

Letters to Editors 1983-2018

-  Big Science Funding Letter C&EN 12-24-1990.pdf
-  Demographic Winter Letter 10-20-2017 sustainable population Deseret News.pdf
-  First 100 days draft trump nyt
-  Fuel Tax Letter SL Tribune 2-26-1997.pdf
-  gas tax hike Letter Des News 2-24-1997.pdf
-  GOP needs to be destroyed so true conservatism can rise 11-5-2018 Salt Lake Tribune.pdf
-  Imagine Gochmour Growth Nightmare Des News Letter 10-27-2016.pdf
-  Koch UU Letter 7-2017 A better way Deseret News.pdf
-  music Integrated Curriculum Letter SL Tribune 11-19-1996.pdf
-  no to endless population growth bedrooms 11-10-2015 Salt Lake Tribune.pdf
-  Russia Korean Air Flight 007 Andrade My Turn Newsweek rejection 9-1983.pdf
-  trump 60 days to go Wash Post op-ed 11-14-2016
-  Twitter story 6-19-2017
-  zLetters Media Comments 2014
-  zLetters to Editor 1991-1995.pdf

tainly been exploited in California beyond reason. Voters cannot determine what the various measures mean, and, I believe, have taken to acting according to their perception of the cost to the taxpayer associated with them. I believe that the voters want to be environmentally responsible, but they rightly judge that imposing more expensive bureaucracy is not an effective means to this end. They therefore rejected "Big Green" and the rest of the "environmental" measures that would cost us far more than any benefit they might bring.

The responsibility and the cost for protecting our environment belong at the source of the damage. We are making progress in this direction, but can't do it all at once. It has taken big changes in the thinking of all of us to erase the image of "smokestack America" (which many of us had presented to us as children) as a national ideal. We need continually to look for effective ways to educate ourselves so we can make the right choices. The American Chemical Society's "Campaign for Chemistry" is a good step in the right direction.

The democratic process works for an informed electorate. Let's give it all the help we can. After all, chemical is not a dirty word!

Robert L. Eichelberger
Westlake Village, Calif.

Defining mole

Cesare Emiliani, in his letter (C&EN, Aug. 27, page 3), is correct in saying that many conflicting definitions of the mole and related quantities are to be found in current textbooks. However, in offering his own definitions he seems to have invented his own meanings for the words and symbols associated with amount of substance, the mole, and "Avogadro's number." This is unfortunate, because it is clearly desirable that the scientists of the world should speak a common language in these matters if we are to communicate without ambiguity.

Following the Convention du Mètre in 1875, the name and symbols for units are decided by the Conférence Générale des Poids et Mesures (acting on the advice of its standing committees), which meets in Paris every five years. The names and symbols for quantities, which are somewhat more flexible, are decided by common consent in the nomenclature commissions of the International Standards Organization (ISO), the International Union of Pure & Applied Chemistry (IUPAC), and the other international unions. All of these bodies are made up of representatives from most of

the technologically advanced nations of the world. Information on these matters may be found in the various publications of these bodies; a good general source for chemists is the IUPAC Green Book, "Quantities, Units, and Symbols in Physical Chemistry" (Blackwell Scientific Publications 1988, Oxford OX2, 0EL, UK; ISBN 0-632-02591-3) available in scientific bookshops for about \$14. I abbreviate the Green Book to GB in the page references below.

The situation is (briefly) as follows. The mole (symbol mol) is a unit of the quantity "amount of substance." This statement is analogous to saying: The meter (symbol m) is a unit of the quantity "length," or the kilogram (symbol kg) is a unit of the quantity "mass." There are seven base quantities in the SI (Système International d'Unités), and seven corresponding base units, as in the following table (GB pages 4, 64, and 65):

Quantity	Symbol for quantity	Unit	Symbol for unit
Length	l	Meter	m
Mass	m	Kilogram	kg
Time	t	Second	s
Electric current	i	Ampere	A
Thermodynamic temperature	T	Kelvin	K
Amount of substance	n	Mole	mol
Luminous intensity	I _v	Candela	cd

Thus, for example, the mole is not a unit of mass, as implied by Emiliani.

The quantity "amount of substance," n , which is of special importance to chemists, is proportional to the number of elementary entities, N , which may be atoms, molecules, formula units, etc. The proportionality factor is the reciprocal of the Avogadro constant, symbol L or N_A . Thus we have the equation: $n = N/L$, or $N = nL$ (GB pages 4, 41, and 42). This is the definition of the Avogadro constant. Since N is dimensionless (i.e., it is a pure number), and n has dimensions "amount of substance," the Avogadro constant L has dimensions (amount of substance)⁻¹. Thus L is not dimensionless, and it should not be called "Avogadro's number." Emiliani's definition $L = g/u$ is not correct.

The unit mole is defined as the amount of substance that contains as many elementary entities as there are atoms in 12 g of carbon-12 (GB page 64). This leads to our present best estimate of the Avogadro constant which is $L = 6.022\,137(4) \times 10^{23} \text{ mol}^{-1}$ (GB page 81). The numerical value would of course be different if we were to express L in different units, such as mmol^{-1}

(millimole^{-1}); quantities always have different numerical values when they are expressed in different units.

The unified atomic mass unit, symbol u , is a unit of mass defined as $m(^{12}\text{C})/12$ (GB page 69; Emiliani's definition of u is correct, except for $1/12$ being misprinted as $1/2$). Thus the relation between the gram (g) and the unified atomic mass unit (u) is: $g/u = L \text{ mol}$. Note the unit mol on the right-hand side, which ensures that the ratio g/u is dimensionless.

There is no denying that these concepts are difficult, and are not always correctly presented. My own experience of teaching is that it is best to use these quantities and symbols in calculations, which is relatively straightforward, without presenting a lot of formal definitions; the latter can wait until a later stage when the concepts have gained some familiarity. A similar comment applies to formal definitions of many of our most fundamental concepts in science (for example, to define force, mass, and acceleration, without going round in a circle, is not easy). However, we should clearly all try to use these words and symbols with their internationally agreed meanings.

Ian Mills

Secretary, IUPAC Commission on
Physicochemical Symbols, Terminology &
Units, Department of Chemistry
University of Reading, U.K.

Funding for science

I was pleased to read the letter on funding for science by Louise Vivona (C&EN, Oct. 15, page 4). Her comparison of big science projects with the pyramids is an appropriate and useful metaphor.

In a time of severe budget problems, severe cutbacks, and impending future cuts to needed science and technology programs and to needed social programs, it appears to me to be absolutely irresponsible to spend billions and billions on projects purely for show and prestige.

This nation will not be at all hurt, economically or otherwise, by delaying the Superconducting Super Collider, by delaying the space station or the mission to Mars, or by delaying other large science projects. The only big science project presently being discussed that could be expected to have some reasonable social benefit for society in the near term might be the genome initiative, and even that is highly controversial and doubtful.

Joseph D. Andrade
University of Utah
Salt Lake City

Letter: Rational humans should work toward a sustainable population

By Joseph Andrade
For the Deseret News

Published: October 20, 2017 5:40 pm

The recent editorial headlined "Demographic winter," Oct. 16, strongly implies that slowing birth rates require a "remedy" and will lead to a "demographic winter."

Given the finite resources on planet Earth; given the serious air pollution, congestion, earthquake potential of the Wasatch Front; and given our rapidly increasing climate change catastrophes, it is clear to nearly all thinking, rational humans that our goal should be to work toward a sustainable population and a sustainable economy.

The 18th- and 19th-century assumptions of infinite land, water and air — and unlimited space to grow populations, economies and even nations — are no longer valid. We now live in a 21st century wherein there are indeed limits to growth — in population and in economies.

Why must the editorial board be so much in denial?

The creation, at least on this planet, is indeed bounded. Let's live and behave like we understand that fact.

Joseph Andrade

Salt Lake City



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President Trump - the First 100 Days Letter to NY Times, unpublished 11-11-2016

You, Mr. Trump, have a historic and unprecedented opportunity. You could be one of the Nation's - and the world's - greatest leaders, or you could be an abysmal failure - perhaps even impeached.

Don't do anything stupid. You have a lot to learn in a very short time. Take 100 days. The country can run on autopilot for 3 months, as long as you encourage Ryan and McConnell to pass a budget - at least for 100 days. And try to keep Congress from doing anything stupid. And stop Tweeting for 100 days! Really.

You seem to be off to a good start with Barack Obama. He's good, he's smart, and he's a great teacher. Ask him what he would try to do beginning Jan. 20, assuming he had full support from Congress and knowing what he knows now. What makes sense for the nation, the world, the planet?

Do the same with Bernie Sanders. He's an anti-establishment rebel, like you. You're about the same age. If he had been elected, with full Congress support, what would he have tried to do starting Jan. 20. And ask Hillary - she was an incredible competitor. What would she have tried to do had she been elected, together with both house of Congress in support?

And even ask 'little Marco' and 'lyin' Ted' what they would have tried to do.

The lobbyists are all lining up and circling the Capitol and the White House. They are the establishment you and Bernie campaigned against. Send them packing - all of them, including the NRA, the US Chamber, and the Koch empire. They are all part of the plutocratic, anti-democratic establishment. Send them all away for at least 100 days.

Politics needs a vacation - especially you, Hillary, Barack, and Michelle. You have all these resorts. Obama likes golf - play and talk - a lot - and listen. Watch Michael Moore's *Where to Invade Next* - not for entertainment but for knowledge. Process what he learned about Iceland, Finland, Portugal, France, and the other of the dozen or so countries he visited. It should be the first educational video shown in your Trump College course: *100 Days to Becoming a Good President*.

Melania needs her own courses and teachers. Michelle is the best I can think of - and they've already met. The new First Lady is from Slovenia, one of the countries in Moore's film. Slovenia is in Europe, as you know. Listen to some Europeans - learn from them. Interact with Angela Merkel - she's probably the gutsiest and best political woman on the planet today - and she knows enough science to separate the *mierda* from the wishful thinking.

And the guy from Japan - Abe what's his name? He's somehow managed to keep Japan viable with a sluggish, - almost sustainable - economy, an aging population, and serious disasters. That's not luck.

Then take all that input, process it, think. Be skeptical of the simplism-based 'principles' you'll get from Paul Ryan, Ted Cruz, or even Marco Rubio. We're in the 21st century, not the 19th. Ditto for all those Justice Scalia quotes and from the Justice Alito, Thomas decisions - they also live in the 19th century.

You were elected to change government for the better - to help all the people. And as the USA is the leader and has been the role model for most of the planet, think of those people, too. They may not be US citizens, but we're all on this planet together.

The solutions are rarely very simple. Be skeptical of those who preach 'principle'-based, or faith-based, simplism. Keep an open, clear, non-ideological mind - and then do what seems right.

Good luck.

SL Trib 2/26/97

Fuel for Highways

The Legislature is now working hard to cut \$30 million to \$50 million out of the governor's conservative, frugal and carefully researched budget. The Legislature is considering axing programs and items which previous legislatures have deemed worthy of support. The Legislature has never been known for being anything other than frugal, prudent, fiscally conservative and generally tight with its money. This is all well and good.

The real problem is a \$4 billion-plus bill coming due related to highway and transportation infrastructure. Interstate 15 is used by people who drive cars and trucks powered almost exclusively by gasoline and diesel fuels. It is, therefore, not at all unreasonable or unfair that a relatively modest increase in the price of gasoline and diesel fuel over the next five to 10 years pay for this transportation infrastructure.

Those who have had an opportunity to travel overseas know the price of gasoline is roughly \$4 a gallon throughout the world, except in the United States and the Arab oil countries. Increasing the price of gasoline by 10, 20, 30, even 50 cents a gallon in the United States still makes it the cheapest gasoline on the planet.

If the price of gasoline goes up 10 percent to generate the funds to pay for our badly needed transportation infrastructure, that means by car pooling just one day every 10 days, once every two weeks, you would still come out even. That does not seem like an exorbitant sacrifice for most of us.

Truck drivers, farmers and others who need such fuels to be low cost, so that their livelihood can maintain its economic competitiveness, make a much greater sacrifice. Perhaps the Legislature could use some of its time to design a plan which spreads that sacrifice equitably and reasonably, perhaps by not applying the increase to diesel, at least not in the first several years, rather than spending its time worrying about slashing an already slashed budget and ignoring the real guts of our fiscal problem.

SL Trib 2-26-1997 J.D. ANDRADE
Salt Lake City

Gas-tax hike is reasonable

The Utah Legislature is now working very hard to cut \$30 million to \$50 million out of the governor's conservative, frugal and carefully researched budget. The Legislature is considering axing programs and items that previous Legislatures have deemed worth of support.

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The real problem is a \$4 billion-plus bill coming due related to highway and transportation infrastructure. Interstate 15 is used by people who drive cars and trucks powered almost exclusively by gasoline and diesel fuels. I-15 is not used by pedestrians, rarely used by bicyclists and not generally used by horses and buggies. It is therefore not at all unreasonable or unfair that a relatively modest increase in the price of gasoline and diesel over the next five to 10 years pay for this transportation infrastructure.

If the price of gasoline goes up 10 percent to generate the funds to pay for our badly needed transportation infrastructure, that means that by carpooling just one day every 10 days, once every two weeks, you would still come out even. That does not seem like an exorbitant sacrifice for most of us.

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Encourage your legislators to support a reasonable and equitably distributed fuel tax.

Des News
2-24-1997

Joe Andrade
Salt Lake City

Response to Gochnour

Natalie Gochnour's recent column about Utah's future paints a far too rosy picture. Imagine 5 million Utah residents ...

Imagine new and expanded ski resorts — in spite of severe global warming, resulting in much less and probably almost no snow. Imagine investor debt and bankruptcies!

Imagine greatly increased professional sports, insisting on public expenditures for new stadiums, transport and physical facilities. Imagine less and less money going to critical education!

Imagine a major airport in Utah County, significantly increasing air and noise pollution and resulting in a great increase in health and medical services — and greater incidences of gestation, birth and baby medical issues.

Imagine another Olympics to "light the fires within," to consume precious tax revenues and to produce smoke pollution — and result in athletes boycotting the Games due to dramatic increases in summer ozone or winter particulate air pollution. Imagine even less and less money going to critical education!

Imagine good, accessible, inexpen-

sive commuter rail services. Very good.

Imagine drones — not just for convenient delivery but for surveillance and annoyance. Imagine new campaign donations for our marginally moral politicians and more jobs for lawyers to deal with drone-based altercations!

"The future certainly holds many challenges ..." The most difficult

“Five million people along Utah’s Wasatch Front will be more dystopian and apocalyptic than the worst of our modern-day youth novels.”

— Joseph Andrade

and most severe challenge is how to encourage less growth in population and a sustainable economy in a state plagued by pollution, by a disrespect for reality and critical thinking, and trapped in a 19th-century mindset advocating largely unrestrained growth in population and its economy.

Five million people along Utah's Wasatch Front will be more dystopian and apocalyptic than the worst of our modern-day youth novels. No wonder the kids are worried.

Imagine nightmares ...

Joseph Andrade

Salt Lake City

SUBMISSIONS

Mailing address: Readers' Forum, Deseret News, P.O. Box 1257, Salt Lake City, UT 84110.

Email: letters@desnews.com (please put the text of your letter into the email, we cannot open attachments).

Fax: 801-237-2530

Readers' Forum rules: Letters intended for publication should address a single topic and not exceed 200 words.

The Deseret News will consider publishing commentary of up to 600 words as a My View op-ed. Please include "My View" in the subject line.

Submissions must include the writer's full name, address and telephone number. We do not publish anonymous letters.

All submissions become the property of the Deseret News and are subject to editing for length, accuracy, clarity and civility.

Publication is at the sole discretion of the editors. We typically only publish one letter per writer each month. Unpublished submissions can neither be acknowledged nor returned.

The Salt Lake Tribune

Letter: The GOP needs to be destroyed so true conservatism can rise again



In this Nov. 4, 2018, photo Tim Boyden uses the loose fall leaves in front of his business Out On A Limb Gallery in Eugene, Ore., to encourage people passing by to vote in the midterm election. (Chris Pietsch/The Register-Guard via AP)

By Joseph Andrade | The Public Forum • Published: 3 hours ago
Updated: 3 hours ago

Utah's four GOP House representatives recently debated their challengers. The four — Rob Bishop, Chris Stewart, John Curtis and Mia Love — cited and endorsed their own Utah “values” while continuing to generally support and endorse their party and its leader, Donald Trump. There is an inconsistency, even a hypocrisy, in citing Utah values while endorsing Trump.

The current GOP is corroded, corrupt, untruthful, uncivil, indecent and incapable of governing. A number of prominent Republicans now argue that the party needs to be destroyed so it can be reborn as a principled, honest, conservative party. This process can be expedited by voting against the Trump GOP party — against its candidates at all levels — now and in 2020.

Utah values are inconsistent with the immorality, the meanness, the prejudice, the indecency and the lies and crimes of Trump and his now-valueless GOP.

Those running under the banner of the GOP do not deserve your vote. They have chosen to continue with the GOP, rather than renounce their membership and their support of Trump and his corroded party.

Vote for values, principles and courage.

Joseph Andrade, Salt Lake City

Submit a letter to the editor

Letter: A better way

By Joseph Andrade
For the Deseret News

Published: July 21, 2017 2:00 p.m.

This morning's Deseret News editorial ("Why the University of Utah's new economics institute is a win," July 19) and the parallel stories in the Deseret News and Salt Lake Tribune greeted me after being on the road for several weeks.

The Kochs are in large part responsible for the massive obstructionism to the Obama presidency and are now largely responsible for the support and encouragement of — if not Trump himself — those who, when the writing was on the wall, turned tail and endorsed and now defend and support Trump.

The Eccles have been very good to and for the University of Utah.

I am disappointed in President Pershing, in the Board of Trustees and in those in the university administration who have not spoken out and/or argued against this action. The Deseret News' editorial defense and justification of the action is itself ultrasimplistic, economically adolescent and hypocritical.

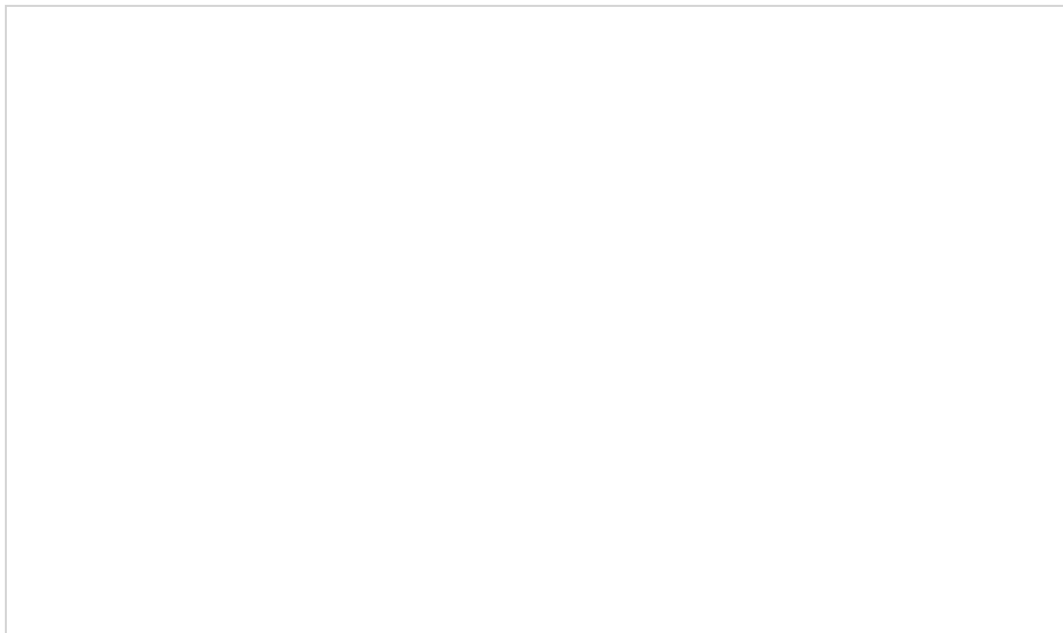
The institution I served, defended and loved since 1969 has now fully caved in to its gluttonous quest for dollars from any and all sources. Perhaps the Trump family foundation can now be approached to fund a Center for Equality for Women?

The U. has now fully joined with the Utah State Legislature and the governor in seeking a dystopian alternate economic and political reality. Utah may, like the nation and many chronic alcoholics, have to hit bottom before it can begin to shed its addiction to economic and political simplisms which do not work, have never worked and will not work in the future.

Real reality and values will eventually triumph — there is a better way.

Joseph Andrade

Salt Lake City



Life Is Integrated; Curriculum Should Be, Too

The Tribune has published a number of stories and letters dealing with a new science requirement in the public schools which has been interpreted as pushing music out of the curriculum. I would urge those responsible for curriculum mandates as well as school principals and teachers to be far more creative in their approach to the various subjects in the curriculum.

The world is not broken up into physics, chemistry, music, drivers ed, history, and other curricular topics. The world is integrated. It is connected. In the real world, all of these topics are inter-related. Unfortunately, our universities treat these subjects as myopic, highly individual and distinct disciplines with little or no overlap.

That is how we train our teachers, and that's how we train individuals responsible for curricular decisions. There is no reason why we cannot have both science and music, together, integrated.

Music is basically the production of sound. That is a part of physics. Music generally uses instruments whose design and materials of construction significantly influence that sound. Materials and their design are a part of chemistry. Music is generally repetitive, rhythmic, exhibits patterns, and that of course is mathematics. Music is generally performed, written, conducted by living organisms from the genus *Homo sapiens*,

and that is biology.

There is no reason why all of these subjects cannot be connected. That means that the band teacher or the music teacher has to know some science, maybe has to go to a number of summer science workshops; it means that the science teacher must know some music. Many of them do. Many of our great physicists and mathematicians also are good musicians because of that natural connection between those disciplines. So, enhancing science does not mean destroying music, just as enhancing music need not mean ignoring the sciences. Put them together.

The reason there appears to be so much material and so little time for school curriculum is simply because all of that material is treated as independent and totally unconnected to everything else. As we begin to approach these subjects in a connected, coherent way, we discover the cohesion and commonalities between all these disciplines and subjects, making it far easier to learn and use them all.

This approach is well developed in the Channel 9 telecourse "Science Without Walls: Science in Your World" airing right now. The course can be viewed Tuesdays and Thursdays from 7-9 p.m. on Channel 9 through Dec. 6.

