

# OPUNTIA

## 66A

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Whole-numbered OPUNTIAs are sercon, x.1 issues are reviewzines, x.2 issues are indexes, x.3 issues are apazines, and x.5 issues are perzines.

### LETTERS TO THE EDITOR

[Editor's remarks in square brackets]

FROM: Sheryl Birkhead  
25509 Jonnie Court  
Gaithersburg, Maryland 20882

2008-07-13

{Re: Calgary Parking Authority surveillance vans with multiple cameras photographing licence plates} Do you have any idea how much of an increase in revenue has resulted from the surveillance van? Of course then one has to factor out the costs of the van/fuel/personnel.

[I don't know what the revenues are but the vans were introduced mainly to reduce costs. Instead of two dozen commissionaires wandering about the downtown core, the van can cover it faster and more frequently.]

Someone is surprised that women collect stamps? My involvement is not traditional collecting. I have always gone for the stamp topic and then the art, but only for the stamps I like, so I am not a true philatelist. Because all my collecting is done through the mail, it never necessitated face-to-face contact, kind of the way fanac used to be before conventions became so popular.

[Re: World war Two ration coupons] Did the ration coupons constitute purchase or solely the right to make a purchase? What happened to supplies of items that did not have specific ration coupons?

[In order to buy a rationed good, you had to present x number of coupons, but still had to pay cash for the goods. You could not buy the goods without presenting the coupons. Anything for which coupons were not issued could be bought and sold in the normal way. If you could find it in the stores, that is.]

FROM: Lloyd Penney  
1706 - 24 Eva Road  
Etobicoke, Ontario M9C 2B2

2008-05-09

[Re: WW2 ration coupons] Perhaps this is where we learned to use unofficial currencies, like Canadian Tire scrip and TTC tokens. The value of the token seems to be about \$2.25 these days, or, in an emergency, seems to be a regular substitute for a toonie.

[I've had some people send me Canadian Tire money for payment, but since I never shop there, I don't accept it. Some other Calgarians will accept it in lieu of a loonie. Unlike the Toronto Transit Commission, Calgary Transit only issues paper

tickets in books of ten, but no one uses them for change. -2- For the benefit of my non-Canadian readers, the Canadian dollar is called a loonie because the \$1 coin depicts a loon bird on the obverse. By extension, the \$2 coin is called a toonie, although it depicts a polar bear. There have been no \$1 or \$2 banknotes for decades. All Canadian coins have a portrait of the Queen of Canada on the reverse, leading to the joke about the toonie showing the Queen with a bare(bear) behind.]

**I Also Heard From:** John Hertz, John Held Jr, Heath Row, Franz Zrilich

## THE BICENTENNIAL

With a modest throat-clearing, your humble editor is pleased to announce that this issue is the 200th issue of OPUNTIA since publication began in March 1991. Because I don't use a straightforward numbering system, it would have gone unnoticed by the outside world. This zine is officially an irregular so that an issue can never be late, but I have been fairly successful in churning it out at a monthly pace. It is strictly limited to four sheets of paper (16 pages) so that I can mail it at the first-increment rate, and so that I can maintain a frequent schedule instead of dealing with a giant zine that becomes a burden.

## JUST THE FACTS

by Dale Speirs

In 1956, geologist M. King Hubbert correctly predicted that the conventional oil production of continental USA would peak in the early 1970s; the actual year was 1970. Even the massive North Slope oil of Alaska did not bring production back up to the peak. With that, he is today recognized as the founder of the Peak Oil theory, although like many prophets his words are often distorted.

World conventional oil production peaked in 2006. It doesn't mean that we have run out of oil; in fact, we still have half our conventional oil left. Hubbert was at pains to emphasize this, although it is often overlooked. The current panic about oil over \$145 a barrel (and who knows what it will be when you receive this issue) was not because of Peak Oil per se. It was because demand for light sweet crude exceeded supply, an entirely different matter but unfortunately conflated with Peak Oil.

