

## Ode to E Pluribus Unum for December 18 2022

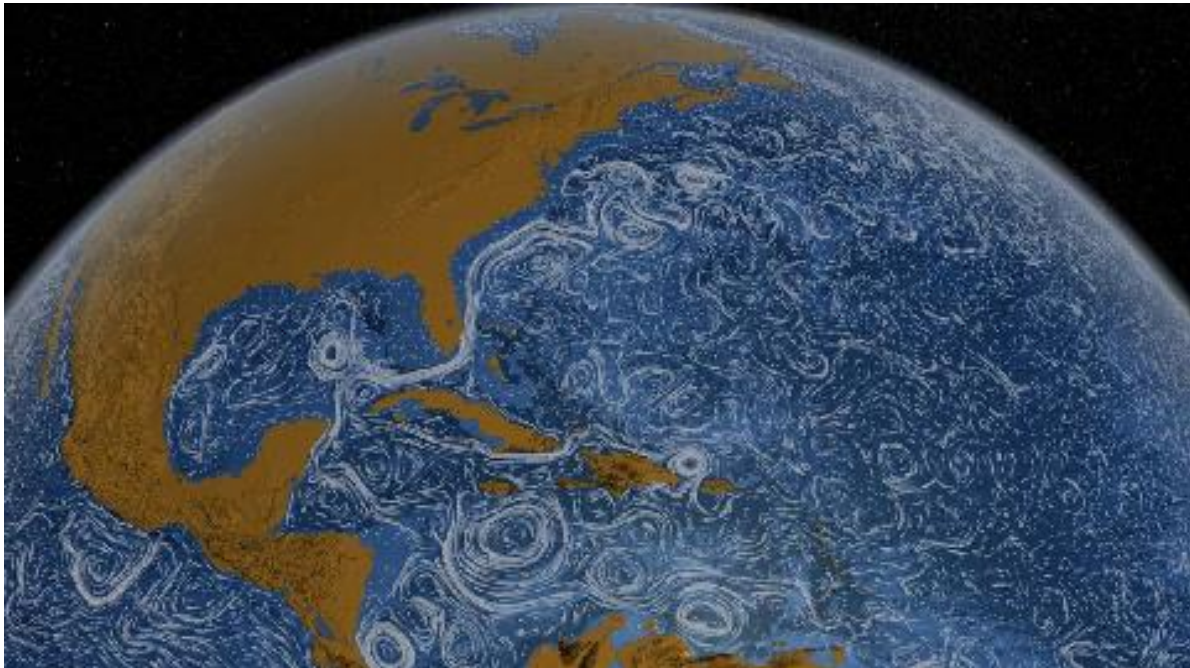
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### Where Did Ocean Currents Come From?

The same forces that form ocean currents today shaped the first currents eons ago.



*A visualization of ocean currents.*

*(Image credit: NASA/Goddard Space Flight Center Scientific Visualization Studio)*

<https://bit.ly/3hcR63I>

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### The Window Washer



<https://www.youtube.com/watch?v=LgDNbDFg8tU>

*Lots of paths lead to joy.*

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## **A Holiday Greeting (Almost as Sincere as...a Campaign Pledge?)**

Please accept with no obligation, implied or implicit, my best wishes

for an environmentally conscious, socially responsible, low stress, non-addictive, gender neutral celebration of the winter solstice holiday, practiced within the most enjoyable secular practices of your choice or traditions of your religious persuasion of your choice, with respect for the religious/secular persuasions and/or traditions of others, or their choice not to practice religious or secular traditions at all...and a fiscally, successful, personally fulfilling, and medically uncomplicated recognition of the onset of the generally accepted calendar year 2022, but not without due respect for the calendars of choice of other cultures whose contributions to society have helped make Canada great (not to imply that Canada is necessarily greater than any other country or area of choice), and without regard to the race, creed, color, age, physical ability, religious faith, or sexual orientation of the wisher.

This wish is limited to the customary and usual good tidings for a period of one year, or until the issuance of a subsequent holiday greeting, whichever comes first. "Holiday" is not intended to, nor shall it be considered, limited to the usual Judeo-Christian celebrations or observances, or to such activities of any organized or ad hoc religious community, group, individual, or belief (or lack thereof).