J.D. ANDRADE, PH.D.
Center for Integrated Science Education
University of Utah
Salt Lake City

Letter - SL Trib - Int. Sci. - 1996

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Letter: 'Just say no' to endless population growth

First Published Nov 10 2015 05:54AM • Last Updated Nov 10 2015 05:54 am



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Gov. Gary Herbert seemed almost cheerful that we will have a state population of 4 million by 2030.

"Accelerated growth" (Herbert's words) is considered positive. Exponential growth has a more ominous connotation.

Seventy percent of our population growth is being produced nightly in bedrooms throughout the state. No matter how many electric vehicles we buy, how much Tier 3 gas we burn, how energy-efficient our buildings become, exponential growth is decreasing our quality of life — and will increasingly do so.

The Tribune editorial quoted Edward Abbey on growth and cancer. We fight cancers. We don't plan to welcome cancer. We don't encourage it to grow.

Alan Matheson, echoing the governor's positions, said we need — and will get — innovation. Where innovation is most needed is in Utah's bedrooms — and sofas.

We need innovation in family planning and in contraception. We need agency in the bedroom. We need Nancy Reagan again saying, "Just say no!"

We need a sustainable population — a sustainable economy for Utah, for the nation and for the planet.
Exponential growth is a cancer. Planning to fully accommodate it is a suicidal fantasy. Use your agency.

Joe Andrade

Salt Lake City



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21
WHAT TO DO ABOUT RUSSIA?

BY Joe Andrade

The brutal Russian attack on Korean Air Lines Flight 007 has left the entire civilized world shocked, saddened, confused, and even scared. We had all assumed that Russia was a civilized country, with some respect for human life. The situation in Afghanistan and the 747 attack has changed all that. How can we deal - how can we negotiate - with a government that does not respect such basic premises?

Our society has a simple method of dealing with bullies. We beat the hell out of them -- and make it clear that they better behave. Although we'd love to do that to the Russian military and their government leaders...we can't. A military response is simply not a viable option. Given the current tensions and the fact that all trigger fingers (or red button fingers) are itchy, we cannot risk the survival of the planet.

Economic responses also appear to be ineffective. Boycotts don't work. Cutting off trade and economic interchange doesn't work--there are too many third parties who will buy and sell. Economic sanctions appear to hurt us as much as they hurt them.

So...if we can't punch them and we can't starve them...what can we do?

No regime - no matter how strong, how authoritarian, how powerful - can survive unless the populace at least tacitly agrees to support that regime. Our greatest allies are the Russian people.

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It is generally accepted and understood that practically all

of Russia's allies hate the Russians -- at least they hate the Russians in charge of Russia. It is common knowledge that the Poles, the Czechs, the Latvians and Lithuanians, and certainly most of the Southern Asian provinces in the Soviet Union all have an intense dislike for Mother Russia and the current system.

A recent fiction best seller, THE FALL OF THE RUSSIAN EMPIRE, exploited this theme. Basically the Russian political system fell from within due to the dissatisfaction of Asian Russians, who were constantly discriminated against by their European Russian countrymen.

So..given all this, what can we do?

Talk to the Russians...not the government, not the military, not the Russian business community...talk to the PEOPLE. They are our greatest allies.

Let us basically increase all of our information activities towards the Soviet Union and all of her allies. Voice of America, Radio Free Europe, and perhaps other information activities of our government are good...but not enough. Barrage them with high power radio and TV transmissions...from transmitting stations near their borders, from transmitter ships just offshore, from satellites. Inundate the place with Radio PRAVDA...Radio TRUTH.

Encourage defections...let Soviet pilots know how to contact our military listeners...let them know where and how to defect...where and how to land that Mig fighter...where to take that ship or submarine.

Grant them political asylum...help them get a start in this

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more or less at each other's throats now with an incredible nuclear arsenal that, if unleashed, would literally destroy human civilization. I can't trust their judgement anymore...the KAL tragedy was too close to home (I've flown that route)...I know from close friends who escaped from Afghanistan the magnitude and depth of the Russian brutalities there. We simply cannot let the collective bully continue to brutalize the world.

Fortunately, it's a collective bully...a system where no one person is ever really in charge. It's a suspicious, scared, insecure, power-by-intimidation group...more or less like a gang of punks or thugs...let's encourage them to fight among themselves rather than with us.

If you have a better solution, I'd certainly like to hear it.



Joe Andrade

Salt Lake City

Sept. 17, 1983

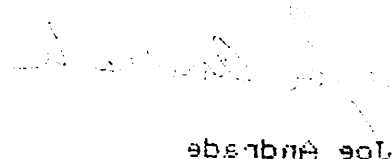
Joe Andrade is a professor of engineering at the University of Utah in Salt Lake City.

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Salt Lake City

Sept. 17, 1983

Joe Andrade is a professor of engineering at the University of Utah in Salt Lake City.

country. Initiate an enormous technical, cultural, political exchange program. Let many of them in to this country--educate them. The government will of course carefully select the participants. That's ok -- our system can easily survive the scepticism and scrutiny of others...but their system cannot survive such scrutiny. And let's teach Russian...language and culture. Let them know we're not afraid of their language nor their culture.

Why not offer asylum to Politburo members and the Generals... individually...secretly. I'd bet that practically every one of them would seriously consider such an offer. We can afford to provide each of them a piece of property and a house.

All such programs combined could be carried out on a massive scale with less than 1% of our military budget.

People in totalitarian countries...and Russia is just a committee form of totalitarianism...vote with their feet. Even barbed wire fences, Berlin walls, mines, and machine guns can't keep them all in.

What will happen if we succeed in creating such internal dissention?

Who knows? It's a gamble. There is a strong local nationalistic sentiment in many regions of the Soviet Union -- as documented in the Newsweek book, DECLINE OF AN EMPIRE, by H. Carrere d'Encausse, 1979. I suspect that, given the nationalistic tendencies in the European and Asian provinces of Russia, the massive system would crumble and be replaced by dozens of autonomous countries.

The question is..what will happen if we don't do it? We are

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THE NEW REPUBLIC

OCTOBER 3, 1983

THEY SHOOT AIRPLANES, DON'T THEY?

Ronald Reagan is many things, but reckless he is not. The Soviet Union shoots down a civilian airliner, killing 269 people, including 61 Americans, and the President of the United States responds with a lot of hot air and a few symbolic acts that do not deserve the name of sanctions. For that his allies on the right savage him for cowardice, and his opponents on the left salute him for statesmanship. Richard Viguerie suggests that the President apologize to Jimmy Carter, who at least had the courage to impose a grain embargo and an Olympic boycott after the invasion of Afghanistan. *The New York Times* is delighted that the President has discovered restraint and caution.

The President's display of thunderous inaction showed neither cowardice nor statesmanship, but a realistic reading of how helpless the West really is when faced with Soviet demonstrations of power within their own sphere. The fact is that anti-Soviet sanctions don't work. There are two reasons for this. First, the rest of the non-Communist world, including our allies, are not interested in them. They are too busy getting and spending while the United States defends them. If the Soviets can't get grain from the United States they'll get it from Argentina; if they can't get compressors for their gas pipeline from the United States, they'll get it from American subsidiaries in Britain, France, and Italy; if they can't get oil-drilling technology from the United States, they'll buy it from Japan. Since the United States no longer has the power to impose its will on its allies, unilateral sanctions are useless. The only people hurt are potential American sellers.

But even if we could get our allies to agree not to steal our business, sanctions would fail. That brings us to the

other reason: *Americans* have no stomach for sanctions. Or, more precisely, they have less stomach for deprivation than have the Russians. Commerce, and the higher standard of living it brings, is very dear to us. The Soviets don't value such things as highly as we do. After all, they are a people whose crops have endured bad weather since 1917, whose standard of living is stagnant, whose infant mortality is rising—and who take all these developments without protest. Such a people is far better able than we to sustain the loss of mutual economic benefits. And since sanctions must inevitably cut both ways, it is we who invariably call off the game. The most right-wing Administration in fifty years ends up sending its Secretary of Agriculture abjectly to Moscow to restore the Soviets' supply of American grain, this time with a no-embargo promise, as demanded by the Russians. The deal is signed and the Russians embraced just in time, during the window of opportunity between the rape of Poland and the destruction of Flight 007.

That window is now temporarily closed. People are upset. They demand that something be done to punish the Russians. Senator Byrd and others of short memory want another grain embargo; how long would this one last? This is not to say that the United States should not have attempted boycotts and embargoes to protest past Soviet outrages. It is a pity that domestic and alliance politics make substantive measures against the Soviets impossible. But facts are facts, and when there is no will to stick to sanctions, sanctions are worse than useless.

Mr. Reagan has concentrated not on doing but on showing. Hence the strong rhetoric and the purely symbolic

acts restricted to civil aviation privileges, hardly a critical Soviet interest. These are designed to focus world attention on the attack and concentrate some minds on the regime that carried it out. Yet even at the symbolic level, the President underplayed his hand, agreeing to go ahead with sending Secretary of State Schultz to meet Andrei Gromyko in Madrid, where they engaged in a shouting match. Simple decency, if not self-respect, demanded the meeting be conditioned on a Soviet apology. The only action of any substance was taken by Western airline pilots acting on their own. Having something of a personal interest in discouraging the firing of missiles at civilian aircraft, they are imposing a ragged but probably effective sixty-day boycott on flights to the Soviet Union. Even that was beyond the President's power. He'd already canceled Aeroflot landing rights in the United States as punishment for martial law in Poland. The Aeroflot card had been played. So it's sixty days' suspension for 269 dead. Next case.

The propaganda sanction, however, was well executed. For it is important to remember how unfashionable it is normally—between attacks on civilian airliners—to engage in anti-Soviet rhetoric. When the President said some time ago that the Soviets are prepared to lie, cheat, and otherwise act nastily in pursuit of their ideology, he was ridiculed. But when Ambassador Jeane Kirkpatrick, in a U.N. show as dramatic and captivating as any ever, played a recording of Soviet pilots noting three times that KAL 007 had its lights on (exposing one of many Soviet lies about the incident) and coolly arming and firing missiles at the airliner, she was, for once, not accused of engaging in cold war tactics. Indeed, the performance was so impressive that it elicited from the Russians the rarest of exercises in free speech, an event undreamed of by even the most optimistic *détente*nik—an open press conference at which high-ranking Soviet military officials faced Western journalists (and a few local toadies, to judge from the planted questions that dotted the transcript) to give their version of the incident.

HOWEVER, THE REACTION of the Security Council to these dramatic revelations demonstrated just how little support any measure that might offend the Soviets can command. The American delegation had to postpone for three days a Security Council vote on a softball resolution that went no further than “deplore” the loss of life without directly saying a unpleasant word about the Russians, because it could not muster the nine out of fifteen votes necessary to force a Soviet veto. The governments of Malta, Guyana, Zimbabwe (whose existence is one of our more recent diplomatic triumphs), and Jordan (led by our perennial ally, Hussein) demurred. In the end, Malta and Jordan yielded to Western pressure. Guyana and Zimbabwe, however, refused to join in an elementary declaration that might have offended the Soviets. And why not? They shoot planes, don't they?

There are no sanctions that will have any real effect on the Soviets, i.e., that will change their behavior, and cer-

tainly none that will change future Soviet actions against off-course civilian airliners. It was one of the fallacies of *détente* that we could restrain Soviet aggressiveness by tying them in commercial knots; it is we who have become restrained by commercial bonds. And since, apart from vengeance, deterrence is the only justification for retaliation, the President is right to choose another course. He wants to use the indignation aroused by the incident, and even the feelings of frustration aroused by his own inaction, for other ends: to support the military buildup that he has long advocated and which has increasingly come under attack as memories of earlier Soviet outrages (like Poland) and American humiliations (like Iran) have faded. The Russians do not respond to economic sanctions. They do react carefully and warily to military strength. Accordingly, the President is wise to use this incident not to throw at the Russians a few wild punches which will invariably elicit pained responses only from injured Westerners, but to help pass elements of his military program that are in jeopardy.

THE HOPE IS THAT the incident will teach a lesson about the nature of the Soviet regime. It should, of course, teach us nothing new. Why so many should be shocked by this incident and Soviet reaction to it is a mystery, and not just to us—to the Soviets, too. Marshal Nikolai Ogarkov, chief of the Soviet general staff, took pains at his press conference to emphasize that the incident resulted from a wholly characteristic, entirely normal, and eminently repeatable Soviet reaction to an “intruder” aircraft. (The Soviets are known to have shot at their *own* aircraft, mistaking them for spy planes.) That kind of unrepentant, remorseless reaction is what so many people find disturbing. After all, it is possible to shoot down a civilian airliner as a result of a misunderstanding or an overly sensitive defensive system, as Israel did to a Libyan airliner which strayed over the Sinai ten years ago. But the Israelis apologized and paid compensation. The Soviets declare that they did the right thing, that they would do it again, that the Americans are responsible, and that the C.I.A., which masterminded the “special mission,” should pay reparations. Soviet officials emphasize that this was not an accident, but the deliberate and calculated shooting down of a spy plane. How did they know it was a spy plane? It was flying over important and secret military areas. Why destroy it (captured spy equipment on a civilian aircraft would have been a great propaganda windfall)? “Sacred Soviet soil” must be defended (they argued, in a no doubt temporary deviation from materialist theology). And what of the lives lost? Their blood is on the head of the spymasters. Marshal Ogarkov went further. He reminded the questioner of the twenty million Soviet lives sacrificed to defend that same sacred soil in World War II. The implication was clear: in comparison, 269 is a paltry sum. It was an interesting insight into our propensity to misread the Soviets. Those who contend that the Soviets desire above all peaceful coexistence invariably invoke the twenty million as evidence that the

Russians, having seen so much suffering, wish to suffer no more. But as Ogarkov and other high Soviet officials tried to explain, often to unhearing Western ears, the calculation works the other way: when one has lost twenty million lives to defend one's sacred soil, a few hundred more here or there (and non-Russians to boot) is a small price to pay.

One person to whom the downing of Flight 007 was no surprise was Senator Henry Jackson, who died the very week many were waking up to the lessons he'd been trying to teach for forty years. He understood that the same strong government that is needed to fight for liberal causes at home is needed to defend liberal democracy abroad. It was dismaying to him, as it is to us, that these awakenings, while more frequent now, remain periodic. Five years ago another Korean plane strayed into Soviet airspace and was forced by Soviet fighters to crash land on a frozen lake. That incident killed only two people, so it was no big deal. Between that incident and this one, we've seen the Soviet invasion of one neighbor, and the brutal suppression of freedom in another. And the Pope has been shot, quite possibly on the order of Yuri Andropov. Quite a record for five years. And yet Democratic Presidential candidates, some of whom should know better, tell cheering audiences that their first order of business on January 21, 1985, will be to get Mr. Andropov on the phone for a little chat about peace. What do they really expect will come from such a chat? (Senator Cranston goes his rivals one better by insisting on an immediate summit carried out without the usual diplomatic preparation since diplomats—a nation's institutional memory—would be an obstacle to peace.)

Did we really need the shooting down of a civilian airliner to teach us that the Soviets are brutal? Do we need days of unrepentant rejection of responsibility to teach us that their brutality is remorseless? Examine Soviet reaction to the incident. First came days of evasion and denial, lies repeated until they became ridiculous. But should this surprise us in a country that doesn't even report its own airline crashes, and that prefers to subject the families of

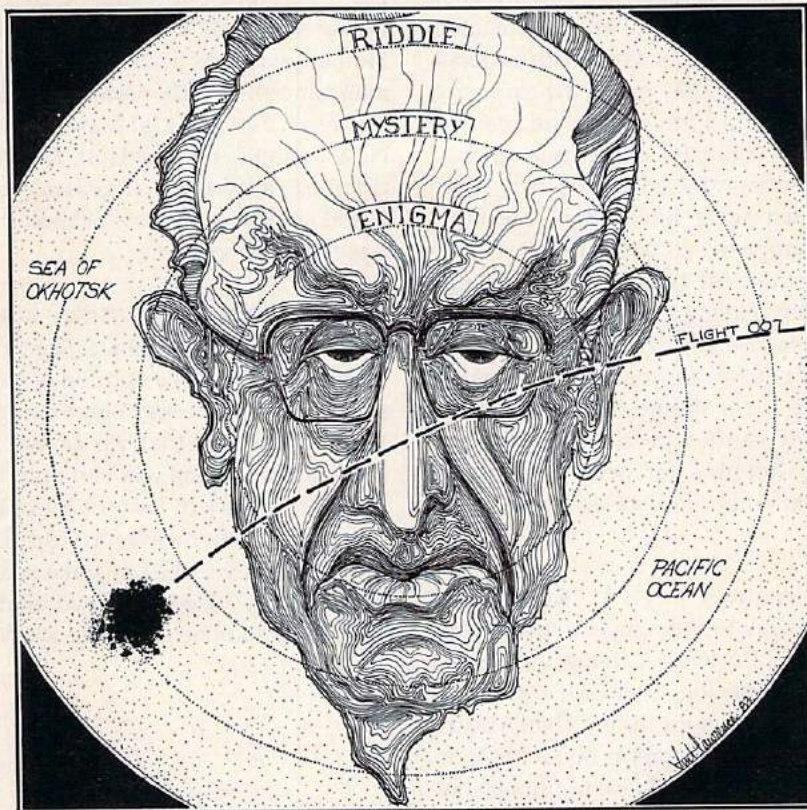
the victims to the agony of not knowing rather than admit the possibility of even the most ordinary human tragedy occurring on Soviet soil?

Then came the stonewall, the rejection of requests by other countries to search Soviet waters for wreckage and bodies. Isn't this to be expected from a country where information is routinely viewed as a commodity to be controlled and manipulated? Moscow doesn't even have a telephone book, nor is there an "information" number to call: if you want to call someone, you should already know his number, and if you don't, why do you want to call? Should anyone expect the Soviets

to allow on their territory search parties after a catastrophe, when they have repeatedly rejected the idea of "on-site inspection" not just for prison camps and psychiatric hospitals but for international agreements freely negotiated and freely arrived at?

Finally, when the basic facts can no longer be denied, comes a version of the truth which is merely a more elaborate lie, what spies call a "legend." The plane was on a "special mission" controlled by the C.I.A. (We know that paranoids project, and we know that Aeroflot and Cubana airlines have an

uncanny tendency to wander over sensitive American airspace, like the incident in 1981 when one flight strayed over New London, Connecticut, on the day the first Trident submarine was launched.) How different is this from saying that Anatoly Scharansky is a C.I.A. agent, that Andrei Sakharov is a traitor, that Raoul Wallenberg disappeared? The passengers of Flight 007 are not the first innocents to stray into Soviet airspace. What the Soviets did to that plane they routinely do to people, things, movements they can neither identify nor control. Destroying Flight 007 was business as usual, as anyone understands who reads Marshal Ogarkov's remarks. There is nothing in our power that we can do to prevent the Soviets from conducting such business. The proper American response is also business as usual. Only that must include the business of strengthening ourselves and our friends to keep the Soviets from claiming any more air as their space.



DRAWING BY VINT LAWRENCE FOR THE NEW REPUBLIC

NOTEBOOK

□ UNDERDRIVE: William F. Buckley Jr. has again come before the public with proof of the crippled intellectual condition of American conservatism. The intellectual task of the conservative has frequently been to transform an inclination into an idea, and a taste into theory; to make what he (and usually not she) merely likes into something positively philosophical. Writing in defense of the all-male club in *The New York Times Magazine*, Mr. Buckley has produced a minor classic of the genre. "The weakness of the [women's] movement lies, surely, in its unstated insistence that men should come forward with rational reasons why, in some situations, they prefer the company of their own gender. . . . I am outraged at the planted axiom that one needs to account for every inclination." Perfect. In his uncharacteristically colloquial way, Mr. Buckley has described just what intellectuals are supposed to do. They are supposed to come forward with rational reasons. They are supposed to account for inclinations. But not Mr. Buckley. He goes on humbly to deny "that that which we cannot explain we ought not to engage in." This is fine, of course, for matters of religious faith. But an all-male club is (or should be) a matter of a different order. Tertullian cannot justify The Century Club. The borrowing of holiness for petty prejudices, however, is one of the time-honored tricks of American conservatism.

□ "YOU'RE NOT EXACTLY centrally located," said Walter Mondale after making his way to the remote North Georgia mountain where Jimmy Carter, reversing the myth, has gone from White House to log cabin. Mr. Mondale might as well have been talking about his old chief's position in the hearts of his fellow Democrats as about his spot on the map. One thing Mr. Carter is central to, though, is the political past of Mr. Mondale, and Mr. Carter, in endorsing Mr. Mondale, strove mightily to remove himself from around Mr. Mondale's neck. "I think it is obvious that no candidate who hopes to be President of the United States could permit himself or herself to be stigmatized by subservience to the policies of someone else," was how he put it, in a burst of wonderfully Carteresque prose. While embracing Mr. Mondale, Mr. Carter managed also to free him from his embrace. It was a gracious and, to Mr. Mondale, a valuable gesture.

□ GEORGE MCGOVERN has nothing better to do, so he is running for President again himself. It's a sad spectacle. Mr. McGovern was crushed by Richard Nixon in 1972, ousted from the Senate in 1980, and is likely to become an object of derision in 1984. He has no money and no staff, and his own wife won't campaign for him. Whatever success he achieves will come at the expense of Alan Cranston, the candidate he most agrees with, or of Gary Hart, the candidate least in need of incessant reminders

of '72. Mr. McGovern's platform remains one of isolationism and national guilt, and only if he can take it over the side with him will his candidacy serve a public purpose.

□ READERS OF THE FINE PRINT will have noticed a number of TNR staff changes this week. Leon Wieseltier, a senior editor for the past year, has become literary editor. (His book *Nuclear War, Nuclear Peace*, adapted from a long essay published here in January, is now in the stores.) Michael Kinsley, who has been variously managing editor, editor, senior editor, and contributing editor of THE NEW REPUBLIC and, from September 1981 to May 1983, editor of *Harper's*, returns to TNR full-time as a senior editor. Ann Hulbert, who has been with the literary department of the magazine since 1978, joins the ranks of our senior editors this week as well. And Marc Granetz, editor since 1979 of New Republic Books / Holt, Rinehart & Winston, has decided to bag the life of genteel poverty; he may now be found at Harvard Law School. His post here is open. Applications welcome.

