## Feline Mewsings \#45



\#45
August 2011

Feline Mewsings is a personalzine / newsletter published more or less quarterly by R-Laurraine Tutihasi, 2081 W Overlook St, PO Box 5323 (an absolute necessity for postal mail), Oracle, AZ 85623-5323; 520-896-2058, Laurraine@mac.com, http://www.weasner.com/. It is distributed through FAPA and sent to other friends and family. It is available for the usual (a response of any kind, including letters, e-mail, and phone calls of comment; trade; contributions of illos, fiction, or articles; or even money: $\$ 3.00$ per issue or $\$ 10$ per year). A slightly modified version will be placed on the web shortly after paper publication; please let me know if you prefer just to read the web version. I can also e-mail this in Word or rtf format. Kattesminte Press \#417. ©2011 R-Laurraine Tutihasi. Permission is granted to reprint or forward any part or all of this newsletter created by the editor provided that it carries the following statement: "Copyright 2011 by R-Laurraine Tutihasi. Originally published in Feline Mewsings \#45, http://web.me.com/laurraine/Felinemewsings/index.html." All other material is copyrighted by their respective creators, and they should be contacted for any reprint permission. This issue finished 4 August 2011.

## Table of Contents

Editorial / Introduction-p. 2<br>Local Outings-p. 2<br>Amy's Motley Media Musings-p. 3<br>Jonathan's Science Corner-p. 5<br>Kritter Korner-p. 12<br>Mailing Comments on FAPA \#295-p. 13<br>Letters-p. 14<br>Closing Remarks-p. 18

## Art and Photo Credits

Cover art—delphyne woods
Illo p. 9 by William Rotsler
Illo p. 18 by Alexis Gilliland (see http://www.alexisgilliland.org/)
Photos-Mike Weasner, except those of Amy Harlib's cats

Contributions of art, reviews, articles, fiction, letters, even poetry welcome. Publication not guaranteed, but all submissions will be given due consideration. Deadline for next issue: 29 October 2011.
[ ] if this box is checked, I need to hear from you if you wish to stay on my mailing list.
If you are reading this electronically and would prefer to receive a printed version, please let me know.

## * Editorial / Introduction

I guess that biggest and saddest piece of news is that I had to have Fluffy euthanized in early June. Chemotherapy had stopped working, and he was quickly losing control over the rear half of his body. Prolonging his life was just going to prolong his suffering. I have his ashes and a little clay plaque with his paw prints that I got back from the vet. His ashes have joined those of Christopher Robin's and Shadow's.

Another not so great event was the death of our DirecTV HD DVR. The regular TV season had ended, and I was starting to make progress catching up, as I do every summer. When the DVR died, it was still ninety percent full. I was quite upset, but what could I do? Many of the shows lost can be recorded again. A few may be irreplaceable. Oh well. That's life. We got a replacement DVR after a couple of days.

Physical therapy for my butt pain problem was successful. I won't say I'm completely pain free, but the improvement is substantial. I can sit through a movie with no problem. I will continue with the exercises my therapist gave me as often as I can manage. I also have exercises assigned me by my doctor for my osteoporosis, and I'm trying to do exercises to help the arthritis in my back from getting worse. I alternate the exercises. One other thing that helps is my new Swopper chair. We had to go up to Phoenix to try it out, and we ended up ordering it there for home delivery. It looks like a stool with springs, and the model I got has wheels. With the desk arrangement I have, the wheels are essential. It's impossible to sit on with a bad posture, so it basically helps to strengthen the muscles you need to have good posture. And I can bounce up and down on it whenever I want.

Daily exercise and weekly jacuzzi baths have helped my stress management greatly.
My persimmon trees are not doing well. One of never leaved at all. The other seems to be dying. I may have to replace both of them this fall. I will get them from a different source. The cacti and succulents in the ground that died this past winter have been replaced. I made sure that the ones I bought to replace them were all cold tolerant. So far they seem to be doing well. I also bought a small saguaro. It's about six inches tall and about five years old; in the wild it would take five times longer to get that tall. That also seems to be doing okay. The potted plants have been a challenge. I bought four new ones, but they all have suffered, either from the squirrels or something else. I'll need a cage around them with small enough holes that the small squirrels won't be able to get in. I've tried a couple of different sprays that are supposed to discourage animals, but they haven't worked.

June and July were horrid for my allergies. I stepped up my medications but have been able to slack off since. I think the culprit was mesquite, which blooms from about mid-May through mid-July depending on the location. Up here in Oracle, it is a few weeks later than Tucson. I'm not free of allergy problems now, but they are much more manageable.

Monsoon season started about the second week of July. It's been a bit disappointing. We've had rain, but much of it has fallen so sporadically that it hasn't really helped much. The fruit trees, especially are not happy, especially the persimmon, as I mentioned above, even with supplementary irrigation. The rainfall total for this summer so far has only been about an inch.

## * Local Outings

Verde Canyon Railroad: This is a scenic ride on a historic railroad that is no longer commercially used. We joined the Nature Conservancy for this outing in late April. The train goes along the Verde River, which is one of the few remaining perennial rivers in Arizona. The river has been flowing for more than five million years. There is much scenery and wildlife to be seen along the way. The ride goes from Clarkdale to Drake and back. Since it goes fairly slowly at twelve miles per hour, the round trip takes about four hours. We saw some hawks, eagles, vultures, and deer; and there were numerous

interesting rock formations.
The railroad is located geographically in the centre of Arizona and is nestled between the Prescott and Coconino National Forests. The climate in the area is fairly temperate, because it is located above the heat of the low desert and below the cold of the high country. Because of this the railroad operates year round.

Cowboys \& Aliens: This is the first movie we've seen in a cinema since we moved to our house a couple of years ago. For the most part, we go to the movies that Mike wants to see. While it would be nice to see a movie every month, I don't seem to have achieved the level organization in my life that would allow me to take the time to do that. This movie starts out as a more or less routine western. The only sf bit we see at the beginning is a weird bracelet worn by the lead character played by Daniel Craig, excellently I might add. He can't take it off, and he suffers from memory loss. The audience learns more as he does. Eventually we meet the two other main characters played by Harrison Ford and Olivia Wild, who seems to get around. Then the aliens appear. Gradually we learn what the aliens are doing on Earth. The rest of the movie is about defeating them. It's an exciting and entertaining movie with plenty of action and just the right dose of humour and sentimentality.


Message from Amy: For the foreseeable future, "Amy's Motley Media Musings" will resurrect all the reviews in my files in alphabetical order, for they are not readily found anywhere else any more. I hope these will contain some interesting perspectives to amuse and enlighten on various genre and popular culture offerings in the past several years-opinions from a curious, feminist, inquiring, and, I'd like to think, culturally educated, mind. I hope Feline Mewsings readers find what I have to say worthwhile. Thank you very much for your attention.