**Note:** By accepting this greeting, you are accepting these terms. T

his greeting is subject to clarification or withdrawal, and is revocable at the sole discretion of the wisher at any time, for any reason or for no reason at all. This greeting is freely transferable with no alteration to the original greeting. This greeting implies no promise by the wisher actually implement any of the wishes for the wisher her/himself or others, or responsibility for the consequences which may arise from the

implementation or non-implementation of same. This greeting is void where prohibited by law.

With my sincere wishes

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### **Santa Making His Rounds**



This 1931 photograph captures the spirit of the season as Santa delivers presents to the children of an adoption home in London.

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### **Christmas Commercials from Around the World**



<https://bit.ly/3FGk44z>

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### **White Wine in the Sun by Tim Minchin**



A sentimental song about Christmas. This version is taken from the Australian 'Ready For This?' DVD. Every year, all proceeds from the sale of (either version of) this song during the months of November, December and January, go to an organization that supports children and/or adults on the autism spectrum. This year, 2022, that will be Aspect in Australia.

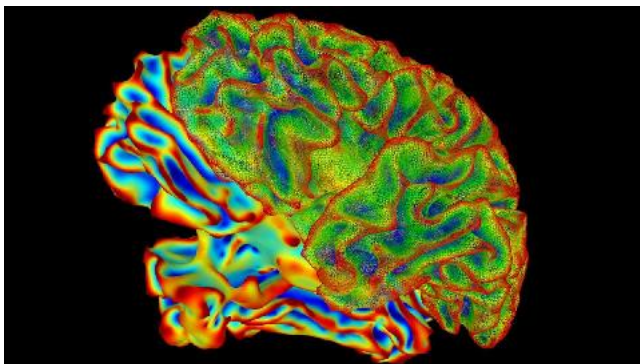
<https://youtu.be/fCNvZqpa-7Q?t=1>

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## **Pregnancy Causes Dramatic Changes in the Brain, Study Confirms**

*By Rachel Rettner for Live Science*

Pregnancy caused women to lose gray matter, and reshaped the brain's "default mode network," a set of brain regions that are most active when the brain is wandering.



*A new study used functional magnetic resonance imaging to show dramatic changes in the brain during pregnancy. Pregnancy increased gray matter loss and reshaped the default mode network, which is responsible for the mind wandering and a sense of identity.*

*(Image credit: National Institute of Mental Health, National Institutes of Health)*

Pregnancy leads to striking changes in the brain, including alterations in gray matter and regions involved in self-perception, according to a new study.

The findings suggest that these neurological changes may promote bonding between mother and baby and could play a role in the identity shift that many women feel when they become new mothers, the researchers said.

"These data provide key insights into the impact of becoming a mother on the human brain and point to pronounced changes in brain structure and function" during pregnancy, the authors wrote in the study, which was published Nov. 22 in the journal [Nature Communications](#).

These changes "may confer adaptive advantages for a mother's gestational and maternal behavior and the establishment of the new mother-child relationship," according to the study researchers, from Amsterdam University Medical Center.

In an earlier study of pregnant women in Spain, the same group of researchers found that the participants had a reduction in the amount of gray matter in their brains and that these reductions lasted up to two years after the women gave birth. In the new study, conducted in the Netherlands, the researchers expanded on this work by examining more brain areas and investigating whether the changes were linked with certain behaviors and measures of the mother-infant bond.

They followed 80 Dutch women who were not pregnant at the start of the study and had never had a baby before. Over the course of the study, 40 of the women became pregnant. All of the women had their brains scanned at the start of the study and at various points afterward, including (for those who became pregnant) shortly after giving birth and one-year postpartum.

The researchers again found that the women who became pregnant lost gray matter after giving birth. Replicating the finding in their previous study further suggests that these results are reliable and are seen in people in different countries, the authors said. These gray matter losses aren't necessarily detrimental; rather, they may represent a "fine-tuning" of the brain that could be beneficial in caring for a new baby, they said.

