

NEW AGE COMPUTER CLUB

Bits-and-Bytes

Newsletter

Online

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AUGUST 2001 EDITION

NACC

Van Gogh Edition

Allentown, Pa.

New Age Computer Club

The background of the cover is a reproduction of the painting 'The Starry Night' by J.M.W. van Gogh. It depicts a swirling, turbulent night sky filled with bright, glowing stars and a crescent moon. In the foreground, a dark, jagged cypress tree stands on the left, and a small village with a church spire is visible in the distance under the swirling sky.

Bits & Bytes Newsletter

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NACC On The Internet :

Website: <http://www.angelfire.com/geek/bitbybit>

Newsletter (PDF) Online: <http://www.angelfire.com/geek/bitbybit/NewAge2.pdf>



It's A New Age

The New Age Computer Club has been a natural formation for those who have given many thousands of hours of their time to other nonprofit groups and clubs in the area, and find themselves without a place to be. Some of these people were founders of groups they are not part of today. The changing technologies and constant change in our society is producing people who believe "newer" is always better, and change for the sake of change is always the answer. It is becoming a world without history, a country without tradition, and limited insight. As computer hardware and software change by the minute, as new cars roll-off the assembly lines with new models annually, a subconscious vision is created that everything should change. The people changing everything don't even understand why they are doing it. It has become a national mantra. People keep changing everything just for the sake of change. Constant change will eventually bring a collapse, and scattering of efforts. Never forget, a nuclear bomb also works on the principle of a high rate of change!

The New Age Computer Club is a small group of friends getting together socially to have fun, and share ideas. We are not in competition with anyone else or any of the other fine clubs in the area. We do not require any dues or membership fees. We do not have any officers in our club, and hope we never will. We are not going out of our way to solicit members, and everyone is welcome. Growing to any specific number of members is not our purpose. All of us are equal, and we look to run the group as democratically as possible. This club will create the individual free-space needed for creative expression. We want different members to chair our monthly informal meetings creating an equanimity among all of us. We feel in this Information Age we can easily supply our group's needs without any monetary charges. We have our webpage up at <http://www.angelfire.com/geek/bitbybit> which is FREE.

We look forward to listening to everyone's views and interests. We will float in "free-space" for awhile before we get a full grasp of each other. We will have on-the-fly monthly meetings at the Queen City Diner, and every member will get notified via e-mail. If you have interest, make sure you are on our e-mail list. We will strive to keep our outlooks high and provide the intellectual stimulation that is necessary in understanding science and computing today. But most of all, we need to understand and be respectful of each other, and realize we are all the result of all the past efforts of many others, better known as tradition and history.

Bill Pryor,
bill@sos-prod.com





Hi Everyone

We had some new cool faces at our last meeting. Professor John Scott, Harlan and Ann French, both radio amateurs, Gary Kumfert, Real Estate Professional, Rowland Carver, Multinational Treasurer and Sea Captain, Mike Baron Adobe PhotoDeluxe 3 aficionado, Editor, Val Scarcia, and my wife Fran.

John Scott for years had a very effective Windows Group. I never really had the opportunity of listening to him unplugged, although in the beginning of the 1990's, I attended some of his Windows meetings. John obviously has many interests, computers, geology, horticulture, etc.. John was teaching at Kutztown University. He noted he has a personal library of several thousand books at his house. John also noted he is an editor of a horticulture magazine too.

Harlan and Anne French are radio amateurs. Harlan is an electrical engineer, and has an inquiring mind, and enjoys topics like quantum computers. Harlan S. French call letters are N3IUW. Anne A. French is AA3HG. It is great to see a husband and wife who are radio hams together. Anne is talented too. She has an Amateur Extra license, which is really an accomplishment for anyone!! Anne and Harlan like to ski a lot, and have skied all over the USA. They are good contributors and ask many good questions.

