

Opinion

Debunking the Myths Behind Genetic Engineering

ELLEN FORESMAN &
LAURA KEEHN

The latest incident of panic surrounding the Taco Bell recall of its super-market taco shells has brought attention to the fear, distrust and resulting misinformation that surrounds genetically modified (GM) foods. Previously, reconstruction of the genetic makeup of plants only occurred through the long and laborious process of evolution. Speeding up evolution along our guidelines is something many of us are not comfortable with, and the fear surrounding genetic engineering is justifiable. However, our fear has often obscured the true facts about genetic engineering, and our blanket paranoia has stopped us from understanding the many beneficial aspects of it.

Remember that the "horseless carriage" met with fear and mistrust at the outset. If we had let our fears of advancing technology take over, and stopped the progress of the automobile, imagine where we would be today. No doubt every time a horseless carriage ran over a dog or broke down, skeptics held the incident up as irrevocable proof of its ungodly destructiveness. Granted, cars are irrefutably dangerous in the wrong hands, but their benefit to our society and our absolute inability to function without them allows us



to swallow that risk. Clearly, genetic engineering is not without its risks. But economically and environmentally there are huge potential benefits. Our fear of the unknown should not preclude taking advantage of potential benefits. This article will attempt to provide some of the often misread or overlooked information surrounding this subject.

Fallacy: Farmers in England have sued companies which sold them GM seeds because they failed to profit on the crops due to the destructiveness, poor quality or otherwise faulty nature of the GM seeds.

Fact: The farmers failed to profit from the crops of GM seeds because bad publicity led to low demand. As Harold Heinrich, a visiting scholar at Tufts University, explains in his article *Frankenfood: European Paranoia and American Techno Optimism*, Europeans are very fearful of genetically modified foods, and England has since passed a law that prohibits any GM foods from entering its soil. In this climate, no one bought the produce, no matter the quality, nutritional value or price. In fact, farmers have otherwise overwhelmingly supported GM seeds and gladly paid the premium prices because of the quality of the crops.

Fallacy: The practice of genetically engineering the pesticide *Boeillus thuringiensis* into crops is harmful to the environment and to human health. For example, Bt toxin in corn pollen is fatal to monarch butterflies, and this shows that it can have drastic consequences on the environment.

Fact: This is not entirely true. When organic, non-GM pesticides are sprayed over crops, the volume of pesticides used is much higher than when Bt toxins are genetically engineered into crops. Not only this, but traditional pesticides are not as species specific as the genetically engineered Bt toxins. The study done on the effects of Bt toxins on the monarch butterfly, often cited as proof of its destructiveness, is inconclusive at best. The study itself admits that, "it would be inappropriate to draw any conclusions about the risk to monarch populations in the field based solely on these initial results" (*Nature* magazine). Other, more conclusive tests were done on the black swallow tail butterflies (much more commonly found in cornfields than the related monarchs) showing no correlation between mortality and

the proximity to the field or pollen depositions.

There is a lot of evidence that transgenic crops have greatly contributed to helping the environment. Since the introduction of Round UP Ready Soybeans in 1996, total herbicide use is down 10 percent and the use of herbicides that have an EPA ground water advisory label is down 60 percent.

Fallacy: Scientific researchers are paid off by those who profit from GM foods.

Fact: It is ridiculous to believe that all people that support the development of GM foods are being paid off. The scientists who staunchly support organic farming can just as easily be accused of being paid off by organic farmers, and organic food markets. The point is that finger pointing, once started, will never end, and there is a lot to gain from taking facts at face value.

It is in everyone's best interest to make sure the product is safe. That is how a market economy works — what benefits the consumer benefits the company. The recall which resulted from the recent discovery of Cry9C in Taco Bell brand taco shells, is proof enough of the fact that the company does not profit from selling an unsafe product. Cry9C is a crystal protein found in some Bt strains that has not

been tested for human consumption. Aventis, the seed company responsible for selling these seeds, is being held financially responsible. This one mistake is costing the company millions.