□ FORTY YEARS AGO IN THE NEW REPUBLIC: "With Americans it is always either a feast or a famine: while one section of our public opinion is implacably hostile to Russia, another proposes to give her more than seems reasonable. It is a pity that we cannot face some of the facts realistically. Russia will certainly have a great deal to say about the future of Eastern Europe after the war, and it is doubtful whether we could stop her, even if we wanted to. It would be a very bad mistake to assume that Russia is, or soon will be, 'bled white' and unable to play an important role in world affairs." ("The Week," October 4, 1943.)

WHITE HOUSE WATCH REASONABLE MEN

THE NEW RIGHT says President Reagan's response to the Korean Airlines massacre was too weak. That's no surprise. But Walter Mondale says the same, and polls show the public agrees that sterner measures should have been taken. All this may mean that the President did just right—diplomatically and in terms of domestic politics. He kept the focus of international opprobrium squarely on the Soviets and not where it can usually be found—on himself. He let the Soviet Union confirm most of what he's always said about their proclivity to lie, cheat, and kill. That has improved chances for congressional approval of the MX missile and for the deployment of Pershing II missiles in Europe—which may, in turn, prod the Soviets

mild-mannered fellow, appeared to vacillate. But the unsentimental political operatives in the White House were perfectly willing to sacrifice a few old comrades back home for eight more Republican votes in the House of Representatives. On July 19, under considerable (if covert) pressure from the Reagan Administration, Governor Deukmejian called the special election.

December 13 is the date he chose—a date that falls halfway between Chanukah and Christmas, when the mails are crammed with holiday cards, the airwaves are jammed with commercials for Toys R Us, and visions of reapportionment are dancing in no one's head. "We'll be bidding against Barbie doll!" groans one of the Democratic campaign managers who are scrambling to land the ultimate political account. Sebastiani vows to spend \$7 or \$8 million on his campaign; the Democrats will spend \$5 million, although party veterans say it will take twice that amount to beat Sebastiani. And even the \$5 million will be hard to scrape up, since most special interest lobbyists and political action committees are reluctant to bet on the Democratic long shot when—as one cynical Democratic apparatchik puts it—"they can always buy back in on December 14." Meanwhile, the Democrats have hobbled their own fundraising efforts by challenging the Sebastiani Plan in the California Supreme Court. No one is willing to commit much money to the campaign until the high court hands down its ruling.

What's worse, in a state where political discourse has been utterly corrupted by slick advertising slogans and superficial thirty-second spots, the Democrats will be forced to discredit a reapportionment plan that *looks* so much better than the one they have to offer. Sebastiani will fashion his media and direct-mail campaign to exploit precisely those cosmetic differences: "We're going to say, 'Look, here's one of *their* maps—it's cut up like spaghetti,' and then we'll show one of *our* maps," says Sebastiani. "It's an exercise in good government, not partisan advantage."

"Some of us call it good government," counters Michael Berman, a Democratic reapportionment expert (and the younger brother of an endangered West Los Angeles liberal, Representative Howard Berman). "Some of us call it a fix."

Sebastiani likes to point out that his own new district will actually decline in Republican registration—yet more evidence, he piously declares, of his own political good faith. In fact, discerning Democrats say that Sebastiani has drawn himself a choice of safe seats in both houses of the state legislature and the House of Representatives. So the likely Democratic counterattack will try to turn the gerrymander argument against the Sebastiani Plan itself. Berman explains: "You can make it clear that one guy in a backroom, a guy on the far, far right of the Republican Party, has put together a plan that takes care of his political future and a few of his cronies, all at the expense of—and then you fill in the blanks: blacks, Jews, Hispanics, women, and so on."

Some activists have already circulated campaign but-

tons that depict a jug of Sebastiani wine with a diagonal red slash and the slogan: SEBASTIANI IS SOUR GRAPES. To minimize the backlash against the source of the family fortune, Sebastiani has resigned from the family wine business. But the Democratic counterattack is still mostly a matter of wishful thinking. The Democratic delegations in Sacramento and Washington, having proclaimed their solidarity in the struggle for political survival, are mutinous and panic-stricken. Jesse Unruh, the state treasurer and former assembly speaker, was put in charge of a united campaign effort, but there is grumbling that his lingering image as the "Big Daddy" of the state legislature is not quite right for the fight against Sebastiani. Assembly Speaker Willie Brown announced that he will levy a \$30,000 assessment on each Democratic lawmaker to fund the fight, but some balky incumbents are stashing away their money in anticipation of tough reelection campaigns if the plan passes. And Democrats are bitterly divided over how to spend their limited resources—on conventional media advertising, direct mail aimed at Democratic constituencies, or an absentee-ballot campaign like the one Governor Deukmejian used to beat the Democrats in 1982. So "Armageddon for Democrats" means not only the risk of losing the legislature, but the prospect of a new era in which the Democratic survivors are haunted by the question: "Who lost Sebastiani?"

JONATHAN KIRSCH

Jonathan Kirsch is a writer and lawyer in Los Angeles.

Going broke on tax breaks.

STATES AT WAR

IF YOU THOUGHT the war between the states ended in 1865, consider South Dakota and Minnesota. Last fall South Dakota started buying advertisements for itself on Minnesota radio stations. Minnesota's governor-elect, Rudy Perpich, fought back with some slogans of his own—zingers like SOUTH DAKOTA IS 50TH IN EVERYTHING and WHEN YOU WAKE UP IN THE MORNING IN SOUTH DAKOTA, YOU'RE STILL IN SOUTH DAKOTA. The feud continued on "The MacNeil-Lehrer Report," which on March 18 featured Perpich and Governor William Janklow of South Dakota debating the merits of their states.

As South Dakota and Minnesota illustrate, states are not shy about running down the competition. In 1978 a TV commercial touting Texas's business climate featured a hand chipping away at a huge block of ice. The spot ran on WNBC-TV in New York—in the middle of the winter's biggest blizzard. Florida will spend \$650,000 this year on magazine and newspaper ads, and will sponsor forty-two

daily tax classes for participants looking for a way to deduct the trip, and a breakfast featuring millionaire financial adviser Douglas Casey, author of *Crisis Investing*, who calls himself "a libertarian, an anarchist, and a good discordian" and who said that any form of government is odious "because it means not letting people do what they want to do." Later he told interviewers that "when people get sick, they must expect to pay to get well. If they can't pay, it's too bad. That's tough luck."

In what may have been the most purely Libertarian discussion of all, several attendees contemplated the exquisite dilemma of Siamese twins, one of whom wishes to commit suicide while the other prefers to remain living. The solution, according to Scott Bowman, a Virginia program analyst, is that "Mr. B. might just have to hire someone to remove his head in such a way that he doesn't inconvenience Mr. A."

ANNE GROER

Anne Groer is a Washington correspondent for *The Orlando Sentinel*.

The cavemen cometh.

SEBASTIANI'S PLANS

Los Angeles

"**A**RMAGEDDON FOR DEMOCRATS" is what the party regulars are calling the Sebastiani Plan, a richly funded, Republican-sponsored reapportionment initiative that would redraw voting districts for the third time since the 1980 census. The party regulars are right. If the Sebastiani Plan survives a pending court challenge and then prevails at the polls, the Democrats are likely to lose their historic control of both houses of the California state legislature and to forfeit as many as eight congressional seats. The prospect has panicked the Democratic Party and its traditional constituencies. "It's the political fight of a generation," the state Democratic chairman, Peter Kelly, has said.

The man who picked the fight is a thirty-year-old Republican assemblyman named Don Sebastiani, scion of a Sonoma Valley wine-making family and a political eccentric in the tradition of Sam Hayakawa, Howard Jarvis, and—yes—Ronald Reagan. Until now, Sebastiani has skulked on the ragged fringes of the Republican right wing, an outsider whose lonely cabal in the legislature is dubbed "The Cavemen." He is given to baffling displays of petulance. When Sally Ride paid a ceremonial visit to the state capital, he refused to add his name to a joint resolution in her honor, explaining only that he favored

sending women into space "as long as they have a one-way ticket." And when the Republican caucus finally signed off on a Democratic reapportionment plan last December—after overturning an earlier plan through the referendum process but failing to pass a follow-up measure that would have turned over the whole nasty business to a nonpartisan commission—Sebastiani condemned the compromise as "a sweetheart deal" designed only to protect incumbents.

No one took Sebastiani very seriously when he retreated to the study of his wine-country estate and started drawing a reapportionment map of his own. Over late-night cognac and cigars with a few cronies ("After we tuck the wives and children into bed," he explains, "we like to get together and shoot the shit about politics."), he concocted a new plan that looked very much like a good-government reform, replacing the convoluted district lines of the Democratic reapportionment with a series of nice, neat boxes that follow existing city and country boundaries. Those nice, neat boxes offer the state's 35 percent Republican minority an opportunity to replace the 53 percent Democratic majority as the ruling party in Sacramento. "When I saw his lines," says one strategist who helped to design the Democratic reapportionment plan last year, "I stopped laughing."

THE VICTIMS of the Sebastiani Plan would include not only Democrats—black, Hispanic, Jewish, and female Democrats in particular—but also quite a few moderate Republican incumbents. As a result, Sebastiani was forced to launch his initiative campaign last spring without the blessing (or the financial backing) of the Republican Party apparatus. But Sebastiani still managed to raise a million dollars, much of it from the same crowd of kingmakers who once sponsored the gubernatorial candidacy of a certain B-movie actor. Sebastiani spent the money on direct mail and paid signature collectors. (The latter are one of California's peculiar institutions; for a price, they will deliver enough names to put any proposition you please on the ballot.) Sebastiani needed some 394,000 signatures on the initiative petitions to put his plan on the ballot; he gathered 700,000—and suddenly Sebastiani found that he was taken quite seriously by Republicans and Democrats alike. "We dragged a lot of people across the finish line," says Sebastiani, a master of the mixed metaphor, "and now both benches have emptied."

The key to a victory for the Sebastiani Plan, as its author recognized from the beginning, was the calling of a special election by Governor George Deukmejian. Republican voters in California tend to turn out for special elections; Democratic voters don't. So the Democratic leadership did what it could to dissuade the Republican governor. They held the state budget hostage throughout the legislative session, they threatened to schedule a Democratic Presidential preference primary on the day of the Sebastiani vote to stir up some voter interest, they complained that the cost of holding the special election amounted to "a \$17 million gift to the Republican Party." Deukmejian, a

Newsweek

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(212) 350-2340

Dear Contributor:

Thank you for your submission to
NEWSWEEK's "My Turn" column. I
am afraid your piece is not quite
right for us, and I am returning
it to you.

Sincerely,

Kenneth Auchincloss
Kenneth Auchincloss

Washington Post (unpublished)
Mr. Trump - about 60 Days to President

You, Mr. Trump, have a historic and unprecedented opportunity. You could be one of the Nation's - and the world's - greatest leaders, or you could be an abysmal failure - perhaps even impeached.

Please don't do anything stupid. You have a lot more to learn in a very short time - about 60 more days. Encourage Ryan and McConnell to pass a budget. And try to keep the current lame duck Congress from doing anything stupid. And please slow down and think through your Tweets before hitting TWEET.

You seem to be off to a good start with Barack Obama. He's good, he's smart, and he's a great teacher. Ask him what he would try to do beginning Jan. 20, assuming he had full support from Congress and knowing what he knows now. What makes sense for the nation, the world, the planet? You have all those resorts. Obama likes golf. Play and talk - a lot - and listen.

Please talk with Bernie Sanders, if you haven't already - he's already offered to meet with you. He's an anti-establishment rebel, like you. If he had been elected, with full Congress support, what would he have tried to do starting Jan. 20? And ask Hillary - she was an incredible competitor. What would she have tried to do had she been elected, together with both house of Congress in support?

And even ask 'little Marco' and 'lyin' Ted' what they would have tried to do.

The lobbyists continue to line up and circle the Capitol and the White House. They are the establishment you and Bernie campaigned against. Send them packing - especially the NRA, the US Chamber, and the Koch empire - and you need to start to extricate yourself from the Mercers. They are all part of the plutocratic, anti-democratic establishment. Send them all away.

Watch Michael Moore's *Where to Invade Next* - not for entertainment but for knowledge and perspective. Process what he learned about Iceland, Finland, Portugal, France, and the other of the dozen or so countries he visited. It should be the first educational video shown in your Trump College course: *60 More Days to Becoming a Good President*.

Melania did well on *Sixty Minutes*, but she needs her own courses and teachers. Michelle is the best I can think of - and they've already met. The new First Lady is from Slovenia, one of the countries in Moore's film. Slovenia is in Europe, as you know.

Listen to some Europeans - learn from them. Interact with Angela Merkel - she's probably the gutsiest and best political woman on the planet today - and she knows enough science to separate the *mierda* from the wishful thinking.

And Japan's Shinzo Abe. He's somehow managed to keep Japan viable with a sluggish, - almost sustainable - economy, an aging population, and serious disasters. That's not luck. Get him to talk. Take time to listen.

Then take all that input, process it, think. Be skeptical of the simplism-based 'principles' you'll get from Paul Ryan, Ted Cruz, or even Marco Rubio. We're in the 21st century, not the 19th. Ditto for all those Justice Scalia quotes and from the Justice Alito, Thomas decisions - they also think in the 19th century.

You were elected to change government for the better - to help all the people. And as the USA is the leader and has been the role model for most of the planet, think of those people, too. They may not be US citizens, but we're all on this planet together.

The solutions are rarely very simple. Be skeptical of those who preach 'principle'-based, or faith-based, simplism. Keep an open, clear, non-ideological mind - and then do what seems right.

Good luck.

A Twitter Story: start posting 6-19-2017

.#TwStory: Long ago, in 1776, USA declared independence on enormous continent between 2 oceans. A vast land, clean water, clean air.

.#TwStory: Long ago, in 1776, #CO2 was about 250 ppm. Time and space for adventure, #invention, #development, #population, progress.

.#TwStory 3: Long ago, in 1776, USA had 'infinite' #resources. #Infinite opportunity #assumptions become key to culture.

.#TwStory 4: Natural #resources via #mining, energy via #coal, invention, perspiration created industry, goods, #economy -

.#TwStory 5: ... wealth and prosperity for many. USA infiniteness #assumptions become ingrained - from assumptions to facts, to #reality.

.#TwStory 6: By 1900 #CO2 at 300 ppm, local air, water, land pollution. Non-native #population greatly increased.

.#TwStory 7: #Wealth, #prosperity unequally distributed. Unfettered #Capitalism accepted. #Coal, oil, natural gas abundant, growing.

.#TwStory 8: Infiniteness #assumptions continue - #growth becomes the answer, the solution, to any and all problems, concerns.

.#TwStory 9: By 2000 #CO2 at 360 ppm, growing evidence of #greenhouse effect, global #warming, #climate change.

.#TwStory 10: By 2000 Concern with #pollution of land, water, air - health effects of pollution, #planetary degradation.

.#TwStory 11: By 2000 #Economic #growth as solution assumption continues. #Hayek, Reagan, Bush uncontrolled #Capitalism policies continue.

.#TwStory 12: By 2000 Infiniteness #assumptions continue. Idea of a #sustainable economy, sustainable #planet considered in #Europe.

.#TwStory 13: In 2017 #CO2 approaching 405 ppm, significant #global warming, air-water-land #pollution very serious.

.#TwStory 14: In 2017 major #health issues, severe weather events, #climate change evident, economic #inequality severe.

.#TwStory 15: In 2017 Young, #youth, concerned for their health, #future, future of nation and planet.

.#TwStory 16: In 2017 Government, #economic rulers, in USA insist on continuing unfettered #Capitalism as solution ...

.#TwStory 17: In 2017 Leaders advocate returning to an intense #fossil fuel-based, #extractive, polluting economy.

.#TwStory 18: In 2017 Infiniteness #assumptions still govern. #Dystopian semi-fiction, media grows.

.#TwStory 19: In 2017 Youth and realists disenfranchised, despondent. Talk of #revolution, #impeachment, assassination.

.#TwStory 20: In 2017 USA preparing for 2018 elections. Dramatic change imminent.

.#TwStory End: Awaiting House flip, double #impeachment. To New Assumptions story. See www.statechange.us

Letters, Media Comments 8-2014 thru 3-2014 (links may not be current)

8-26 Des News comment to:

<http://www.deseretnews.com/article/865609540/New-line-powers-growth-dependability-and-public-safety-in-Beaver-County.html?pg=all>

joeandrade
Salt Lake City, UT

Incredible! It's taken this long to address power needs in an area already known for substantial renewable energy resources - both solar PV and wind. Surely some of that geothermal 'fluctuation' and the growth in demand could have been at least partly accommodate with more local power generation.

Electricity generation and delivery in this 21st Century needs to be based on multiple, ideally local, sources, means of storage, a systems approach to demand and generation management, and a more resilient approach to delivery.

Why do we have power company officials and County Commissioners who do not insist on and advocate for less traditional and less cumbersome solutions?

8-17 MT Standard, Butte, re:

<http://www.nytimes.com/2014/08/17/us/politics/montana-democrats-pick-novice-for-senate-race.html>

my letter (not published).

Thank you Amanda Curtis and MT Democrats! There is hope.
I was delighted to learn that a woman, teacher, and someone who can add and subtract is running for Senate.
Our two Utah Senators deserve such opponents - and they'll eventually get them.

I hope MT youth, the education community, the math-science-technical communities, and many others work hard to get her elected.

It doesn't take a lot of money - it takes people working - getting off their duffs and working to get votes, rather than always complaining.

I tried this in Utah and made some progress. See The RUN, my one year experiment in Democracy, at

2andrade.org.

Good luck, Amanda. You have a supporter in Utah.

8-16 Letter to heraldextra.com re ut country road needs:

Utah County officials say 'We need more freeways' to deal with rapid growth. Why? Just say No!

Utah County's air improved drastically with the closure of Geneva Steel some dozen years ago. Since then the area has recovered, grown greatly, and is planning for population and traffic doublings - all of which will likely make the air worse than in the Geneva days.

Welcome to allergy, asthma, respiratory distress, and other health issues. Talk with your physician and pediatrician!

We have one planet, one Utah, one Utah County - why continue to trash them?

Populations and economies can be sustainable.

Can't we grow up and face reality?

8-16-2014 SL Trib on Ut County roads growth:

<http://www.sltrib.com/sltrib/politics/58301039-90/transportation-utah-county-mountain.html.csp>

Comment:

lost or didn't go thru - no copy!

7-20 des news published

7-17 SL Trib Jenkins and Mussels:

<http://www.sltrib.com/sltrib/news/58191171-78/lake-mussels-utah-quagga.html.csp>

Comment:

Good plan. Now expand it to other needs that benefit specific populations. A surcharge on auto, truck registrations to pay into the highway fund, for example. A surcharge on ATV, etc. vehicles to help pay for trail maintenance, safety, oversight. A surcharge on marriage licenses to help with family planning education and awareness. Others?

7-6 Des News BLM leases too slow:

<http://www.deseretnews.com/article/865606391/Report-Too-much-BLM-time-threatens-billions-of-dollars-in-oil-and-gas-revenue.html>

Comment:

Clearly all applications for Federal action should be handled competently, efficiently, and expeditiously. And clearly there are improvements to be made. But...

what is the point of approving thousands of drilling permits when we know that nearly all fossil fuel reserves need to remain exactly where they are - in the ground. We have already exceeded the tolerable level of CO2 in our atmosphere, according to nearly all measures and models. We need to get beyond fossil fuels.

As Princess Elsa might say - "let them go..."

And even if you are oblivious to the climate change issue, the BLM doesn't have the budget to inspect and regulate existing wells, raising a wide range of health and other environmental concerns. Until they have the budget and staff to inspect and regulate drilling and production of existing wells and leases, there should be a moratorium on new permits, new approvals, new leases.

Savvy investors and financiers are already leaving - and divesting from - fossil fuel-based industries. They are putting their money into 21st Century energy and resource activities. Those continuing to invest in fossil fuels will eventually - and hopefully - lose their shirts - and more.

7-3 Des News My View by Cody Stewart:

<http://www.deseretnews.com/article/865606262/Coal-plays-important-role-in-powering-Utah.html>

my comment:

Thanks Mr. Stewart, for reading the headline of my Coal MyView piece published June 15. Although you read the headline, you apparently didn't read the content of the piece. Fortunately most of the other commenters here have noted the shortcomings and misleading nature of your words.

Coal can never be 'clean'; it will always release CO2 and a wide range of trace elements and other toxic constituents. The only practical way of sequestering CO2 is to feed it to growing algae or plants. The best way to sequester it is to leave it right where it is, in the ground.

You say "there may very well be a day when coal's role in energy production is diminished." Yes, and that day is today, as your Energy Summit keynote speaker so clearly stated. Were you there, listening? Herbert was.

The time is now to work with our fossil fuel counties to move on. Where are the state incentives and programs to get beyond coal? Where is the Governor's vision for a 21st Century economy for Utah? These are not partisan issues. These are health, environment, and economic issues.

Thanks for reading - and thinking.

7-2-2014

SL Trib Editorial on oil sands:

<http://www.sltrib.com/sltrib/opinion/58138387-82/utah-sands-state-oil.html.csp>

Comment:

Thanks for the mention of periodic table and trace elements. Anyone can Google tar sands or oil sands AND trace elements and see for themselves what a witch's brew is left behind, flows with the water, or (when burned) is released as particulates or ash. The Roman physician Paracelsus said: The dose is the poison. They are all there: Arsenic, Mercury, Cadmium, Lead - pick your poison. We no longer need to develop marginal, toxic, dirty fuels - let them stay in the ground.

7-1 NY Times letter re Brooks:

Today's David Brooks' column - The Evolution of Trust - is perceptive and helpful, and already very well known to a growing sector of the population. The Peer-to-Peer Economy is exactly what the sustainable living community has been advocating for many decades. We welcome David to the discussion.

Where he gets it wrong, soon, is saying energy will continue to operate as top-down. That is true, for the time being. But wrong - in the very near future. Homeowners have been installing micro-energy systems using solar collectors (electricity and thermal), battery storage (now including using their electric vehicle in their local 'system'), geotechnical, and even fuel cell-based storage and generation components. Such ultra-local, largely or fully grid-independent, and highly resilient installations lend

themselves to neighbor - to - neighbor scaling.

The Evolution of Trust continues to grow. Thanks, David.