Brother Bear (Walt Disney Pictures, 2003). Directed by Aaron Blaise and Robert Walker. Written by Tab Murphy, Lorne Cameron, David Hoselton, Steve Bencich, and Ron. J. Friedman. Score by Mark Mancina and Phil Collins with songs by Phil Collins. Art Direction by Stephen J. Anderson. Running time: 85 minutes. Rated: G. http:// disney.go.com/disneypictures/brotherbear/main.html Rating:

Two experienced animation supervisors, Aaron Blaise and Robert Walker, teamed up to make their codirectorial debut for the Disney Studios' animated feature; and they went for bear (pun intended) in a charmer that proves that there's still life left in the "Mouse House's" formula.

Brother Bear's tale, while containing themes and subject matter that calls to mind those of its studio predecessors The Lion King and Pocahontas, nevertheless possesses distinctness of its own, most refreshingly in its lack of annoyingly one-dimensional villains and with its Native American protagonists all displaying satisfyingly believable shades of grey in their virtues and flaws and in its positive portrayals of shamanism. The film could have done without the rather intrusive pop-music style songs, blandly pleasant but unmemorable, written and performed by Phil Collins with Tina Turner to be heard on one and all six played over visual montages that did little to illumine the narrative.

This production's laudable qualities far outweigh the already mentioned biggest fault, for Brother Bear possesses a compelling plot to go with the dazzling images on the screen. The story, set some 12,000 years ago at the end of the Ice Age in the Pacific Northwest, opens with a group of Paleo-Inuit preparing to celebrate the rite-of-passage to manhood ceremony of the teen-age Kenai (Joaquin Phoenix), youngest of three brothers. When Tenana (Joan Copeland), the wise elder female leader (oh joy!) also moonlighting as the shaman, bestows on Kenai his totem/spirit guide indicated by a carved bear ornament symbolizing love, the disappointed youth yearns to have a wolf signifying courage like his middle sibling, Denahi (Jason Raize), or an eagle standing for wisdom, like that of Sitka (D. B. Sweeney), the eldest of the trio.

Ironically when, soon after, Kenai leaves a basket of fish untended and the contents get consumed by a bear, the boy vengefully chases after the scrounger who fiercely turns on the pursuer. Coming to the rescue, Sitka, while saving Kenai, gets killed; and his soul ascends to merge with the aurora borealis, the realm of the ancestral spirits. Kenai then succeeds in slaying the bear that caused Sitka's demise, an act of rashness, the latest in a stream of impulsive acts born of Kenai's lingering immaturity.

To give the protagonist some needed insights and the opportunity to learn empathy, the otherworldly spirits descend, manifesting in the form of glowing strands of light. They transform Kenai into a bear to make him understand the life-way of the creature he desired to destroy. In his ursine existence, Kenai soon finds out that, from the perspective of the hunted, spear and knife-wielding humans become monstrous! To his horror, Kenai, unrecognizable in his furry guise, finds himself forced to flee the attacks of his brother Denahi, who in turn believes the bear he pursues has slain his youngest sibling.

The shaman appears to Kenai, informing him that he'll find the answers he seeks and a chance to change back to human form when he reaches a sacred pinnacle where "the light touches the earth". Along the way to this goal, Kenai acquires a companion, a spunky, voluble orphaned bear cub named Koda (Jeremy Suarez) who knows the way to the mountain. The pair soon grow fond of each other in a prickly sort of way initially; and then their relationship grows warmer while they travel and add to their party a couple of goofy Canadian moose--Rutt and Tuke, aptly voiced respectively by Rick Moranis and Dave Thomas. They hilariously reprise their beloved beer-soaked personas Bob and Doug McKenzie from SCTV and Strange Brew with exaggerated Canuck accents et al and steal every scene! The journeyers also encounter a duo of amusingly obtuse rams (vocals by Paul Christie and Daniel Mastrogiorgio) near the sought-after peak along the way to a place where Koda had hoped to find his kin.

At this locale where many bears gather for an annual salmon run fish-gathering, Kenai gets to know their leader, Tug (Michael Clarke Duncan), and learns the shocking truth about the fate of Koda's mother. When Kenai at last manages to climb to the top of his mountainous destination, the resolution, involving Koda of course, Sitka's spirit and Denahi, who finally catches up with his quarry, offers some interesting and satisfying surprises.

Brother Bear demonstrates the glories of the best traditional animation in its gorgeous depictions of pristine wilderness in a variety of different environs with flora and fauna limned in exquisite painterly detail. The story lives up to its lush background with its many laughs, thrills, and worthy messages promoting understanding of the interconnectedness of all living creatures; the value of brotherhood or what the indigenous people mean when they say, "all my relations"; and conveying that the true measure of one's maturity comes through love and care-taking.

Best of all, the Native American characters possess all the vagaries, good and bad, of human nature and are not just noble clichés or worse, barbaric savages. Their physiques, clothing, artefacts of daily life, and animistic beliefs are well-portrayed; likewise the vivid interactions of the three protagonist brothers and the wonderful shaman. Apart from the songs, the excellent evocative score creates the right atmosphere for the adventurous, humorous, heartwarming, visually stunning story.

A little too similar thematically to other contemporary animated features (Ice Age and Spirit: Stallion of the Cimarron spring to mind) to achieve classic status, Brother Bear still offers loads of fun and excitement without ever becoming too preachy. This makes it a stand-out, one of Disney's better offerings. Fine family entertainment, just a notch shy of the originality and greatness of Lilo and Stitch, this film goes beyond being merely bearable and approaches quite delightful levels.
-- Amy Harlib

$$
* * *
$$

# Jonathan's Science Corner <br> by Jonathan Vos Post 

## MYSTERY OF MYSTERIES: PRIME NUMBERS

## by Jonathan Vos Post, former Adjunct Professor of Mathematics at Woodbury University Continued from last issue

## 5. Twin Primes and Fermat Primes

Now I want to define twin primes--so easy that I have done so for seventh graders--and yet the basis of an old and baffling unsolved problem. It is so easy to define twin primes that it shocks many students to hear that nobody knows if the twin primes go on forever the way that primes do or if there is a largest pair of twin primes and then an infinite desert with never another twin prime to be seen.