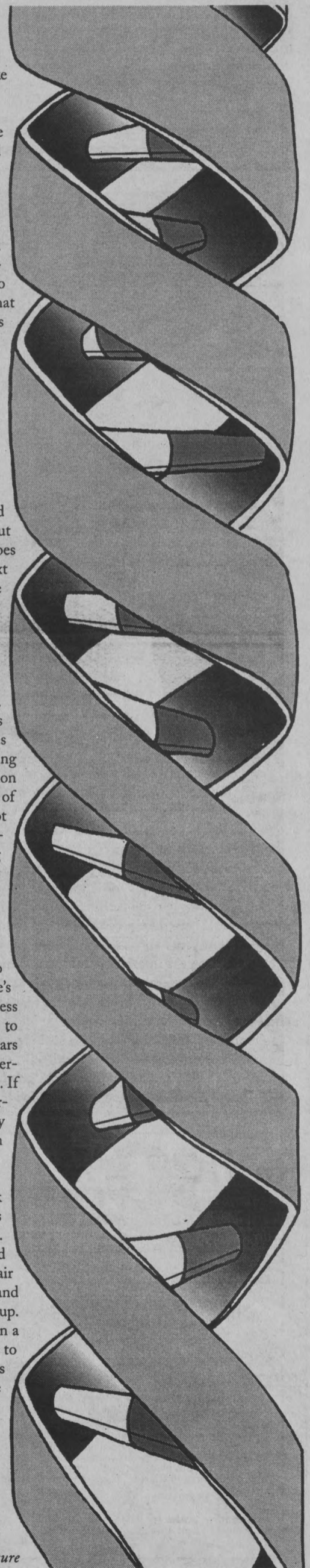
Many people assert that we have done fine without GM technology and ask why we need it now. To answer this question, it is important to realize that the world's population is growing exponentially. Our present population of six billion people is expected to double in the next 50 years, and that is the conservative prediction. If we know how to produce a type of rice (Golden Rice) that provides vital nutrients like no rice has ever done before, it would be irresponsible not to use it. The fact is that with the growing population, food supply is a major concern. The people who will suffer the most are not Americans. It is the people who do not have the luxury of enjoying generations of food surplus.

One of the main fears we detected when asking friends about GM foods was that it goes against nature. "It's the next atom bomb" was a phrase that caught our attention. But these technological steps are being taken with the intention to help. GM technology is expanding the possibilities of combating pollution and feeding people in the face of a population explosion. It is with the intention of creating a bigger helping hand, not of creating a bigger weapon of destruction that this technology is being developed. This idea seems to get lost in our blinding fear.

We need to open the dialogue between those who fear this technology, those who produce it and those who regulate it. Only then will everyone's interests be accounted for. No progress will result from a dialogue reduced to paranoid attacks and defenses. Valid fears and concerns can be addressed and perhaps potential disasters can be avoided. If the GM question is properly understood, acceptance of this technology within widely approved boundaries can occur and everyone will benefit.

This editorial was written as a work in progress. The critics of GM foods serve a very important purpose. Questions should always be asked, and this editorial will hopefully clear the air on the more hysterical questions and allow much-needed dialogue to open up. Ellen Foresman is currently working on a website about GM foods, which hopes to address much more specific concerns than this editorial is able to do. Please e-mail Ellen at : uforee00@umail.ucsb.edu with facts, questions, opinions, etc. which she may consider to add to the website.

Ellen Foresman is a senior cellular and developmental biology major. Laura Keehn is a senior comparative literature major.



