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We All See The Future Like Dick's 'Prethink'

Science Fiction in the News
The predictions of science fiction writers coming true in today's world

By [Bill Christensen](#)
[Technovelgy.com](#)

According to Rensselaer Polytechnic Institute assistant professor Mark Changizi, we can all see the future; we do it every minute of every day.

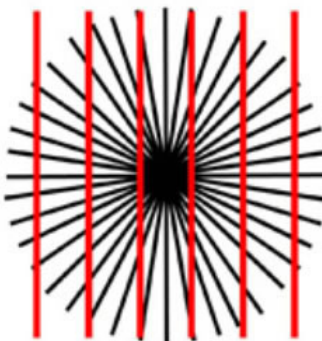
His argument is drawn from facts about neural processing; it takes about one-tenth of a second for the brain to actually perceive - make sense - out of the data that the eyes send to the brain.

If that's true, how can we do things in real-time, like catch a ball? According to Changizi, our visual system has developed the ability to overcome this gap by presenting a constant projection to the brain. Our brains take the information that our eyes provide, and then present us with a projection of what things will look like in one-tenth of a second.

So, we're constantly seeing the future.

Using this idea, Professor Changizi was able to explain and systematically organize more than fifty types of visual illusions. He says that these "illusions" work because the brain is helplessly projecting what it believes will be happening in the near future.

For example, consider the Hering illusion shown below. The red lines are perceived as curved. This illusion occurs because our brains are predicting the ways that the underlying scene would change if we were moving in the direction of the vanishing point presented by the radial black lines.



(The Hering illusion)

He calls his hypothesis "perceiving-the-present" and presents his findings in the May-June issue of the journal *Cognitive Science*.

"Illusions occur when our brains attempt to perceive the future, and those perceptions don't match reality. There has been great success at discovering and documenting countless visual illusions. There has been considerably less success in organizing them," says Changizi, who is lead author on the paper. "My research focused on systematizing these known incidents of failed future seeing into a 'periodic table' of illusion classes that can predict a broad pattern of the illusions we might be subject to."

Naturally, this hypothesis is embraced with delight by science fiction fans. Philip K. Dick's marvelous 1954 story *The Golden Man* presented the idea that it might be possible to "prethink" like Cris Johnson.

"He can look ahead. See what's coming. He can - prethink. Let's call it that. He can see into the future. Probably he doesn't perceive it as the future."

"No," Anita said thoughtfully. "It would seem like the present."

What would happen if we could expand our ability to prethink?

"As he develops," Baines said, "as his race evolves, it'll probably expand its ability to prethink. Instead of ten minutes, thirty minutes. Then an hour. A day. A year. Eventually, they'll be able to keep ahead a whole lifetime..."
(Read more about [prethink](#))

Find out more about "perceiving-the-present" in [Crystal \(Eye\) Ball: Study Says Visual System Equipped With "Future Seeing Powers"](#) (pdf); see also [Changizi's website](#). Scroll down for more stories in the same category. (Story submitted 5/22/2008)

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How many lines are drawn below?



a) 14 b) 16 c) 18 d) 19

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