Interestingly, losing gray matter was linked with so-called nesting behaviors, which are carried out to get ready for the arrival of the baby — for example, preparing the nursery or organizing the house.

The study also found that the women who became pregnant showed changes in a brain system known as the default mode network, a group of brain regions that are most active when a person isn't doing a specific task. This network is active when you let your mind wander and is thought to be involved in self-reflection and autobiographical memory, as well as in social processes such as empathy, the authors said.

What's more, women with bigger changes in the default mode network reported feeling a greater bond with their infant (as measured by a survey of mother-infant bonding) and taking more pleasure in interacting with their infant compared with women with

smaller changes. Women with bigger default-mode-network changes also reported fewer "bonding impairments," such as feelings of resentment or anger toward the baby. In addition, the brain changes were linked with measures of attachment to the fetus — specifically, the greater the increases in activity in the default mode network were, the more likely women were to differentiate the fetus from themselves and see the fetus as an individual.

The researchers speculated that changes to the default mode network in pregnancy may alter the neural basis of the self, "contributing to the transformation in a woman's identity and focus that often accompany new motherhood," the authors said.

Finally, the researchers investigated what factors could be driving these brain changes, and their results point to a likely culprit: hormones. Using urine samples collected at 10 points during the study, the researchers found that women with higher levels of estrogen, particularly during the third trimester of pregnancy, showed greater brain changes than those without such a pronounced spike in estrogen. In contrast, factors such as sleep, stress levels and the type of delivery weren't linked with the brain changes.

Still, the researchers can't rule out the possibility that other factors not measured in the study — including exercise, nutrition, and genetic markers — could be involved in these brain changes, and they called for further, larger studies to examine these factors.

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**Jester's Cap**



### **Jester's comments on December 11's Ode**

B-52 The standard was a fighter pilot coming into an airbase on final and was told that he had to go around because a B-52 was coming in with an engine out. He replied "ah yes, the dreaded 7-engine approach."

How the brain is wired is called the "connectome," analogous to the genome or the proteome. For about the past 10-12 years, it's been possible to map pathways with MRI. It's called--incorrectly, I believe--tensor imaging. My understanding of what a tensor is is a matrix whose entries are matrices themselves. What that has to do with mapping nerve pathways is obscure to me. But one day maybe someone will enlighten me on the subject. Bottom line: we've been looking at that for a while now.

BUT...there are things that the brain does locally and things it does non-locally. Things we know to be local are primary vision, ability to speak, and ability to understand.

These are done in the visual cortex (where else?), the superior temporal gyrus (Broca's area), and in the low parietal area just above and behind Broca's (Wernicke's area). While the visual cortex has very few variations in localization,\* about 15% or so of people will have Broca's area on the right side. Almost all the rest have it on the left.\*\* This was shown and identified by two docs a little over 60 years ago. They injected a barbiturate into carotid arteries--one at a time--to see which side stopped patients from talking (temporarily). This is called the Wada-Rasmussen test, or Wada test, for short. I've done literally thousands of them--most being superlocalized as part of other procedures I was doing. Like embolizing tumors that might have shared blood supplies with cranial nerves. Chuck (another Odester) and I published the first paper about that around '83 for looking at cranial nerves. Bob Dawson and I published about finding the blood supply to the retina before embolizing a meningioma that got a large part of its supply from the guy's right ophthalmic artery. You get the idea.

Why bother to do them in the first place? Because sometimes removing part of the brain--like in epilepsy patients--is the only way to treat the disease. But if you remove their speech centers, you haven't done them much of a favor. In those patients, not being treated is better than surgery. If you're going after the blood supply to a tumor, you can often figure out ways to devascularize the tumor without killing nerves or eyeballs. There are many tricks to the trade and it's a very tricky trade. Or, in the words of Charlie Strother, another early practitioner of this black art, there are a lot of ways to skin a cat. If you're going to be a professional cat skinner, you need to know them all.

\* And yet, if you do enough of these, you'll get surprises. We treated a guy with an occipital lobe AVM (arteriovenous malformation). He had intact visual fields, which meant that the AVM was holding normal visual cortex hostage. It took a neurologist and two neurosurgeons a long time to convince me to treat the guy, but we did. In fact, we took just about all of the guy's right posterior cerebral artery, which supplied the occipital lobe. Which is where half of his vision lived.