Opinion

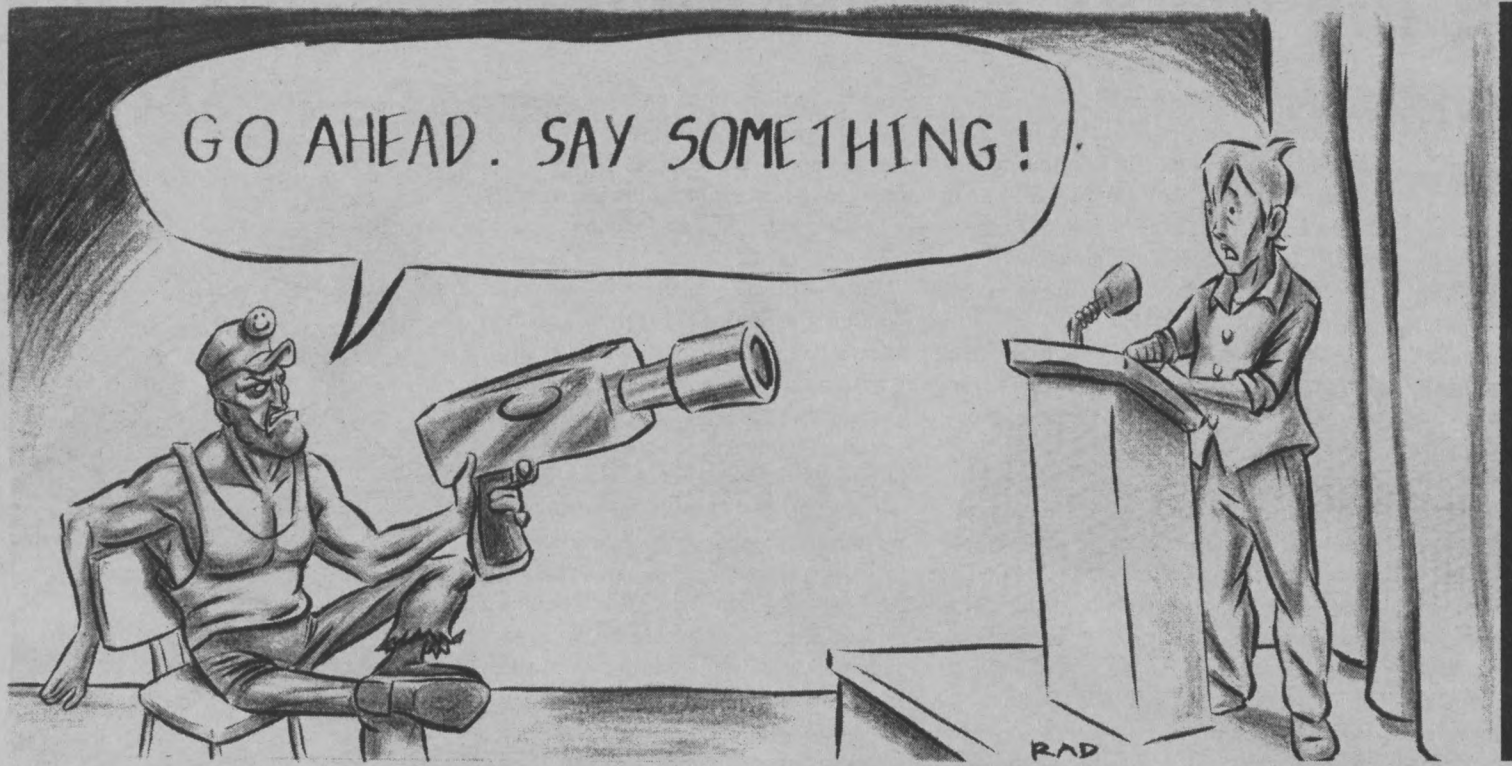
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Columns and Letters

We welcome all submissions. Length is three pages, proper.

Staff Editorial



Free to Speak

Student Protesters Must Not Repeat Last Year's Antics When Connerly Speaks at I.V. Theater

When Oliver North came to speak at UCSB last year, he was drowned out by protesters with drums and chants of hatred for his involvement in the Iran-contra affair. Now, as University of California Regent Ward Connerly gears for his speech in Isla Vista Theater tonight, several protest groups have already started spreading propaganda targeting Connerly as a racist. Ollie North was a slimeball, and this editorial will not pass judgement on Connerly, but both men have the same fundamental right to free speech as every other American. Last year's disruption must not rear its ugly head again during tonight's lecture.

The first amendment to the United States Constitution guarantees freedom of speech to all individuals regardless of their message. Connerly has been widely criticized for authoring SP-1 and SP-2, which rescinded Affirmative Action in the UC system. It is irrelevant whether or not students agree with Connerly's politics. This man has the right to make his opinion heard without undue interference.

The protest at Ollie North's lecture last year was an embarrassment to the UCSB community. One would have hoped that as participants in the process of higher education, those student activists would have understood the value of our constitutional rights. Banging drums in the middle of someone's speech is an egregious display of ignorance and disregard for one of America's most important principles. The protesters thought that strength in numbers gave them the right to shout down an opposing viewpoint. This is called a tyranny of the majority, ladies and gentlemen, and it is dangerous.

Tolerance of dissenting opinion is the very essence of liberty. The fact that Americans can say what they feel without fear of oppression is what makes the United States one of the greatest nations on earth. We take this privilege for granted, but worldwide it is far from universal.