Twin primes are pairs of primes of the form (p, p+2). The term "twin prime" was coined by Paul Stäckel (1862-1919; Tietze 1965, p.19). The first few twin primes are n plus or minus 1 for $n=4,6,12,18,30,42$, $60,72,102,108,138,150,180,192,198,228,240,270,282, \ldots$ (Sloane's A014574). Explicitly, these are: $(3,5),(5,7),(11,13),(17,19),(29,31),(41,43),(59,61),(71,73),(101,103) \ldots$ (Sloane's Aoo1359 and A006512).

All twin primes except $(3,5)$ are of the form 6 n plus or minus 1. For example,

$$
\begin{aligned}
& (5,7)=(6 \times 1-1,6 \times 1+1) \\
& (11,13)=(6 \times 2-1,6 \times 2+1) \\
& (17,19)=(6 \times 3-1,6 \times 3+1) \\
& (29,31)=(6 \times 5-1,6 \times 5+1) \\
& (41,43)=(6 \times 7-1,6 \times 7+1) \\
& (59,61)=(6 \times 10-1,6 \times 10+1)
\end{aligned}
$$

It is conjectured that there are an infinite number of twin primes (this is one form of the twin prime conjecture), but proving this remains one of the most elusive open problems in number theory. An important result for twin primes is Brun's theorem, which states that the number obtained by adding the reciprocals of the odd twin primes,

```
\((1 / 3+1 / 5)+(1 / 5+1 / 7)+(1 / 11+1 / 13)+(1 / 17+1 / 19)+\ldots\)
```

converges to a definite number ("Brun's constant""), which expresses the scarcity of twin primes even if there are infinitely many of them (Ribenboim 1996, p. 201). By contrast, the series of all prime reciprocals diverges to infinity, as follows from the Mertens second theorem by letting $x$ approach infinity. J. R. Chen has shown there exists an infinite number of primes $p$ such that $p+2$ has at most two factors (Le Lionnais 1979, p. 49).

Twin primes play a funny role in the history of microprocessors. In 1995, Nicely discovered a flaw in the Intel® PentiumTM microprocessor by computing the reciprocals of the twin primes 824633702441 and 824633702443 , which should have been accurate to nineteen decimal places but were incorrect from the tenth decimal place on (Cipra 1995, 1996; Nicely 1996).

There are many other special kinds of primes besides these twin primes. I want to define Fermat primes, the same guy as in Fermat's Last Theorem, and say that it is also open if there are an infinite number of them or only the ones that we know (the largest we know is 65,537 ).

A Fermat prime is a Fermat number $\left(2^{\wedge}\left(2^{\wedge} n\right)\right)+1$ that is prime. Fermat primes are therefore near-square primes.

Fermat conjectured in 1650 that every Fermat number is prime, and Eisenstein in 1844 proposed as a problem the proof that there are an infinite number of Fermat primes (Ribenboim 1996, p. 88). At present, however, the only Fermat numbers Fn for $n$ greater than or equal to 5 for which primality or compositeness has been established are all composite.

The only known Fermat primes are

$$
\begin{aligned}
& \mathrm{Fo}=3 \\
& \mathrm{~F} 1=5 \\
& \mathrm{~F} 2=17 \\
& \mathrm{~F} 3=257 \\
& \mathrm{~F} 4=65537
\end{aligned}
$$

(Sloane's A019434), and it seems unlikely that any more will be found using current computational methods and hardware. It follows that $2^{\wedge} n+1$ is prime for the special case $n=0$ together with the Fermat prime indices, giving the sequence $2,3,5,17,257$, and 65537 (Sloane's Ao92506).

```
The sequence falls apart, as it were, with
    F5 \(=\left(2^{\wedge}\left(2^{\wedge} 5\right)\right)+1=4294967297=641 \times 6700417\)
    F6 \(=\left(2^{\wedge}\left(2^{\wedge} 6\right)\right)+1=18446744073709551617=274177 \times 67280421310721\)
```

And so forth. Every bigger one we've been able to crunch on a computer turns out to be composite, rather than the long-sought next Fermat prime.

Surprisingly, this abstract chunk of number theory connects directly with the roughly three thousand year-old problem of which regular polygons can be constructed by compass and straight-edge. Students learned (at least back when dinosaurs walked Earth and I was in primary school) that one can easily construct an equilateral triangle (regular 3-gon) with compass and straight-edge. It is less well known that one can easily construct an equilateral pentagon (regular 5 -gon) with compass and straight-edge. It is far less well known that one can easily construct a regular 17-gon) with compass and straight-edge. Hardly anyone knows that one can, with absurdly large effort, construct a regular 257-gon and a regular 65537-gon with compass and straight-edge.

Now if you construct an equilateral triangle (regular 3-gon) with compass and straight-edge and construct an equilateral pentagon with the same centre and one corner in common, both inscribed in the same circle, that there is a pair of points exactly $1 / 15$ of the circle's circumference from each other ( $15=3 \times 5$ ). So, by copying that arc with the compass, one can easily construct a regular 15 -gon. Since I can bisect any line segment easily with compass and straight-edge, I can bisect the sides of an equilateral triangle (regular 3-gon) to build a regular hexagon (regular 6-gon) or bisect again to build a regular dodecagon (regular 12-gon).

In the same way, after I construct an equilateral pentagon (regular 5 -gon) with compass and straightedge, I can bisect the sides to make a regular decagon (regular 10-gon). I can bisect again to make a regular icosagon (regular 20-gon). And so on.

Compass and straightedge geometric constructions dating back to Euclid were capable of inscribing regular polygons of $3,4,5,6,8,10,12,15,16,20,24,30,32,40,48,60,64, \ldots$, sides. In 1796 (when he was nineteen years old), Gauss gave a sufficient condition for a regular n-gon to be constructible, which he also conjectured (but did not prove) to be necessary, thus showing that regular n-gons were constructible for $\mathrm{n}=3,4,5,6,8,10,12,15,16,17,20,24,30,32,34,40,48,51,60,64, \ldots$ (Sloane's Aoo3401). See "Constructible Polygon" in the bibliography.

In the unpublished novel that exists in two forms, one with my wife as coauthor, One Hundred Trillion Worlds or One Hundred Trillion Earths, our protagonists, three married couples, whose Feynman drive spaceship malfunctions and flings them half way across the universe, encounter a galaxy engineered by aliens who call themselves "Primes."

Just as our military is based from The Pentagon, the Primes have important government buildings on every one of One Hundred Trillion Worlds that are regular 17-gons and regular 257 -gons. Their most important planet, akin to the galactic capital Trantor in Isaac Asimov's Foundation novels, is a regular 65537-gon.

Which brings us to a conclusion about extraterrestrials.

## 6. Semiprimes, Unbreakable Codes, and Extraterrestrials

Let me close with mention of why semiprimes (products of exactly two primes) are the basis for a billion dollar cryptography industry and a key to communication with extraterrestrial civilizations.