6-27 Des News oil trains:

<http://www.deseretnews.com/article/765655896/APNewsBreak-Oil-train-dangers-extend-past-Bakken.html>

My comment:

Oils derived from shale and tar sands are marginal fuels and rapidly becoming economically non-viable. Savvy investors are already pulling out of such investments, as well as coal. There is now great concern that natural gas derived via fracking may be committing to its own perhaps premature suicide by allowing extensive methane, tolerating inadequate inspection, and encouraging inadequate regulation and oversight.

All this is happening while renewable energies continue to become far more price attractive, and as energy storage technologies and processes continue to improve and develop.

Combine these facts and trends with the safety issues associated with rail, truck, and pipeline transport of viscous, marginal oils and the whole economic pyramid begins to crumble.

That means we don't need a 'keystone' pipeline in Utah (Tesoro's proposed Uinta Express), and we don't need a \$2 billion oil railroad from Vernal to Price. If these projects are built, likely with enormous public subsidies, they will be largely unusable once energy economics puts the final set of nails in the fossil fuels coffin - and we and our kids will be left paying off boondoggle bonds.

Fossil fuels are a remnant of the 19th-20th Centuries. We're now in the 21st.

6-27 sl trib fred ash letter:

<http://www.sltrib.com/sltrib/opinion/58103568-82/utah-education-effort-federal.html.csp>

my very brief comment re Ivory in Des.

6-27 Letter to The Spectrum:

<http://www.thespectrum.com/story/opinion/2014/07/02/letters-editor/12122389/>

Representative Ken Ivory asks Why the difference? in his June 17 MyView printed in the Deseret News June 17: <http://www.deseretnews.com/article/865605306/Public-lands-Why-the-difference.html>

The Difference is TIME.

We are now in a 21st Century with severe environmental, population, economic, and governmental problems.

The enabling act language was based on 18th and 19th century assumptions about vastness, lack of constraints, the desirability of growth. The land and air are no longer vast, we need to begin to operate under some constraints (we engineers call them 'boundary conditions'), and we can no longer accept unlimited growth.

In addition Utah is governed by a Legislature and Governor who subscribe to a 19th Century, hard-wired, ideological mentality that is no longer relevant - and indeed is very dangerous - to societal and national survival in the 21st Century.

We cannot afford to permit such a Legislature and Governor to have any authority over now-Federal lands, for fear that the state would mismanage and degrade such lands. It is your (and my) kids and grandkids who will most suffer those consequences.

Talk with (not to) your kids - they understand.

6-25 Des News

Eyre column on having babies:

<http://www.deseretnews.com/article/865605716/Bad-statistics-that-stop-people-from-having-kids.html>

comment:

Population is indeed a world issue and a local issue. Utah is planning on a doubling of its population in the next 25 or so years, about 75% of that due to our very high birth rate.

At the Governor's recent Energy Development Summit, his energy advisor, Cody Stewart said 'We like big families here.' and then showed a cartoon video of a family with 8 kids. That's big! Each kid will want a house, a car, a job, and other amenities - and most will want to live on or very near the Wasatch Front.

Urban Utah is already partially asphyxiated in the winter months; we are now seeing severe air pollution and health issues in the Uinta Basin, as well.

There are limits, constraints - what engineers call boundary conditions.

Kids are wonderful. We love them. But we also need to be responsible. It is OK to Plan. Small families are fine - as well as bigger ones.

World Vasectomy Day is Oct. 17. Real men get snipped!

Lisa Roche story on Primaries, etc.:

<http://www.deseretnews.com/article/865605761/Former-Rep-Brad-Daw-beats-incumbent-Rep-Dana-Layton-in-GOP-primary.html>

my comment

Thanks to Randy Miller and the Independent Voters groups for working on the open primaries initiatives. Readers should also note that there are many non-party (unaffiliated) candidates on the ballot in November: Bill Barron, US Congress, District 2; Ben Mates and one other, US Congress, District 3; and perhaps others. Unaffiliated candidates bring fresh voices and perspectives as they are not bound to the rigid platforms of the 2 major parties.

And Congratulations to Jeff Hatch for County Auditor. One election down, one to go!

comment to molen op-ed:

<http://www.deseretnews.com/article/865605754/An-economic-case-for-divesting-from-fossil-fuels.html>

6-22 SL Trib Princess Elsa op-ed:

<http://www.sltrib.com/sltrib/opinion/58062135-82/coal-energy-assumptions-elements.html.csp>

6-20 desNews growth recession?:

<http://www.deseretnews.com/article/865605245/Is-it-possible-that-Americans-may-not-recover-from-the-recession.html>

MY COMMENT:

It's not too few babies, it's not immigration, it's not Obama.

It's because we are now in a 21st Century and operating with the expectation that our 19th and early 20th Century ingrained, hard-wired assumptions are still valid. They are not. We no longer have nearly infinite land, air, and other resources. Earth is one small planet with over 7B and moving to 9B people.

Our economy is in a tough transition from a constant growth economy (essential a Ponzi or Pyramid scheme economy) to a resource-sustainable economy. Many of the younger generation get that and are already in transition. The older - and the oldest - will have a more difficult time. That includes nearly all conventional (growth-oriented) economists, legislators, Governors, and even Presidents.

As long as we look to growth for the 'solution', we'll be disappointed. We have to get beyond those assumptions and that mentality.

The kids get it. Talk with them. Good luck.

6-20 sl trib rolly on lifferth chevy volt, my comment:

joeandrade • a few seconds ago

So if Lifferth helps pay his Chevy Volt lease with State government mileage reimbursements, then Mike Noel (Rep., Kanab) should be able to lease and drive a Tesla, correct? Then those 80 mph I-15 UDOT speed limits could really be exciting. Go Mike!

6-20 letter to San Juan Record:

According to the Tesla Motors web site Blanding is getting (or perhaps already has) a Tesla Supercharger installation. Congratulations!

What an opportunity for San Juan County! Use the charger and the Tesla PR as an opportunity to leapfrog your economy.

While the rest of Eastern Utah chases fossil fuels, aided and abetted by a Governor and Legislature still mired in the 18th and 19th Centuries, San Juan County should and could lead Utah into the 21st Century.

Talk to Mr. Musk of Tesla Motors. Maybe he could have part of his new battery giga-factory, or SolarCity giga-solar panel plant in SE Utah, rather than in New York or Pennsylvania.

Why doesn't the state Energy Office and GOED (Econ. Development) get off their duffs and do something innovative - to help San Juan County!

Good luck.

6-19 Calgary Herald Utah hostile letter:

<http://www.calgaryherald.com/business/Utah+hostile/9953020/story.html>

6-17 Des News letter and comment to Ivory op-ed: (letter reminder 6-27 - need 60 days between printings - so sent to The Spectrum on 6-27).

part of letter published July 20

<http://www.deseretnews.com/article/865605306/Public-lands-Why-the-difference.html>

Representative Ken Ivory asks Why the difference? in his June 17 MyView. The Difference is TIME.

We are now in a 21st Century with severe environmental, population, economic, and governmental problems.

The enabling act language was based on 18th and 19th century assumptions about vastness, lack of constraints, the desirability of growth. The land and air are no longer vast, we need to begin to operate under some constraints (we engineers call them 'boundary conditions'), and we can no longer accept unlimited growth.

In addition Utah is governed by a Legislature and Governor who subscribe to a 19th Century, hard-wired, ideological mentality that is no longer relevant - and indeed is very dangerous - to societal and national survival in the 21st Century.

We cannot afford to permit such a Legislature and Governor to have any authority over now-Federal lands, for fear that the state would mis-manage and degrade such lands. It is your (and my) kids and grandkids who will most suffer those consequences.

Talk with (not to) your kids - they understand.

6-16 comment to Maffly no inspection story of 6-15:

<http://m.sltrib.com/sltrib/mobile3/58055908-219/wells-blm-utah-oil.html.csp>

Natural gas is committing its own suicide - by discouraging regulation, inspection, and compliance; by insisting on more leases and more wells without the infrastructure to assure they are done properly. The existing gas infrastructure is leaking large amounts of methane - in the range of 10% of total methane removed and released. Methane is far worse than CO₂ as a greenhouse gas. So not only is coal being 'killed' by natural gas due to coal's own greenhouse and air pollution problems, the natural gas industry - and all those anti-climate change politicians it funds - is inadvertently designing the death of natural gas - by self-inflicted suicide. Because as soon as we fully realize just how bad the natural gas infrastructure is, there will be major actions and protests to shut it all down. Then where will we be?

Why is the State Office of Oil and Gas Mining, the Utah BLM, the Governor - not advocating for full inspection and regulation? They should all be supporting the tightening and implementation of regs to greatly decrease methane leaks and emissions.

The best solution (the 'free' market!) is a fat fee on all carbon sources (including all the leaked methane) with most of the revenues returned to all taxpayers - per capita - that's the citizensclimatelobby fee and dividend plan. Look it up.

6-16 comment to wild horses study of 6-15:

<http://www.sltrib.com/sltrib/news/58029163-78/wild-horses-control-blm.html.csp>

6-16 sl trib bloomberg post on C tax, my comment:

<http://www.sltrib.com/sltrib/opinion/58073071-82/tax-carbon-emissions-percent.html.csp>

Yes! And the way to minimize adverse impact on the poor and un- or under-employed is the citizensclimatelobby carbon fee and dividend proposals: no new government revenues; increased cost of carbon-based fuels and products - thus stimulating substitutes, new technologies, new businesses; improved air quality and thus a healthier population. Look it up. It's a win-win, except for middle class hummer and big pick-up owner-drivers.

And ask your kids about Princess Elsa - 'Let it Go!' Let fossil fuels go - keep them in the ground, safely sequestered.

6-15 SL Trib Randy Miller op-ed:

<http://www.sltrib.com/sltrib/opinion/58028785-82/primary-utah-elections-voters.html.csp>

my comment:

Thanks to Randy Miller for this op-ed - and the national group Independent Voter. We do need a way for independents to have their voice heard in and during the primary process.

Nearly half of Utahans claim to be independent, many of those don't vote at all. There are many independent, unaffiliated candidates who get on the ballot via a signature petition. Ben Mates is such a candidate, running for Congress in District 3 - against Rep. Chaffetz and others. Bill Barron is running in District 2 against mr. right wing climate and science denier Chris Stewart. Bill ran as an independent for Senate 2 years ago - against the elder Mr. Hatch. I ran as an independent 2 years ago, in District 2. My experience is available as a short, free e-book called The RUN - you can find it on line.

Although the odds are stacked against independents or unaffiliated candidates winning, they play a key role in raising issues and positions often ignored by the two major party candidates, who generally pander to what they think the voters want to hear. Leaders need to lead, not pander. Most independents try to lead. They should be far better known and supported.

6-15 Des News op-ed appears, with edits:

<http://www.deseretnews.com/article/865605188/Advanced-energy-and-the-governors-summit.html>

Comment to religion/Clark letter:

<http://www.sltrib.com/sltrib/opinion/58065217-82/science-clark-believe-needs.html.csp>

joeandrade • a few seconds ago

In my opinion, it's not belief in a spiritual force ('god') that's the problem. The problem is when that belief becomes religion - with 'sacred' texts, dogma, and collective non-rationality.

I also think that you either think critically, rationally, objectively - or you do not. You can't really say 'religion, on the one hand - and science, on the other.'

Read my little e-book, The CALL - there's a short discussion of the 'belief spectrum' in

it - it's free.

6-14 letters to Calgary Herald re US Oil Sands story

6-14 Cleveland Plain Dealer Hate Your Kids? renewable energy stds rollback

called - considering for print, online, or both

6-13 Std-Examiner letter submission - based on Blog re Stewart video.

<http://www.standard.net/Letters/2014/06/13/Utah-s-energy-summit-video-cute-but-misleading.html>

6-13 Des News story comment 2:

<http://www.deseretnews.com/article/865605098/Utah-economy-and-business-policy-get-high-marks.html>

Another positive report attesting to Governor Herbert's leadership, vision, pragmatism, and wisdom.

The report - and the Des News story - ignores that we are last in public education funding, and have fallen even further behind.

We have among the worst air quality in the nation along the Wasatch Front during winter months and greatly deteriorating air quality in the Uintah Basin due largely to the volatile hydrocarbons and related emissions from the thousands of wells there.

We are a growing market for Ob-Gyns to help with pollution-related pregnancy and new-born issues. We are a growing market for pulmonologists and respiratory therapists for the many Utahns impacted by our horrible Wasatch Front winter air. Health gets worse - and no Obamacare \$\$ to help. Brilliant!

We are the last in the 11 Western states in electrical energy derived from renewables, and we're #1 in the proportion derived from coal.

We're friendly to industry and business. We give them tax breaks to develop, we under regulate, we under police them, and we are in denial of all the problems they impose on our residents.

Utah - Life Polluted!

Utah - the greyest snow on Earth.

We're #1 for business and industry.

Congratulations!

6-13 Des news op ed comment 1:

<http://www.deseretnews.com/article/865605088/What-would-Galileo-do-The-new-EPA-guidelines-and-global-warming-deniers.html>

joeandrade
Salt Lake City, UT

Thank you, Mary Barker, Barry Bickmore, and the many others doing what they can to bring some sense and action to the problem.

The good news is that most of the kids - the youth - understand. They may keep quiet, but they are tired of hearing ideologies, obsolete assumptions, and reality denial from their parents, many

of their teachers, many of their bishops and priests, and most of our state so-called leaders. The kids know better - they'll come through.

Keep up the good work.

6-12 sl trib submitted elsa oped
accepted!

6-12 Des News Comment to:

http://www.deseretnews.com/article/865604998/Utahs-Energy-Revolution.html?s_cid=comment-email-a

joeandrade
Salt Lake City, UT

Dan - were you even at the Summit?

Did you hear the keynote address by Nordhaus? Did you watch Herbert's face as Nordhaus talked?

Most of the renewable work going on is in spite of the Governor, not because of him or his 'Energy' Office. He and the Office are focused on the filthiest fossil fuels. That includes gas via tracking - because there are very high methane leakages, making Utah gas really no better for the greenhouse problem than coal itself.

And talk with the Ob-Gyn's in the Uintah Basin - and the pulmonologists along the Wasatch Front.

Which sandpile has your head been in?

6-11 Des News Comment to Elias op-ed:

<http://www.deseretnews.com/article/865604924/A-economic-benefits-of-a-fee-and-dividend-carbon-tax.html>

joeandrade
Salt Lake City, UT

The keynote speaker at the Governor's Energy Development Summit last Wednesday, Ted Nordhaus, expressed a new reality - the current cost-benefit analysis already playing out in the energy markets. His Institute's recent report titled Coal Killer outlines that new reality, now well understood by those in the energy and resource markets. It's not Obama or the EPA that's killing coal - it's natural gas and the new renewables.

So the Governor should (in the words of Princess Elsa) 'let it go' - let coal go - and oil shale, too. These fuels are not in Utah's best interests. Carbon County - and all of Eastern Utah - need to move beyond coal, shale, and tar sands. And the Governor should be leading that transition, not denying it. He - and the Legislature - and local leaders - should be directing state resources into initiatives and investments in an economy and jobs which go beyond coal - and coal-fueled power plants.

6-5 Op-ed Princess Elsa submission

6-2 Deseret News Mission Pressure letter and Comment:

<http://www.deseretnews.com/user/comments/865604316/Mission-pressure.html>

joeandrade
Salt Lake City, UT

A CALL should be personal, self-chosen, uplifting. There are many opportunities for service - to Church, community, society, and Planet. The importance of developing YOUR own foundation, and finding your own CALL - or Calls, is discussed in The CALL - a short, free, e-book '...for teens and others to take control of their life and work.' It's at 2andradedotorg .
Thanks for thinking on your own!

5-19 NY Times on WY anti-science standards:

http://trib.com/opinion/letters/andrade-fossil-fuels-are-doomed/article_a01848ef-d7f2-5075-8f31-44a2584e5d36.html

"It is difficult to get a man to understand something when his salary depends upon his not understanding it." - Upton Sinclair.

That's why Wyoming opposes the guidelines on teaching climate change.

It has little to do with facts, or critical thinking, or the future of the state's children. It has all to do with jobs and economy - right now. Jobs - and an economy - which will likely go bust within the decade.

Fossil fuels - all of them - are doomed, because mankind is largely doomed unless we rapidly slow down and stop fossil fuel burning. A robust, and rapidly increasing, carbon fee will be enacted soon - and then all those marginally economically viable fossil fuel 'resources' will be economically non-viable. And the 'Bust' will begin - again.

Your kids know that, your politicians know that - YOU know that. Admit it - and plan for a real future. Your kids deserve some reality, vision, and planning from their parents, teachers, and leaders.

And read Sinclair's The Jungle.

Thanks.

Joe Andrade
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949 Mill Creek Way
Salt Lake City UT 84106
801-706-6747
@JoeAndrade2012

5-1 sl trib story on bad air:

<http://www.sltrib.com/sltrib/news/57885141-78/association-calif-cities-lake.html.csp>

comment:

Our very bad air is getting worse - with every tanker truck hauling marginal crude 'oil' from Eastern Utah to the Tesoro and other refineries in North Salt Lake: 250 trucks/day - each hauling over 8,000 gallons, and all being refined and processed locally.

Why not vent the refinery stacks into the lobby of the State Capitol? That might get some Legislature and Governor attention.

It has to stop. We don't 'need' that oil; we don't need refineries in the SL Valley; we don't 'need' - and certainly don't want - that kind of economic 'development'.

A simple fee on carbon would help - and greatly stimulate the economy at the same time.

and similar letter to Cheyenne Wyoming News

5-1: Des News story on tanker spill:

<http://www.deseretnews.com/article/865602091/Health-department-concerned-about-culinary-water-after-semi-accident.html?pg=all>

my comment:

Sub-Headline: Would Pipeline be the Answer? NO.

and trucks aren't the answer either.

The answer is to STOP hauling low quality, marginal, viscous crude into the SL Valley.

As SLC's Jeff Niermeyer said '...look at refining it somewhere else.'

Expanding the local refineries (and the truck traffic) to handle that marginal crude just makes the Valley's bad air quality worse.

And a pipeline is not the answer, because it will just contribute to the growing bad air quality by encouraging the refineries to expand even more.

Stop the flow.

We don't need that 'oil'.

We just need some aware, enlightened, and gutsy leadership.

4-29? Sun Advocate letter:

http://www.sunad.com/index.php?tier=1&article_id=31085

4-28 Des News letter by on Carbon tax:

<http://www.deseretnews.com/article/865601925/A-carbon-tax.html>

joeandrade

Salt Lake City, UT

Some may hope and wish otherwise - and lobby and work against carbon fees - but the fees will eventually come because they are really the only economically viable way to get our economy and culture to wean itself from its fossil fuel addiction.

There will likely be a significant carbon fee or tax imposed on all sources, leakages, and uses of

fossil carbon-based fuels and products. They will probably start off small and ramp up rapidly, with the goal of phasing out most fossil fuel use over the next 5 to 20 years - to avoid further cooking of the planet. Cutting our addiction to fossil fuels will also greatly improve air quality and health.

It's going to happen - the sooner the better.

4-25 sl trib story Sego Canyon Grand County <http://www.sltrib.com/sltrib/news/57860281-78/county-grand-alternatives-lands.html.csp>

Letter to Editor submitted 4-27 and published 4-31-2014:

<http://www.sltrib.com/sltrib/opinion/57884337-82/fossil-carbon-canyon-county.html.csp>

The recent 'Sego Canyon Road Plan' story:

<http://www.sltrib.com/sltrib/news/57860281-78/county-grand-alternatives-lands.html.csp>

leads to several questions and cautions.

Some background:

First, oil shale and tar sands are very dirty fuels which require considerable energy to extract and process. To date they have been economically marginal at best. And they have always been environmentally disastrous.

Second, due to the growing awareness and concern about fossil fuel-fueled climate change, there is likely to be a significant carbon fee or tax imposed on all sources, leakages, and uses of fossil carbon-based fuels and products. Such fees or taxes are likely to start off small and ramp up rapidly, with the goal of phasing out most fossil fuel use over the next 5 to 20 years - to avoid further cooking of the planet.

Some may hope and wish otherwise - and lobby and work against carbon fees - but the fees will eventually come. They are really the only economically viable way to get our economy and culture to wean itself from its fossil fuel addiction.

What does this have to do with Sego Canyon, Book Cliffs, Grand County, etc.?

What you invest today in trying to develop or foster fossil fuel development will bite you in the very near future. What is economically marginal - or barely viable - today will be uneconomic in just a few years. The investors are already leaving the fossil fuel development industry in droves. Your 'friction fee' and other expected income from such developments will be gone - and Grand County will be stuck with major bills, an economic 'bust', and a degraded landscape.

Be cautious, be careful, be very skeptical.

4-22 Des News story BLM airport:

<http://www.deseretnews.com/article/865601479/BLM-approves-project-for-Emery-County-airstrip.html>

Comment:

joeandrade

Salt Lake City, UT

So it is possible to work with the BLM? Allelulia!

So can we use the Governor's \$3M Federal Land fund for something useful - rather than paying

lawyers?

Maybe a few of those \$\$ could help with fixing the Emery County airport!

4-22 SL Trib Jones letter:

<http://www.sltrib.com/sltrib/opinion/57846021-82/climate-global-swindle-warming.html.csp>

Science is never fully 'settled'. We keep learning, studying, questioning. But if you choose to deny a generally accepted consensus, you need to have lots of very good counter evidence. The deniers have very little evidence.

If Mr. Jones wants to continue to argue against doing anything related to mitigating climate change, he may want to consider doing something about air pollution - almost all of which comes from burning and processing fossil fuels.

So even if you propose to let the planet warm, or insist on believing that it is not warming, you might want to try to do something about air pollution. Really the only way to do that is to switch to truly renewable energies - and use a lot less energy.

Fox News has fostered climate change denial for many years - but now they are funding and airing the new COSMOS series. Mr. Jones should watch and pay attention (Sundays, 8 pm). Enjoy - and learn.

4-22 SL Trib:

<http://www.sltrib.com/sltrib/politics/57836608-90/area-areas-growth-numbersusa.html.csp>

Comment:

The problem is GROWTH - more and more people expecting homes, services, jobs - and a culture and government dedicated to 'accommodating' that growth. As I noted in a DesNews op-ed on Feb. 23 (Mountain urbanism - optimism not enough), the real reality and problem is our rapidly increasing numbers, all wanting to live along the narrow strip known as the Wasatch Front:

We must confront the very hard realities upon us: Growth must greatly slow. We must move towards full sustainability — in energy, in material resources, in population. We must rethink and revise our very fundamental and ingrained religious and cultural ideologies and doctrines.

