

LOOK INSIDE THE MIND

All right, scientists over in Japan have developed new technology that will allow them to see inside your mind...

...and actually reproduce what you are thinking onto a computer screen – uh, screen, rather, before you act.

Well, the author of the book, Fixi- uh, Physics of the Impossible, he says he's seen it all before.

-Professor Michio Kaku is back with us. How are you, Professor? Good morning to you. -Morning, Bill.

Uh, you say that science fiction is gradually becoming reality. Explain that.

This is a breakthrough. Previously, scientists have been able to use MRI scans to read lies within a person's brain, and also emotional states.

Now we can read individual letters of the alphabet as you watch them. Within ten years, we may have a dictionary of thought.

Certain brain patterns correspond to certain thoughts - a dictionary of thinking!

All right, from Japan now, they're saying that they show individuals certain images, and then they detect their blood flow to see what they're thinking. How in the world is that possible?

Well, the MRI scan picks up chemicals that are inside the blood...

...so as you think about something, blood concentrates in certain areas and computers can recognize that pattern and tell you what you are thinking.

Now the implications are enormous. Uh, think of Guantanamo Bay and the question of interrogating terrorists.

We can now, in the future, be able to think about reading a terrorist's mind without using coercive tactics.

Or think of the scandals on Wall Street where Ponzi Schemes rip off billions of dollars in assets.

We'll be able to look inside a person's brain perhaps within ten years, to decipher lies, emotional states, and perhaps even individual ideas.

A lie detector test only measures stress - that is, sweating of the skin, increased pulse rate, increased breathing rate. You can fake that.

Pathological liars can fake stress. But thinking - that's very hard to fake.

If you tell a lie, you have to know the truth, the cover-up, and the consequences of the cover-up.

-All of that can be measured by blood flow in the brain. -Yeah, and you say that eventually, scientists could have a 'dictionary of thought'.

-That's right. -What is that?

A one-to-one pattern between certain patterns of the brain corresponding to the accumulation of blood...

...and certain emotional states, certain letters of the alphabet, even certain words and ideas that circulate within the brain...

...all of that deciphered by looking at blood flow in the brain, because blood flow corresponds to electrical activity and thought.

-Well, so you think all this is possible? -I think – -And you're thinking, within ten years. Why a decade?

Uh, because we still have to make the resolution of the MRI scan even better.

Right now, one dot on an MRI scan may correspond to a million neurons.

However, the word "the" may correspond to perhaps a few hundred neurons.

So we have to increase the resolution of the MRI machine to be able to pick up, perhaps, a hundred neurons...

...rather than a million neurons per pixel on the screen. -So the science has to get better in the end. -That's right.

Michio Kaku, thank you. He's a theoretical physicist and a very smart man. We love having you on. Thanks for coming on today.

-Thank you. -All right, professor. Jamie, what's coming up? -What a breakthrough!

Comentario [i1]: magnetic resonance ima... [1]

Comentario [i2]: using force or authority to make a person do something against his or her will

Comentario [i3]: all properties, both tangible and intangible, and claims against others that may be applied to cover the liabilities (possible debts) of a person or business. Assets can include cash, stock, inventories, property rights, and goodwill.

Comentario [i4]: To simulate; feign.

magnetic resonance imaging