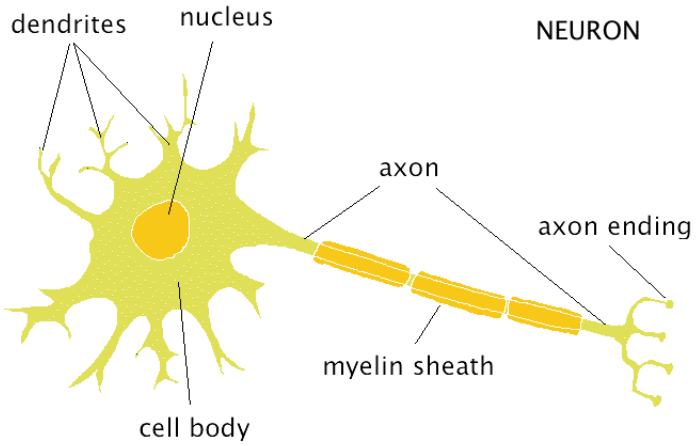
Appendix A About psychiatric drugs

So many people are affected by the harmful effects of anti-psychotic drugs, that I feel obliged to write this, so I won't need to explain the same things repeatedly.

A.1 The human brain thinks with neurons

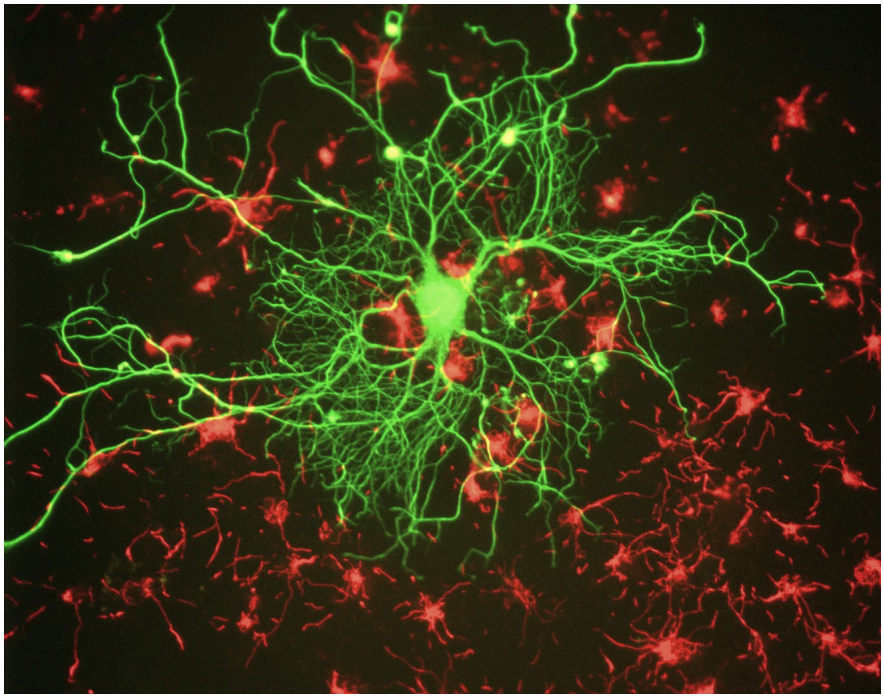
First, the human brain performs thinking using neurons that look like this:



Dendrites collect signals, which, after processing, are sent via **axons** to other neurons. The signals are electrical signals, somewhat similar to signals in a computer chip.

A person's emotions (eg. happiness, anger, sadness) and his consciousness, cognition, and perception, etc, are all **manifestations** of such neural signals. Therefore, when the brain is dead our consciousness ceases to exist, much like the extinguishing of a light bulb.

This is a real neuron under the microscope (with fluorescence pigmentation):



The contact points between neurons are called **synapses**. When an electrical signal reaches the synapse, it relies on chemical molecules to relay that signal, these are called **neurotransmitters**.

All psychiatric drugs [1] work by **blocking** the signal transmission of such molecules.

For example, there is a neurotransmitter known as **serotonin**. Anti-depression drugs (eg. the well-known drug Prozac) raise its levels to cause people to feel happier.