Gary Kumfert is a Real Estate professional and has his own ReMax franchise. He is a good contributor and has a nice website with good content. Gary has his own domain name kumfert.com and can be reached at gary@kumfert.com. He has put on some nice demos at past meetings.

Rowland Carver enjoys new ventures and enjoys original twists to topics. He has a good instinctual sense in solving problems with and without computer software. Rowland transcends. He has been an excellent Treasurer for many club groups. He likes boating and has his own boat he pilots into Virginia. Rowland flies airplanes, has a private pilot's license, and has radio amateur call letters too. (I do not know what they are).

Mike Baron has good instincts for getting at the basics in graphics. He put on an excellent demo one evening on Adobe PhotoDeluxe 3. And it was so good, I have asked him to do it again! Mike asks pertinent questions and interjects at the right times. He is great to have around at all times!

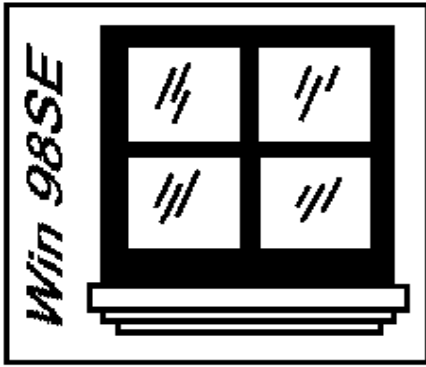
No group would be without Val Scarcia. Ten year veteran Editor of numerous newsletters. Is a good contributor. He has a sixth sense in analyzing situations which not many people have. Over the years, he has been a great help to me. He is a loyal friend, a great supporter and contributor. He was president of his clown association. Val loves jokes and trivia. He has RCN cable modem setup at his house for fast Internet access. He is a radio ham too with a beautiful gold van with W3EFL license plates attached.

I want to thank Sanford Yoder and Harlan French for taking a keen interest in quantum computing subjects which inspires me even more. Both Sanford and Harlan are professional electrical engineers and radio amateurs..

I was really surprised at the exchange of information done in a casual way over food and drink. John Scott made comments that he thought the documentation in Adobe Photoshop is inadequate, and used Adobe Illustrator with its powerful help menus to actually use and understand Photoshop better! Mike Baron is an example of this too with his Adobe PhotoDeluxe. I noted too that when I started using the Adobe Acrobat package, that words like Adobe "Distiller" were thrown around in the Adobe manuals with no connection to what it does or means. Adobe is a great company with some of the poorest documentation for first users. Their manuals seem to be written for their staff and people who have used Photoshop from the days of Photoshop 1. CorelDraw has the same problem. Conversations went from the original Ami Pro to specific utilities that can be downloaded. Harlan mentioned Cannon has a new printer cartridge out now that you can not refill--it has a "smart chip" in it that disconnects the cartridge circuit as the ink is being used. Sounds like the new XP operating system we were discussing where MS wants to make sure just one person uses it. The other encapsulating feature of XP is MS is now out to displace Real Audio which is now the defacto standard of the Internet in sound and video compression. MS-XP is now trying to make the operating system your multimedia platform. We see what happened to Netscape, the original browser, until MS gave away for FREE Internet Explorer (IE) with each operating system. Netscape is about gone now, and it was once the original ubiquitous browser everyone used! Also, Microsoft would like to eliminate MP3 with XP. Microsoft likes to gobble-up originality, incorporate it in the operating system, and after awhile no one remembers who originally initiated it. MS likes apathy and short memories.

Anyway, we had fun, and I certainly learned from everyone while enjoying a good dinner!

We will have another dinner meeting next month, and I will check the calendar to prevent any conflicts. Everyone is welcome to our meetings. See you then.



Through the Window**Pain !!** by John Scott

It's been over five years since the Windows 3.1.1 Users Group met at the LVCG , and we had a lot of fun tinkering with that incantation of windows.

