Science and Society

The latest developments in science and technology

About

Ned Potter is the science correspondent for ABC News' "World News Tonight." He has reported on such topics as space exploration, the human genome and climate change.
Why Do We See in Color?

Think this over for a minute. If you follow the tenets of Natural Selection (and if you don’t, please click on ‘User Comments’ below), you would expect the human eye to give you just enough capacity to navigate safely through the jungle or across the African savannah. Anything beyond basic black-and-white must have some purpose in helping you survive.

Why, then, do we get to enjoy sunsets, or flowers, or, if you married the young woman I did, red hair?

"For a hundred years, we've thought that color vision was for finding the right fruit to eat when it was ripe," says Mark Changizi, a neurobiologist at the California Institute of Technology. "But if you look at the variety of diets of all the primates, the evidence is not overwhelming."

So Changizi and several coauthors did a study, published in the current issue of Biology Letters, suggesting that our eyes are specially sensitized to help us see our mates...blush.

Yes, blush, which is what we do when we’re excited or aroused. Or turn pale, like when there’s some marauding leopard over our shoulder. Changizi and his team tested the eyesight of primates, and found they were best able to detect color changes in the shades that have to do with the presence or absence of a lot of oxygenated blood beneath the skin.

Human beings and only a relatively small number of ape and monkey species really see in color; other mammals see a much more limited palette of colors, while birds and bees seem to see evenly across the visible spectrum. Many other animals essentially live in a monochrome world. (Video cameras and TV or computer monitors actually have a bit in common with the human eye; they use combinations of red, green and blue to create all other colors.)

Changizi has posted some material HERE, including the paper itself, and links to a few British newspapers and magazines; I’ve found very little coverage here in the U.S.

His theory is bound to launch some argument, but the clincher, he says, is that even the hairiest apes don’t have hairy faces. The better to see your mood with, my dear.
March 02, 2006

Chemo. For the Birds

Thursday morning

The Karolinska Institute in Stockholm is one of the world’s great research institutions, and one of their researchers has a paper in The Lancet about bird flu.

“Since the mortality from H5N1 infection is high, and since there is concern that the virus could cause a pandemic, novel treatments for human beings are warranted,” writes Dr. Jan-Inge Henter.

He suggests that the virus may, in its current form, resemble a rare immune disorder known as haemophagocytic lymphohistiocytosis, or HLH. The solution he proposes is chemotherapy.

It’s a long shot, and it has not been tested in humans, but Henter says that people who contracted H5N1 from birds have some symptoms that resemble HLH. Since 2003 worldwide, 94 people have died from H5N1.

At the risk of sounding like a broken record, remember that the disease has not yet been seen anywhere to transfer from one person to another. The problem is that if it mutates into a form that can, we have few defenses. Most contingency plans call for isolation of infected people, but there’s no way to make a vaccine or antidote to a mutation that, right now, doesn’t even exist, and may never.

Harvard’s School of Public Health has done a poll that showed what’s being described as “muted concerns” about the risk of a pandemic. 57 percent said they were “concerned” about the potential spread of the virus, but only 15 percent said they were “very concerned.” Were people worried that they or an immediate family member might become ill? 78 percent said no.

If a human-to-human mutation does appear, though, all bets are off. The researchers who conducted the poll report the potential for “significant disruption of the economy and the health care system.” 70 percent say they would reduce or avoid travel, avoid public events, stay home and keep their children home.

You can find more HERE.

--Ned

March 01, 2006

Learning Curve

Wednesday Morning

Hello from Rock Hill, S.C., where I’ve been invited to come talk to students at Winthrop University. The ones I’ve met so far are a bright group. I expect I’m learning more from them than they are from me.

We've been talking about changing media. They're living the changes. Many of them are majoring in Mass Communications—but fully recognize that any technical skills they may learn now will likely be obsolete in a few years. They're better off, they agree, concentrating on the fundamentals—good writing, clear organization.

Remember that today's college students were born in the mid-1980s. On the way to another point, I asked them how