[1] including anti-psychotic drugs for treating psychosis, but also drugs for treating depression, anxiety, attention deficit, etc

Another "famous" neurotransmitter is **dopamine**, which is responsible for *motivations* and *desires*. Many drugs that claim to control schizophrenia work via suppressing this molecule. When such drugs are taken, patients lose their motivations, even sex drive, and become lethargic (tired). That's why in mental hospitals, we often see patients walking around looking like "zombies".

A.2 The brain's structure is extremely complicated

The human brain is an **immensely complicated** structure: The cortex can be divided into many **brain areas**; the cortex consists of layers of neurons, and the "white matter" is the connecting fibre among neurons. The connectivity map of these areas may be 100s of times more complicated than the London subway map, and we currently don't have such a complete map. Moreover, the cortical layer itself has a 6-layer structure with "recurrent" (loop-forming) connections among layers. Neuroscientists are still struggling to explain this recurrent structure. The number of neurons in the brain is 10s times the human population on earth. A single neuron's information processing is described by a differential equation. And each neuron recieves signals from 1000s-10,000s of synapses. Even worse, there are 100s of varieties of neurotransmitters, and we still have not exhausted that list. The serotonin and dopamine I mentioned just then, are only the most common ones. They *modulate* the electrical signals in subtle ways, that neuroscientists have barely begun to theorize. This about summarizes how complicated the brain is.

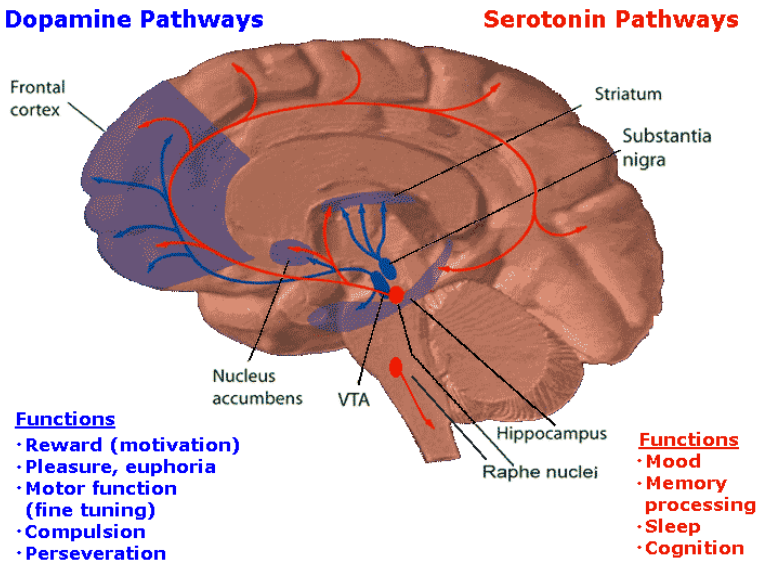
In short, neuroscientists do not yet know how the brain thinks and feels. We are at least **several Nobel-prize** winners away from achieving this goal, and even that might be a conservative estimate!

What we do know now, is very *crude* knowledge about the brain, for example: that serotonin is somehow related to "happiness", that dopamine is somehow related to "motivations", that certain brain regions such as the hippocampus is responsible for "memory", the amygdala is somewhat responsible for "emotions" (such as fear), and some brain areas are somewhat related to "language", "vision", etc.

Such crude knowledge is far from able to explain why humans suffer from various forms of mental illness.

A.3 Psychiatric drugs make people dumb

Now look at the distribution of **serotonin** and **dopamine** in the bran:



Early anti-psychotic drugs block (for example, all dopamine) receptors **indiscriminately**, but newer drugs **selectively** block certain *sub-types* of receptors. But what is the *specific function* of each sub-type of, say dopamine, receptors in the brain? We simply don't know yet. The so-called "experts" in psychiatry, all they can do now is to try to block this and that receptor, *and see what happens to test subjects*. Don't you think that is rather *pathetic*?

Also, because the normal-functioning nervous system is blocked, patients taking these drugs often *die earlier* than those who don't take them. Often their hands shake violently, as though they are old people with very bad heart conditions. And they feel extremely uncomfortable after taking the drugs, as their brain naturally recognizes the foreign substance in the bloodstream, and their body feels repulsed by these "toxins"; the patients, who are forced to take such drugs, often drink a

lot of tea or coffee to try to "wash away" the drugs' effects. Doctors sometimes order to inject the drugs into the patient's buttocks, so that they could not refuse to take them orally. The trauma resulting from such torture is itself sufficient to break a patient's will and cause a mental breakdown.