A semiprime, also called a 2-almost prime, biprime (Conway et al. 2008), or -number, is a composite number that is the product of two (possibly equal) primes. The first few are $4,6,9,10,14,15,21,22, \ldots$ (Sloane's Aoo1358). The first few semiprimes whose factors are distinct (i.e., the square-free semiprimes) are $6,10,14,15,21,22,26,33,34, \ldots$ (Sloane's Aoo6881).

The square of any prime number is by definition a semiprime. The largest known semiprime is therefore the square of the largest known prime.

Again, the idea of semiprimes is so simple that I have been giving worksheets, homework problems, and exams about semiprimes to my 125 or so Mexican-American students in seventh grade Algebra and eighth grade Algebra Readiness.

If we knew everything about primes, we would automatically know everything about semiprimes. But we don't.

I've published more about semiprimes than any human being in history. Obviously, that's far too much for this article, or even for me to list in the bibliography. But so what? The first reason is industrial and relates to the Internet and the banking systems that you use.

Encryption algorithms, such as RSA encryption, rely on special large numbers that have as their factors two large primes.

RSA encryption, which I shall not explain in detail here (check online with Google on the term RSA encryption), is a public-key cryptography algorithm that uses prime factorization as the trapdoor one-way function. See [Coutinho, S. C.], [Flannery, S. and Flannery, D.], [Honsberger, R], [Meijer, A. R.], Rivest, R. L.], Rivest, R.; Shamir, A.; and Adleman, L.] [Rivest, R.; Shamir, A.; and Adleman, L.] [RSA Laboratories], [Simmons, G. J. And Norris, M. J.]

So these semiprimes (products of exactly two primes) are the basis for a billion dollar cryptography industry.

Now I'll give an original and silly variation on semiprimes, which was the very first of my (as I write this) 2856 contributions to The On-Line Encyclopedia of Integer Sequences.

Define an emirpimes ("semiprime" spelled backwards) as a semiprime whose (base 10) reversal is a different semiprime. The first such number is 15 , because 15 reversed is 51 and both 15 and 51 are semiprimes (i.e., $15=3 \times 5$ and $51=3 \times 17$ ). A list of the first emirpimeses (or "semirpimes") are 15, 26, 39, 49, 51, 58, 62, 85, 93, 94, 115, 122, 123, ... (Sloane's Ao97393).

Finally, let's bring in the extraterrestrials. Here's the start of what Wikipedia currently says about the Arecibo message. The Arecibo message was broadcast into space a single time (not repeated) via frequency modulated radio waves at a ceremony to mark the remodelling of the Arecibo radio telescope on 16 November 1974.

It was aimed at the globular star cluster M13 some 25,000 light years away, because M13 was a large and close collection of stars that was available in the sky at the time and place of the ceremony.[2] The message consisted of 1679 binary digits, approximately 210 bytes, transmitted at a frequency of 2380 MHz and modulated by shifting the frequency by 10 Hz , with a power of 1000 kW . The "ones" and "zeros" were transmitted by frequency shifting at the rate of 10 bits per second. The total broadcast was less than three minutes.

The cardinality of 1679 was chosen because it is a semiprime (the product of two prime numbers), to be arranged rectangularly as 73 rows by 23 columns. The alternative arrangement, 23 rows by 73 columns, produces jumbled nonsense.

Dr. Frank Drake, then at Cornell University and creator of the famous Drake equation, wrote the message with help from Carl Sagan, among others.[1] The message consists of seven parts that encode the following:

The numbers one (1) through ten (10)
The atomic numbers of the elements hydrogen, carbon, nitrogen, oxygen, and phosphorus, which make up deoxyribonucleic acid (DNA)
The formulas for the sugars and bases in the nucleotides of DNA
The number of nucleotides in DNA, and a graphic of the double helix structure of DNA
A graphic figure of a human, the dimension (physical height) of an average man, and the human population of Earth
A graphic of the Solar System
A graphic of the Arecibo radio telescope and the dimension (the physical diameter) of the transmitting antenna dish

Because it will take 25,000 years for the message to reach its intended destination of stars (and an additional 25,000 years for any reply), the Arecibo message was more a demonstration of human technological achievement than a real attempt to enter into a conversation with extraterrestrials. In fact, the stars of M13 that the message was aimed at will no longer be in that location when the message arrives. According to the Cornell News press release of 12 November 1999, the real purpose of the message was not to make contact but to demonstrate the capabilities of newly installed equipment.

But that's what THEY want you to think. Anyone who reads science fiction can think of stranger reasons!

## 7. On-Line Bibliography

The prime numbers.

```
https://oeis.org/A000040
http://primes.utm.edu/curios/includes/glossary.pdf
```

David Darling, "Jonathan Swift and the Moons of Mars", http://www.daviddarling.info/encyclopedia/S/ Swift.html

Euclid's proof that there are an infinite number of primes: http://www-users.cs.york.ac.uk/susan/ index.htm

Weisstein, Eric W. "Prime Number." From MathWorld--A Wolfram Web Resource. http:// mathworld.wolfram.com/PrimeNumber.html

Weisstein, Eric W. "Constructible Polygon." From MathWorld --A Wolfram Web Resource. http:// mathworld.wolfram.com/ConstructiblePolygon.html

Weisstein, Eric W. "RSA Encryption." From MathWorld--A Wolfram Web Resource. http:// mathworld.wolfram.com/RSAEncryption.html
http://en.wikipedia.org/wiki/Arecibo message

## 8. Print Bibliography

Berndt, B. C. "Ramanujan's Theory of Prime Numbers." Ch. 24 in Ramanujan's Notebooks, Part IV. New York: Springer-Verlag, 1994.

Booker, A. "The Nth Prime Page." http://primes.utm.edu/nthprime/
Bradley, C. J. "The Location of Twin Primes." Math. Gaz. 67, 292-294, 1983.
Brent, R. P. "Irregularities in the Distribution of Primes and Twin Primes." Math. Comput. 29, 43-56, 1975.

Brent, R. P. "UMT 4." Math. Comput. 29, 221, 1975.
Brent, R. P. "Tables Concerning Irregularities in the Distribution of Primes and Twin Primes to10^11." Math. Comput. 30, 379, 1976.

Bungus, P. Numerorum Mysteria. 1599.
Caldwell, C. "Largest Primes." http://www.utm.edu/research/primes/largest.html
Caldwell, C. "The Largest Known Primes." http://primes.utm.edu/primes/lists/all.txt
Caldwell, C. K. "The Top Twenty: Largest Known Primes." http://www.utm.edu/research/primes/lists/ top20/Largest.html

Caldwell, C. http://primes.utm.edu/top20/page.php?id=1
Caldwell, C. K. "The Top Twenty: Twin Primes." http://www.utm.edu/research/primes/lists/top20/ twin.html

Cipra, B. "How Number Theory Got the Best of the Pentium Chip." Science 267, 175, 1995.