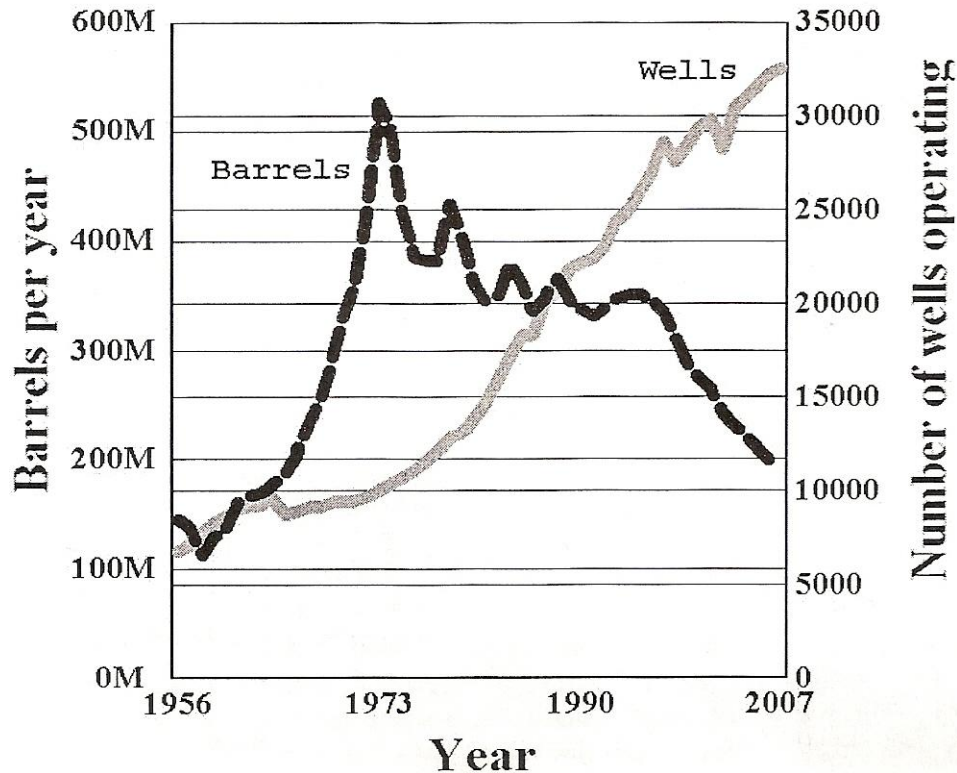
The most serious problem about the Peak Oil debate is the failure of deniers to acknowledge that it is not the reserves that matter but the production rate. Alberta has 1.3 trillion barrels of oil in its oilsands, but the wildest, most optimistic estimate is that we might be able to produce 5 million barrels a day by 2020, which is only a few percentage points of North American demand. Saudi Arabia claims they can pump 12 million barrels a day

(independent observers say only 10 million barrels), but much of that is now heavy sour (high sulphur) crude that few want and fewer can refine. The Bakken formation of Saskatchewan/Montana/North Dakota is said to have 400 billion barrels, but the U.S. Geological Survey doubts more than 20 billion barrels could be recovered by any form of technology or magic. That amount would be about a two year supply for the USA. Reserves are useless until produced, and Peak Oil is about production, not reserves.

The new oil that is being discovered is not conventional light sweet (low sulphur) crude. It is bitumen from oilsands (which has to be refined one step up into crude oil before shipping) or kerogen from the American Rockies shales (which has to be refined two steps up into crude oil). Offshore oil needs drilling rigs that start at \$1 billion each if you can find one. Arctic oil must be shipped down \$25 billion pipelines. There is still lots of oil out there but the catch is that it is all expensive oil.

The greatest difficulty that the talking heads and pundits of the mass media have in understanding about Peak Oil is that the production of this new oil is not an addition to existing supplies. Conventional oil is rapidly depleting, and the new oil is making up for the depletion, a Red Queen's Race in which the faster new oil comes on line, the faster the old oil fields are depleted.

# Alberta conventional oil - 1956 to 2007



With all this in mind, let us take a look at Alberta's oil statistics. Alberta produces the majority of Canada's oil; it is the elephant in a corral of goats. The numerical data that I used to generate these graphs comes from the Canadian Association of Petroleum Producers ([www.capp.ca](http://www.capp.ca)).

Although Alberta has produced natural gas since the Turner Valley strikes in 1914, and had a few small oil wells, the birth of its petroleum industry is agreed to date from 1947, when the Leduc #1 well blew in and became the discovery well for the first large commercial oil field. The graph at left shows conventional oil production in Alberta compared to the number of operating wells. Alberta's conventional oil peaked in the early 1970s, while the number of oil wells continued to rise. More wells, but smaller, even tiny fields. We now have three times as many wells producing about one-third as much conventional oil as at the peak.