4-22 Des News:

<http://www.deseretnews.com/article/865601517/Utah-among-states-with-greatest-urban-sprawl.html?pg=all>

The problem is GROWTH - more and more people expecting homes, services, jobs - and a culture and government dedicated to 'accommodating' that growth. The parallel story by Anderson on 'City Life' and high density housing, etc. helps - but only a little. As I noted in a DesNews op-ed on Feb. 23 (Mountain urbanism - optimism not enough), the real reality and problem is our rapidly increasing numbers, all wanting to live along the narrow strip known as the Wasatch Front:

We must confront the very hard realities upon us: Growth must greatly slow. We must move towards full sustainability — in energy, in material resources, in population. We

must rethink and revise our very fundamental and ingrained religious and cultural ideologies and doctrines.

4-21 Deseret News, comment to Sunday op-ed:

<http://www.deseretnews.com/article/865601423/Anti-science-ruins-the-climate-debate.html?pg=1> , prompted by Folland:

joeandrade
Salt Lake City, UT

Science is never fully 'settled'. We keep learning, studying, questioning. But if you choose to deny a generally accepted consensus, you need to have lots of very good counter evidence. The deniers have very little evidence. And even if Mr. Harris and his funders want to continue to argue against doing anything related to mitigating climate change, they may want to consider doing something about air pollution - almost all of which comes from burning and processing fossil fuels. So even if you propose to let the planet warm, perhaps because you live in the far North, you might want to try to do something about air pollution. Really the only way to do that is to switch to truly renewable energies - and use a lot less energy. Fox News has fostered climate change denial for many years - but now they are funding and airing the new COSMOS series. Mr. Harris should watch and pay attention.

4-2 Des News editorial pro-hatch anti-obamacare:

<http://www.deseretnews.com/article/865599953/The-Patient-CARE-Act-offers-an-alternative-to-ACA.html>

Comment:

The ACA does need to be greatly improved and expanded. It was an imperfect compromise because of the obstructionism of insurance and pharmaceutical companies, the GOP, and other vested interests in a 'market-based' system - including Sen. Hatch and his donors and sponsors.

ACA is far better than what we had before; it can and will be improved and expanded - perhaps eventually becoming a full, national Medicare system - and hopefully NOT 'free' market' based or enhanced.

The latest Hatch Dispatch includes its usual arrogant statements, but this time it outright lies. Hatch tries to make 3 anti-ObamaCare points - using a very bold font:

Higher premiums and fewer choices? - perhaps yes for a very few - a lie when it comes to most people;

Seniors losing plans, benefits, doctors? - not the sources I read;

Job creators suffer uncertainty? - just the opposite! Job creators (I was one some years ago) can do their entrepreneurial magic without worrying about their employees' health care - they can just enroll in ObamaCare.

So Hatch's facts are distorted, at best, and his arrogance marches on unabated! The Deseret News should be as critical of Hatch as it is of Obama.

4-2 Amy O' Des News Ozone:

<http://www.deseretnews.com/article/865599980/High-winter-ozone-hit-Uintah-Basin-in-2013.html>

Comment:

Yes, studies are useful, but the problem is all the drilling and production.

Slow it all down. Let the wells run out. Stop drilling. Keep the fossil fuels in the ground - safely sequestered.

We already know climate change and chaos is largely out of control - due to CO2 production and methane release.

Enact a fat tax on all carbon sources and fuels, increase it every year. That by itself will stimulate the economy and get rid of fossil fuels. Just do it.

4-2 Tribune Prettyman story on Uinta ozone studies:

<http://www.sltrib.com/sltrib/politics/57759885-90/ozone-basin-winter-gas.html.csp>

Comment:

Yes, studies are useful, but the problem is all the drilling and production.

Slow it all down. Let the wells run out. Stop drilling. Keep the fossil fuels in the ground - safely sequestered.

We already know climate change and chaos is largely out of control - due to CO2 production and methane release. Today's Editorial and letters make that clear.

Enact a fat tax on all carbon sources and fuels, increase it every year. That by itself will stimulate the economy and get rid of fossil fuels. Just do it.

Folland solar letter:

<http://www.sltrib.com/sltrib/opinion/57752951-82/solar-percent-energy-future.html.csp>

Comment:

Yes, renewables are the future - and fossil fuels need to be the past. Let's enact a fat fee on carbon sources and fuels - across the board - and raise it every year. That would greatly stimulate the economy, slow down fossil fuel production and use, and begin to address climate change and weather chaos. We're in the 21st Century - the 19th is long gone. Maybe we need to unelect the dinosaurs now in leadership positions.

3-30 tribune carribaburu on Tinker 1st amendment:

Comment:

Yes, Tinker's story and talk is very impressive. I was there. Thanks for the story. On the same page of today's Trib is the lead story on the LDS women, girls gather...ing. I hope someone there encouraged their first amendment rights - encouraging them to speak up rather than just 'keep covenants'.

Stack story on LDS women, girls:

Comment:

On the same page of today's Trib is a story titled 'Free speech advocate: Exercise your rights' - a report on Mary Beth Tinker's talk at the local Society of Professional Journalists meeting the day before. Tinker encouraged all youth - men and women - and their adult teachers, parents, etc., to exercise their first amendment rights. To speak out against injustice. To speak up. I hope some of this spirit was somehow included in the covenant-focused LDS Women and Girls meeting.

3-26 Des news Lisa Riley Roche story:

<http://www.deseretnews.com/article/865599493/Envision-Utah-outlines-effort-to-prep-for-growth.html>

Comment:

The headline should have been: Fantasyland Plans for Major Growth.

All the growth planning people do great work; Envision Utah is to be commended, BUT: no one is questioning the growth. If we build it, they'll come. And no matter how good the gasoline is, how many electric cars we have, how strict the air pollution regulations, how convenient the mass transit - a doubling of the population along the Wasatch Front will be intolerable. Growth is not always good, especially here; and growth is not inevitable.

In some respects Envision Utah and the recent Mountain Urbanism, Mountain Modernism Mayor's Conference do a disservice to reality: by ignoring the realities of growth, they actually endorse and encourage it! See: the Mountain Urbanism op-ed of Feb. 23.

Gov Herbert, his Clean Air Action Team, Envision Utah, the mayors, etc. must question and challenge the growth-based ideology which plagues our 'planning'. Until then all such planning efforts are actually counter-productive.

Thanks for quoting Michelle Hoffman in the story - she understands.

Romboy Jewell story:

<http://www.deseretnews.com/article/865599461/Jewell-supports-paying-back-Utah-states-that-reopened-national-parks.html>

Comment:

The headline said Jewell supports paying back...I don't think so. She responded to Rep. Stewart that she wouldn't resist. That's not supporting.

How do Hatch, Lee, Stewart, Herbert, and most of our other elected politicians have the gall to want pay back when nearly all were supportive of and instrumental in the government shutdown? That's the height of hypocrisy and double-dealing. They all knew the shutdown meant National Park closure. They all knew the economic impact to the state - and yet they nearly all endorsed and supported the budgetary and political chaos.

No - no payback for Utah. That would just encourage them all to continue their destructive, extortion-based politics and ideologies. They all need to be unelected. They need to be replaced by candidates who are there to serve the people and the Nation - and not consumed by paranoia and 19th century ideologies.

3-25:

Deseret News Hollenhorst on IPP to gas:

<http://www.deseretnews.com/article/865599408/Natural-gas-may-be-the-future-at-Utahs-giant-coal-plant.html>

comment:

Coal is a very dirty fuel. Period. The sooner we transform Utah's energy economy away from coal - and then later away from all fossil fuels - the better. Our leaders should be out in front, advocating and facilitating the transformation.

California - and Utah - don't want coal-generated electricity; they don't even want natural gas - generated electricity. We all want truly renewably-generated electricity. So let's get on with it.

Elect officials who understand this and have the brains and guts to help their communities transform. Where are the state and county incentives and initiatives to wean us out of a coal-based economy?

Utah's current elected officials are still wistfully gazing at the 19th century - rather than accepting they are now in the 21st. If they can't adapt, unelect them - and elect those who can.

Des News Romboy Massey war on coal:

<http://www.deseretnews.com/article/865599384/Murray-Energy-sues-EPA-over-war-on-coal.html>

online comment:

There's no 'war on coal' - coal is a very dirty fuel. Period. Nearly the entire Periodic Table is in coal - and then in coal ash (the part that doesn't go up the stacks).

Want cadmium, mercury, arsenic, lead, ...? It's all there, as well as the particulates exacerbating our many respiratory problems.

Thank God for California and the EPA - because they actually care about our health. Massey certainly doesn't.

Why doesn't Massey use the \$\$ he'll spend on this PR-generating lawsuit to help transform the communities his miners and drivers live in - to help those communities transform their economy away from coal, perhaps to renewable energy technologies?

Coal fueled the 18th and 19th C (as well as the 20th). Those centuries are long over. We are now in the 21st C. Our leaders and business people should wake up to that fact.

media notes, log, and followup

2-3-2014

letter to Wall St Journal on Keystone Excuses

letter to NY Times Fat Cats Maximum Wage Progressive Tax

2-11-2014

letter to LV Review-Journal on Pipeline Nightmare;

email followup to sebelius on 2-14

comment to SL Trib article on Mia Love: Plutocracy

2-12-2014

letter to SL Trib on Walsh op-ed

2-13-2014

Comment to Des News on Liljenquist op-ed on Grid Security...

2-14-2014

op-ed to Des News on Mountain Urbanism, ...

2-18-2014

House Nat Res Comm hearing, comments on HB 0229:

my testimony:

http://utahlegislature.granicus.com/MediaPlayer.php?clip_id=16681&meta_id=494069

about 21 minutes in.

from Maffly: <http://www.sltrib.com/sltrib/politics/57562425-90/carbon-atmosphere-dioxide-anderson.html.csp>

video of anderson:

<http://www.sltrib.com/sltrib/politics/57562425-90/anderson-andrade-atmosphere-carbon.html.csp>

Comment to SL Trib on Arctic and Climate Change study story

2-19-2014:

Des News Stewart talk:

<http://www.deseretnews.com/article/865596758/Rep-Chris-Stewart-talks-to-Utah-lawmakers-about-federalism.html> ; added on line comment.

2-20

Des News Evenson on large families good:

<http://www.deseretnews.com/article/865596899/Large-families-are-not-a-burden-on-Utah-taxpayers.html> on line comment

2-23 Des News Mtn Urbanism op-ed appears:

<http://www.deseretnews.com/article/865597180/Mountain-urbanism-mountain-modernism.html?pg=all>

2-26 Des News comment to Stratton op-ed:

<http://www.deseretnews.com/article/865597409/Honor-the-promise-to-transfer-public-lands.html?pg=all>

joeandrade

Salt Lake City, UT

No, thanks.

Utah legislators want these lands primarily for their (legislators') own growth and development.

Let's obtain even greater benefits from Federal lands by advocating for MORE National Parks and Monuments:

a Book Cliffs National Monument with Green River as the gateway city;
a San Rafael Swell National Monument - perhaps Hanksville as gateway city.

Advocate for the Greater Canyonlands National Monument, benefitting Monticello and Bluff.

Rural Utah - and all of Utah - benefits from the Federal land presence - don't minimize or destroy that presence.

People enjoy and visit grandeur - not drilling rigs or subdivisions.

2-26 Blog post and tweet re des news mtn urbanism growth op-ed.

2-26 Comment to Elder Oaks story:

<http://www.deseretnews.com/article/865597383/At-BYU-Idaho-Elder-Oaks-calls-LDS-members-believers-everywhere-to-action-as-witnesses-of-God.html>

'Those who have used human reasoning ... have diminished themselves and cheapened civilization...'

Really? Do we have a God-given brain with which to think and reason?
Do we have free will? Does that cheapen and diminish us?
Whatever happened to 'agency'?

2-27 Comment on Maffly story - same as 2-26 Des News op-ed Comment:
<http://www.sltrib.com/sltrib/politics/57603105-90/2014-bills-counties-federal.html.csp>

3-1 sl trib brain religion MRI my comment:
<http://www.sltrib.com/sltrib/news/57500642-78/brain-religion-religious-experience.html.csp>

joeandrade • a few seconds ago

Some want to believe, others want to question. On one end of the Belief 'Spectrum' are strong believers and ideologs - on the other end are skeptics, questioners. Most of us are somewhere in the middle. Those who believe in doctrines, traditional religions, sacred texts, etc. are on one end of the Belief Spectrum; scientists and critical thinkers tend towards the other end.

We use the term 'hard-wired' for those ideologs who cannot process facts and perspectives which lead to a challenge to their ingrained ideologies. We say that to really confront your hard-core beliefs and ideologies, you have to at least partially 're-wire' your brain - and that is very difficult to do for most people.

A popular version of such concepts is Chris Mooney's book The Republican Brain. Stephen Colbert's quote: 'Reality has a well known liberal bias' is also relevant.

Perhaps MRI studies can shed some light on these attributes. I look forward to the study's results.

3-3-2014
blog re Herbert in ny times 3-3-2014

comment to Bennett what's the diff? :
<http://www.deseretnews.com/article/865597779/Keystone-What-difference-does-it-make.html?pg=all>

joeandrade
Salt Lake City, UT

It is about 'symbolism' - it is about principles - it is about our collective future - it is about stewardship of the planet.

Our addiction to fossil fuels has already resulted in major man-made changes to this planet, resulting in an alteration of the climate itself. So much so that we now call the age we are in the Anthropocene - the first time in geologic time that the planet has been and continues to be changed by Mankind.

Sen Bennett's 'what difference does 1% make' could easily apply to tobacco, alcohol, drugs, and other issues and behavior risky to both individuals and society.

It makes a great deal of difference. It's time to stop the flow through the oil needle.

3-4-2014 SL Trib:
<http://www.sltrib.com/sltrib/news/57614929-78/national-parks-park-utah.html.csp>

Comment:

[joeandrade](#) • [3 hours ago](#)

Yes!, so let's obtain even greater benefits from Federal lands by advocating for MORE National Parks and Monuments:

a Book Cliffs National Monument with Green River as the gateway city;

a San Rafael Swell National Monument - perhaps Hanksville as gateway city.

Advocate for the Greater Canyonlands National Monument, benefitting Monticello and Bluff.

Rural Utah - and all of Utah - benefits from the Federal land presence - don't minimize or destroy that presence. Let's spend some of Rep. Ivory's and the Governor's Federal Land litigation fund for advocating more Parks and Monuments.

People enjoy and visit grandeur - not drilling rigs or subdivisions.

3-5-2014

SL Trib Glaser op-ed comment:

<http://www.sltrib.com/sltrib/opinion/57631538-82/climate-tax-carbon-global.html.csp>

comment and then letter to Price SunAdvocate with slight revisions:

[joeandrade](#) • [20 minutes ago](#)

Thanks for referring to 'his coal-mining constituents' in the Price area. Elected officials from coal-mining regions need to be working to facilitate their region's transition from a coal-dominated, extractive economy towards a sustainable economy. Rather than deny CO2 problems, perhaps to 'protect' coal, Anderson and others should realize that 'Carbon' County is a very solar-intensive county and could be participating in the solar energy transition now underway in most areas, although Utah lags far behind much of the rest of the country.

Perhaps Price voters should be electing people with the vision and skills to facilitate a modern economy, rather than trying to protect a dying one based on 19th century economic assumptions.

3-5 sltrib on prison by Gehrke:

<http://www.sltrib.com/sltrib/politics/57632939-90/prison-state-current-location.html.csp>

comment:

joeandrade • a few seconds ago

May I suggest that if the prison is moved, the existing land be utilized for a public, community park, green space, and perhaps wind energy 'farm', and that all existing and future legislators be excluded from dealing with the contracts or other development activities associated with such a transformation.

We have already established that we cannot continue to develop this valley, nor significantly increase its population, without a significant continued decrease in the quality of life for all residents.

If there are good reasons to move it, fine - but do not permit the land to be 'developed'. Clear?

3-5 Des News Adams Sen. op-ed:

<http://www.deseretnews.com/article/865597950/All-Utahns-can-help-clean-up-our-air.html>

my comment and email to adams:

joeandrade
Salt Lake City, UT

Here's a better idea:

The Citizens Climate Lobby advocates legislation for a national carbon fee and dividend (revenue neutral) to help encourage the metamorphosis of our economy - from its heavy dependence on air quality deteriorating fossil fuels to much cleaner energy sources.

Utah should 'jump the gun' and impose its own state carbon fee, directing some or most of those revenues to the causes and activities suggested by Sen. Adams.

Such action would reinforce the Legislature's interest in real Federalism, substantiate Utah's leadership in solving its own problems, document our creativity and innovation, and contribute to clean air and the clean energy economy.

Would the Senator draft and submit such legislation?
Thanks!

3-7 Des News Jewell story:

<http://www.deseretnews.com/article/865598051/Secretary-of-the-Interior-Sally-Jewell-visits-WSU.html>

my comment:

Keynote Speaker C. Arden Pope presented a comprehensive review of the health effects of particulate air pollutants, including his own studies beginning with Utah County's Geneva Steel 'experiments'. He concluded with an 'exposure' of 'secret science' - and his response to the subpoenas of the House Committee on Science, Space, and Technology. It was fascinating (and exasperating) to learn that the Committee's Chair and several members, including our own Rep. Chris Stewart, charged the EPA with withholding 'secret science' from the public - hence the subpoenas. That secret science was 'exposed' by Dr. Pope for all to see - via the many publications in the open, publicly accessible, peer-reviewed scientific literature. How can we continue to elect self-delusional, anti-science ideologs like Chris Stewart? - that's my question, not Pope's.

The five topical tracks were useful although there was much fantasy and wishful thinking in our 'planning' for a doubling of Wasatch Front populations in the next 20 or so years. If that happens, most of us will require serious respiratory therapy - or last rites.

It was a very good conference. Thanks WSU!

3-7 Standard Examiner op-ed letter/submission:

<http://www.standard.net/stories/2014/03/06/weber-state-jewell-notes-epic-western-drought>

Thanks WSU, Olene Walker, Ogden

Thanks for the Intermountain Sustainability Conference Mar. 6 at WSU.

Keynote Speaker C. Arden Pope presented a comprehensive review of the health effects of particulate air pollutants, including his own studies beginning with Utah County's Geneva Steel 'experiments'. He concluded with an 'exposure' of 'secret science' - and his response to the subpoenas of the House Committee on Science, Space, and Technology. It was fascinating (and exasperating) to learn that the Committee's Chair and several members, including our own Rep. Chris Stewart, charged the EPA with withholding 'secret science' from the public - hence the subpoenas. That secret science was 'exposed' by Dr. Pope for all to see - via the many publications in the open, publicly

accessible, peer-reviewed scientific literature. How can we continue to elect self-delusional, anti-science ideologs like Chris Stewart? - that's my question, not Pope's.

Thanks to former Governor Olene Walker, the Summit's second keynote was by Secretary of the Interior Sally Jewell.

Secretary Jewell addressed climate disruption, including the growing problem with methane leaks and emissions. In response to an audience question, she suggested that Utah join the 30 plus other states who have instituted a renewable energy mandate. In her talk she noted Gov. Herbert's suggestion to voluntarily move towards renewables. A real mandate, she explained, would provide the assurance and expectation that the state is 'serious', providing confidence for investors and the private sector to move forward in developing a new renewable energy economy in Utah. She encouraged people to 'be involved', ask questions, speak out.

The five topical tracks were interesting and useful although there was much fantasy and wishful thinking in our 'planning' for a doubling (or more) of Wasatch Front populations in the next 20 or so years. If that happens, most of us will require serious respiratory therapy - or last rites.

It was a very good conference. Thanks WSU!

3-10-2014:

Sun Advocate - Price letter:

http://www.sunad.com/index.php?tier=1&article_id=30633

comment to Pyle ignorance piece of 3-9-2014:

<http://www.sltrib.com/pages/comments?cid=57643796>

joeandrade • a few seconds ago

Thanks - and for the link to the full Jefferson quote:

"Ignorance is preferable to error, and he is less remote from the truth who believes nothing than he who believes what is wrong."

If one is ignorant of a subject, but rational and open-minded, he/she can take in information and even opinion and often come to a rational perspective. But if he starts out as a knowing, believing ideolog, then it is much more difficult.

Perhaps we could add this to Rep. Ivory's Federalism education curriculum?

Thanks for all you write.

3-10-2014 SL Trib letter Noel misinformed:

<http://www.sltrib.com/sltrib/opinion/57647210-82/misinformed-noel-voter-mike.html.csp>

3-12-2014 real women run story:

<http://www.sltrib.com/sltrib/politics/57666494-90/women-training-office-run.html.csp>

Comment:

Terrific. We need many more women in politics, in the Legislature, and in higher elected offices. Women tend to be less ideological, less confrontational, and more open-minded - and certainly more compassionate - than most men.

Please RUN - and win.

My own one year experiment in democracy, running for US Congress in UT District 2 as an independent, The RUN, has some advice and perspectives for candidates. It's available to all for free at www.dot2andradedotorg.

Good luck.

3-14-2014: Letter to The Spectrum:

Please consider this letter for publication in The Spectrum:

Senator Hatch's latest e-Dispatch argues that Utah should be reimbursed for the costs of keeping Federal lands open during the Utah delegation-endorsed government shutdown. No, thanks.

As the senior member of the Utah delegation, who did little or nothing to avoid the shut down, it is arrogant at best for Hatch to expect the state to be reimbursed for the damage he helped cause.

What we should do is perhaps garnish the Senator's Federal pay - and indeed that of the entire delegation - to help compensate the state for their reckless, wasteful, and intolerable actions.

3-16: SL Tribune Pyle:

<http://www.sltrib.com/sltrib/opinion/57678618-82/parents-child-rights-abuse.html.csp>

Comment -

Although each brain and mind is unique, its development is largely dependent on its environment and sensory inputs. Parents who constrain and inhibit individual development by overly curtailing their children's experiences, experiments, and exposures are, in my opinion, practicing child abuse.

'Hard-wiring' occurs very early - and then becomes very difficult to change or accommodate in response to new experiences, opportunities, and perspectives.

Children need to become their own individuals - and not become simply clones of their parents, parental prejudices, or convenient ideologies.

Thanks for addressing the subject.

3-16 sl trib ron molen letter:

<http://www.sltrib.com/sltrib/opinion/57672262-82/real-mormons-believe-democrats.html.csp>

joeandrade • a few seconds ago

Yes!

