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Yes, you are probably dreaming.

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James Kingslands book “Am I dreaming” is *an exciting trip into the weird world of perception and consciousness (including trips into altered states of consciousness)*, that show us that — *when it comes to reality* - nothing is really what it seems...

In the book, Kingsland not only describes various altered states of mind, but he also explains what might be going on in the brain, when the brain visits these states...

What the Default Mode Network in the brain might be doing, how the brain, as a prediction machine, might be working in these states etc.

And yes, the book is well written, and somewhat mindwarping...

As the ancient chinese philospher *Chuang Tzu* (369 BC) said: “Am I Zhuangzi, who dreamt he was a butterfly, or a butterfly dreaming he is Zhuangzi?”, distinguishing between reality and dreams can be difficult. Certainly, when it comes to the brain, and how it thinks, figuring out what is imagined and what is real, is not easy...

Kingsland writes:

The brain is constantly trying to stay one step ahead of the game, drawing on its past experiences to predict what is happening. Sensory information is not disregarded, but is relegated to the role of reality testing the brains guess work [P.11].

Dialing down on “reality checking faculties” and entering altered states of consciousness — certainly makes it difficult to see what is dream and what is reality...

The paradox of altered states of consciousness is that they restore openness, flexibility and meaning to our lives by temporarily madding with our reality checking faculties [P. 27].

Indeed, what does states such as “lucid dreaming” say about the world our brain gives us?

Lucid dreaming. You know that you are sleeping, and you know that you are not awake.. Still you are also there.
So, a part of your brain is awake, and a part is a sleep.
...
Lucid dreams frequency peak at six or seven years of age [P. 49].

Brain stimulations can also bring us into rather weird brain states:

Brain stimulation devices have been be used to induce mystical experiences in the lab ...

A cynic might site such experiments as evidence these phenomena are all "in the mind".
They might be right, though one might just as plausibly dismiss our five senses, our thoughts

and emotions as "all in the mind" too,
since all conscious experience can be induced
through suggestion alone.

A wise sceptic should view findings like these as further
reminder to keep asking questions, "am I dreaming",
"am I being hypnotized", "is this real"..
[P. 109].

And then there is *LSD* of course:

On LSD, it was if the top-down control of the brains operations
had been suspended., precipitating a breakdown in
connectivity within its networks and increased chatter
between regions that are not usually not on talking terms.

The strengths of alpha waves

- synchronous electrical pulses oscillating at 8 - 15 Hz.

That orchestrate top down brain activity - decreased,
which may explain the normal patterns of connectivity.

...

In ordinary consciousness, alpha waves are thought
to help focus attention by suppressing activity
in the swashes of nerves that aren't needed for that particular task
[P. 124].

What might be going on...?

If the entropic brain hypothesis is true,
by impeding the work of the DMN, Default Mode Network,
***psychedelics regress the brain to a more primitive,
child like or chaotic form of consciousness
less dominated by the ego and less fastidious about
reality checking.*** In ordinary waking consciousness,
one of the DMN's most important tasks may be to keep
a lid of of the temporal lobes where a
lifetime of memories have been encoded and stored.

...

So. when connectivity between the network
and the temporal cortex is lost, as a result

of weakened alpha oscillations, the lid of this Pandoras box is blown off, letting loose a chaotic stream of memories that the visual cortex faithfully displays to the minds eye, as the visions of early psychosis, dreams, temporal lobe epilepsy and the hallucinogenic state [P. 132].

About the *Default Mode Network*:

The Default Mode Network (DMN) is a network of brain regions that are active when a person is not focused on the external environment and is instead engaged in internal thought processes like self-reflection, daydreaming, and mind-wandering. It's essentially the brain's "default" state

Default Mode Network (DMN) ->

Self-referential thought:

The DMN is involved in thinking about oneself, one's own experiences, and one's place in the world.

Mind-wandering and daydreaming:

When the brain is not focused on a specific task, the DMN becomes more active, leading to thoughts drifting and engaging in internal narratives.

Memory retrieval:

The DMN is also linked to the recall of personal memories, including autobiographical and future event simulations

Default Mode Network

The Tellegen Absorption Scale (TAS) is a questionnaire used to measure an individual's tendency to become deeply absorbed in experiences (Here seen as a personality trait). It assesses openness to experience. When it comes to

psychedelics, scoring high on (TAS) statements like "I can be deeply moved by a sunset", might mean that one is more susceptible to the effects of psychedelics.

Tellegen and Atkinson intuited that the absorption necessary for hypnosis entails a temporary surrender of selfhood, where the same surrender of selfhood also plays a role when it comes to the effects of psychedelics.

Indeed, reality is something that is constructed by the brain, never just a simple thing "out there"...

Psychedelics have two distinct, alternative effects on perception, depending on how noisy or unpredictable the sensory environment is. They either **cause hallucinations** or make **ordinary perception more vivid**.

With eyes closed or in a pitch-dark interior of a maloca during an Ayahuasca ceremony, for example, people are likely to experience hallucinations. Under these circumstances the perceived trustworthiness of weak, noisy sensory data is upgraded, leading to odd, idiosyncratic inferences about what is happening [P. 140].

Indeed, the brain has quite a job in interpreting what incoming data from the senses actually mean, even without being influenced by any psychedelics...

The molecular bouncer's performing this filtering operation, blocking dodgy data and waving through trustworthy data are known as neuromodulators.

...