When I upgraded to Win 95 it was with some trepidation, as the Win95 Registry made it too difficult to tinker and tweak Windows. Win95 did have one impelling new feature – long file names. In addition Microsoft timed the introduction of Win95 with Word95 which had one feature I sorely needed – multiple add-on dictionaries.

I have mellowed in later years and have no desire to jump and trade one buggy version of Windows for another. The prime rule has always been and should always be: What do I want to do? What software does it? What computer and operating system do I need to run that software?

I didn't upgrade to Win98. It came on my Dell computer and then on my Sony laptop. I've since installed it on one old Pentium 90 machine and one Pentium 133 laptop. The final version Win98 Second Edition has been very stable. Occasionally the system crashes but in over 2 years I haven't had to reinstall the operating system or any software. (It was standard operating procedure to FDISK and totally reinstall Win311 and Win95 about every six months.)

Win98SE has a lot of important features for new computers. Long file names, USB support, and Plug and Play that works! Long file names started with Win95 and there are add-ons to software like AmiPro that add long file names to that wonderful word processor. USB was added to Win95 version C. USB and its Plug and Play feature has worked nearly flawlessly for a new printer, scanner, digital camera, DV camera, modem, etc.

Where do we go from here? Nowhere I hope! Windows Millenium – PASS! Windows XP – PASS! Window 2000 – not for mortals! Maybe the 64 bit Windows when there are applications for it — for now it seems to run 32 bit applications SLOOWER.

In future columns I'll cover some on my neat hardware and software. Great stuff that doesn't get reviewed and often doesn't get advertised.



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SUPPORT FOR OLDER WINDOWS PLATFORM WANING

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If you've got an early version of Windows on your computer system, you should be aware that Microsoft will be dropping support very soon. Effective 31 December 2001, Microsoft will no longer license or support Windows 3.xx, Windows 95, or any versions of MS-DOS. You can read about Microsoft's Product Lifecycle Guidelines at <http://www.microsoft.com/windows/lifecycleconsumer.asp>.

What does this mean to you? It may not mean much if you're happily using one of the operating systems destined for non-support. Many of us go day-to-day not needing Microsoft support, or if we do, we're afraid to incur the exorbitant support costs charged by the software giant. However, this support issue could mean a lot to you if you try to install a program on a Windows 95 system and everything goes haywire. If you try to get help from Microsoft after New Year's Eve, you'll be out of luck and will have to hire someone for help, or reformat your hard drive.

With all of the problems that have appeared over the past few years with Windows 95 and 98, it's easy to understand why some of us have been reluctant to upgrade. Why rock the boat if everything is working fine? Well, the support issue might just be the impetus that some will need to upgrade or buy a new computer.

My experiences with upgrading Windows platforms have not been pleasant. I had little problem going from Windows 3.1 to Windows 95. But after that, the problems started. When Windows 98 was released, I tried to upgrade from 95 to 98 on my desktop. I encountered numerous problems with the upgrade; however, I had purchased a new laptop with Windows 98 installed and had no problems. What I was to learn was that the upgrade itself was the cause of the problem. I ended up purchasing a completely new version of Windows 98 and installing it on my desktop and my problems ceased (at least those problems).

I still am running Windows 98 on my desktop. I've now got a new laptop with Windows ME installed. There are some subtle features I like about Windows ME, and some changes I don't. I wrote about my observations using Windows ME in an earlier GC Extra column (<http://www.ancestry.com/library/view/columns/extra/3216.asp>). I haven't upgraded my desktop because I've been toying with the idea of upgrading to Windows 2000 instead of Windows ME. However, I need about a week of uninterrupted time to devote to the upgrade to make sure everything works OK. The caution I keep encountering about Windows 2000 is that a lot of the drivers from Windows 98 don't work in 2000, so you therefore need to make sure you have all the drivers for Windows 2000 before you do the upgrade. That seems overwhelming to me and is the reason I haven't started yet.