Chen, J. R. "On the Distribution of Almost Primes in an Interval II." Sci. Sinica 22, 253-275, 1979.

Cipra, B. A. "Math Team Vaults over Prime Record." Science 245, 815, 1989.

Conway, J. H. and Guy, R. K. The Book of Numbers. New York: Springer-Verlag, p. 130, 1996.

Courant, R. and Robbins, H. "The Prime Numbers." §1 in


Supplement to Ch. 1 in What Is Mathematics?: An Elementary Approach to Ideas and Methods, 2nd ed. Oxford, England: Oxford University Press, pp. 21-31, 1996.

Coutinho, S. C. The Mathematics of Ciphers: Number Theory and RSA Cryptography. Wellesley, MA: A K Peters, 1999.

Crandall, R. and Pomerance, C. Prime Numbers. New York: Springer-Verlag, 2001.
Davenport, H. Multiplicative Number Theory, 2nd ed. New York: Springer-Verlag, 1980.
Derbyshire, J. Prime Obsession: Bernhard Riemann and the Greatest Unsolved Problem in Mathematics. New York: Penguin, 2004.

Deutsch, E. "Problem 1494." Math. Mag. 69, 143, 1996.
Dickson, L. E. "Factor Tables, Lists of Primes." Ch. 13 in History of the Theory of Numbers, Vol. 1: Divisibility and Primality. New York: Dover, pp. 347-356, 2005.

Ellison, W. J. and Ellison, F. Prime Numbers. New York: Wiley, 1985.
Eynden, C. V. "A Proof of Gandhi's Formula for the nth Prime." Amer. Math. Monthly 79, 625, 1972.
Flannery, S. and Flannery, D. In Code: A Mathematical Journey. Profile Books, 2000.
Honsberger, R. Mathematical Gems III. Washington, DC: Math. Assoc. Amer., pp. 166-173, 1985.

Gardner, M. The Sixth Book of Mathematical Games from Scientific American. Chicago, IL: University of Chicago Press, 1984.

Gardner, M. "Patterns in Primes are a Clue to the Strong Law of Small Numbers." Sci. Amer. 243, 18-28, Dec. 1980.

Gourdon, X. and Sebah, P. "Introduction to Twin Primes and Brun's Constant Computation." http:// numbers.computation.free.fr/Constants/Primes/twin.html

Guy, R. K. "Gaps between Primes. Twin Primes." §A8 in Unsolved Problems in Number Theory, 2nd ed. New York: Springer-Verlag, pp. 19-23, 1994.

Gates, B. The Road Ahead. New York: Viking, 1995.
Giblin, P. J. Primes and Programming: Computers and Number Theory. New York: Cambridge University Press, 1994.

Glaisher, J. Factor Tables for the Sixth Million: Containing the Least Factor of Every Number Not Divisible by 2, 3, or 5 Between the Limits o and 10017000. London: Taylor and Francis, 1883.

Goldbach, C. Letter to L. Euler, June 7, 1742. http://www.mathstat.dal.ca/~joerg/pic/g-letter.jpg or http://www.informatik.uni-giessen.de/staff/richstein/pic/g-letter-zoomed.jpg

Golomb, S. W. "A Direct Interpretation of Gandhi's Formula." Amer. Math. Monthly 81, 752-754.
Graham, R. L.; Knuth, D. E.; and Patashnik, O. Concrete Mathematics: A Foundation for Computer Science. Reading, MA: Addison-Wesley, 1990.

Guy, R. K. "Prime Numbers," "Formulas for Primes," and "Products Taken over Primes." Ch. A, §A17, and §B48 in Unsolved Problems in Number Theory, 2nd ed. New York: Springer-Verlag, pp. 3-43, 36-41 and 102-103, 1994.

Guy, R. K. "Divisors and Desires." Amer. Math. Monthly 104, 359-360, 1997.
Guy, R. K. Unsolved Problems in Number Theory, 3rd ed. New York: Springer-Verlag, 2004.
Haddon, M. The Curious Incident of the Dog in the Night-Time. New York: Vintage, 2003.
Hardy, G. H. Ch. 2 in Ramanujan: Twelve Lectures on Subjects Suggested by His Life and Work, 3rd ed. New York: Chelsea, 1999.

Hardy, G. H. and Wright, E. M. "Prime Numbers" and "The Sequence of Primes." §1.2 and 1.4 in An Introduction to the Theory of Numbers, 5 th ed. Oxford, England: Clarendon Press, pp. 1-4, 11, 19, and 415, 1979.

Havil, J. Gamma: Exploring Euler's Constant. Princeton, NJ: Princeton University Press, 2003.
Helm, L. and Norris, D. "Seventeen or Bust: A Distributed Attack on the Sierpinski Problem." http:// www.seventeenorbust.com/

Helm, L. and Norris, D. "Seventeen or Bust: A Distributed Attack on the Sierpinski Problem--Project Statistics." http://www.seventeenorbust.com/stats/

Honaker, G. L. Jr. "Prime Curios!" http://primes.utm.edu/curios/
Honsberger, R. Mathematical Gems II. Washington, DC: Math. Assoc. Amer., p. 30, 1976.
Hoste, J.; Thistlethwaite, M.; and Weeks, J. "The First 1701936 Knots." Math. Intell. 20, 33-48, Fall 1998.

Kraitchik, M. "Prime Numbers." §3.9 in Mathematical Recreations. New York: W. W. Norton, pp. 78-79, 1942.

Le Lionnais, F. Les nombres remarquables. Paris: Hermann, pp. 26, 30, and 46, 1983.
Lehmer, D. N. Factor Table for the First Ten Millions, Containing the Smallest Factor of Every Number Not Divisible by 2, 3, 5 or 7 Between the Limits o and 10017000. Washington, DC: Carnegie Institution of Washington, No. 105, 1909.

Lehmer, D. N. List of Prime Numbers from 1 to 10006721. Washington, DC: Carnegie Institution, 1914.
Livingston, C. Knot Theory. Washington, DC: Math. Assoc. Amer., pp. 9 and 78, 1993.
Meijer, A. R. "Groups, Factoring, and Cryptography." Math. Mag. 69, 103-109, 1996.
Rivest, R. L. "Remarks on a Proposed Cryptanalytic Attack on the MIT Public-Key Cryptosystem." Cryptologia 2, 62-65, 1978.