Or so we thought. And yet, even after nuking the entire lobe, his vision remained entirely intact. I treated him in Ann Arbor (I moonlighted there a lot) and he came to Pittsburgh for definitive treatment with the Gamma Knife. When we did his targeting angiogram, his vision had remained intact. and when he came back for his follow-up angiogram a year or two later, the AVM was completely gone, and his vision was still intact. I have kicked myself maybe 1000 times for not having thought to do the one thing that would have answered the question: I didn't inject a barbiturate into the left posterior cerebral artery to see if it would blind him completely--but temporarily. As in for about 2 minutes or so. I can only guess that, since he was almost certainly born with the AVM, all of his vision was handled on the left side of his brain.

\*\* Along the lines of the end of the first footnote, one patient we tested in Charleston had bilateral negative Wada tests: I injected barbs into the right carotid and he kept talking. Likewise the left. I assumed that meant that his speech was bilaterally located. I'd never heard of that before. Or since. Everyone insisted that I repeat the test, this time with EEG monitoring. I agreed, but only on the condition that after I

showed people that the result I got was real, I was going to put catheters into both sides and inject simultaneously. That shut him up.

I've really had an interesting career.

I don't understand the picture of the moon. What's with the foreground clouds? That's not possible from where the picture is alleged to have been taken, there being, y'know, no atmosphere on the moon.

"That orbéd maiden with white fire laden  
That mortals call the Moon...."

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## **How One of America's Last Piano Manufacturers Stays Alive**

*Piano-building was once one of the country's largest industries. Today, only two companies remain in business.*



<https://bit.ly/3Y5EUIW>

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## **Flashmob Stockholm Arlanda Airport - I Believe I Can Fly**

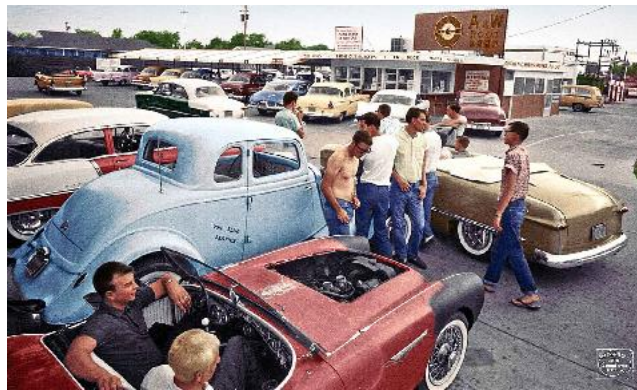




<https://youtu.be/HCucos4qGQw?list=RDM&t=4>

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## Who Needs a Hood When You've Stuffed a V-8 into Your Healy



*If you don't appreciate this, you were born in the wrong time or universe. Right, Larry?  
(Larry Templeton, my fairly constant roommate in college days decided to wake up his  
Austin Healy by replacing it corn-binder 4-banger with a snarling Chev V-8)*

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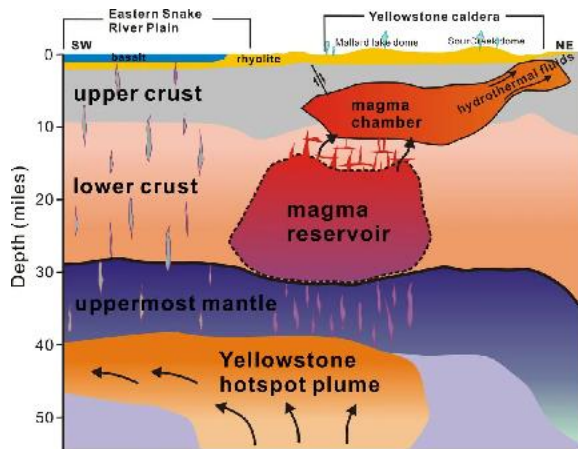


what if UFOs are just  
billionaries from other  
planets

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## Surprising Amount of Magma Under Yellowstone's Supervolcano