The main reason I'm even considering going to Windows 2000 is that it is a much more stable platform than Windows ME or 98. I work on the computer all day long during the week. I usually end up rebooting my desktop at least once a day, usually twice. The problem is that Windows 98 isn't too good with RAM. Despite the fact that I have 256MB RAM, if I open more than about four programs at a time, my system crashes. When I'm working, I like to be able to switch between my e-mail, bookkeeping, word processing, and often graphics programs frequently. But some of those programs are memory intensive and cripple Windows 98 quickly. I'm told that's not an issue with Windows 2000.

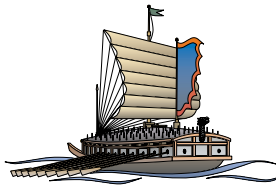
For those with newer operating systems, beware that support for Windows 98 and NT 4.xx will be discontinued 30 June 2003. It seems like a long time from now, but it's less than two years. So if you're planning to hang on to your current system, you've been forewarned that support will be withdrawn on a specific date.

Maybe it's time to start hinting at a new computer for Christmas, one that comes with the latest version of Windows installed. New systems are very powerful, come with plenty of hard disk space, and many come with the ability to allow you to backup your files to CDs or external drives. And they're not that expensive any more. Hint, hint . . .

Elizabeth Kelley Kerstens, CGRS, CGL, is the managing editor of "Genealogical Computing," editor of the Board for Certification of Genealogists' newsletter OnBoard, the creator of Clooz, the electronic filing cabinet for genealogical records, co-creator of the new family health history program GeneWeaver, and a frequent contributor to

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**ARE YOU A REASON,
A SEASON, OR A LIFETIME?**
Val Scarcia, mrval@rcn.com



Pay attention to what you read. After you read this, you will know the reason it was sent to you! People come into your life for a reason, a season or a lifetime. When you figure out which one it is, you will know what to do for each person.

Someone is in your life for a REASON. . . It is usually to meet a need you have expressed. They have come to assist you through a difficulty, to provide you with guidance and support, to aid you physically, emotionally, or spiritually. They may seem like a godsend, and they are! They are there for the reason you need them to be. Then, without any wrongdoing on your part, or at an inconvenient time, this person will say or do something to bring the relationship to an end. Sometimes they die. Sometimes they walk away. Sometimes they act up and force you to take a stand. What we must realize is that our need has been met, our desire fulfilled, their work is done. The prayer you sent up has been answered. And now it is time to move on. Then people come into your life for a SEASON. Because your turn has come to share, grow, or learn. They bring you an experience of peace, or make you laugh. They may teach you something you have never done. They usually give you an unbelievable amount of joy. Believe it! It is real! But, only for a season.

LIFETIME relationships teach you lifetime lessons: things you must build upon in order to have a solid emotional foundation. Your job is to accept the lesson, love the person, and put what you have learned to use in all other relationships and areas of your life. It is said that love is blind but friendship is clairvoyant.

Stop here and just SMILE if you don't want to do this last part:

This is to show people you love them and to see how many people love you!!!! Don't feel embarrassed, because only you will get the results. Send it to every friend that you have online, including the person who sent it to you.

0 Replies = you need to work on your "people skills"
2 Replies = you're nice, but need to be more outgoing
4 Replies = you have picked your friends well
6 Replies = you are downright popular
8 or More = you are totally awesome!!!!
(Probably why you're on MY list!)
Work like you don't need the money.
Love like you've never been hurt.
And dance like no one is watching.

Rules for Writers
Val Scarcia, mrval@rcn.com

1. Verbs HAS to agree with their subjects.
2. Prepositions are not words to end sentences with.
3. And don't start a sentence with a conjunction.
4. It is wrong to ever split an infinitive.
5. Avoid clichés like the plague. (They're old hat.)
6. Be more or less specific.
8. Parenthetical remarks (however relevant) are (usually) unnecessary.
9. Also too, never, ever use repetitive redundancies.
10. No sentence fragments.
11. Don't use no double negatives.
12. Proofread carefully to see if you any words out.





