, in each firing.

The OS operating in the ES is not discrete, one-at-a-time, spaced out events. Rather it is a continuous flux of excitations and firings, a number of them going on at more or less the same time, not synchronized but rather randomly distributed in time, constituting a continuous continuum.

THE SUB-DIVISIONS OF THE ES

There are three major sub-operations running in the overall ES:

- Stream of consciousness undirected narrative [ES],
- Intelligent selection and direction [EGO], and
- Attention [AS].

These are all activities of the ES [of Figure 8-1 immediately above] but for the purposes of being described they will be treated as separate processes as if in separate neural structures as in Figure 9-1, below.

Theoretical Memory System

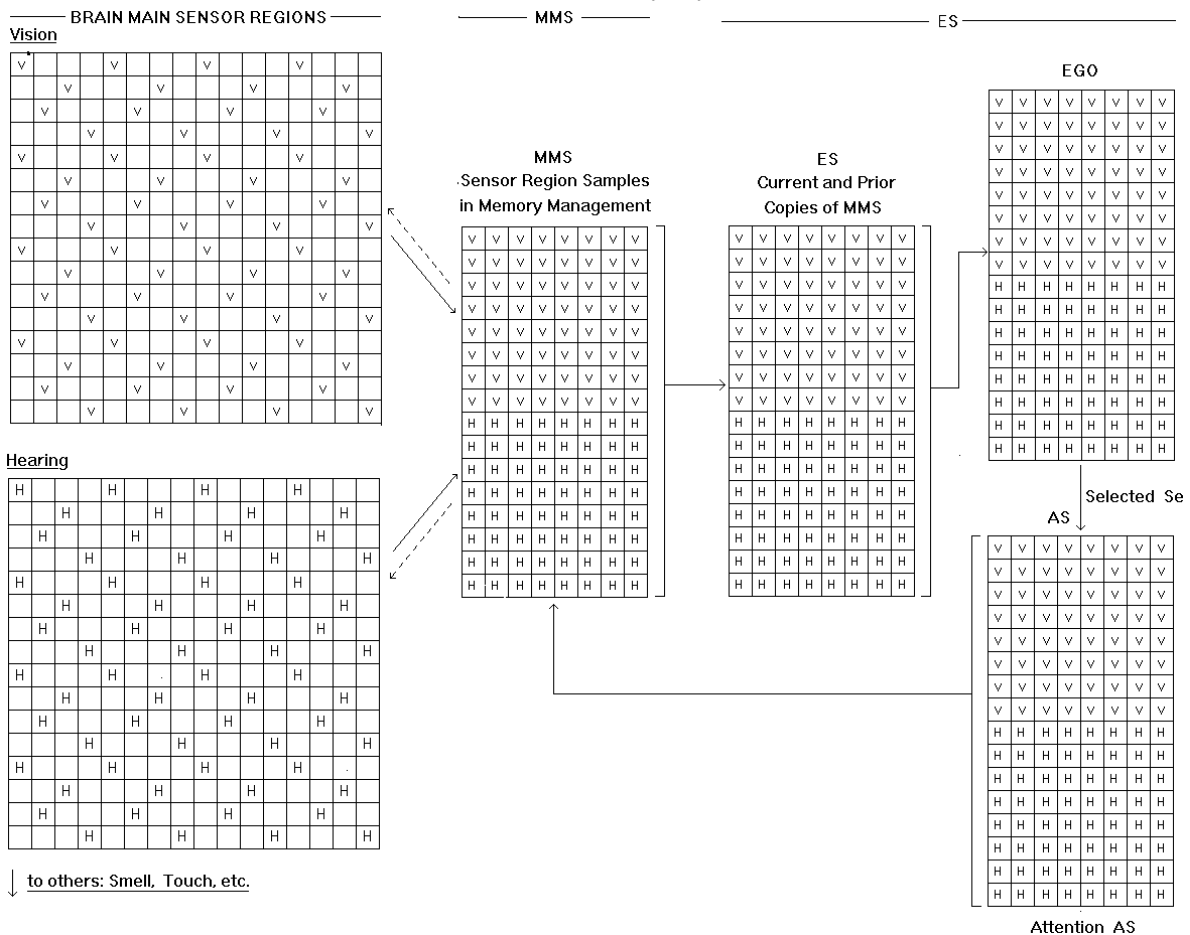


Figure 9-1

For the moment we deem the “Stream of consciousness undirected narrative” as taking place in and being the primary function of the ES. We deem Intelligent selection and direction and the sense of Self to take place in and be the primary function of the EGO and the direction of Attention to be the primary function of the AS. The “Stream of consciousness undirected narrative” in the ES has been sufficiently treated in Section 8.