This reminds me of Steve Olsen, a Demo who ran for Congress against Bishop many years ago. He wrote a piece:

Why most Utahns are Democrats and just don't know it yet; reprinted as Why you may be a Liberal (and why that's OK).

And - if they don't want to call themselves Democrats, independent or unaffiliated may be more palatable.

3-19-2014 deseret news:

<http://www.deseretnews.com/article/865598661/Millennials-plan-to-trade-kids-for-careers-2-but-it-doesnt-have-to-be-that-way.html>

Comment;

Continued population increase is a serious problem for the planet and for Utah's Wasatch Front. Those that choose to have less or even no children should not be shunned or challenged for their decisions and behavior.

The Utah Population and Environment Coalition's -- utahpopdotorg - recent radio ads called It's OK to Plan drew considerable attention and interest from the local population.

The country's very poor regulations and expectations in regard to maternal and paternal job and social benefits is another factor.

Our economy and society are in a great transition and even transformation. The old assumptions and expectations are changing - perhaps for the better.

3-21-2014 submitted online letter to examiner.net:

<http://www.standard.net/stories/2014/03/24/hatch-dispatch-arrogant-distorts-facts>

Another No-Reply e-mail from Senator Hatch today - the Hatch Dispatch. It usually contains arrogant statements, but this time it outright lies.

He tries to make 3 anti-ObamaCare bold font points:

Higher premiums and fewer choices? - perhaps yes for a very few - a lie when it comes to most people;

Seniors losing plans, benefits, doctors? - not the sources I read;

Job creators suffer uncertainty? - just the opposite! Job creators (I was one some years ago) can do their entrepreneurial magic without worrying about their employees' health care - they can just enroll in ObamaCare. In fact a current study says it's likely that all employers will eventually opt out of providing health care - they will instead pay in to ObamaCare due to less bureaucracy, greater certainty, and the growing acceptance and appreciation of ObamaCare.

So Hatch's facts are distorted, at best, and his arrogance marches on unabated!

And more elections this November!

Maffly wilderness-Bishop story:

<http://m.sltrib.com/sltrib/mobile3/57707543-219/wilderness-bills-conservation-lands.html.csp>

Comment:

Bishop would be even worse than he already is if he were appointed Chair of the House Natural Resources Committee. The best way to prevent his Chairmanship is to unelect him this November. Perhaps the 8000 new voters in his district (the new voters from the 2014 high school graduating classes) could get concerned and help elect someone whose feet and head are firmly in the 21st Century, rather than Bishop whose feet and brain are mired in the 19th. 19th C economic, environmental, and energy assumptions

are simply irrelevant and indeed very damaging in our current 21st Century. Just unelect him, please!

3-24-2014

sl trib letter gop mental illness:

<http://www.sltrib.com/sltrib/opinion/57694686-82/percent-illness-mental-serious.html.csp>

Comment:

joeandrade • a few seconds ago

The subject and correlation is also covered in Mooney's recent book, The Republican Brain. See also the UU Religious Brain Project. My own take is that there is a believer - questioner spectrum. Whether you are a believer or a questioner/thinker is based largely on genetics and environment. There's more on this in The CALL at 2andradedotorg.

Deseret News on cold fusion:

<http://www.deseretnews.com/article/865599345/25-years-ago-a-dream-caught-fire-2-and-died.html>

Comment:

Cold fusion may not exist, but practical 'warm' fusion certainly does. It is the basis of the solar energy revolution that will eventually transform our economy and society.

Traditional hot fusion is alive and well - a safe 100 million miles away - bathing Planet Earth with safe and secure solar radiation. Some of us are harnessing and using it. Most, including most political, economic, and business leaders, continue to deny its practicality and thwart its expansion, thus subjecting us to the air pollution and planetary instability resulting from the continued burning of fossil fuels.

Our fossil fuel - based and growth dependent economy are on the way out. Let's just hope it doesn't take too long for the transformation. Spread the word.



August 22, 1994

Sandy Weber
(Letter to the Editor)
Senior Editorial Assistant
Clinical Chemistry
P.O. Box 3757 University Station
Charlottesville, VA 22903-0757

Letter - 1994
unpublished
see reviews →

Dear Editor:

I enjoyed the papers in your recent *Clinical Chemistry* forum dealing with "Diagnostic tests in a changing health care environment," 40:8 (1994) 1615 ff. There clearly is constant pressure on health care providers to order and perform fewer and, where possible, less expensive diagnostic tests. Clearly diagnostic testing is a component of health care costs and we are all interested in reducing those aggregate costs as much as possible, consistent with maintaining high quality and improved access to care.

However, there are a number of major technological developments currently underway which are likely to enable us to reduce costs and provide far more information -- information not only useful for the diagnosis and treatment of individual patients, but useful in a much broader scope in research.

There is a major national and international initiative to complete a national high-speed, high capacity information highway. Your readers are well aware of the INTERNET and of the National Library of Medicine's programs, as well as the administration's High Performance Computing Initiative. There is considerable interest in making patient medical records available, with appropriate security precautions through this information highway. There is already growing interest in using the limited records that are available by computer for correlation of studies and epidemiological studies, diseases, pathology, treatments, and outcomes in various populations.

As more information becomes available, there will be more interest in such studies -- driving an even greater need for even more information. Couple this rapidly growing tendency with the awareness that we now have the technology to do hundreds, if not thousands, of clinical chemistry and related tests on relatively small sample volumes. A rapidly growing, automated, multi-channel biosensor arena, coupled with other innovations in analytical and clinical chemistry have prompted a number of companies to seriously consider the development of analytical instruments which would provide several hundred tests in a single sample, even if only one such test were ordered by the physician. Who will pay for that one test or those several hundred tests?

Conti...

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August 22, 1994

Sandy Weber
(Letter to the Editor)
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Conti...

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clinical chemistry

Journal of the American Association for Clinical Chemistry

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September 23, 1994

J.D. Andrade PhD
The University of Utah
Dept of Bioengineering
2480 Merrill Engineering Bldg
Salt Lake City, UT 84112

Re: 940608

Dear Dr. Andrade,

Your manuscript has been examined by two expert reviewers whose comments are enclosed. Although your Letter raises some interesting points, I am sorry to say that it does not achieve high enough ratings for novelty to allow us to publish it in a timely fashion with our currently large workload.

Difficult decisions must be made here to keep our acceptances in line with our ability to publish. I am sorry.

Sincerely,

Robert Raj, Ph.D.

Robert Raj, Ph.D.
Associate Editor

Enclosures: Reviewers' comments

RR/am

I think this means that one will have to be able to do several hundred tests for the cost of one test. The question is, what happens to all the additional channels of information that were not requested? I sincerely hope the data will be placed in the patient's medical record, even though no one has asked for it and no one is paying for it. This will begin to provide a national and even international data base, at first thousands, then hundreds of thousands, and eventually millions of patients which can be used for medical research purposes.

My prediction may be considered a bit controversial, but I assure you that it is happening at an exceptionally rapid pace. Clinical and diagnostic chemistry laboratories must be cognizant of these developments if they are to survive as commercially viable components of the health care system.

These issues are discussed in a number of recent volumes which should be of considerable interest to the readership of *Clinical Chemistry*:

- *The Computer-Based Patient Record*, National Academy Press, Wash DC, 1991; and,
- *Medical and Biological Engineering in the Future of Health Care*, J.D. Andrade, ed., University of Utah Press, 1994.

Such technological capabilities will not only have impact on clinical chemistry labs, but will have even more immediate impact on the clinical and diagnostic chemistry industry -- the providers of instrument reagents and test kits. It is further likely that these multi-channeled innovations will not necessarily come from the existing big players in this business.

I certainly hope, and I would hope that the clinical and diagnostic chemistry community would agree, that all of those "excess" channels of information not be discarded. Their inclusion in the patient's record will enable the development of a major national research resource, which will surely provide a very inexpensive way to enhance health related research and to improve health care.

Sincerely,

J.D. Andrade, Ph.D.
Professor

univ/18aug94

440608
Reviewer 2

1. Trend is "more with less" (my emphasis)
2. Long term strategic direction of medical care services: to provide targeted, integrated, critical path, outcome analysis services.
3. More is not better. Who will store, review be responsible for unordered, unneeded tests. Are they of any clinical/treatment relevancy now or in the future (see #7).
4. Testing disciplines other than clinical chemistry also appear in the patient's medical record (Hematology, Microbiology, Blood Bank, etc., as well as Radiology, Pharmacy, Nursing notes, etc. This additional unordered testing information will hinder an already ponderous patient record that groups such as the ANSI - Healthcare Information Standards Planning Panel (HISPP) and the Computer Based Patient Record Institute are trying to standardize and simplify for the overburdened user - the physician. My sense is less data will be retained on the lifetime medical records, not more.
5. If companies are seriously considering "development of analytical instruments" ... providing several hundred tests in a single sample, "the recent rejection by the FDA of two glucose monitoring instruments for fundamental analytic reasons related to general principles of non-invasive testing does not portend an immediate use of these applications.
6. Just as DRG (Diagnostic Related Groups) and soon to be ambulatory DRG's define diagnostic reimbursement parameters; similar efforts to reduce information overload is being pursued actively by the Federal government, especially at the medical record level (see ANSI-HISPP/CPRI).
7. Research is usually designed to sample a target question, analyze it, and test the hypothesis. The excess storage and expense associated with Professor Andrade's proposal would seem to go against a parsimonious approach to conservation of scarce resources in an ever more difficult healthcare climate.

clinical chemistry



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Sent: 8/30/94
Due: 9/13/94
Ms.No.: 940608
Reviewer No.: 1

TITLE: UNTITLED LETTER

AUTHOR: J.D. Andrade

This manuscript is submitted for your opinion. Please indicate on this page your comments for transmittal to the author. To avoid postal delays in responding to the authors, they and we appreciate return of reviews by FAX (to 804-979-7599). We would like to have your critique back again within 14 days. If you cannot do so, please return the manuscript to us.

"Excess" information is the key concept. The SMA 12/60 taught us this 30 years ago. What shall we do with the unrequested test? Now this author suggests this situation will be elevated by orders of magnitude.

In the past we worried about suppressing data, unwanted data and notifying clinicians of significant abnormalities which resulted from non-requested tests. In the final analysis the SMA appears to have become part of the routine practice of medicine. Even medical textbooks speak of it by its trade name. And finally it has become the "chemistry profile" that appears to be necessary for most significant patient encounters. What will become of the "SMA 300"?

I'm reminded of the "Knowledge Executive" by Cleveland who indicates that data must be synthesized into useful information which can be accumulated to form knowledge and finally wisdom. This author speaks of data and apparently hopes it will become useful information. The practicing physician cannot use data until it has been synthesized at least to the level of knowledge. We are currently working in our society to build some knowledge regarding the use and collection of medical data. Wisdom will hopefully appear in the future.

"Excess" data may be useful for later research but is generally not useful in current patient care. Many of us would be eager to see the predictions come true. However I'm not sure its realistic to "just do it". We must consider the impact of all these data on primary care, liability and, I suspect, a multitude of other issues. Presenting the "yes but" opinion is not very satisfying. However in this case we must remember that it exists. Learning the value of the "SMA 300" in a "study setting" seems more appropriate than just doing it".

Integrated Education

I enjoyed your Opinion page in the Oct. 18, 1993, issue, written by six students from the University of Miami [R. Andreasen, et al., page 11]. Their perspective, their diagnosis, and their recommendation for treatment of high school education is insightful and, from my experience, most appropriate. Our own small effort, the Center for Integrated Science Education at the University of Utah, is focused on applying most of their recommendations at the elementary and junior high level. We have found that the teachers and the public education community in general are very responsive to our initiatives and generally want to enhance the educational experience for their students.

A major part of the problem in major research universities is the way science is taught. At our institution, we are so stringently organized along departmental lines that only the most interdisciplinary individuals have an interest in looking at science in a more integrated fashion—in relating their expertise to other courses and other subjects. "Cold fusion" could have originated only in a university where physicists and chemists rarely communicate. There are very few institutional incentives to facilitate

interdisciplinary communication.

It is therefore difficult for a high school teacher who obtains his or her credentials from such an institution to effectively involve students or to integrate science in the high school environment.

None of this will substantially change until department chairpersons, deans, vice presidents, and presidents of major research institutions do more than give lip service to these problems. Until that happens, only a small fraction of the faculty will have the commitment, the foresight, and the uncommon sense to involve their students in science in the manner so eloquently presented by those six Miami undergraduates.

J.D. ANDRADE

Center for Integrated
Science Education
University of Utah
Salt Lake City, Utah 84112

Gel Scanners

I disagree with the evaluation of gel scanner systems in the Oct. 4, 1993, issue of *The Scientist* [C.D. Potter, page 18]. The article states that gel scanners are "expensive" when compared to gel documentation systems. This statement is potentially misleading.

The article does not distinguish between gel documentation systems, which primarily perform

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WRITE ON

There's more to recycling

I don't know how many grains of salt to take with the solution to the paper vs. plastic grocery sack "puzzle" (November 1993, p. 22) and December 1993, p. 53), but I do know some questions that need to be raised.

If we want this to be more than merely another exercise in the "plug and chug" method of teaching rote problem-solving, we should ask about the sources and uncertainties of the data and the details of the methodology used. This is particularly relevant because, in a great many of the studies of this type, the assumptions used and the bases for them are not unbiased. To cite an example, the widely disseminated studies on this topic by Franklin Associates are partially sponsored by the Council for Solid Waste Solutions, an environmental lobbying and public relations arm of the plastics industry.

It is naive to consider that either paper or plastic grocery sacks can be recycled for food use, and yet that is what the exercise problem assumes. A mere inventory of materials, energy use, and air pollutants does not analyze the environmental effects or their severity. Where is the assessment of relative risk or toxicity that airborne and, yes, waterborne pollutants impose on our environment? Where is an analysis of the fate of the various releases? Harm is not judged by weight or Btu's alone.

It makes a difference whether we are dealing with an open loop, a closed loop, or a hybrid recycling loop model. How do we value renewable and non-renewable resources, or the extent to which virgin materials are replaced by recycling? What assumptions do we make about recycling into cardboard, trash bags, or plastic lumber or flower pots?

Yes, it's a complicated problem and there are no easy or simplistic answers. Perhaps I shouldn't make too much of an "artificial reality" exercise in arithmetic. But it is just this subtle slanting of mind-set that inhibits efforts to deal with the reality

of what we may or may not be doing to ourselves. Although I recognize we're not well set up to do this, it's time we got serious about finding out.

William H. Flank
Chappaqua, NY

Editor's Note: We agree that there's more to the question about recycling than we showed. The problems as we printed them were drastically edited for space reasons. The original *WJChE* volume (which is designed as college supplementary material) includes far more on life cycle analysis, including air emissions and solid waste questions, and also has questions for discussion that indicate that the problem is just not that simple.

Biocompatible materials

I enjoyed the article by Ishihara, et al., "Designing Biocompatible Materials," in the October 1993 issue (p. 19). It is good and novel work, and the information is clearly of benefit to the CHEMTECH readership. However, because CHEMTECH has such a wide circulation, many or most of the readers are not necessarily particularly expert or well informed in biomaterials and thus may jump to some unwarranted conclusions based on the title and subtitle of the article.

Two somewhat glaring deficiencies in the discussion dealing with lipid-like surfaces are of course the role of lipoproteins, major protein constituents in plasma, and the fact that portions of the contact activation sequence of blood coagulation depend on phospholipid surfaces for self-assembly and amplification. These two concerns argue against the simplistic hypothesis and interpretation presented.

Bio- and blood compatibility is a diverse and complex topic and has proven remarkably resistant to simple conclusions and simple hypotheses. There are many ways to minimize the incompatibility of biomaterials; phospholipid-like surfaces are certainly one of them. Most of the others were not noted or discussed in the article.

Your readers who are seriously interested in materials, treatments, and surfaces with enhanced biocompatibility should be encouraged to make the investment in time to do the appropriate homework before adopting any particular panacea-like solution. There are a number of groups and consortia that focus on this area, including our own Center for Biopolymers at Interfaces at the University of Utah.

J. D. Andrade
Salt Lake City, UT

Still more on dioxin

In the November issue of CHEMTECH (p. 2), you give a brief review of an article by P. A. Bertazzi et al. This article appeared in *Epidemiology* (September 1993, vol. 4, p. 398) and is a study of the impact of the Seveso accident of 1976. You state "There were 501 deaths from cancer in the region" and leave the impression that these could be caused by exposure to dioxin. This certainly was not the case. Using their data you could also have shown that there was a substantial decrease in cancer of certain types in those persons who were either moderately or highly exposed to the dioxin from the explosion.

I am not a statistician, so I expect to learn the meaning of reports that are statistically based in journals that understand the material. I have over the years found most of the information published in CHEMTECH to be both accurate and reasonably complete. I feel that you should publish more of the details so that an interested reader can understand the significance of this material.

R. K. Birdwhistell
Pensacola, FL

Editor's Note: Good point. Further elaboration is in order. The 891 detected cancer cases (501 resulted in death) in the target population should have been discussed in the context of the relative risk data given by the authors on an unexposed reference population. As a matter of fact, if you do this, you find that the overall cancer rate for all types of cancers (data on some 60 different types of cancer are given) in the exposed population was about 10% lower than in the reference population. On the other hand, the authors do report excess cancer rates for specific cancers depending on the exposure zone. The rates varied from 0.14/1000 people in the light exposure zone (31,647 subjects) for soft tissue sarcoma to 1.2/1000 peo-

ple in the intermediate exposure zone (4824 subjects) for hepatobiliary cancer. Most surprising to me was the fact that no cancers were detected in the most exposed population—those who had come down with chloracne. The authors suggest that this is a statistical artifact (193 subjects), and not indicative of the lack of carcinogenicity. Leaves me thinking that the jury is still out on how dangerous dioxin is.

P.S.

Ceramics markets

The total U.S. market for electronic ceramic components should reach \$4.3 billion by 1995, according to industry analyst T. Abraham (*J. Minerals, Metals and Materials*, September 1993, p. 46). These include ceramic insulators, substrates, capacitors, integrated circuit packages, and ferrite magnets. The biggest growth rates are expected to be for ferrite magnets and high-critical-temperature superconducting materials of copper, rare-earth, and non-rare-earth oxides. As did DeSapio (*CHEMTECH*, November 1993, p. 46), the article predicts fierce competition among the United States, Japan, and Pacific Rim for the market, which will be driven by innovations in materials and fabrication technologies.

Recycled magazine wrappers

Back in 1990, some CHEMTECH readers were incensed to find their copy of the magazine arrive wrapped in plastic. "How dare the American Chemical Society do anything so anti-environment?" was the general attitude. But the Publications Division kept looking for an alternative to the virgin polyethylene it was using, and as of January 1994, all publications come wrapped in a partially recycled product. The new wrapper contains 45% by weight of recycled material (15% post-consumer and 30% industrial film waste).

How green is "green?"

As the letter from William Flank points out (opposite page), product life cycle analysis (PLCA) is by no means a cut-and-dried way to determine the environmental impact of products, such as different types of grocery sacks (November 1993, p. 22, and December 1993, p. 53). In *Issues in Science and Technology* (Winter 1993-94, p. 69), Paul R. Portney sug-

gests a more flexible, if still not perfect, way for consumers to assess how "green" a product is.

"There is another mechanism through which literally thousands of pieces of ever-changing information about technologies, the availability of inputs to production, and many other phenomena are neatly, almost instantly, summarized for producers and consumers in one easily understood index." He is referring to the price of a product. The price of a product includes all of this information, as well as data concerning activities that have a recognized, and regulated, environmental impact. Costs producers incur complying with environmental regulations are surely passed on to the consumer. Portney points to examples where, looking at information gained from techniques such as PLCA, "the cheapest alternative is apparently the most benign."

This method has its failures, however. It doesn't always reflect all of the environmental impacts in the entire life cycle of competing products. Here Portney suggests using PLCA as a device "to help identify and evaluate the significance of environmental effects that are as yet unregulated."

OOPS!

There were two errors in the December 1993 Heart Cut section. On page 54, the item that began "A 13% yield isn't bad..." should have included the reference to: Green, M. L. H.; Tsang, S. C.; Vernon, P. D. F.; York, A. P. E. *Ind. Eng. Chem. Res.* 1993, 32, 1030.

On page 56, the phone number for EPA's Center for Environmental Information in the item that starts "If you want to be kept up to date on EPA technology transfer activities..." should have been given as 513-569-7562.



These two photographs, of Alan J. Russell and Claire Komives, should have accompanied their article, "May the (centrifugal) force be with you!" (January, p. 26).

science. She described in detail two case studies of science and religion at work, in particular involving agriculture and pest control. The article prompted me to share some of my personal experiences and reflections.

I served as a consultant in pest control in Thailand for the Food and Agriculture Organization of the United Nations (Chiang and Rumakom 1993). I had the opportunity to observe the role of religion in the life of Thai people and its influence on agriculture and pest control.

In Thailand, Buddhism is the state religion, followed by 95% of the more than 55 million Thai people. The national flag has horizontal stripes of white, red, and blue, symbolizing purity (to Buddha), patriotism (to the country), and loyalty (to the king). At many important ceremonies, including openings of agricultural fairs, an altar, a national flag, and a picture of the king are placed in front of the meeting hall. The first items of business are paying respect to Buddha, the country, and the king, in that order.

Buddhist shrines of different descriptions can be seen on pedestals adjacent to many buildings, including large ornate cement ones in front of hotels, hospitals, and banks. Some people kneel briefly in front of these shrines when they pass them. Small and simple wooden shrines known as spirit houses can be seen next to farmers' homes in the countryside. Altars are present inside personal offices of government officials; the higher the position, the more elaborate the altar. I was told the altar is the place for daily devotion or seeking divine guidance during the making of important decisions. Small shrines can be seen mounted high on the back walls of shops. Some males, including scientists, dedicate a few months of their life to monkhood. They live in temples, wear yellow novice robes, lead an austere life, and immerse totally in Buddhist culture. Thus, religion is all-important in everyday life in all sectors of their society.

Buddhist philosophy emphasizes reverence to nature, sacredness of life, harmony with one's surroundings, humility and tolerance toward others, thrift in daily living, and

moderation in overall problem solving. For agricultural production, following these concepts leads to long-term sustainability rather than short-term maximization, a practice precluding the introduction of modern technology. In pest control, science generates many strategies—biological, cultural, physical, genetic, and chemical. Applying these in an integrated fashion, or integrated pest management, takes longer to get results than relying solely on quick-acting pesticides. But this approach is ecologically more sound and environmentally more friendly.