I am currently using a service called Verizon DSL through my local telephone company. It is only available to Verizon telephone users. DSL is really a fast or "broadband" modem. It connects through a modem into your computer's network card. It is 10 times faster than a 56k modem on the download side, and three times faster on the upload side (ADSL). It is \$39.99 per month under a yearly contract, and allows you to eliminate your second phone line for the Internet since this service allows you to be on the Internet and the telephone at the same time. The hardware is furnished FREE with easy to install software on a CD-ROM. Each time you log on, you get a dynamic or different IP address. This is a nice security advantage, much like dialing up with a 56k conventional modem. The DSL runs very nicely.

After running the DSL on one machine for a few weeks, I then decided to share this connection with some of the other computers in my house. Using Win98SE, I setup the Internet Connection Sharing (ICS). This requires two network cards in the host machine, one for the DSL modem, and one for the network in your home or office (client). I purchased a PCI Ethernet card at the last MarketPro show for \$11.00, and these installed easily. The ICS worked fine on the normal 56k modem connections, but would not work with the Verizon DSL running with their furnished WinPoet protocol. After hours of trying, I could not get this to work on my network. (Verizon tech support will NOT help you to network your DSL connection--they are not allowed). I then went onto the Internet and the WWW and went into DSLreports.com. It was noted in a MS tech report that the WinPoet protocol will not work with the ICS in Win98SE. Examining other reports of Verizon DSL users, I ran into the RASPPPoE protocol which is downloaded from Berlin, Germany. <http://user.cs.tu-berlin.de/~normanb/> It is freeware, around 100K download. The first time I loaded this protocol onto my Win 98SE client machine, the network worked. I still continue to use the regular Verizon software to connect. However when I set up the ICS in Win98SE, I set it up as a regular dialup modem, and NOT as a DSL Connection in the menu choices. The beauty of this software is that you can treat your ethernet card as a regular dial up modem which the software does automatically! Another great step-by-step site on this topic is <http://www.wincom.net/dsl/software/raspppoe/> for step by step detail !

I think this RASPPPoE is a great piece of written software for use with Verizon DSL. There are some great individual software writers out there, this writer is named Robert Schlabbach. For a fast, free way to network some machines without an expensive router, this way is cool, and probably the least expensive. I only tried this on Win98SE to Win95B, but it is also recommended for Windows 98/98SE/ME/2000/XP/2002, and was originally written for Win 2000. Enjoy!



It is easy to forget what an operating system is, since everything around us has one. A car, a TV, a vacuum cleaner, a radio, all have operating systems. When a flower blooms, a new baby is born, a new fish is hatched; they all contain inherent operating systems. When you were born you inherited a built-in proprietary operating system and identity, known as yourself.

Even a shovel and a hammer in all their simplicity, have a built in operating system.

When a household vacuum cleaner does not work any longer and there is a clog in the line, you have to defrag the dirt in the system so it can function again. After removal, the vacuum cleaner and its operating system run smoothly again.

The sun, moon, stars, and the universe have a built-in operating system. Many operating systems are the total combination of the entity itself, and can not be directly isolated for sale and consumption, like Microsoft Windows.

With so many operating systems out there for all of us to discover and enjoy, it is too bad companies like Microsoft have so many people snowed on what an operating system is, and what it really means!



Classic
"Harry Traugott" <bvgk45a@mail.com>



New twist at the end of this classic.

A philosophy professor stood before his class and had some items in front of him. When the class began, wordlessly he picked up a large empty mayonnaise jar and proceeded to fill it with rocks, rocks about 2" in diameter. He then asked the students if the jar was full?

They agreed that it was.

So the professor then picked up a box of pebbles and poured them into the jar. He shook the jar lightly. The pebbles, of course, rolled into the open areas between the rocks. He then asked the students again if the jar was full?

They agreed it was. The students laughed.