In waking consciousness neuromodulators regulate the relative influence of **top down predictions** and **bottom up prediction errors** according to the estimated reliability of these two streams.

...

In a dark alley at night, when the raw evidence of the senses can't be trusted, they will favour top down expectations (it is not safe here) to shape perception and behaviour. Under these circumstances, we will be primed to see menacing shapes hiding in the shadows. Walking in broad daylight down the same alleyway, the brain shifts the balance to more precise less noisy sensory evidence that is available to it.

[P. 137].

How drugs actually work in the brain... Take Lithium... More research is needed...

How drugs actually work in the brain is obviously a complicated thing, and very much still work in progress...

Take Lithium in the brain.

In the short version we have:

Lithium, a mood stabilizer, interacts with multiple neurotransmitter systems in the brain, including those involving serotonin, norepinephrine, and dopamine. It also influences intracellular signaling pathways and can have neuroprotective effects, potentially promoting brain health

But, according to Kingsland:

Scientists still can't agree on how lithium

- the current mainstay of bipolar treatment - works.

There are half a dozen theories about its mood

stabilizing effects (which incidentally only

occur within a tight dosage range.,

above which lithium becomes toxic).

What matters with any treatment

is that it has been proven to work, and that side effects are tolerable.

[P. 158].

Lithium and the brain.

Still, for sure, many networks in the brain will be influenced by drugs...

Psychedelic researches scanned the brains on low doses of psilocybin, they found that their reports of ego dissolution were associated not with disintegration of the DMN, but a completely different set of regions known as the "salience network".

This network job is to draw attention

to the most important features of the environment

- not only potentially rewarding features such

as sources of food or mates, but also threats,
such as predators.

...

When we survey the world, it is as if a map of colour
- coded for personal salience or meaningfulness -
is overlaid on everything we see.

...

Under the influence of a psychedelic,
however, this map of every day salience is stripped away,
allowing our senses the freedom to range more widely...
[P. 190].

In psychelic states the DMN is forced to relinquish control (just as the salience network will be affected):

Like the conductor of an orchestra the default mode
order on a multitude of individual instruments
- the massed ranks of nerve cells.

The result is ego. The ambient music playing
in the background of ordinary adult consciousness
[P.128].

...

By contrast, ***in psychedelic states,***
the DMN is forced to relinquish control.

Raising entropy in the brain and pushing
it closer to to criticality with unpredictable
quite possibly discordant consequences
for perception and cognition [P. 128].

...

Other networks can also be be influenced:
Low doses of psilobin interfere with the sense of selfhood.
The salience networks sense of I (that wants) gives
other aspects of self: Autobiographical self,
sense of agency, embodiment, and location
in time and space... may only topple once the
concentration of psilobin has reached a critical threshold.
[P. 192].

Less control (for a while...) might be a good thing though...

As less active inteference (the normal way of processing the world) might allow
the “world to flow in”, and ***update the brain models, >>forcing inputs to be seen in***
slightly news ways in the brain<<:

During meditation, by reducing active inference, sustained mindful attention diminishes the aspects of selfhood that normally arise from it. Including personal agency, autobiographical, emotional selfhood and embodiment.

Within the DMN, which normally plays a prominent role, via active inference, not only in theory of mind, reminiscing of past and planning the future, but also on our feeling of autobiographical selfhood... The tide turns, the usual top down stream of active inference ebbs and sensory prediction errors are allowed to flow in, all the the way up the hierarchy to update our predictive models. [P. 213].

All manner of weird and things start to happen when the mind is relieved of the burden of active inference. By focusing on breath, and letting go of everything else, an adept meditator attains access concentration, before sinking into progressively deeper levels of absorption called ***jhanas***.

...

With each successively ***jhana***, consciousness becomes increasingly removed from external sensory awareness.

...

Meditative absorption confronts us with the disorienting possibility that everything we perceive is little more than a hallucinatory hypothesis. Because when the brain predicts with absolute precision and accuracy an ongoing sensory input, such as it feels as the breath enters and leaves the body, these sensations vanish as if they were never there in the first place... [P. 217].

Jhana states of consciousness.
Happiness.
Happiness rapture.
Happiness.
Equanimity.
Infinite space.
Infinite consciousness.
Nothingness.
Neither perception, nor non-perception.

Jhana states of consciousness.

Certainly, altered states of the brain allow us to better understand what the brain is doing, how it works, and what we can do to better understand ourselves and the world...

Dreams, trance, hypnosis, psychedelics and meditation all break down established patterns of thought's and behaviour, the descending predictions about the world that hold sway over more ordinary, waking consciousness.

...

Altered states offer a means to reboot the brain's hierarchies. And break the power of entrenched patterns of thought and behaviour. Our maladaptive habits, preconceptions and prejudices. The inflexible autopilot that normally guide us
[P.219].

Kingsland even suggest that experience reports have emerged that claim microdosing (with psychedelics) can improve psychological well-being and cognitive functioning:

Microdosing refers to the regular use of psychedelic drugs, such as LSD or magic mushrooms at sub-hallucinogenic doses. In recent years a considerable number of experience reports have emerged that claim microdosing can improve psychological well-being and cognitive functioning ([Microdosing study](#)).

Maybe. And, certainly, it is a good thing to know more about how the brain sees the world, and how the brain enters altered states under the influence of psychedelics.

A very interesting book indeed!

Consciousness

Jhana

Brain

Philosophy

Theory Of Mind



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