A.4 Government and pharmaceutical companies abuse their power

The brain is the site of our thoughts and consciousness; To be able to control other people consciousness amounts to a god-like power. And power tends to corrupt those in authority, causing them to abuse their power.

In some dysfunctional families, quarrels happen among kins and the weaker family member is often sent to mental hospitals merely because s/he is unwanted or disliked.

To try to damage other people's brains is tentamount to destroying the essence of that person's **humanity**.

People suffer from "madness" for various reasons, some may be genetic, but more often they are caused by experiences of emotional trauma.

Some people are affected by various forms of misfortune: born with bad-looks, bullied by peers, cheated on, discriminated against, rejected by lovers, sexually abused, or fell victim to some injustice. They *are* the victims, but the psychiatry

profession is exploiting these victims and hurting them even more.

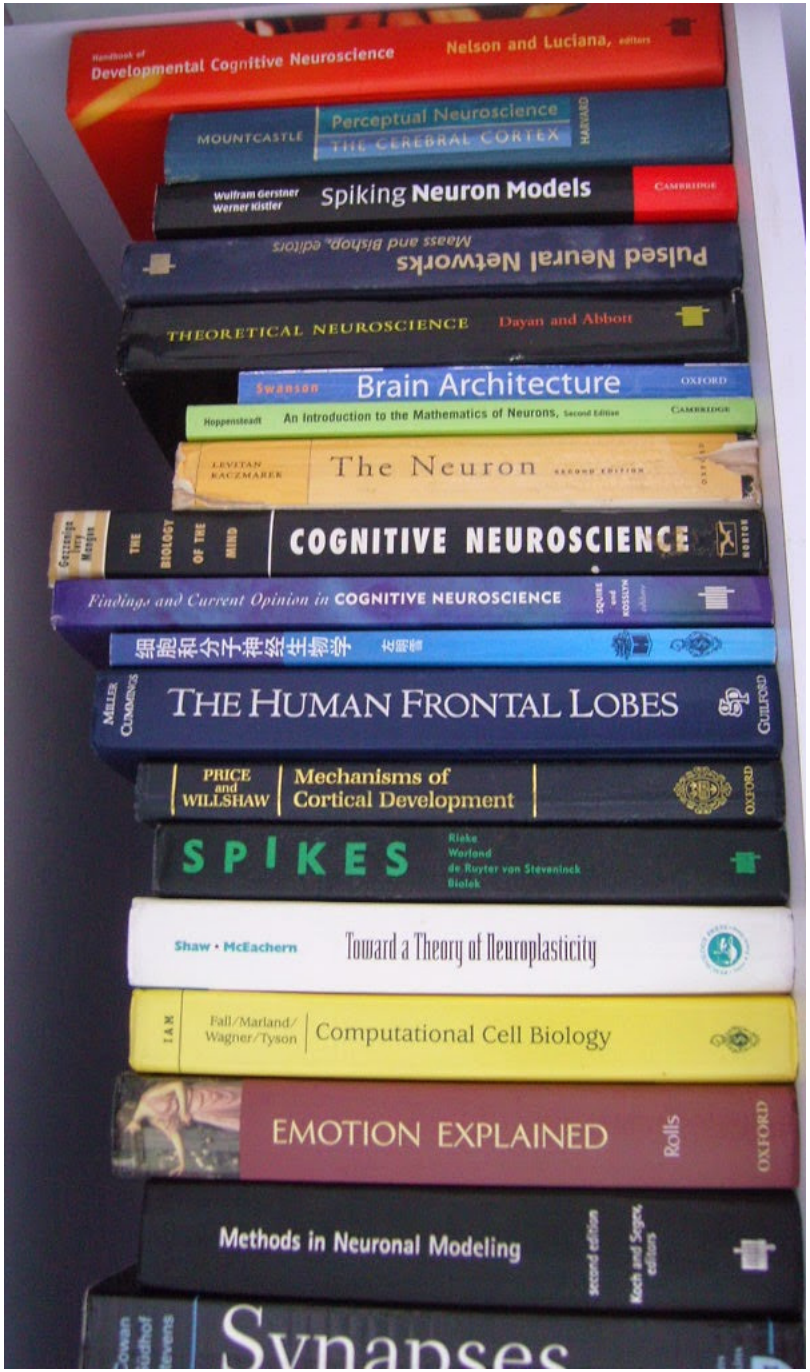
In ordinary speech we have expressions like "you're driving me crazy", "I'm crazy in love", etc, these are precisely indications that madness can be caused by emotional experiences. However, modern psychiatry tends to deny this, attributing mental illness to *"biochemical imbalances"*, as if these have nothing to do with patients' lives and experiences. This contradicts our common sense — and what is causing *this* madness? Obviously, the lure of money.