The EGO’s “Intelligent selection and direction” function deals only with Goals *schemas* and their included “course of action”. Like the sensor regions for the various senses, Goals and their related reasoning are located in a brain region dedicated to that and to language. That region communicates and interacts with the MMS and the ES in the same way as do the senses except involving every neuron not “statistically valid samples” as with the sensor regions.

Our ancient survival-derived imperative to act, as called for by our Goals, guides our behavior. Our Goals and their associated urged courses of action are always in our memory in the form of remembered thoughts, remembered *schemas*. They are there and interact to new courses of action with new current inputs. Whatever the new course of action directs, causes the identification and activation of the particular specific memories out of the myriad memories in the ES.

In Section 8 it was said,

“At any moment our brain’s operating system is conducting the affairs of our body, firing all of the neurons whose firing is some specific object in the ES, that object consisting of a number of universals, then moving on to the next related object.

“The OS is continuously playing the “video” that is always going on in our heads. That video is playing the samples of the original sensor regions’ memories which is the ID’s in, that are the content of, the ES.”

While that is going on in the ES a similar process is simultaneously going on in the EGO as follows

“At any moment our brain’s operating system is conducting our affairs, executing the directions of the *Master schema* [MS], selecting *sub-schema*, firing all of the neurons whose firing is some specific objects in the EGO.

The MS is continuously directing our life, our being, calling various specialized *sub-schemas* as needed.

With all of that going on, both ES “undirected narrative” and EGO MS operations, if we attempted to pay attention to everything in all its myriad details, we would literally and actually “lose our minds”. A studied direction of our attention, leading us to pay attention to where it is most needed is called for.

The EGO’s *Master schema* decides where attention must be directed, which *sub-schema* requires it, and acts on that by repeatedly activating in the AS the *sub-schema* involved.

THEN: WHO IS IN CHARGE-? WHO IS RUNNING THE SHOW ?

If you “surreptitiously listen” to your OS when it’s not looking to you for instructions, *i.e.* no particular attention is specified, what will you find ? You will find that it is all about **you**. It can’t be otherwise because by far most of the current inputs to memory are about **your** bodily functions, body feelings, body motion, physical activity. And the current inputs from environmental sensors are all about the affect of the environment on ... **you**. That’s why you feel your sense of “**Self**” as if you are the center of the universe – all of the data is telling you that you are.

And, where is that **you** the data is telling you about ? In the overall ES, of course; there is no place else to look. And, in the overall ES in its massive constantly updated collection of ID’s is all of your memories, all of your history, everything that you have learned, all of your habits, all of your fears, concerns, hopes, personality – yes, everything that goes into making you “**you**”.

When those ID’s are activated, not merely “thought about” as in OS browsing, then in their recall it is not that you view them as if by an external independent observer watching what is going on. Rather, it is that they are subjectively re-experienced by **you** similarly to as they were originally experienced in the events when first stored into memory.

They, it, all of that are “**you**”. You know it is you because it “feels” like it. And, you do know who is in charge, who is giving the orders, **you are** because that’s what it feels like.

BUT – IT IS THE MASTER SCHEMA THAT IS RUNNING THINGS

Yes and No.

As set out in Appendix A, your brain’s *schemas* have been trial and error self programming and functioning like a digital computer your whole lifetime.

The *Master Schema* [MS] is evolved over one’s lifetime by the experiences of that lifetime. “Running things” since early childhood, since before birth, the MS has learned by trial and error what produces good results for you and what fails. The various *sub-schemas* have evolved by learning similar lessons. And life experiences have resulted in large enough modifications of existing *sub-schemas* to their becoming newly designed additional new *sub-schemas*.

You and your MS have, and have always had, the same objective: to produce results beneficial to you all things considered and on the basis of actual experience. Your MS has arrived at a current state of its lifetime evolution that you generally agree with, that you approve of. You should; it is **you**.

Your MS makes the decisions, chooses the actions, calls the schemas, but:

- 1. You agree with them; they have evolved such that they are what you would do.**
- 2. The whole process feels as if it is you doing it.**

**It feels like you | It is your schemas doing it | Doing it your way | Therefore
IT IS YOU.**

So, what's your problem ?

It is only we *sapiens*, newly rational organisms, that feel uncomfortable with understanding of what the arrangements are.

Upon reflection, the MS was Nature's obvious solution. It was the evolutionarily chosen best answer to survival of the organism. Better that the lion, the monkey, the whale, the shark, the bird make decisions based on accumulated experience rather than "sit there thinking about it [like a *sapiens* ?]" while time runs out.

Of course, mistakes can be made; no person, no process, is perfect. But mistakes, too, are learning experiences for your MS, for **you**.