In Thailand, scientific principles for sustainable agriculture and pest management have been well understood, and the procedures to accomplish these in many crops have been developed by scientists. Through the agricultural extension specialists, these principles and procedures are related to the farmers. Although science generated the procedures to be followed, it was the life-long immersion in Buddhism concepts that prepared the farmers to accept them readily. Thus, religion worked at the conceptual level and science worked at the procedural level.

This situation is in contrast to the two case studies discussed by Stevens, where religion worked at the procedural level, bypassing conceptual understanding. In Indonesia, religious rituals were conducted by priests to regulate planting dates and irrigation of rice. The value of such rituals was discovered only when a different system was adopted by the government that resulted in crop failure due to insects and diseases, and a team of Western scientists analyzed the ritual method with computers. Centuries-long experiences underpinning the ritual compensated for lack of high technology.

In Benin, West Africa, water hyacinth was choking the waterways and the fishes. Western scientists introduced two species of beetles to keep the weeds under control; the initial area of introduction must not be disturbed for a period of time, so the beetles can establish and multiply. The scientists relayed this information to the priests; knowing that the underlying concept was too com-

plex for the local fisherman to grasp, the priests proclaimed that the area is the home of deities, and who disturbs this area risks personal harm. The priests used the voice of taboo approach to achieve an effective.

The three situations all involve agricultural production and pest control. But they show different kinds of relationships between science and religion. In the case of sustainable agriculture and integrated pest management in Thailand, science generated operational procedures and religion enlightened the people so these scientific procedures are readily accepted. In the case of rice culture in Indonesia, religious ritual dictated the operational procedures that achieved pest control for centuries, and science provided the underlying reasons only recently. In the case of biocontrol of a weed in Benin, science provided an operational procedure with known scientific basis. But the procedure was practiced as a religious taboo.

In a given developing country there are perhaps many religious edicts (rituals dictating some procedures and taboos forbidding others) related to agriculture. Science should evaluate each edict, analyze the underlying reasons of those with positive results, and make an effort to discontinue those without positive results. The Food and Agriculture Organization of the United Nations would be a suitable agency to take up this mission on a systematic basis.

H. C. CHIANG
Department of Entomology
University of Minnesota
St. Paul, MN 55108-6125

Reference cited

Chiang, H. C., and M. Rumakom. 1993. UDD/FAO assisted project on integrated pest control in Thailand. *Am. Entomol.* 39: 183-186.

BIOLUMINESCENT MARINE PHYTOPLANKTON EDUCATE

I enjoyed the research update titled "Bioalgae Biotech Possibilities" (*BioScience* 43: 674). Often microalgae and phytoplankton topics are not well covered in typical biology

courses, and marine phytoplankton are generally ignored.

I have been using a marine phytoplankton, a bioluminescent dinoflagellate, to introduce a variety of topics to elementary and junior high school teachers in the Utah area. The bioluminescence of these organisms stimulates strong interest and provides a direct qualitative readout of the health and activity of the organisms. Observations of and experiments with these organisms can be used to develop a wide variety of science process skills. Called "Integrated Science Concepts and Themes," our workshop ties together many concepts in biology, chemistry, and physics.

BioScience readers may be interested in these unique materials. They have been recently commercialized by a small local company, Protein Solutions, Inc., in Salt Lake City, Utah. I would be happy to provide further information to interested readers.

J. D. ANDRADE
Center for Integrated Science
Education (CISE)
University of Utah
Salt Lake City, UT 84112

SALAMANDER RECRUITMENT IN ROCKIES REVISITED

In their response to our letter (*BioScience* 44: 126, cover 3), F. Vertucci and S. Corn continue to demonstrate a misreading of our published research (Harte and Hoffman 1989) on acidification and salamander recruitment in the Colorado Rockies. Contrary to Vertucci and Corn, chemical data from melted snow and slush are irrelevant to our conclusions, which were based on water samples from the top 1 m of pond water, in the littoral zone, where the *Ambystoma tigrinum* eggs incubate. We presented or referenced all water chemistry data (including alkalinity and acid anion concentrations) and analytical methods needed to support our conclusion that, in 1984 (the year of most intensive study), pond pH values during gestation dipped below the measured LC-50 for embryonic development. Our argument that the gestation period

overlapped the period of episodic pond acidification was based on direct measurement of the gestation period in one year, and observation of hatching emergence in each year, of the study, along with the assumption (clearly stated in our article) that the gestation period does not vary greatly from year to year.

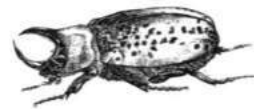
Again contrary to statements of Vertucci and Corn, it is neither surprising, nor is it disproof of our conclusions, that episodic acidification was not observed in 1988 or 1989 and that recruitment resurged then. Anthropogenic acidity does not operate in isolation from natural climatic and hydrologic variability. It is as naive to expect that an anthropogenic stress factor must operate equally in all years as it is to expect that it operates equally at all sites in a given year or that it affects all species equally. Census data need not span decades to be of use in identifying stochastic anthropogenic stresses.

We urge readers not to extrapolate beyond its literal meaning our statement about salamander decline at our study site during the early and mid-1980s: "available evidence is consistent with the hypothesis that acidification is its cause." We never claimed definitive confirmation of acidification as a causal mechanism nor did we rule out alternative explanations.

JOHN HARTE
ERIKA HOFFMAN
Energy and Resources Group
University of California
Berkeley, CA 94720

Reference cited

Harte, J., and E. Hoffman. 1989. Possible effects of acidic deposition on a Rocky Mountain population of the tiger salamander *Ambystoma tigrinum*. *Conserv. Biol.* 3: 149-156.



BIODIVERSITY PROSPECTING: RULES OF THE GAME

In a recent *BioScience* Roundtable, Thomas Eisner and Elizabeth A. Beiring proposed a Biotic Exploration Fund, intended to spark "biodiversity prospecting" ventures (*BioScience* 44: 95-98). The proposed fund would provide seed money to help developing countries set up national biodiversity institutes to inventory, sample, and analyze biodiversity and also to broker prospecting agreements between those institutes and corporations from industrialized nations interested in capitalizing on biodiversity. The resulting economic benefits would give developing countries much-needed revenues and an economic reason for conservation.

Eisner and Beiring's basic proposal has great potential and deserves serious consideration. They omit or confuse, however, several critical principles and issues. Our response is intended to contribute to a fruitful discussion by filling in some gaps and correcting some misunderstandings.

Eisner and Beiring's discussion of law demands clarification on several key points. One is the Convention on Biological Diversity, which was signed by 160-plus nations in 1992 and entered into force on 29 December 1993 after ratification by 30 countries (CBD 1992). The convention evidences broad acceptance, in general and somewhat qualified terms, of certain basic principles that will serve as an international legal framework for future biodiversity prospecting agreements and other forms of benefit sharing. For instance, the convention affirms each nation's power to control access to its genetic resources (Article 15), establishes the principle that commercial benefits from genetic resources, including technology, must be shared equitably (Articles 1, 15, 16, and 19), and provides that countries should take part in research on their genetic resources (Article 19). In addition, the Biodiversity Convention will establish a multilateral mechanism for funding its implementation in developing countries. Design of the fund proposed by

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Sea Frontiers

Letters

AT-HOME BIOLUMINESCENCE

I enjoyed the brief feature "Shine On" on page 17 of a recent issue of *Sea Frontiers*. Patricia Barnes-Svarney briefly presented bioluminescence and the work that Edith Widder at Harbor Branch Oceanographic Institution is doing with low-light-level bioluminescence measurements. As Barnes-Svarney said in her article, much of marine bioluminescence is due to certain dinoflagellates.

For those who haven't had the opportunity to see this beautiful phenomenon in the marine environment, it is now available as a science kit called "Night Life: Science in the Dark" and is sold in nature stores.

Night Life consists of a colony of *Pyrocystis lunula* in a Guillard F/2 medium. They glow a bright blue when mechanically stimulated. This robust, nontoxic dinoflagellate is easy to maintain and culture and requires only ambient room lighting. In an adult, maintenance-free version of Night Life, called GALAXSEA: Bioluminescent Plankton, the *lunula* are sealed in a transparent plastic bag, wherein they will maintain themselves for six to 12 months with absolutely no care whatsoever except for the need for normal daylight.

I have been using these materials for a set of discovery-based science courses for elementary and junior high teachers in the Salt Lake City region. Your readers may wish to consider these remarkable organisms as living specimens for their classes.

I would be pleased to provide additional information to your interested readers on the use of bioluminescence for science-education purposes. Information on the commercial versions that are available for wider distribution can be obtained from Protein Solutions, Inc., 390 Wakara Way, Room 31,

Salt Lake City, UT 84108; (801) 585-3128.

J. D. Andrade,
Director, Center for Integrated
Science Education
Salt Lake City, UT

Center for
Integrated Science Education (CISE)

October 21, 1993

Paul Hoffman, Editor in Chief
Discover Magazine
500 South Buena Vista Street
Burbank, CA 91521

Dear Mr. Hoffman:

Congratulations on an absolutely outstanding November 1993 issue. I especially enjoyed Mary Roache's "Secrets of the Shamons" describing Paul Cox's ethno-botany studies in Samoa. Paul is co-chair of the Earth and Biosphere theme of Utah's evolving Science Center, a highly interactive, major science and technology center now being planned for the Utah area. All of those involved in the Science Center initiative were of course extremely pleased with your cover story, "Ten Great Science Museums."

As a recent convert to marine biology, the "Life in the Deep" photo essay was also fascinating. You included a photograph of a dinoflagellate. Some dinoflagellates are bioluminescent and are largely responsible for the blue bioluminescence in the seas at night. You also mentioned the bioluminescence of a comb jelly. Although bioluminescence is actually quite common in the sea, most people have never seen it. Although fireflies are relatively common in the mid-west and even the east, those of us in the western parts of the nation are firefly deprived.

I have been using bioluminescence as a means to develop science observation and process skills locally. Fortunately bioluminescent phytoplankton can be readily cultured and grown in non-laboratory situations and can be used to experience brilliant blue marine bioluminescence. In addition to the artistic and mystical quality of this light, it stimulates a wide array of questions, leading immediately the development of the scientific process and inquiry.

Your readers who have not had the opportunity to experience this may want to inquire about two new products, Galaxsea™, Bioluminescent Plankton; and Night-Life™, a Science in the Dark kit, through their local science store or museum gift shop. The products are available from Protein Solutions, Inc., Salt Lake City. (801) 585-3128.

Finally, I hope that you will continue to profile unique and great science museums and science centers in *Discover*, as well as particularly special zoos, arboreta, and aquaria. Keep up the good work.

Sincerely,

J.D. Andrade, Ph.D.
Professor and Director, CISE

cc: Paul Cox
PSI

cise/18oct93

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Salt Lake City, Utah 84112
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FAX: (801) 585-5361

THE
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letterhead

6009 Highland Dr
SLC UT 84121

July 13, 1993

Editor
New York Times
229 West 43rd Street
New York, N.Y. 10036

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Dear Editor:

Thank you for publishing the opinion/editorial by Chernick and Reschowsky in the Sunday, July 11 issue of the *Times*.

The United States has the cheapest gasoline among the major industrialized nations of the world. A significant gasoline tax would raise much needed revenues to offset the deficit and to help repair our deteriorated infrastructure. We would still have among the cheapest gasoline in the world. Slightly higher gasoline rates would provide an incentive for industry and for individual citizens to become more efficient and more productive. Greater efficiency and productivity means that we will be more competitive in the international environment.

There are no negatives to a gasoline tax. Indeed there are almost no negatives to an overall energy or BTU tax. Utilizing energy more effectively and efficiently is in the best long term interests of this nation and will help maintain and enhance our economic success in an increasingly competitive world environment.

I sincerely hope that your readers, and particularly our elected officials, will begin to ignore the temptation to consider their local, parochial concerns above the overall health and well-being of the nation. Although senators and representatives are elected to represent, they are also elected to provide governance and leadership for the nation as a whole. It is this latter responsibility that they have been shunning and ignoring for many decades. It is time to redress that balance.

Sincerely,

J.D. Andrade
Salt Lake City, Utah

per/jul1

MENTARY Saturday, July 31, 1993

A5

The Public Forum

Tribune Readers' Opinions

Don't Forget to Write

A Woman's Place

It was interesting to read Janice B. Foster's reaction (Forum, July 1) to Kristin Freeman's opinion piece, "BYU Doesn't Come Clean on Farr Firing" (*The Salt Lake Tribune*, June 14). As a foreigner and outsider to the Mormon society, I have given some thought to the issues raised.

What strikes me is the talk about men's and women's different callings in life, which the LDS Church seems to advocate. The male hierarchy is quite open about it: Women should stay at home. This appears to be a favorite topic in many of the speeches and sermons that are made during the semi-annual LDS General Conference.

As a woman, I would hate to be told how to arrange my life. As a member of the Norwegian Lutheran Church, it would be an intolerable infringement upon my personal liberty to have such messages spoken from the pulpit. But since the Norwegian Church allows ordination of women, the messages given are usually more diversified.

It is refreshing to read Ms. Freeman's opinions. She obviously represents the younger generation of LDS women who have started to question the traditional Mormon values.

Ms. Foster, on the other hand, defending

Where to Write

When submitting letters to the Public Forum, please include your full name, signature, address and daytime telephone numbers. Information other than your name will be kept confidential. Preference is given to original letters of 300 words or less that are typewritten, double-spaced and permit publication of the writer's true name. (Names may be withheld for good reason.) All letters are subject to editing. Mail to Public Forum, The Salt Lake Tribune, P.O. Box 887, Salt Lake City, Utah 84110.

Not the First

How quickly they forget. An article in *The Salt Lake Tribune* July 24 stated, "For the first time in memory, a church besides the LDS Church will have an entry in the Days of '47 Parade in Salt Lake City." To refresh your memory, in 1982 Zion Lutheran Church of Salt Lake City had a float in the Days of '47 Parade. That was the first non-LDS Church to have an entry in the parade.

MARIAN SUTHERLAND
Salt Lake City

Thank you, *Salt Lake Tribune*, for your coverage of the Stephen Hawking event during the July 4 weekend. Hawking's visit to Salt Lake City, his lecture at Abravanel Hall and his question and answer discussion at the Hansen Planetarium together constitute one of the major scientific happenings in the Salt Lake area.

The 10,000 or so individuals who were turned away, and the several thousand others who drove by and didn't bother getting in line, together with the 3,000 or so who were accommodated in the hall attest to the fact that the Utah community is indeed interested in and supportive of scientific programs for general audiences.

I serve on the Hansen Planetarium/Utah Science Center Board and serve as co-chair of the program committee for the Utah Science Center. Although the program committee is working with many groups to obtain their input and involvement, there are many others in the community with whom we have not yet interacted. We encourage the input and involvement of all groups and individuals who have an interest in helping to build and develop what we are calling the first of the 21st-century science centers.

J.D. ANDRADE
Salt Lake City

Tribune Misses 'Facts' of Rear Boating

immediate past president, Laura Mays Hoopes, offered cogent, qualitative arguments in support of her recommendation that undergraduates be drawn into "high-risk but low-budget experiments that can launch whole new fields of investigation." I agree that hands-on research is immensely important as a means of encouraging young people to enter and remain in the science pipeline. Moreover, in my own studies I have found that undergraduate institution research, judging by the frequency with which it is cited in subsequent papers, is quite often of very high impact. Thus, it is important not only as a means to an end, but also as an end in itself. In my talk at the meeting, I reviewed some of my findings with the audience, and was therefore able to provide a quantitative complement to Hoopes's views.

Several years ago, at the Institute for Scientific Information, we did a

support isn't m

Laura Mays research as an i produce more t ground for a sul colleges make : contribution the As indicated by remarkable in l compared with

Were NSF at projects at all u how much, as l "studying" scie

The SCIENTIST 5/31/93

P-12

LETTERS

Redundant Publication

I enjoyed the article "Vigilant Science Journal Editors Fight Redundancy" (Paul McCarthy, *The Scientist*, March 8, 1993, page 1).

The real incentive for literature pollution, or your more polite term "literature redundancy," is the evaluation and reward system at most universities.

Administrators and colleagues still decide tenure and promotion cases largely on the basis of numbers of papers in "peer-reviewed" journals. There rarely is any consideration of the significance, the citation impact, or the redundancy of those papers. If we simply asked all retention, promotion, and tenure evaluators to consider redundancy as a negative factor in the algorithm, the problem would rapidly disappear.

There should also be an incentive for members of the community to call on the carpet colleagues who are guilty of publishing redundant papers. Perhaps newspapers like *The Scientist* could provide some PR and notoriety by, for example, selecting the "most redundant author of the year" in each of several fields or "hot topics." This would help alert editors to such curriculum vitae padding and

immediately send a message through the academic community.

J.D. ANDRADE
Professor of Bioengineering
University of Utah
Salt Lake City

Westinghouse Contestants

Regarding the commentary "A Pat On The Back For Westinghouse Finalists—And For The Talent Search Sponsors, As Well" (Eugene Garfield, *The Scientist*, March 8, 1993, page 12): Why does my heart sink when I read the titles you listed of projects by two 17-year-old high school students—"Undocumented Complex Social Relations in Captive *Theropithecus gelada*" and "Loop Two Amino Acids Important for Ability of P-glycoprotein to Confer Multidrug Resistance"? They have obviously been trapped in the ephemeral scientific culture of their elders and channeled at an early age into trying to make tiny contributions to vast enterprises, the nuances of which they are probably quite unaware.

Would any 17-year-old who had not been instructed in the acceptable minutiae of current scientific paper nomenclature have come up with such titles? Don't the titles reek of medical and

social significant "political correct money of their f And, if anyone t think about wha (if the students r something exper extraordinary re have had that an 99 percent of tee

Yes, when I v in the United Ki we tried out for things like "Why Expanding"—an efforts were quit some of us strug nonetheless. And did not lose my i an early age—an that I did not los realizing that fac

Department of

St. Catherine

Muggers And

In his letter to *The Scientist*, page 11, Stephens, vice pr Humane Society States (HSUS), to my lumping his c with other anima ("Animal Rights Enough is Enough

LETTERS To The Editor

Self-Defeating Secrecy

Bravo! Your comments on excessive government secrecy are precisely on target ("Editorial Commentary," September 1992).

Thirty years ago, I worked on field communications equipment destined for Viet Nam. High-tech stuff, back then. Classified, of course.

When the armed forces left Nam, thousands of these units were abandoned in the field. They now are available all over the Earth, with the sole exception of one country: our country. The equipment is still classified here. Hams or experimenters anywhere else can benefit from the huge sums the American taxpayers spent on these boxes, but we can't.

Revising the way we classify is a tiny step. What we really need is to stop paying our best people to do things that might conceivably need to be classified. For the past half century, the brightest third of each class has been taken to do things that benefit the government, not the country.

It is just possible that history will show that we lost the Cold War. We're still watching our country crumble around us, figuratively and literally, while massive sums are spent on secret stuff. Can we stop this madness in time?

There is much to accomplish in America. We need our most talented and creative people back. The government has misused their abilities long enough.

Darryl Phillips
The Airport Corp.
Sallisaw, Okla.

Bioluminescence

I enjoyed H.D. Wolpert's "Tangents" article titled "Free Space Communications: Manifestations in Nature: Part I" in the July issue of *Photonics Spectra*. I was delighted to see an article dealing with bioluminescence in an optics magazine.

I am an academic scientist/engineer at the University of Utah who became fascinated with bioluminescence some five years ago, and am now using it to enhance science education locally and nationally. Since bioluminescence materials are so difficult to acquire for the average teacher, we have established a small company, Protein Solutions Inc.,

whose goal is to provide bioluminescence-based science educational products for teachers, schools, students and the general public.

Enclosed please find one of our "Night Life: Science in the Dark" kits. Although these do not use fireflies, the bioluminescent phytoplankton, which come to you when you send in the coupon included in the kit, provides an absolutely beautiful blue bioluminescence when lightly mechanically stimulated.

J.D. Andrade
President
Protein Solutions Inc.
Salt Lake City, Utah

They Can't Say No

Commenting on your July reader opinion poll, I would say that even though the President never submits a balanced budget and deserves all the blame he gets, Congress is much worse. As an institution, it can't say no to anything.

Congressmen accept bribes (called PAC contributions) from special interests, and then vote for whatever the interests want. Even if they are personally against a measure and did not receive a bribe from its particular PAC supporters, they still tend to support it as a collegial courtesy to their fellow insiders who did receive bribes: "I'll support your pork, and in turn I'll expect you to support mine."

Meanwhile the country goes down the tube.

Sidney Johnson
Reston, Va.

Overlooked Paper

I recently received a copy of the June 1992 issue of *Photonics Spectra*, and read a "news" item in your "Presstime Bulletin" department about the development of a broadly tunable femtosecond Tisapphire optical parametric oscillator (OPO), based on a CLEO postdeadline paper delivered by Professor Tang's group at Cornell University.

I have to wonder what criteria your magazine uses to report news, since the postdeadline paper was delivered the day after my graduate student Gary Mak gave a regularly scheduled, invited talk (paper CWD1: Q. Fu, G. Mak and H.M. van Driel, "High Power, CW, femtosecond

OPO") in which he reviewed development of the first pumped, high-average-power continuous femtosecond OPO. No mention was made of the news item.

Our system has been in development over the past two years and can be pumped by either a femtosecond dye laser or Tisapphire laser. It was described in a paper in February of this year (G. Fu and H.M. van Driel, *Opt. Lett.* 1992). Externally pumped femtosecond optical parametric oscillators are discussed in *PHYS. LETT.* 60:542.

Your readers may also be interested to know that a paper published on July 15, describing sapphire results in more than 100 W, was published in *Opt. Lett.* 1992. High-power, 62-fs optical parametric oscillators pumped by a 76-MW Tisapphire laser. *OPT. LETT.* The following issue of *Opt. Lett.* contains an article in which the Tisapphire Group report their system.

H. van Driel
Professor
University of
Toronto

The Price of Protectionism

Pursuant to your reader opinion poll, protectionism costs this country billions of dollars. We, the consumers, are not responsible enough to know what this has been estimated that protectionism, American paid \$75 billion last year in prices.