The chart begins at 1956 rather than 1947 because the first Trans-Canada oil pipeline wasn't completed until 1958. It wasn't until an export market developed that anyone started to keep serious statistics. The oil was refined and sold locally prior to that date.

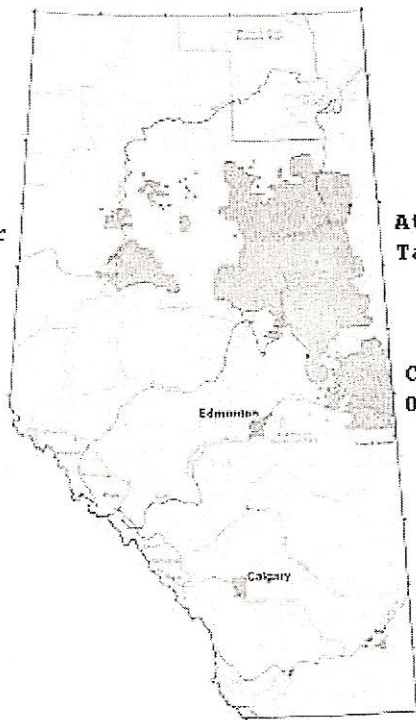
If all Alberta had was conventional oil, we would today be huddling round the remaining deposits and be of no particular interest to the Seven Sisters, the largest multi-national petroleum companies. (Actually there are only five sisters left, but we still speak of them as seven.) But, praise God, Allah, or any other spiritual deity you may worship, we have the oilsands. Every morning we kneel down beside the breakfast table, face northeast, and offer up prayers of thanks for our good fortune.

There are three main deposits of oilsands. The Cold Lake and Peace River oilsands are deep belowground and require horizontal drilling and steam heat to melt the bitumen and pump it up to the surface. There, it is refined into synthetic crude oil, often referred to as syncrude. The Athabasca Tar Sands are simply a special case of oilsands that have been exposed at the surface by the grinding of the continental ice sheets during the last glaciation of the Pleistocene. They are the largest deposit and cover an area about the same size as England. They are mined from open pits, but from there are steam-heated in gigantic trommels to melt out the bitumen and turn it into syncrude. Five years ago, it cost \$30 a barrel to produce syncrude; today it costs \$75.

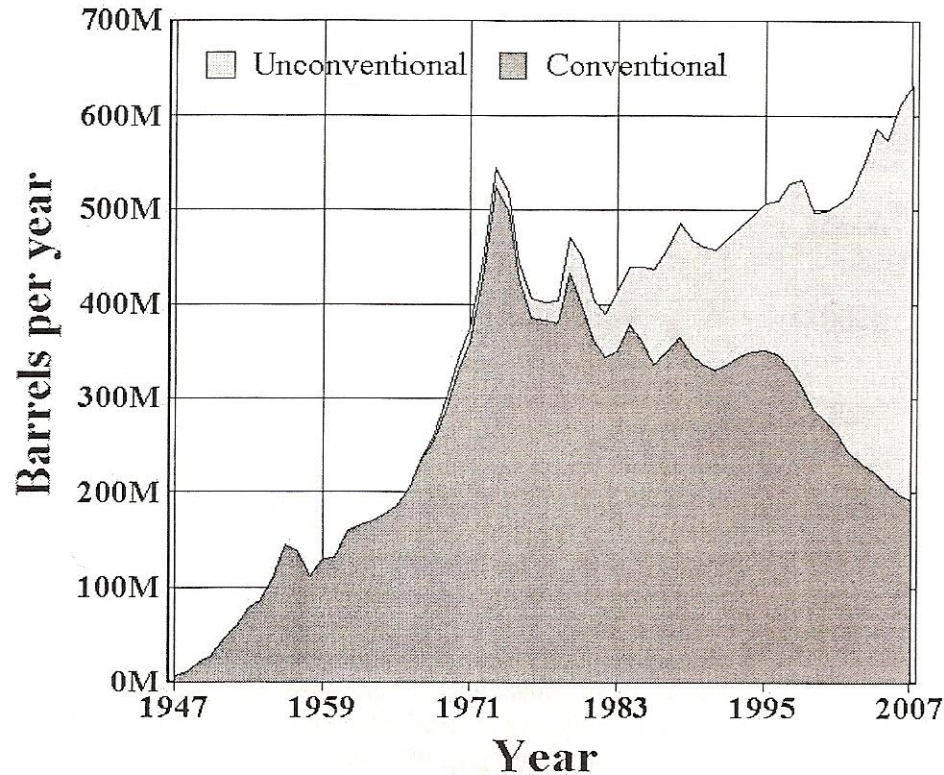
**Peace River  
Oilsands**

**Athabasca  
Tar Sands**

**Cold Lake  
Oilsands**



# Alberta Oil Production - 1947 to 2007



The chart at left shows Alberta's -6- total production of oil since 1947. We have actually increased our production overall but only because the oilsands are picking up the slack.