How would the protesters have felt if somebody had taken their drums and burned them? When contrary opinion is subdued and forced underground, it becomes subversive and far more dangerous than it ever would have been out in the open.

In the 1970s, the American Nazi Party obtained a parade permit in Skokie, Illinois. Public outcry led the permit to be withdrawn, but with legal support from the American Civil Liberties Union, the party successfully sued for the right to march. The Nazi's *did* have a right to express their views, as horribly detestable as they might be. By no means is Ward Connerly a Nazi, but the point is that all opinions must be allowed in public discourse; it is the only way to properly refute and disprove them. There is no way to legitimately tell right from wrong unless everything is put on the table for intelligent and reasoned consideration.

What did last year's protesters hope to accomplish? Their brash actions did not educate one person. What if the protesters *had* wooed other students to their side with their maniacal yells? These new activists would then be opposed to a cause they knew no more about than what they had gleaned from the obscenities hurled by their cohorts. Had they been allowed to listen, they might have formed an educated objection to Ollie North. If a group or individual is truly in the right, then they should be able to advocate their side regardless of an opponent's speech. To do otherwise is weak and pathetic.

Ward Connerly must be allowed to speak freely tonight. To interrupt his lecture would be a disservice to listeners and a front to the First Amendment. If protesters engaging in such audacious tactics would simply leave their tambourines at home and instead construct rational objections, then we just might all learn something.

The Low Down Modern

DAVID DOWNS

"It's the year 2000 and where are the flying cars? I was promised flying cars!"

The severe-looking black man of the IBM commercial speaks the truth. I too was promised flying cars, and I've yet to see so much as a hovering golf cart. Of all the businesses to make a commercial about the failings of technology, IBM made this one. This from the people who forgot to put the "2" and the "0" in "2000," costing the world untold millions in stupid-ass "I Survived Y2K" paraphernalia.

Nothing in this world consistently pisses me off like technology. It always lets you down. It's always too slow. It's always breaking and always expensive. At the same time, my status as 21st-Century Digital Columnist forces me to work intimately with the machines.

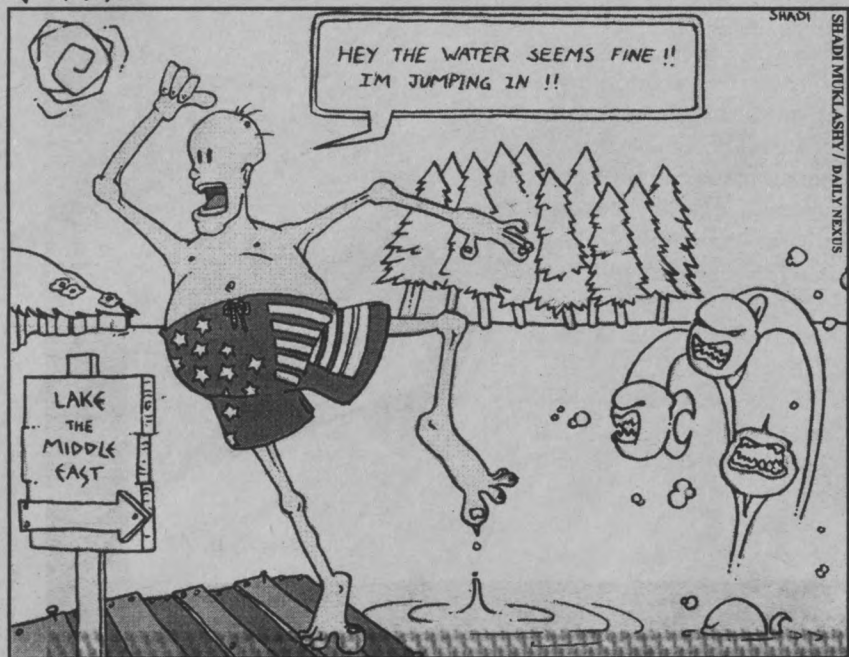
I kiss the monitor when an e-mail makes it across two continents at light speed. I pick up a baseball bat when the computer eats the e-mail and crashes. My love/hate relationship with the computer rivals the most dysfunctional couples on Springer's "Too Honky for TV."