In the USA, pharmceutical companies specializing on psychiatric drugs make $billions per year, and they directly sponsor doctors, so doctors earn more money if they prescribe those drugs. Drug companies also sponsor research, publishing results that benefit the sales of their own drugs. Even the FDA (food and drugs administration) can be bribed with money. As an example, Donald Rumsfeld (the guy who helped ex-president Bush Jr to organize the War of Iraq (2003-2011)), used to work for a company that legitimized the artificial sweetener **aspartame**, which gradually displaced saccharin, another sweetener, in the food market. But in fact aspartame is worse than saccharin, and causes headaches when taken [2]. This is American-style capitalism.

[2] http://www.rense.com/general33/legal.htm

A.5 References

Lastly, let me explain the sources of my knowledge: I was fascinated by the idea of uploading the human brain's "consciousness" to the computer ("mind uploading"), so I started to study biochemistry at university and did a lot of studying on neuroscience. These are some of the books that I've bought during that period (there were also a few boxes of journal papers):


Handbook of Developmental Cognitive Neuroscience
Nelson and Luciana, editors
MOUNTCASTLE
Perceptual Neuroscience
THE CEREBRAL CORTEX
HARVARD
Wulfram Gerstner
Werner Kistler
Spiking Neuron Models
CAMBRIDGE
Pulsed Neural Networks
Maass and Bishop, editors
THEORETICAL NEUROSCIENCE
Dayan and Abbott
Swanson
Brain Architecture
OXFORD
Hoppensteadt
An Introduction to the Mathematics of Neurons, Second Edition
CAMBRIDGE
LEVITAN
KACZMAREK
The Neuron
SECOND EDITION
OXFORD
THE BIOLOGY OF THE MIND
COGNITIVE NEUROSCIENCE
BOSTON
Findings and Current Opinion in COGNITIVE NEUROSCIENCE
SQUIRE and KOSSLYN
MILLER
CUMMINGS
THE HUMAN FRONTAL LOBES
GUILFORD
PRICE and WILLSHAW
Mechanisms of Cortical Development
OXFORD
SPIKES
Rieke
Warland
de Ruyter van Steveninck
Bialek
Shaw • McEachern
Toward a Theory of Neuroplasticity
IAN
Fall/Marland/
Wagner/Tyson
Computational Cell Biology
EMOTION EXPLAINED
Rolls
OXFORD
Methods in Neuronal Modeling
second edition
Koch and Segev, editors
Synapses

From 2004, I focused my research on artificial intelligence, because this technology will have an even greater impact on humanity, and the mystery of the brain will also be solved via the use of AI.

I hope this article could some day help the friends that I've known in mental hospitals.

PS: This blog article was first written in 2014. I have not been studying neuroscience in recent years, but I do keep an eye to stay abreast on latest research progress. I am not aware of any new findings that contradict my view, and if anything, I feel even more vindicated as there are more books appearing that criticizes psychiatric drugs. I am not the only whistle-blower:

- [Robert Whitaker 2002] Mad in America: Bad Science, Bad Medicine, and the Enduring Mistreatment of the Mentally Ill
- [Peter R. Breggin 2007] Brain-Disabling Treatments in Psychiatry: Drugs, Electroshock, and the Psychopharmaceutical Complex, 2nd ed.
- [Joanna Moncrieff 2008] The Myth of the Chemical Cure: A Critique of Psychiatric Drug Treatment

There are too many books / articles to cite. These are just 3 random results from Google.