Currently, the oilsands are more than making up for the decline in conventional oil, but once they plateau circa 2020 or so, then Alberta's total oil production will begin a steady decline.

I probably won't be alive to see it, and the next generation will still have lots of oil, albeit costly oil. It is our grandchildren who will have to face the most serious consequences of depleted oil.

Sheik Rashid bin Saeed Al Maktoum (1912-1990), the late Emir of Dubai, famously said: *"My grandfather rode a camel, my father drove a car, I fly in a jet, my children will drive cars, and my grandchildren will ride camels."*

## PRONGHORNS

by Dale Speirs

Pronghorns, scientific name *Antilocapra americana*, are often referred to as antelopes, but they are not. They are distantly related to deer, but are in their own family, the Antilocapridae. There are a number of fossil species of pronghorns known, of which the existing species is the last survivor. They are native to the shortgrass prairies of western North America, ranging from southern Alberta and Saskatchewan to Sonoran Mexico, on both sides of the Rocky Mountains and as far east as the Missouri River. Their current distribution is disjunct (chopped up) because of urbanization and farming.



Before the arrival of Europeans, pronghorns were as abundant as the bison, in the tens of millions, but were slaughtered just as much. Their meat is said to be very tasty. By 1915, their numbers had dwindled to about 12,000. Since then, conservation efforts in both Canada and the USA have allowed populations to return to about 1 million or so. About half of the total pronghorn population lives in Wyoming.

### Fastest Land Animal?

It is widely accepted that the two fastest land animals in the world are pronghorns and cheetahs (kangaroos are a close third). The top recorded speed for pronghorns is 98 km/hr, although the usual is about 55 km/hr for up to 6 km distance. Cheetahs are faster (record speed of 114 km/hr) but they are sprinters and are quickly winded after 200 metres. Pronghorns, while slightly slower, can run for kilometres. It has been argued that pronghorns are actually the fastest land animals because they can sustain their speed and give a truer account than cheetahs. The Guinness Book of World Records hedges this point by listing two categories, one for sprints and the other for endurance running, and puts cheetahs and pronghorns in those two categories respectively.

The high speed of pronghorns was a puzzle to zoologists for decades because the only predators capable of taking down an adult pronghorn are nowhere near as fast.



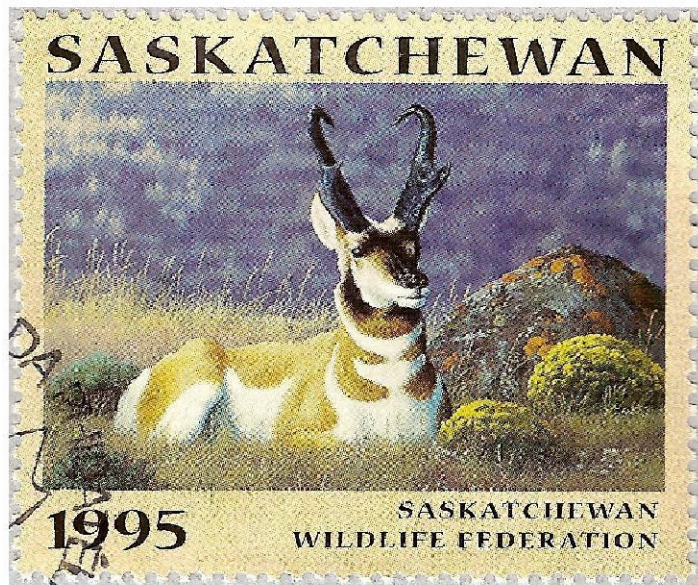
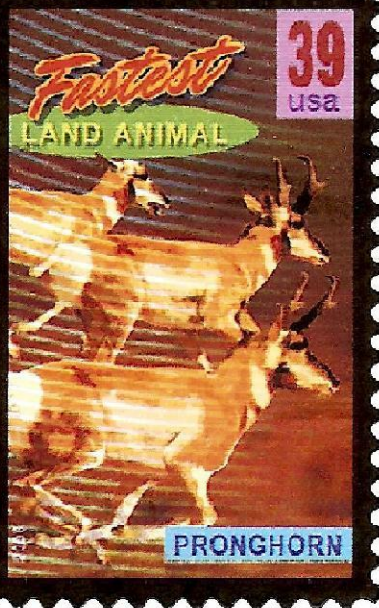
Coyotes and wolves chase their prey, but are not in the same class of attained speed. The answer came when paleontologists discovered that up until 13,000 years ago, there were cheetahs in North America. Pronghorns co-evolved with the now-extinct North American cheetah, a different species than the African one.