Over the past month tech stocks have plummeted faster than a broker on Black Tuesday. A host of my friends are watching their tech favorites decompose into digital poo, and my only condolence is a stiff drink. Most of my shadenfraud stems from an inability to create and invest savings, but it's also fun to watch the free market bitch-slap people. The tech boil has burst and the bile of hype is slowly draining, but it's not enough.

The biggest problem is that technology isn't cool enough. Surfing the World Wide Wait, one night I came across a quote I really liked: "Any technology distinguishable from magic is insufficiently advanced."

I'm paraphrasing because, after four useless hours online, I failed to locate its owner. Despite all the Internet's snazzy search engines, cyberspace is about

THINK



The Reader's Voice

LEG COUNCIL VETOES STUDENTS' DECISION

Editor, Daily Nexus:

I am writing this letter in response to the article in the Oct. 5, 2000 issue of the *Daily Nexus* titled "Ban on Cigarettes Goes Up in Smoke". Last week the Associated Students Legislative Council decided to overrule the popular majority and make the decision itself. There was a split decision vote within the council, but why were they voting on the decision in the first place?

The students at UCSB voted for the ban and approved it by 55 percent! Those opposing the ban are arguing for smokers' rights, but



this is *not* about being able to smoke. This ban would not prohibit anyone from smoking on campus. People would only be unable to *buy* cigarettes or other tobacco products on campus. The proposal is about holding the UC Regents accountable for selling a deadly product to students and making an annual profit of roughly \$40,000 from the sales. There is actually a UCSB policy (#5460) which states that "the sale or distribution of cigarettes or smoking materials on campus, or in any university facility is strongly discouraged," but students can currently buy cigarettes at many of the stores located around campus. Our Associated Students Legislative Council has ignored the students' vote and voice.

Russell Johnson, an off-campus rep, was quoted as saying, "I'm not going to tell some-

one they... we're tryin... The ban... telling pe... smoke. It... not buy t... handing o...

Alejan... that bann... dent for b... bad for y... compare o... not the... death in... population... people die... from AID

Letters:
 submissions, but please include your name and phone number. For columns, maximum three pages, typed and double-spaced; for letters, one page. All submissions become the property of the *Daily Nexus* upon being turned in and are edited for length and clarity.

How to Reach Us:

Drop by the *Nexus* office under Storke Tower, call us at (805) 893-2691, fax us at (805) 893-3905 or e-mail us at <opinions@ucsbdailynexus.com>.

Modern Technology Still Charmless

as organized as a settlement of chimpanzees and as big as mainland China. It's not just the Internet either. Cell phones cost a lot, sound like poo, and microwave your brain. People look stupid all hunched over their phones yelling, "What?!" All of our technology seems so fragile, one cosmic ray can ruin an entire drive.

As science continues to demystify the world around us, technology has become modern magic for the post-modern human. Rarely does the magic ever seem to rise above petty cookie tricks and sleigh of hand hustler antics. There are a few noteworthy innovations though.

General Electric just made an oven that's not a microwave, but cooks a crispy baked potato in 10 minutes. A whole turkey will cook in 20 minutes. That's magic. Don't tell me how it works, just put one in my kitchen. It's one step closer to the "insta-chicken" appliance in "The Fifth Element." Sega has released a game called "Sea-Man."

again, "a magic man-fish in my TV, sign me up. That's cool."

My roommate tells me Macintosh has released a home computer that meets the minimum requirements for a national missile defense system. Mac's G4 Cube looks like an ultra-cool piece of minimalist art and lets you play real-life missile command. CCS art studio majors, eat your heart out.

My quest for magic in technology — a seamless integration of the cyber and the organic — makes me wish for a much later birth date. I don't want to be 20; I want to be negative 40.

By 2060 I should be able to own a computer that responds perfectly to my voice. I would name him HAL and he would have the same voice as the computer in *2001*: HAL would say things like, "Don't touch that, Dave."

