Dreams and Indexing ...

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This is a weak meditation on dreams ...

I am not expecting this to be considered either original or
deep. However, I think there is an essential truth to what
I shall propose. The brain has different kinds of memory,
but for each kind there is a short term experience of the
memory (when we are experiencing it, in the now) and then
there is the retrieval and remembrance. Experience is, in
all likelihood, the experience of the 'memory' in the
active BUS of our cognitive process. This could be seen as
volatile memory - it can be erased/not-saved/deleted. For a
memory to go from being in the active BUS to becoming a
'longer' term memory it must have with it deep reptilian
brain associations. Sometimes we create stress (like in
school) which, if we are honest, reinforces the memory and
ensures its 'longer' term storage. Sometimes we experience
horrific events and this too generates a memory storage
command in the brain making sure the memory is retrievable
long into the future. There is only one problem with this
model. Storing the memory is expensive, but the brain isn't
stupid -- it probably co-locates memory close to its
primary place of usage. However, storage is only half of
the problem. Storage doesn't really solve the heart of the
retrieval problem -- meaningful search and association.

What if the brain spends its time, while the body is
sleeping, performing (in a kind of serial way) an indexing
operation. It does this indexing in a 'bursty' environment
because of the way 'brain stuff' performs computation. A
new network of associations is trimmed from the day's
experiences and this new network connects together episodic
and semantic information. If we have the bad luck of waking
up during one of these bursts, we could drop the burst into
the active BUS (not on purpose) and create a kind of
virtual environment for experience. In reality, we are
corrupting the indexing process by manipulating the
connections, but dreams are experiences we prize - so maybe
we accept the corruption.

When a hypnotist 'regresses' a person to another state of 'memory' in reality they are forcing a hyper graph generation of associations that then populate the active BUS and 'create' a new experience. It is a highly manipulative process. It may feel real (because, for all intents and purposes, it is). If you can populate the active BUS of experience with 'fake' associations (there probably are no 'fake' data) then you can construct reality. The reason there is not distinction between this and 'reality' is because we don't live in the world outside ourselves - we live in the active bus of experience.

Dreams are interrupted states of active indexing. These 'bursts' of meaning that dreams generate are never intended to be viewed, but they are also not blocked - which tells us something. Nature has selected humans who remember their dreams. Dreams can reveal associations our 'ego' mind has issues with; ideas our ego mind cannot accept. Dreams escape active censorship. Dreams, as with mistakes of speech, reveal connections that are often left unspoken. Dreams can contain wisdom the brain would discard if not for the waking moment. But nature has selected us for the 'waking' also - at just the right moment in many cases - so that we can remember the dream. Nature may in fact be selecting us for this 'waking' ability also. In essence, our brain is an active indexer while we are sleeping but it is also an insight engine which allows some information to create 'interrupts' in the indexing process, to wake us and reveal an idea. Dreams are the active and violent reactions of uncreated thought.

If we hope to build intelligent machines, and we insist on using crude analogies as solutions (artificial neural networks and bio-morphic computing for one), then we should at least consider the basic common sense to generating higher order abstractions and indexed associations while the 'machine' is at rest.