Their high speed is thus an evolutionary response to a predator that no longer exists. Pronghorns are therefore the American ecological equivalent of African gazelles.

Herds of pronghorns are extremely vigilant. They have excellent long-range vision and a 320-degree field of vision. Hunters are

well aware that it is nearly impossible to get in close on foot to a herd of pronghorns. I don't hunt myself but I have observed them in the shortgrass prairie of southeastern Alberta. In my experience, it is possible while driving a vehicle to get within 10 metres or so of a herd grazing near a road. As soon as I got out of my car, they bolted for the horizon, no matter how slowly or non-threateningly I moved. They accept motor vehicles as harmless but know humans as predators.

-8-





## Don't Fence Me In.

While other wild animals such as deer and bison can be raised in pens, pronghorns have very seldom been successfully raised in confined quarters. When startled, and they do startle easily, they crash into fences and injure themselves. This is because their basic instinct when alarmed is to run at full speed, then stop at a distance and look back. That method works okay out on the prairie where there is nothing to collide with, but causes them harm in confinement.

For all their speed, pronghorns are poor jumpers. When confronted with barbed-wire fences, they invariably try to crawl underneath the wire. Not only hunters, but farmers have contributed to the decline of pronghorns. Conservationists have encouraged farmers to remove the bottom wire on barbed wire fences so that pronghorns can crawl under them, or, alternatively, put a non-barbed wire on the bottom and raise it up a bit..

## Life Cycle.

Pronghorns breed in September and give birth in late May, usually to twins. The fawns weigh only 2 to 4 kg. The doe will leave them hidden and check back every few hours to nurse them. Fawns are odourless so that carnivores can't detect them by scent. The fawns can walk within an hour of birth, and at four days are

able to outrun humans. Notwithstanding that, they are very vulnerable to coyotes, bobcats, and golden eagles. Half of all fawns are killed by these predators before adulthood.

The male adults develop musk glands to mark their territory. Adults reach up to 60 kg in weight. Male pronghorns develop antlers up to 40 cm high, with a forward prong that gives the animals their common name. Females have smaller antlers, no more than 15 cm high and not pronged; many females never develop antlers. The male can be identified because it has a black patch on the jaw below the eye.



Pronghorns feed on forbs (non-woody flowering plants), sagebrush, cacti, and browse plants. They seldom eat grass. Every decade or so in my part of Alberta, there is a winter blizzard that makes life difficult for pronghorns. Well-meaning conservationists dump hay bales on their range to try to feed the pronghorns, but it is only with great reluctance that the pronghorns will switch from browsing to grass.

### Folklore.

One interesting aspect of pronghorn folklore is the jackalope, a supposed jackrabbit with pronghorn antlers. Legends of antlered rabbits have long been in circulation in Europe and North America, and have some factual basis. Wild rabbits are susceptible to Shope papillomavirus, which causes irregular fibrous growths on the rabbit's head, bearing a remarkable similarity to horns. However, the North American version of the jackalope can be precisely dated to 1932 and to Douglas, Wyoming. A taxidermist named Douglas Herrick (1920–2003) came back from a hunting trip one day and tossed a jackrabbit carcass next to a pair of antlers. The idea of the jackalope was born from the inadvertent juxtaposition. Over the years, others have elaborated it with humour on postcards and fake stuffed jackrabbits with added antlers. Ronald Reagan had one such mount in his California mansion, and liked to tease reporters visiting him in the 1980s that he had caught it himself.