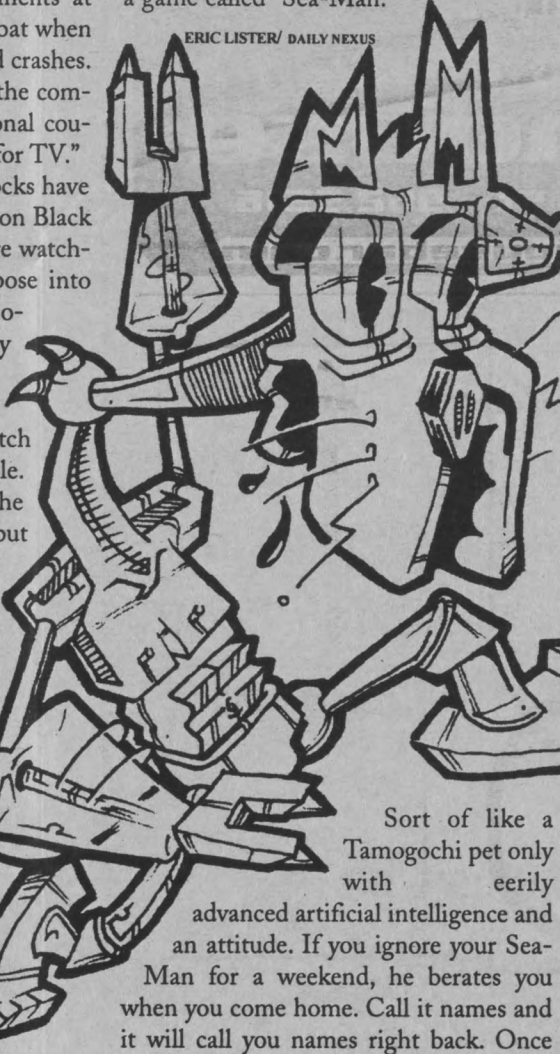
I would buy a new pair of eyes with x-ray, ultra-zoom and night-vision options. Included would be a special "LSD" function so the walls could melt without rat poison pooling in my back.

I would get micro-speakers grown into my cochlea so I could download any song ever made in any language and have it play with crystal-clear quality directly into my brain. I could get a defragment program for my frontal lobes and clean out all the advertising bullshit locked in my synapses. Ideally, I could do my taxes and Laetitia Costa, simultaneously.

In 50 years they are going to laugh about how we pounded away on keyboards and moved a little mouse around a big screen that was bad for our eyes. My cyber grandchildren will ask me how I ever managed to type weekly columns for the masses without the industry standard neuro-synaptic skullcap, which formats text directly from brain to computer.

"Computers totally sucked when I was a kid," I'll say, showing them the scars from carpal-tunnel surgery. "Those machines destroyed my joints and my eyes. You should be so lucky to be cyber kids. By the way, where did you park my flying car?"

David Downs has spent too many lonely nights watching reruns of "Star Trek." He is also the Daily Nexus features editor and a columnist. The Low Down usually appears every Wednesday.



ERIC LISTER/ DAILY NEXUS
 Sort of like a Tamogochi pet only with eerily advanced artificial intelligence and an attitude. If you ignore your Sea-Man for a weekend, he berates you when you come home. Call it names and it will call you names right back. Once

Death Row Dubya Don't Stop

The Texas Governor's Careless Capital Punishment Record

BRENDAN BUHLER

It seems the only thing more certain than death and taxes is death in Texas.

Most people couldn't sleep at night if they sent 145 people to their deaths, but others can smile. Or at least smirk.

While George W. Bush played solitaire on the computer in the governor's mansion for the last four years, Texas took a bold approach to the problem of overcrowding in its prisons — give 'em tickets for the gurney journey.

Most of these people, it goes without saying, were poor nonwhites. Now a crime is a crime is a crime, but being poor is a special crime in Texas. It's a crime punished by piss-poor legal representation in matters of life and death. The State Bar of Texas recently called the state's record of providing competent public defenders "a national embarrassment."

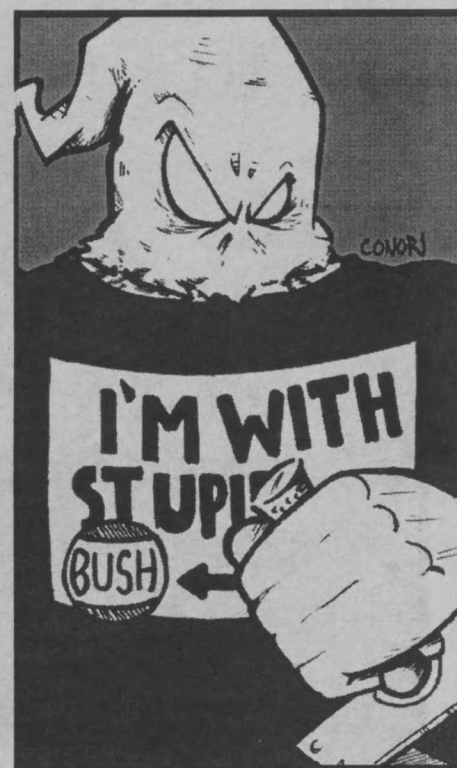
Those are strong words until you remember that they are talking about a system in which narcoleptic alcoholics represent defendants. Public defenders in Texas death penalty cases have shown up blind drunk, fallen asleep during testimony and called for recesses during which they used cocaine. Oh so surprisingly, their clients were convicted.