Mersenne Organization. "Titanic Primes Raced to Win \$100,000 Research Award." Sep. 15, 2008. http://mersenne.org/m45and46.htm

Moser, L. "Notes on Number Theory III. On the Sum of Consecutive Primes." Can. Math. Bull. 6, 159-161, 1963.

Nagell, T. "Primes." §3 in Introduction to Number Theory. New York: Wiley, pp. 13-14, 1951.
Ore, Ø. Number Theory and Its History. New York: Dover, 1988.
Pappas, T. "Prime Numbers." The Joy of Mathematics. San Carlos, CA: Wide World Publ./Tetra, pp. 100-101, 1989.

Peano, G. "Arithmetica." Ch. 2 in Formulario Mathematico. Torino, Italy, 1908.
Post, Jonathan Vos. "Emirpimes." From MathWorld--A Wolfram Web Resource, created by Eric W. Weisstein. http://mathworld.wolfram.com/Emirpimes.html

Ramachandra, K. "Many Famous Conjectures on Primes; Meagre but Precious Progress of a Deep Nature." Proc. Indian Nat. Sci. Acad. Part A 64, 643-650, 1998.

Ribenboim, P. The Little Book of Big Primes. New York: Springer-Verlag, 1991.
Ribenboim, P. "Prime Number Records." Coll. Math. J. 25, 280-290, 1994.
Ribenboim, P. The New Book of Prime Number Records. New York: Springer-Verlag, 1996.
Riesel, H. Prime Numbers and Computer Methods for Factorization, 2nd ed. Boston, MA: Birkhäuser, 1994.

Rivest, R.; Shamir, A.; and Adleman, L. "A Method for Obtaining Digital Signatures and Public-Key Cryptosystems." MIT Memo MIT/LCS/TM-82, 1977.

Rivest, R.; Shamir, A.; and Adleman, L. "A Method for Obtaining Digital Signatures and Public Key Cryptosystems." Comm. ACM 21, 120-126, 1978.

RSA Laboratories. "The RSA Factoring Challenge" http://www.rsa.com/rsalabs/node.asp?id=2092
Salamin, E. Item 53 in Beeler, M.; Gosper, R. W.; and Schroeppel, R. HAKMEM. Cambridge, MA: MIT Artificial Intelligence Laboratory, Memo AIM-239, p. 22, Feb. 1972. http://www.inwap.com/pdp10/ hbaker/hakmem/number.html\#item53

Schroeppel, R. Item 29 in Beeler, M.; Gosper, R. W.; and Schroeppel, R. HAKMEM. Cambridge, MA: MIT Artificial Intelligence Laboratory, Memo AIM-239, p. 13, Feb. 1972. http://www.inwap.com/pdp10/ hbaker/hakmem/number.html\#item29

Schlafly, R. "Partial Modular Reduction Method." United States Patent. December 13, 1994.
Schubert, H. Sitzungsber. Heidelberger Akad. Wiss., Math.-Naturwiss. Klasse, 3rd Abhandlung. 1949.
Simmons, G. J. and Norris, M. J. "Preliminary Comments on the MIT Public-Key Cryptosystem." Cryptologia 1, 406-414, 1977.

Sloane, N. J. A. Sequences Aooo040/Mo652, Aoo6510/Mo679, Aoo6988/M2151, A010051, A011774, A019546, A046024, and A099260 in "The On-Line Encyclopedia of Integer Sequences."

Sloane, N. J. A. and Plouffe, S. The Encyclopedia of Integer Sequences. San Diego, CA: Academic Press, 1995.

Tietze, H. "Prime Numbers and Prime Twins." Ch. 1 in Famous Problems of Mathematics: Solved and Unsolved Mathematics Problems from Antiquity to Modern Times. New York: Graylock Press, pp. 1-20, 1965.

Torelli, G. Sulla totalità dei numeri primi fino ad un limite assegnato. Naples, Italy: Tip. della Reale accad. della scienze fisiche e matematiche, 1901.

Tropfke, J. Geschichte der Elementar-Mathematik, Band 1. Berlin, Germany: p. 96, 1921.
Wagon, S. "Prime Numbers." Ch. 1 in Mathematica in Action. New York: W. H. Freeman, pp. 11-37, 1991.

Weisstein, E. W. "44th Mersenne Prime Found." MathWorld Headline News, Sep. 11, 2006. http:// mathworld.wolfram.com/news/2006-09-11/mersenne-44/

Weisstein, E. W. "Books about Prime Numbers." http://www.ericweisstein.com/encyclopedias/books/ PrimeNumbers.html

Wells, D. The Penguin Dictionary of Curious and Interesting Numbers. Middlesex, England: Penguin Books, 1986.

Zaiger, D. "The First 50 Million Prime Numbers." Math. Intel. o, 221-224, 1977.
-- Jonathan Vos Post

$$
* * *
$$

## * Kritter Korner

## From Rita Prince Winston

The other day Dandelion was sleeping at the foot of my bed and I saw Taliesin sneaking onto the bed and across the bed to lie down next to Dandelion and go to sleep cuddlinng. They were so cute that I called for Tim to take a picture of them

When Dandelion pretends to be a mighty hunter, his favourite prey is skeins of yarn. He sneaks up on it, freezes so it won't notice him, pounces on it, carries it away in his mouth to play with it. Since Tim and I both crochet, he gets to play this game often.

## From Amy Harlib

((Amy sent photos of Fiona and Shanedy, whom she recently lost. The account is in the letters
section.))


Shanedy


Fiona


Fiona

Fiona is a 6 year old Maine Coon/Persian mix adopted from Maine Coon Rescuse - an excellent non-profit humane organization.
\#

Here's a photo of Fluffy, RIP.

## * Mailing Comments on FAPA \#295

Fantasy Amateur (Bob Sabella): I apologize for forgetting to vote in the egoboo poll. I was so busy taking care of a sick cat that the deadline had passed before I remembered.

Glad to see new members.


Flushed with Failure (Keith A. Walker): my sympathies on all your plumbing problems. You must have used up several people's worth of the problems. I can't say l've ever had any serious plumbing problems that couldn't be fixed fairly easily. I've not had any real problems with plumbers, though I can say some are better than others. I don't think being friendly to them has any bearing on the matter. Our best plumber was a one-man shop. He wasn't always available right away unless it was an emergency. Then he was johnny on the spot. Our hot water heater once started leaking just as we were leaving home on a trip. We called him, and he replaced the heater while we were away. He was also a very friendly guy.

For FAPA (Eric Lindsay): We had a pelican incident, I think about a year ago. We were driving home from somewhere, and there was a pelican sitting by the side of the road. They're not common here; perhaps it was lost.