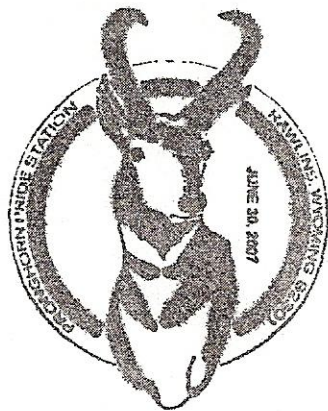


*Pictorial postmark from Douglas, Wyoming, where the deer and the jackalope play.*

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- 2] Glenday, C. (editor) (2005) GUINNESS WORLD RECORDS. Pages 98-99
- 3] Anonymous (1977-11-27) Wyoming, where the deer and the jackalope play. NEW YORK TIMES, page 26

PRONGHORN PRIDE FEST 2007



THE PRONGHORN CAPITAL OF THE WORLD  
THE PRONGHORN CAPITAL OF THE WORLD  
THE PRONGHORN CAPITAL OF THE WORLD  
THE PRONGHORN CAPITAL OF THE WORLD  
THE PRONGHORN CAPITAL OF THE WORLD

*Postmark from Rawlins, Wyoming, which bills itself as the Pronghorn Capital of the World.*

## SEEN IN THE LITERATURE

noticed by Dale Speirs

Andrews-Hanna, J.C., et al (2008) **The Borealis basin and the origin of the Martian crustal dichotomy.** NATURE 453:1212-1215

*"The most prominent feature on the surface of Mars is the near-hemispheric dichotomy between the southern highlands and northern lowlands. The root of this dichotomy is a change in crustal thickness along an apparently irregular boundary, which can be traced around the planet, except where it is presumably buried beneath the Tharsis volcanic rise. The isostatic compensation of these distinct provinces and the ancient population of impact craters buried beneath the young lowlands surface suggest that the dichotomy is one of the most ancient features on the planet. However, the origin of this dichotomy has remained uncertain, with little evidence to distinguish between the suggested causes: a giant impact, or mantle convection/overturn. We find that the dichotomy boundary along its entire path around the planet is accurately fitted by an ellipse measuring approximately 10,600 by 8,500 km, centred at 67° N, 208° E. We suggest that the elliptical nature of the crustal dichotomy is most simply explained by a giant impact, representing the largest such structure thus far identified in the Solar System."*



Uskul, A.k., et al (2008) **Ecocultural basis of cognition: Farmers and fishermen are more holistic than herders.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 105:8552-8556

*"It has been proposed that social interdependence fosters holistic cognition, that is, a tendency to attend to the broad perceptual and cognitive field, rather than to a focal object and its properties, and a tendency to reason in terms of relationships and similarities, rather than rules and categories. This hypothesis has been supported mostly by demonstrations showing that East Asians, who are relatively interdependent, reason and perceive in a more holistic fashion than do Westerners. We examined holistic cognitive tendencies in attention, categorization, and reasoning in three types of communities that belong to the same national, geographic, ethnic, and linguistic regions and yet vary in their degree of social interdependence: farming, fishing, and herding communities in Turkey's eastern Black Sea region. As predicted, members of farming and fishing communities, which emphasize harmonious social interdependence, exhibited greater holistic tendencies than members of herding communities, which emphasize individual decision making and foster social independence."*

Speirs: Which, I suppose, explains the difference between cowboys and wheat growers.

Bar-Yosef Mayer, D.E., and N. Porat (2008) **Green stone beads at the dawn of agriculture.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 105:8548-8551

*"The use of beads and other personal ornaments is a trait of modern human behavior. During the Middle and Upper Paleolithic periods, beads were made out of shell, bone, ivory, egg shell, and occasionally of minerals. During the transition to agriculture in the Near East, stone, in particular green stone, was used for the first time to make beads and pendants. We observed that a large variety of minerals of green colors were sought, including apatite, several copper-bearing minerals, amazonite and serpentinite. There seems to be an increase with time of distance from which the green minerals were sought. Because beads in white, red, yellow, brown, and black colors had been used previously, we suggest that the occurrence of green beads is directly related to the onset of agriculture. Green beads and bead blanks were used as amulets to ward off the evil eye and as fertility charms."*

Speirs: The demand for coloured beads also seems to suggest an incentive to develop trade networks to supply them from distant areas.