*New research suggests more melted rock lies beneath the Yellowstone Caldera—but it's still not likely to erupt anytime soon*



<https://bit.ly/3FzzR6l>

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## Stroll Down Memory Lane 1950's & 1960's



<https://youtu.be/EW550ZEpy2s>

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**Being a Blue Angel**



<https://youtu.be/h693FLkNtIM?t=1>

*Could any of their chariots beat the A-4?*

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## **The Blue Angels Are Back with a Larger Jet**



<https://projects.seattletimes.com/2022/seattle-blue-angels-look-back-planes/>

*Close but no cigar.*

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## **Charred Corn Salad with Basil and Tomatoes**



## **Ingredients**

- 12 ears of corn, husked
- 6 tablespoons olive oil, divided
- 1 cup thinly sliced red onion
- 2 large tomatoes, chopped
- 1 cup (loosely packed) fresh basil leaves, large leaves torn
- 1/3 cup (or more) fresh lime juice
- 2 tablespoons chopped fresh thyme
- Kosher salt, freshly ground pepper

## **Preparation**

Build a medium-hot fire in a charcoal grill, or heat a gas grill to high. Rub corn with 1 Tbsp. oil. Grill, turning frequently, until corn is charred and heated through, 10-12 minutes. Remove from grill; when cool enough to handle, cut kernels from cobs and transfer to a large bowl.

(Corn can be made 3 hours ahead. Let stand at room temperature.)

Place onion in a strainer and rinse with cold water to mellow its flavor. Drain well. Mix onion, remaining 5 Tbsp. oil, tomatoes, basil, 1/3 cup lime juice, and thyme into corn. Season to taste with salt, pepper, and more lime juice, if desired.

(Salad can be assembled 1 hour ahead. Let stand at room temperature.)

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## **Annual Flamingo Migration to India's Pulicat Lake**



*Raj Mohan*

*Each January, Pulicat Lake in Tamil Nadu, India, harbors tens of thousands of lanky, pink-feathered birds that gather in the warm waters during their annual migration.*

<https://bit.ly/3HkbCKv>

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## **Park Rangers Are Using Silent Ebikes to Catch Poachers**

*A Swedish electric bike is helping Mozambique's park rangers protect game and reducing the need for fossil fuel infrastructure in Africa's remotest areas.*



*inhabitat.com*

AT THE END of 2021, a group of night poachers in a Mozambique national park—using torchlight to blind antelopes—were suddenly the ones left stunned in the dark. The poachers, local opportunists looking for bushmeat in the area’s savannahs, forests, and wetlands, are often able to kill hundreds of animals in one hunt with near impunity, using dogs to track and finish off their prey. They move with confidence because they can hear the noisy petrol motorbikes of the overstretched rangers from more than a mile away, enabling them not only to escape, but also to know where the park’s guardians are and hunt around them—easy enough to do in the thousands of square miles of terrain.

Not this time. A team of rangers silently moved in on their off-road ebikes, halting the hunt immediately. The nearly silent motor of the ebike—a factor that can make them an accident risk in the busy city—has become the surprise secret weapon for saving the world’s most endangered species.

“The petrol bikes we’ve used previously have all been loud, heavy, and expensive to keep running in these areas. These bikes are quiet, which makes it easier for us to approach poachers undetected,” says Mfana Xaba, anti-poaching team leader of Southern African Wildlife College (SAWC), a nonprofit organization based near South Africa’s Kruger National Park. It supplies trained rangers to 127 parks across Africa, including the one in Mozambique. (The exact locations where they are using the bikes is being kept secret, for fear of compromising the mission.)

Several poaching attempts have been stopped this year already, saving a variety of animals, including tiny antelopes—sunii, red duikers, and blue duikers—which poachers kill in huge numbers for bushmeat. While these species are not classed as “at risk”

themselves, they form an essential part of fragile ecosystems on which endangered animals rely, says Alan Gardiner, an ecology professor and head of the Applied Learning Unit at SAWC. "Suni and the other small antelope form prey items for many predators such as leopards, crowned eagles, and pythons, as well as influencing vegetation growth. When any species is impacted in a system it has a knock-on effect."