The room with the ladder for the shelves is not our library. It's our media room. We are still waiting for the ladders for our library. Our building consultant has had cash flow problems because of the lousy economy. He knows he owes us the library ladders, and Mike is a very patient person. It's inconvenient to have to climb on a chair to reach the top library shelves, but we manage.

Voice of the Habu, Vol. XIII, No. 2 (Roger Wells): I started using Pages with the last issue of Feline Mewsings. It can be confusing. I solved the problem by just importing my Word document into Pages. After that it's much more well-behaved than Word. Someday I may learn how to use all the features. I never even used all the features of Word, which I still use for other documents.

Aft Gang Agley (Jason K. Burnett): You have a very different opinion of Neal Stephenson's writing from mine. I quite enjoy his books, though are definitely not easy reading.

*     *         * 


## * Letters to the Editor

The text of letters received will be in brown. My replies to the letters will be enclosed in double parentheses and will be in black. I will also routinely make editorial corrections in punctuation, spelling, and the like. Deadline for next issue is 29 October 2011.

## Rita Prince Winston, Venice, CA

17 April 2011
This is my LoC on Feline Mewsings \#43 with the otter on the cover. Seeing it by scrolling on the screen begins with the strange image of a mammalian head on a furry but snake-shaped neck.

Snow! I suppose you're used to it from upstate New York. Me, I have only heard of burst water pipes and collapsed roofs.
((I don't personally have experience with either, though I believe one pipe in our Pittsford (NY) house burst while I was away at college.))

Appreciation for the cartoon of Verdi's and Audi's arias.
About the cast of Turandot singing through the flu and the lady who sane Turandot coughing the worst, maybe the opera company should have scheduled La Bohéme instead, or is there an opera of La dame aux Camélias?

## ((That would be La Traviata.))

Amy's review of Black Knight made me ask Tim if there's any room at the end of our Netflix queue to add it.

The law article totally confused me, so I went back to \#42 to read both parts at one sitting, where I noticed that last time I hadn't commented on "fixation"--"a work is 'created' when it is fixed in a copy or phonorecord for the first time"--by which, Homer didn't create the Iliad even though he put the words together and memorized them and recited them exactly the same each time he performed.

Part 2 defines software reverse engineering as turning the ones and zeroes back into source code statements. During the lead up to Y2K, I often heard the term software reverse engineering applied to source code, referring to efforts to find out what the program is doing, with the intention of figuring out what it's intended to accomplish, so it can be corrected or made more efficient or modified to meet new requirements, even such simple one as changes of sales tax rate.
"Almost all include the requirement that contributions be independently copyrightable or inextricable." Either that is a pair to choose between--"independently copyrightable" or "inextricable" or I have no idea what is meant by inextricable.

Does the illustration on p. 8 show the Martian invaders from H. G. Wells?
Hey, Laurraine, if I'd known you were going to run into Marty Massoglia, I could have told you to say "hi" to the Massoglias from me. I hope they're doing well in Tucson.
((The Massoglias made it to our house warming at the beginning of April. They seem to be doing well.))
When I first saw, before reading the caption, the photo of your blue water pipe wrapped with dark blue and black stripes, I thought it was an art piece.

Thank you for Feline Mewsings 43. I hope I'm not late...spring is usually a hectic time for us every year, but this year it's been just plain crazy. Time management allows for a few minutes here, and a few there, and with luck a letter of comment comes out the other end.

The otter on the cover is as cute as can be. I remember when I first moved to Victoria, British Columbia, seeing harbour seals in the water by the Empress Hotel in the Inner Harbour area. I don't think they were afraid so much as they were curious about those funny-looking creatures not in the water but running around on the land up there. They are very smart, smart enough not to come up on land and see if we're friendly.

Tuscon report...it is good to see Bjo and John Trimble still active and enjoying conventions. We last saw them at LACon IV in 2006 when there were celebrations for the fortieth anniversary of Star Trek. Yvonne made sure that the cake was sliced and served very quickly.

John Hertz was in intensive care? What happened here? This is the first I've heard of it. I should doublecheck File770.com to see if there's any news there. Seeing that any Vanamondes we get in the mail are about thirteen months behind, there'd be nothing there, yet.
((To the best of my knowledge, John kept the reason for his hospitalization very hush hush. I don't know the reason.))

The King's Speech...we just purchased the DVD and have already watched it twice. I read a while ago that the scriptwriter had this story in mind several decades ago and presented the idea to the Queen Mother out of respect; she begged him not to write the script and make the movie until she herself was gone. He promised and kept his word. The Queen Mother died some years ago; and while the movie made much of King George's stammer, it also showed how difficult it was to grow up in the British royal family and how the king overcame a problem few understood at that time.

Work...Yvonne got laid off from her job at Allan Candy but may have a very interesting lead. I am in the midst of an assignment with the Ontario Association of Architects, working on their website and annual conference. Also had a great interview with the Canadian version of TV Guide, which is a stand-alone website, no paper magazine. The full-time employee must be a rare breed; that kind of job seems not to exist any more.

Thanks for this issue, and maybe see you at the Reno Worldcon.
((Although we had earlier planned to attend, our plans have changed due to a variety of reasons.)) \#

## Sheryl Birkhead, Gaithersburg, MD

12 May 2011
I have \#42 \& \#43 here and I am getting ridiculously slow in responding. Same excuses--still no portable computer.

Fingers crossed for Fluffy.
Reads as if your San Diego doings were busy--sorry about the lost bracelet.
Lovely harping kitty--great interior illos!
The 2002 Forester I got to replace the totalled Matrix (in 2010) is AWD and great to drive except it only gets about 20 mpg . Well, it's safe and comfortable--guess I can't have it all.
((Our Lexus SUV gets 30 mpg at best. In highway driving, it gets less--probably about 20 mpg ; but it's nice to have the AWD option and more cargo space than our Prius.))

Nifty "sea life" graces the cover of \#43. The same wonderful artists appear in \#43's pages. Very eyeappealing.

Bjo is one of the fan artists I'd tried to get to write something for fan history, but I never got any response to several queries.

Technology--not knowing better, I thought that when I need to replace a CRT TV with a digital TV that I'd be able to tape directly to the VCR (i.e. a digital TV would mean no more converter). Well not so unless I also buy a DVR (etc) with a digital tuner. I poked around online and it appears (1) the converter boxes rated as the best when the conversion took place are now obsolete and haven't been made in "a while" (2) a generation of converter box + VCR seems to be obsolete (3) VCR + DVD recorder + digital tuner does exist, but those rated best are not apparently available as new. Sigh. Uh--cable renders the quandary irrelevant. Cable i\$ not an option.