Despite this, George "What a shitweasel" Bush said, "there is no doubt in my mind that each person who has been executed in our state was guilty of the crime committed ... They've had full access to the courts. They've had full access to a fair trial."

Such as David Spence who went to his death for the gruesome knife-wielding murders of three teenagers. There was, however, the interesting question of where the unidentified hairs found on the bloody bodies came from. They did not come from David Spence, and no other physical evidence linked him to the murders. The witnesses against Spence, two of them jailhouse informants, recanted their testimony, saying the police pressured them.

While things like this might worry a man with a soul, they don't worry Bush.

Bush makes the cowardly, deceptive and flat-out stupid defense that he can't commute a death sentence, he can only act on the recommendation of the Texas Board of



CONOR BUCKLY/ DAILY NEXUS

Pardons and Paroles.

About that board: Bush appointed every member on it and the governor can order them to hold hearings. Not that Bush ever ordered a hearing, but you know. Bush not only has no qualms about giving people express tickets to executions, he actually seems to enjoy it.

In 1998 Karla Faye Tucker was executed for committing particularly horrific murders with a pickax. There is no doubt that she was guilty — she admitted to it — but Tucker received nationwide attention for her jailhouse conversion to Christianity, which resulted in her marriage to the prison chaplain, and for being the first woman executed since the turn of the century. In a tear-filled interview on national television, Tucker begged for her life. Bush also gave a nationwide television interview. He screwed up his face and, speaking in a high-pitched voice, imitated her plea: "Please don't kill me."

Clemency was out of the question.

Brendan "Not a shitweasel" Buhler is a Daily Nexus assistant campus editor and columnist. His column appears every Thursday.

Letters to the editor MUST include the author's FULL name, phone number, year and major.

ne they can't smoke. It's totally ludicrous that we're trying to tell adults what they can do." The ban has absolutely nothing to do with telling people whether they can or cannot smoke. It is about telling people that they cannot buy their cigarettes on campus, thereby handing over profits to the UC Regents.

Alejandro Moreno, a rep-at-large, is afraid that banning cigarette sales will set "a precedent for banning the sale of candy because it's bad for your teeth." First of all, you cannot compare cigarettes to candy, because candy is not the number-one preventable cause of death in the United States. The American population is well aware of the fact that more people die from tobacco-related illness than from AIDS, car accidents, illegal drugs, mur-

ders and suicides combined. The point, however, is that we were given the choice to voice our opinion on this matter, and we, as a student body approved the ban by 55 percent, and now our Legislative Council is ignoring our votes and deciding this issue on its own.

KIRSTEN ROEHLER

GIVE GREENS A CHANCE TO TAKE ROOT

Editor, Daily Nexus:

I have been tabling for the Green Party, Medea Benjamin and Ralph Nader for the last

three weeks. Sometimes, students walk by and laugh when they see Ralph Nader's name, as though he were some kind of nut. This tells me:

These students know nothing about modern American history.

They do not know how many lives Ralph Nader has saved by engaging in lifelong advocacy for the safety and rights of the American people.

They do not know that the consumer protections they take for granted would not exist without Ralph Nader. Corporate media control of the information we receive blocks out messages like the one that Ralph Nader and the Green Party bring to us.

Ralph Nader has created more beneficial change in the law and people's lives than any 10 politicians you could name. The laughter these students engage in embarrasses me in its ignorance.

I invite everybody, especially those people who laugh, to visit the Nader website, <<http://www.votenader.com/biography.html>>. Realize that you may not have been alive without Nader's advocacy for the people.

If you are "Green curious," the Green Party at UCSB meets each Monday night at 7 p.m. at the Isla Vista Community Resource Center.

DEBORAH LAGUTARIS

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