Sallon, S., et al (2008) **Germination, genetics, and growth of an ancient date seed.** SCIENCE 320:1464

*"An ancient date seed (Phoenix dactylifera L.) excavated from Masada and radiocarbon-dated to the first century Common Era was germinated. Climatic conditions at the Dead Sea may have contributed to the longevity of this oldest, directly dated, viable seed. Growth and development of the seedling over 26 months was compatible with normal date seedlings propagated from modern seeds. Preliminary molecular characterization demonstrated high levels of genetic variation in comparison to modern, elite date cultivars currently growing in Israel. As a representative of an extinct date palm population, this seedling can provide insights into the historic date culture of the Dead Sea region. It also has importance for seed banking and conservation and may be of relevance to modern date palm cultivation."*

Karsten, K.B., et al (2008) **A unique life history among tetrapods: An annual chameleon living mostly as an egg.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 105:8980-8984

*"Here, we report the discovery of a remarkable annual tetrapod from the arid southwest of Madagascar: the chameleon Furcifer labordi, with a posthatching life span of just 4-5 months. At the*

*start of the active season (November), an age cohort of hatchlings emerges; larger juveniles or adults are not present. These hatchlings grow rapidly, reach sexual maturity in less than 2 months, and reproduce in January-February. After reproduction, senescence appears, and the active season concludes with population-wide adult death. Consequently, during the dry season, the entire population is represented by developing eggs that incubate for 8-9 months before synchronously hatching at the onset of the following rainy season. Remarkably, this chameleon spends more of its short annual life cycle inside the egg than outside of it. Our review of tetrapod longevity (>1,700 species) finds no others with such a short life span. These findings suggest that the notorious rapid death of chameleons in captivity may, for some species, actually represent the natural adult life span."*

Plue, J., et al (2008) **Persistent changes in forest vegetation and seed bank 1,600 years after human occupation.** LANDSCAPE ECOLOGY 23:673-688

*"Compiègne forest is located in northern-France and has a history of continuous forest cover since the end of Roman times. Twenty-four Gallo-Roman and 24 unoccupied sites were sampled and data were analysed using paired sample tests to investigate whether soil, vegetation and seed bank still differed significantly.*

*The soil was persistently altered on the Gallo-Roman sites resulting in elevated phosphorus levels and pH (dependent on initial soil conditions) which translated into increased vegetation and seed bank species richness. Though spatially isolated, Gallo-Roman sites supported both a homogenized vegetation and seed bank. Vegetation differences were not the only driver behind seed bank differences. Similarity between vegetation and seed bank was low and the possibility existed that agricultural ruderals were introduced via the former land use. Ancient human occupation leaves a persistent trace on forest soil, vegetation and seed bank and appears to do so at least 1,600 years after the former occupation. The geochemical alterations created an entirely different habitat causing not only vegetation but also the seed bank to have altered and homogenized composition and characteristics. Seed bank differences likely persisted by the traditional forest management and altered forest environment."*

**Burningham, K, et al (2008) 'It'll never happen to me': understanding public awareness of local flood risk. DISASTERS 32:216-238**

*"Following the severe flood events of 1998 and 2000, the United Kingdom's Environment Agency prioritised the need to increase public flood risk awareness. Quantitative analyses indicate that class is the most influential factor in predicting flood risk*

*awareness, followed by flood experience and length of time in residence. There are also significant area differences. We conclude that the problem is often not simply a lack of awareness, but rather, assessments of local risk based on experience that underestimate the impact of rare or extreme events."*

**Speirs:** In the same way that every soldier thinks that it will be his buddy who steps on the land mine and not him, so it is that New Orleans will rebuild in the belief that another Hurricane Katrina won't happen.

**Garrett, T.A., and M.W. Nichols (2008) Do casinos export bankruptcy? JOURNAL OF SOCIO-ECONOMICS 37:1481-1494**

*"This paper measures the extent to which destination resort casinos export bankruptcy back to visitors' home states. Using various survey data, we calculate the number of visits from each state to casino resort destinations in Nevada, New Jersey, and Mississippi. We find strong evidence that states having more residents who visit out-of-state casino resorts have roughly 10% higher bankruptcy filing rates, on average. This effect is dominant in the south, suggesting that casinos located in wealthier regions are less likely to export bankruptcy."*





**WHAT I DID  
ON MY  
SUMMER  
VACATION**  
by Dale Speirs

A couple of  
shots of some  
of the places  
I was hiking  
during the  
summer of  
2008.

*Fay Glacier,  
Valley of Ten  
Peaks, Banff  
National  
Park,  
Alberta.*

*Kent Creek  
Falls, in the  
upper  
Kananaskis  
valley,  
Alberta.*