Fifty Kalk Anti-Poaching bikes, made by the Swedish company CAKE, will now be used across SAWC's African parks, after being tested across the continent's varied terrain, including plains, forests, and jungle. "The previous petrol bikes were immensely problematic, and not just because of the noise," says Stefan Ytterborn, CAKE's founder and CEO. "The petrol to power them has to be brought in using trucks or even helicopters, which is extremely inefficient. As you have to store gas in the jungle, the petrol can then be stolen either by poachers themselves or local people who need it."

CAKE already produced an existing recreational off-road ebike, and it teamed up with SAWC when the college realized the quiet, durable bike could be revolutionary in Africa's varied topography. After some tweaks, the Kalk AP was sent to Africa. It weighs 80 kilograms (176 pounds) and can reach speeds of 56 miles per hour, with around five hours of ride time. CAKE switched its standard tires for 18-inch off-road tires like the ones used in motocross, and supplied a software system providing navigation, communication, and location identification, enabling CAKE to retrieve vehicle data and continue to monitor and improve each bike's performance.

Solar-powered mobile charging points mean rangers can camp in the bush for weeks. The charger, called the Goal Zero Solar Hub, can charge at least two bike batteries from empty to full in just three hours, and it takes 18 hours to charge itself from zero using the sun's rays. "The charging points are a bit heavy—45 kilograms—but they can be pulled around on their built-in wheels like a suitcase," says Ytterborn. "That means that at every station, there is a fresh battery on charge and ready to be swapped to the one on the motorcycle."

This longevity means the rangers can disappear in teams of up to three to track poachers for several weeks, and spend longer embedded in rural communities, educating and supporting locals who often turn to poaching because they are desperate for food or money. Rangers currently distribute food vouchers and cash to dissuade locals from eating certain animals.

The Kalk AP bikes—which cost around £9,900 (\$11,800)—will eventually be used across the continent, helping to protect Africa's most endangered animals, such as the white and black rhinos that are attacked by professional, organized gangs seeking profits. Kruger National Park has lost almost 70 percent of its rhinos this decade, including 166 rhinos poached during the first six months of 2020.



Mfana Xaba, who has overseen the rangers in the field in Mozambique, believes the ebike will finally give them an edge on the persistent poachers. "Meat poachers are constantly trying to penetrate our area—hundreds of thousands of acres—and the poachers are very good at hiding. The element of surprise is very important. Forests and wetlands are the most difficult terrains for us to cross, but the silence of the bikes is by far and away their greatest attribute, as well as their very low running costs."

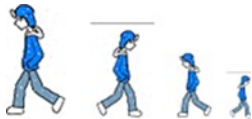
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This one sold for \$182,000. *Sigh!*

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## My Walking Thoughts



### For Sunday December 18 2022

#### The Day I Learned the Truth About Santa

I was 32 at the time. We were in Bishop, Texas, 5 miles up the road from NAS Kingsville where I was a flight instructor. It was 1968, the first Christmas for our daughter Kitty, the second for son David who at two who was by then an old pro at the Santa thing.

Since neither Mary nor I felt traumatized by the Christmas rituals from our childhoods, the thought that we might be damaging our offspring never occurred to us. Santa, the manger, the shepherds, cattle, stories, songs, gifts—the wonderful mixture of religion and hoopla—were things we all could share without fear.

But that was merely the backdrop for my Santa epiphany.

It came later in the day when the four of us walked the three blocks to the park where we became part of a throng comprised of nearly everyone in town...maybe a couple of thousand.

There was no plan. No one was in charge. There wasn't even a jolly fat man with fake whiskers decked out in a crimson suit with white fur trim. It was just a flock of neighbors in a small South Texas town happy to be there.

Shortly after we arrived the singing began...traditional songs...songs with meaning...songs with hope...songs that brightened that bleak December day, illuminating what Christmas meant to each of us...especially the kids whose faces shone with such happiness and whose memory I've carried with me ever since.

I'd like to think that Christmas—the carols, the reindeer, the sleigh, the crèche, even the wretched excesses—will by whatever name our descendants a thousand years hence choose to call the season--still bring happiness without their having to worry about the threat of trauma.

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