I have bought the latest Potter DVD but have it on my Netflix list in case it is available to me before I can find the free time to watch it.

Well onward with roof repairs this month. The guy who cleaned the gutters told me he almost fell through, so on with the must do. The big maple tree out front appears suddenly about $3 / 4$ dead, but it stays put until I have to do something. Such fun.

## \#

## Alexis Gilliland, Arlington, VA

## 28 June 2011

Thank you for Feline Mewsings \#44, which is the square of one prime (2) times another (11). \#

## Brad Foster, Irving, TX

## 23 July 2011

Wow, 44 issues. Closing in on the big half-century there, and how many fanzines can say that?
No new art on hand just now, been busy with some paying jobs so the fan stuff has had to be set aside for a while. But I see in records you still have the Op-Era 'toon on hand, so I'll feel okay until that is used that I'm keeping my end of the fannish exchange up on this. I hope!

Reading your opening editorial about all the plants growing around your house just reminded me of how it's not the climate, it's the person, that makes the things grow. You're out there in basically the desert, and have a fine collection of plants. We're here with water and nice weather, but since I've got a brown thumb, I'm happy if even the weeds maintain a green look around our house!
((The green thumb, if I have one, did not come naturally. I took three courses at the botanical gardens in LA. Much of what I learned there was general stuff that would be useful anywhere. I've also attended two or three talks about specific subjects, such as pruning and composting. I've learned things from other individuals who garden. It is a continuing learning process.))

Appreciated Amy's review of the Boneyard book. Been a fan of Richard Moore for years, like the variety of stuff he has done, so nice to see him getting some notice here, too.

Cracked up reading the mnemonic from Vos Post on page 6, to remember the first seven primes. It seems it would be less work to memorize seven simple numbers than that phrase, then have to run the phrase back in my head, visualize the words and try to count the letters in each. Sometimes the solution is more trouble than the initial problem it set out to solve.

By the way, after the interesting bit that a prime number is a number that can only be divided by 1 and itself, it kind of rapidly loses any interest for me. And when he starts to make a big deal about the lists on the Prime Curious Web Site, I get a big yawn. It's just a list of things that happen to equal whatever number. You could just as easily make up those lists for 4 , or 6 , or 8 , etc. All the prime numbers. So what, there is no real connection. "Octopuses have three hearts" is somehow supposed to be more interesting because 3 is prime? Well, I can say that there are four suits in a deck of cards, so now we decide that 4 must be fascinating, and we should make lists of things in fours? Even the end of the article has a bit about "Isn't that amazing? There is no final prime, no last prime, no greatest prime." No, it's not amazing. Numbers can go to infinity, which is to say are non-ending; so why should I be surprised that
primes would not end. I guess the number-geek gene in me is dead, cause I really don't get the interest there at all; sorry.

On the other hand, my sucker-for-a-cute-kitty gene is overblown. I checked out your website for the first time before writing this LoC, and just sat here with a huge grin as I went through all the cat photos. The shots of Mercury alone and cuddling with Fluffy were particularly "awww" inspiring. But then, kittens will do me in every time! I've not updated with the new guys, but you can see my own web-page to my furry masters here: http://www.jabberwockygraphix.com/cats.html.

Jeanne Mealy, St. Paul, MN

## 24 July 2011

You create an INCREDIBLE zine. Thanks for sharing it.
Loved the Yellowstone trip report and photos. Amazing photos of Amy Harlib. I can't imagine being THAT limber.

## \#

## Amy Harlib, New York, NY

## 24 July 2011

Oh my! Rainbow Bridge condolences, vibes, and hugs for Fuzzy who will be cherished forever in your heart.

I suffered a similar loss recently.
Friday, June 23 around 2 PM, my precious, sweet baby furry purry fellow Shane Ketselah, aka Shanedy, died suddenly right in front of me. He had been behaving a little "off" for a couple of days and l didn't think it was that serious, but apparently it was; his heart just gave out. Shanedy, a Maine Coon mix only 4 years old, apparently had the HCM heart condition that sometimes afflicts that breed. Ordinary Vet exams will not reveal this condition, and 1 had no idea Shanedy had it until it was too late. Shanedy just collapsed on the floor at my feet, gasped, and was dead.

My sweet Shanedy - GONE to be with The Cat Goddess!

## Lloyd Penney, Etobicoke, ON

## 2 August 2011

Thank you for Feline Mewsings 44. It's always good to see how you and Mike are doing. You seem to be surviving life in Arizona quite well. Comments continue right after this space...

We are all getting to the age where aches and pains are turning into health concerns. Sore backs, achy muscles, my cataract that continues to develop, but is still not a concern... We sure can tell what age we are. We've added a special eye health additive (lutein/zeaxanthin) to what we usually take...glucosamine/ chondroitin, calcium, Omega-3, vitamin D, and a good $50+$ multivitamin. It's getting to the point we should just drop the pills and capsules in a bowl, sprinkle a little sugar, and pour milk on top.

My marks in mathematics in high school were among my best, and I remember getting prime number almost immediately. I recall and 1 and 2 were considered primes, and the list of primes went from there. However, there are always newer generations of mathematicians who will change and tweak as definitions become a little more fluid. The more tweaking, the greater the understanding.

So many American restaurant chains have come to Canada and failed. They change the menu, or don't change it, the food is different here or not as spicy...the chains fail to do their research into what Canadian consumers want. Olive Garden was one of those chains, and they joined ChiChi's and Fuddrucker's and several more in leaving Canada because people didn't go to their restaurants.

Heath Row is indeed the head of the N3F and editor of the National Fantasy Fan. I think he's done a fairly good job with the club zine, but he'll be hard pressed to find a decent replacement re the zine editor.

Right now, it's cool, rainy, and humid; and I hope I can enjoy the day in a pair of shorts. I have to leave shortly for my evening job, so I'll wind this up and start to get ready to go. Take it easy, enjoy this hot summer, and see you next issue.

## \#

I also heard from: Jay Kay Klein (who called to let me know he was still among the living. Anyone interested may reach him at 315-633-9414). My apologies for anyone I've left off.

## * Closing Remarks

I think I'm still recovering from the stress I felt while nursing Fluffy, though I didn't realize at the time. Had I not signed up for the Yellowstone trip reported on last issue and the Verde Canyon train ride months ago, we probably would not have gone. Though we had previously planned to attend Westercon and the Worldcon, I just felt too tired to go through with the trips. I think I will be back to being able to travel again next year. I have a couple of trips in mind.

Saurraine
4 August 2011

## DOC SAVAGE IN THE 2IST CENTURY