Industry is also choked by protectionism. It has been shown that gross national product grows as exports grow, and a case can be made for the reduction or dependence of the economy on other. Personal incomes have been shown to grow with growing exports.

History holds some lessons for those in government. In the 1890s, the protectionist as the McKinley Tariff, which imposed almost 50 percent "to protect industries from foreign competition." The end result was

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6009 Highland Dr
SLC UT 84121
277-1259

Aug 19, 1992

Letter to the Editor
Salt Lake Tribune
P.O. Box 867
S.L.C., UT 84110

Dear Editor,

I am very concerned with the fact that you ran what was basically an opinionated editorial as a news story on page A2 of the August 12, 1992 Salt Lake Tribune. The headline was "Balken Question Defies a Simple Solution"; the author was your new staff writer, Michael Nakoryakov.

Historical perspectives are of course important, and we must learn what we can from the mistakes made in history, but we must not use history as an excuse for rationalizing intolerable actions in the present, nor as an excuse to avoid dealing with current pressing problems. We no longer blame the Germans, the Italians, or the Japanese for the acts of their grandparents, neither should we blame Croats for the acts of their grandparents. Apparently the Nazis did set up a puppet state in Croatia, just as they did in France and Italy and other locations, but only a few percent of the Croatian population supported the actions of the Nazi-imposed regime during the war.

Mr. Nakoryakov's basic argument was don't blame communism for the bloodshed in Yugoslavia, "The bloodshed is not a communist legacy". The bloodshed is not a Croatian legacy either, which is what he implied in his story.

He concluded his story without any suggestion as to a solution. These people lived together in peace and reasonable harmony for the last 40 years or so. The events of the last year have clearly produced a hatred and a polarization which will be very difficult to overcome, but it must overcome. It can only be overcome by world leaders and a responsible press arguing for the end of fighting, arguing for the elimination of hostilities and atrocities, and by the imposition of sanctions and force, if necessary.

The problems are only inflamed, not solved, by citing inaccurate and inappropriate historical "facts" as justification for the status quo. That is Mr. Nakoryakov's irresponsible error as well as yours.

Sincerely,

J.D. Andrade, Ph.D.
Professor

Univ. of Utah

SL Trib
2/28/92
The
Tri
No Leadership
The Wasatch Front was enveloped in horrible smog for over a month. The Salt Lake Tribune ran an extremely informative series of articles on the problem. The conclusion is the problem will get far worse unless the number of people and the number of cars along the Wasatch Front are greatly reduced.
We have a fairly reasonable transit system in the Salt Lake Valley. We have some initiatives dealing with light rail. We have a growing public sentiment that the problem is bad and getting worse. And we have no leadership.
Although the mayor of Salt Lake City has said something about minimizing fireplace use, I see no other evidence of leadership on the part of a public official to encourage, to motivate, to challenge or to lead the population.
Why isn't the governor speaking out and encouraging people to leave their cars at home or at least to car pool? Why isn't the mayor saying more? Where are our university leaders? The universities are supposed to be our sources of information, inspiration, wisdom and even conscience.
J.D. ANDRADE
Salt Lake City

LETTERS

Endorsement For NIH Plan

The recent front-page story in *The Scientist* titled "Scientists Skeptical Of NIH Strategic Plan" (May 11, 1992) does not fully represent the views of the scientific community. I attended two of the five regional National Institutes of Health strategic plan meetings and did not sense the strong criticism and skepticism that the story indicated.

One had to read to the very end of the story to reach the conclusions. I am afraid that not all of the readers saw the statement that "Despite initial skepticism from many sectors, the concept of strategic planning for NIH has been strongly endorsed by the extramural community." That was my perception from the Los Angeles and St. Louis meetings.

Another conclusion was that "The fundamental role of investigator-initiated research in the advancement of health science has been reaffirmed." This, too, is my perception—and it was underscored by the various panels and during the general discussion at both of the meetings.

Of course, there is criticism, and there was concern, but generally the NIH officials, in my opinion, were forthright, open, and genuine in their solicitation of input from the extramural community.

I applaud NIH for its

scheduling of five regional meetings and for accommodating everyone who wanted to attend those meetings. I further applaud it for soliciting and encouraging written statements; I have every confidence and expectation that NIH officials will seriously consider those statements.

It is important to note that the discussion was of a strategic planning process. The documents that NIH produced were not a plan, but a "framework for discussion." Had NIH not produced such a framework, it would have been criticized. It is always more efficient to work from a draft. Of course, it is very easy to criticize such a draft, but that should not detract from the importance of the draft and the process.

We are all critical of the lack of leadership in the public sector, particularly at the federal level. At the St. Louis meeting there was a discussion of the "Balkanization" of NIH, referring to NIH's fragmentation into a variety of institutes, generally in response to very strong lobbyist pressures.

There is hope that the strategic planning process might result in more interaction and collaboration among institutes, particularly for trans-NIH activities, including bioengineering, biotechnology, and biomaterials.

The scientific community should applaud Bernadine Healy

and her colleagues for initiating this process. It is refreshing to see some evidence of leadership. We should, of course, provide constructive input and criticism. But let us not do it with headlines and stories that do not tell the public what is really going on.

J.D. ANDRADE
Professor

Department of Bioengineering
University of Utah
Salt Lake City

Animal Research

On page 1 of your May 25, 1992, issue, you state that "the emotional battle over animal welfare is heating up—with many researchers finding themselves caught in the middle." To make matters worse, the article of Americans for Medical Progress (AMP) on page 8 concludes with a statement by Martin Stephens of the Humane Society of the United States (HSUS) implying that AMP ads contribute to a dilemma, with readers having to decide if they are "either for sick children or for the welfare of rats."

There is no battle over animal welfare in the laboratory. AMP and other biomedical researchers are wholeheartedly in favor of good care of their animals. They are, however, unwilling to equate the life of a child with that of a rat.

Stephens is attempting to position his organization in a

The shortcut virus

In reading David Holloway's review (*New York Review of Books*, July 19, 1990), of a book by Z. A. Medvedev, "The Legacy of Chernobyl," I found the following paragraph to be quite thought-provoking: "In the Soviet system, targets are set at the top and pressure is exerted on those below to meet them. Those who meet the targets are rewarded, those who fail are punished. Although it has often been effective in a crude and brutal fashion, this system—the 'command-administrative system,' as it has become known—encourages people to take shortcuts and to report false information to their superiors."

In my mind, I was able to substitute "grant-supported university research" in place of "Soviet"; and the paragraph still made perfect sense. I believe that many of us who are in chemistry departments that are almost entirely dependent on external funding to support our research would like to see a change in the support structure.

If every department could have a basic operating subsidy for research, and if every qualified student could have a federal government fellowship for the period of his or her dissertation (as is true in many other countries), the furious efforts and the concomitant pressure of the grant application and renewal process would be ameliorated. Hopefully, the shortcut virus might then become less infectious.

Richard W. Franck
Professor of Chemistry
Hunter College

Unnecessary journals

I was pleased to read of the merger of Elsevier and Pergamon Press scientific publishers (*C&EN*, April 8 page 5). Let us now hope that the merged company will see fit to help minimize the cancerous proliferation of technical journals by minimizing the number of new journals, and by merging, combining, and otherwise phasing out existing journals. I recently wrote to Robert Maxwell, president of Pergamon Press, to express my displeasure at their launching of yet another biomaterials journal, the field I work in, and in which there is an overabundance of journals.

I suspect that the major culprit in journal proliferation is the academic community. Most industrial scientists and engineers do not need to publish profusely to receive salary increases and advancement. Profuse and excess publishing is endemic in a university environment in which promotion and tenure are judged

by research productivity, which generally means the number of papers in peer-reviewed journals. Clearly, if professors have difficulty publishing in the existing journals, their chances are increased dramatically by the launching of new journals. The process simply has to stop.

The guilt rests squarely on the shoulders of university presidents, vice presidents, deans, and chairmen. The excess publishing nightmare would disappear almost overnight if universities based their retention, promotion, and tenure decisions on a limited—preferably small—number of quality publications, rather than by weighing the candidate's publication list, which is the norm in most institutions.

I would urge readers of *C&EN* who feel as I do to express their displeasure with the current trend by writing directly to the presidents of those companies who continue to offer unneeded and unnecessary journals.

J. D. Andrade
Professor and Chairman
Department of Bioengineering
University of Utah

Alternatives to homochiral

Clayton Heathcock proposed (*C&EN*, Feb. 4, page 3) to use the term *scalemic* to describe enantiomerically enriched materials and to adopt the pair *scalemic* and *macroscopic counterparts* of *chiral*-*achiral*.

I think that this proposal should be rejected for two main reasons. First, new stereochemical terms must be accepted only if they serve to dispel confusion; for example, *chirotopic* as introduced by Kurt Mislow and Jay Siegel [*J. Am. Chem. Soc.*, 106, 3319 (1984)] or if they are more precise and meaningful than the previous terminology. Enantiomerically enriched or enantiomerically pure are perfectly adequate expressions that some may find cumbersome, but everyone will recognize as correct.

Second, Heathcock's proposal considers the term *scalemic* synonymous with *chiral*, and *racemic* synonymous with *achiral*. This is incorrect, since by definition an *achiral* molecule cannot exist in enantiomeric form and therefore cannot be *racemic*, whereas a *chiral* molecule will always be *chiral* independently of its enantiomeric composition. In other words, *benzoic acid* is *achiral* (set aside particular conformations) and cannot be *racemic*; *mandelic acid* is *chiral* both when it is *racemic* and *enantiomerically pure*.

Franco Cozzi
Milan, Italy

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Chem & Engrg News 4/20/93
p. 2-3

Cold fusion

In Wesley Murbach's letter to the editor (C&EN, March 9, page 3) he questioned the feasibility of cold fusion because, seemingly, the process appears to be much too simple. I am not a staunch believer that cold fusion can be achieved, but Murbach's comments encompass a larger issue. This is the criticism, and sometimes ridicule, that is often directed toward new ideas when the ideas don't conform to existing theories. I emphasize theory strongly because so much of chemistry and physics is based on theoretical concepts. Those who are quick to criticize new ideas may have forgotten that many existing scientific "facts" are in actuality educated guesses.

Brad Buecker
Springfield, Ill.

Oxygenated fuels

When the General Accounting Office (GAO) issued the report entitled "Oxygenated Fuels Help Reduce Carbon Monoxide," dated August 1991, they also invited readers to obtain more information from the appropriate authorities in the cities under study. I did that, and am left wondering about the wisdom of the project.

First, let us consider the good news. In areas, there has been a steady reduction in CO levels over a period of years. In the case of Las Vegas, for example, a crude estimate of ambient CO for the worst days measured at one site and adjusted for a presumed increase in gasoline consumption dropped about 60% over a 15-year period. (On the other hand, two winters of oxygenated fuel use there perversely showed little change in CO and an increase in NO_x.) Albuquerque reports a 40% decline over six years in ambient CO in winter at the site with the highest level. During a decade of measurement at Arizona sites, the number of days in which the ozone level exceeded standard also diminished, even though peak readings did not. And then, there was roughly a 15- to 20-fold reduction in atmospheric lead at sites in Colorado and Arizona that would result from the phaseout of cars without catalytic converters using leaded gas. These are all the good, but they are not the result of using oxygenated fuels.

What I am concerned about is this: The

GAO report claims the use of oxygenated fuels alone will "not ensure compliance with national CO standards." Yet we are forcing expenditure of billions of dollars for the construction of refinery units mainly to manufacture methyl *tert*-butyl ether, the oxygenate of choice. As for ethanol, other sources claim the fermentation process is not economical without a subsidy, and for the required production would compete with food supplies. In any event, with ethanol vaporization losses reportedly exceed contemplated standards.

I would think that incentives and penalties to reduce the consumption of gasoline would be far less costly and more effective than what we have embarked upon. But I guess that as long as the Saudis keep supplying us with cheap crude, there is no hope of having a conservationist policy prevail. Is this another example of "you can't get there from here"?

Charles V. Berger
Western Springs, Ill.

NIH's strategic plan

I wish to respond to the story on the National Institutes of Health's strategic planning process (C&EN, March 9, page 15).

Although the story was generally correct and accurate, I don't think the headline and blurb accurately reflect the strong endorsement of scientists and other participants to the NIH strategic planning process.

I attended two of the five regional meetings (Los Angeles and St. Louis). There was strong, even enthusiastic, support for a strategic planning process. In general there was strong commendation and appreciation expressed to Bernadine Healy and her staff for initiating the process.

The final strategic planning document will probably be much shorter, much more general, and more inclusive than the "framework for discussion" documents distributed in preparation for these meetings. The purpose of these meetings was to solicit suggestions, criticism, and input to the process. That is exactly what the biomedical research community did at these regional meetings.

Correction

• April 6, page 6: The third anniversary of the announcement of cold fusion was March 23, not March 27.

I bring this to your attention because I don't want your readers to overinterpret the words "uneasy," and "reluctantly," used in the headline to the aforementioned story. Given the general popular concern that our federal government seems to be unable to come to grips with major problems and issues, we as a community should do all we can to encourage and support Healy in her efforts to provide direction and resources for NIH.

J. D. Andrade
Professor
Department of Bioengineering
University of Utah

Worldwatch Institute

I am amazed and very disappointed that a publication devoted to science and scientific news would allow Worldwatch Institute a platform from which to call for "an environmental revolution" (C&EN, Jan. 20, page 18).

Worldwatch consistently deals with science with emotionally charged calls for action at "crucial crossroads," for "basic changes" in chemical, oil refining, paper, primary metals, and stone, clay, and glass industries, which are "notorious users of energy, prodigious producers of pollution," and so on. Selective emotional adjectives ring throughout their reports.

One look at the color photo of Lester Brown posing as Rodin's "The Thinker" tells all.

Charles G. Irvine
Des Moines, Iowa

Retiree health benefits

Your story about health care costs (C&EN, March 16, page 17) was a sound survey of the topic and provided a needed focus on health benefits for retirees. However, I feel a need to clarify a comment attributed to me.

The misinformation is on page 18, where your writer combines two concepts into the statement, "those who retire from Dow USA after Jan. 1, 1993, will only get full coverage beyond Medicare if they worked for Dow at least 30 years. And the newest and youngest employees who join the company after Jan. 1, 1993, will receive no postretirement health care benefits."

That is not accurate. The two concepts are as follows: (1) Effective Jan. 1, 1993, Dow USA will use a service-related schedule to determine the cost of medical coverage in retirement. Full Dow support will be achieved at 30 years and the employee would retire paying the same rate he or she paid as an active employee. The

employee's every year 30 years. I join after medical as when they. They can't until may submit to Dow to So, current 1, 1993 supplement they retire vice, they have the current employee

Women

I can full expressed (C&EN, March 9, page 15) about scientists from me this, we the edito publicatio

Curious of the address, nancial s their serv tions are deserve t en of Sh stance, s circle w 1991 Go Elastome vited sp consequ en, had a ference t science.

This is Usually give plet hear the some m years in uation, I approach Chemica I appe women approcl sion of not inter simply

Letters

Poster Available That Depicts Mapping of Human Chromosomes

Dear Editor:

I enjoyed reading Susan Offner's article "A Plain English Map of Human Chromosomes" (February, 1992). One of the strengths of your journal is that it brings useful materials.

I saw a poster of the mapping of the human chromosomes displayed at the

Florida Science Teachers Association annual conference and called the 800 number listed on the poster. The poster is published by the Promega corporation and they were nice enough to send free copies my way. Perhaps you could contact them about the availability of this to all the mem-

bers. Contact: Promega, 2800 Woods Hollow Rd., Madison, WI 53711-5399, 1-800-356-9526.

Mrs. Carol Leonard
Science Program Planner
Lemon Bay High School
Englewood, FL 34224-5298

Bioluminescent Phytoplankton Demonstrate Significant Science Concepts

Dear Editor:

I enjoyed the article, "Material Cycles in Nature," in the September, 1992, issue of ABT. My colleagues and I in the Center for Integrated Science Education at the University of Utah have also experienced this myopic compartmentalization of scientific disciplines and the inability of students, and indeed the inability of university instructors, to integrate or bridge the disciplines, or even to bridge fundamental basic science concepts.

We have been searching for unique and highly motivational means to present and discover science concepts in an integrated, multi- and interdisciplinary fashion. One phenomenon with which we have had consid-

erable success is bioluminescence—light generated by living organisms. Certain bioluminescent phytoplankton are very easy to grow, are essentially plants, multiply by cell division every 5-7 days, emit a beautiful blue bioluminescence when mechanically agitated, are robust and easy to culture, and generally are highly effective materials and tools with which to teach the concepts of photosynthesis as well as many other topics in modern biology, chemistry and physics.

Your readers may wish to consider these remarkable organisms as living specimens and cultures for their classes. We have used them extensively in inservice courses and in elementary and junior high classrooms—

for the past year. They are available from some of the standard biological supply houses. They have also been packaged in a well-designed and effective science kit called NIGHT-LIFE—Science in the Dark, available from Protein Solutions, Inc. (PSI), 390 Wakara Way, Room 65, Salt Lake City, UT, U.S.A. 84108; (801) 585-3128.

I would be pleased to provide additional information to your interested readers.

J. D. Andrade, Ph.D.
Director, Center for Integrated
Science Education
University of Utah, 2480 MEB
Salt Lake City, UT 84112

Critique on Origin of Life & Evolution in Biology Textbooks Is Criticized

Dear Editor:

When I received the February 1993 issue of ABT, I immediately turned with interest to the article on p. 78, "Origin of Life & Evolution in Biology Textbooks—A Critique," by Gordon C. Mills, Malcolm Lancaster and Walter L. Bradley. As I read through the first page of the article, I found myself referring back to the cover to make sure I had the correct journal. By the third page, I had progressed from confusion, to surprise, to incredulity.

In the same paragraph on p. 80, the authors criticize biology textbooks for disregarding recent studies into the origin of life and then fail to mention those studies. Further, the paragraph cites a 1977 article by Yockey on the probability of spontaneous biogenesis

of proteins that is not only rife with errors, but also misses the entire point of functional success as opposed to structure per se. On the very next page, the authors claim that the biology books reviewed are "clearly out of date and ignore a growing body of scientific data," and then reference a 1971 article by de Beer on the lack of homologous genes for homologous structures, that was discarded years ago for a total lack of evidence to support conclusions. In fact this article was written as an Oxford Reader for high school students so it qualifies as neither a research paper nor a scholarly monograph. I fully expected the next page to include references citing the Paluxy man-tracks or polystrate trees.

This "critique" charged current biology textbooks with errors, overstatements and omissions, and offered outdated, error-ridden articles with bald assertions for conclusions in support of that thesis. Conspicuously lacking in this article were any scientifically testable, intellectually compelling ideas stated in a positive format. I suspect that the Creationist position of Walter L. Bradley accounts for the tone of the article: My question is, how did it come to appear in *The American Biology Teacher*?

Robert H. Hertzler
Science Supervisor
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American Biology Teacher 55 (1993)

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5/15/95 *The Scientist*

Letters

Need For Leadership

I enjoyed Leon Lederman's Opinion essay in the Jan. 23, 1995, issue of *The Scientist*: "Memo to Research University Presidents" (page 12).

Warren Bennis, whose books include *Why Leaders Can't Lead* (San Francisco, Jossey-Bass, 1989), has said, "I can't remember the last time any university president addressed any problems beyond his or her own campus. Universities have changed, and so have university presidents."

W. Honan, in an editorial in the *New York Times* (July 24, 1994), wrote: "Today almost no college or university president has spoken out significantly about Bosnia, Haiti, North Korea, health care, welfare reforms, the attack on the National Endowment for the Arts, or dozens of other issues high on the national agenda."

I feel strongly that universities must provide much of the vision, the problem-solving expertise, and even the conscience of society, and that responsibility should be expressed and endorsed by presidents or chancellors. Most of them, and many of our national leaders, have a problem with, to quote George Bush, "the vision thing." In many cases presidents are actually told to lay low and not get their universities "in trouble."

Buckminster Fuller, shortly after being introduced by a university president to give a commencement speech, is reported to have said, "What you fellows in the universities do is to make all the bright

students into experts in something. That has some usefulness, but the trouble is it leaves the ones with mediocre minds and dunderheads to become the generalists who must serve as the college presidents."

If the presidents of the 100 or so major research universities in the country got together, held a meeting, effectively utilized their congressional delegations and governors, and simply got organized and got busy, they could very quickly address many of the issues noted by Lederman in his Opinion.

It is time faculty, students, alumni, and concerned citizens insist on having presidents who have the guts to lead and to deal with the important issues of our time, and that means that most of the existing crop should go.

J.D. ANDRADE

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Blood In The Lab

I read with interest your commentary on the use of human blood in undergraduate laboratory experiments [A.F. Sanborn, G.E. Ellis, *The Scientist*, Jan. 23, 1995, page 13]. My training as a clinical biochemist utilized human blood from members of the class. Thus, instruction in the proper handling of biological materials that may cause disease became integrated with the primary purpose of the laboratory

experiment. To my knowledge, no member of my class contracted any disease from these laboratory experiments. By using human blood, the student is allowed to work with a real sample and can gain valuable experience in proper techniques that prevent infection.

The irrational fear that some in academia have toward using blood in undergraduate laboratory experiments robs the student of a valuable learning experience. Let's not allow mass hysteria over HIV to prevent us from training the next generation of scientists and physicians!

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SL Trib Opinion
11-8-1995
Ecology 101

Reporter Jim Woolf's story about the speech by W.P. Pendley at a meeting of the National Mining Association in Salt Lake City (*Tribune*, Oct. 10) documents why we so desperately need enhanced science education and science literacy in this nation.

Pendley's painting of a polarization between "environmental extremists" and "people with more traditional views," at least as represented by Woolf's article, does a major disservice to informing the public of the problems before us. Salt Lake City is a good case in point. All you have to do is to compare your experience in driving our freeways, getting around in this town, perhaps 25 years ago with what it is today. There just is no question that uncontrolled, unplanned growth is not in society's best interest. Pendley needs a very good course in planetary ecology and the relatively simple principles of exponential growth.

Woolf did say that Pendley's portrayal was "partisan" and utilized some "questionable statistics." I would urge anyone who knows the man to send him a copy of E.O. Wilson's *The Diversity of Life* or James Lovelock's *The Ages of Gaia* or just a simple general science textbook. The man is in desperate need of some general science education.

J.D. ANDRADE
Co-Director
Center for Integrated Science Education
University of Utah