The professor picked up a box of sand and poured it into the jar. Of course, the sand filled up everything else.

"Now," said the professor, "I want you to recognize that this is your life. The rocks are the important things - your family, your partner, your health, your children - things that if everything else was lost and only they remained, your life would still be full. The pebbles are the other things that matter like your job, your house, your car. The sand is everything else, the small stuff.

If you put the sand into the jar first, there is no room for the pebbles or the rocks. The same goes for your life. If you spend all your time and energy on the small stuff, you will never have room for the things that are important to you. Pay attention to the things that are critical to your happiness.

Take care of the rocks first - the things that really matter. Set your priorities. The rest is just sand."



But then.....[my favorite part -)]

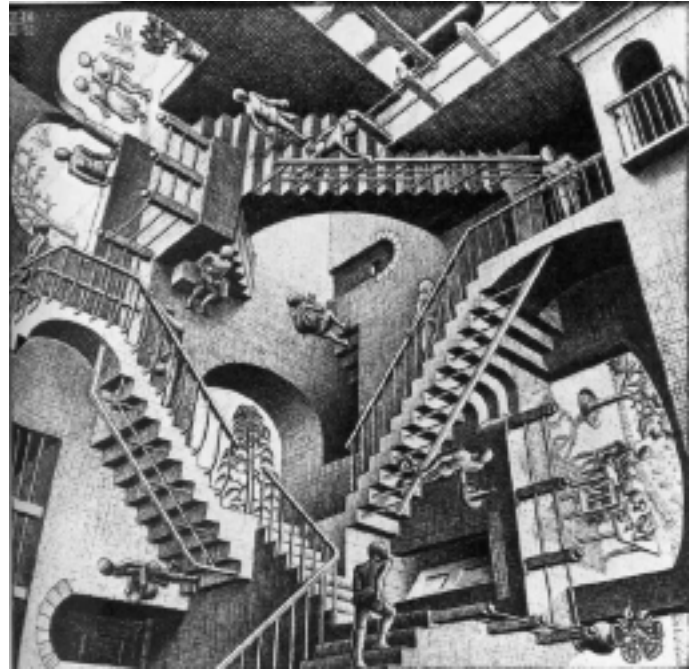
A student then took the jar which the other students and the professor agreed was full, and proceeded to pour in a glass of beer. Of course the beer filled the remaining spaces within the jar making the jar truly full.

The moral of this tale is- no matter how full your life is, there is always room for beer...

Visualizing Fundamental Equations by Bill Pryor

The late M.C. Escher was a great artist, way ahead of his time. **With no formal training in mathematics or science, these pictures evoke more understanding than most equations written by scientists today.** With an intuitive understanding of basic reality and art, scientists refer to his work when they have conflicts in experimentation, and theoretical interpretation.

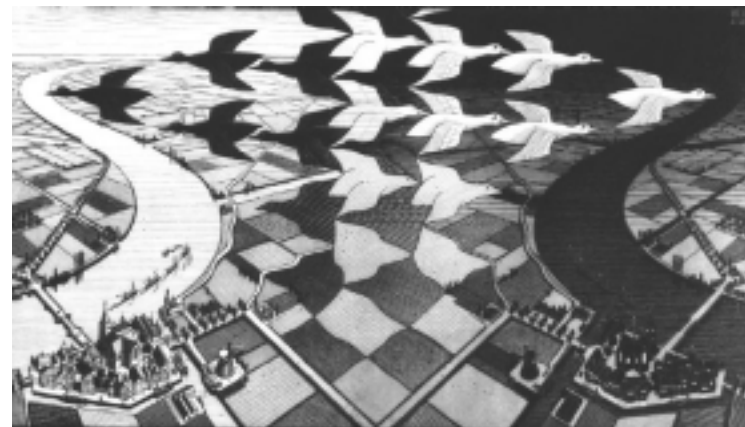
"M.C. Escher was a Dutch graphic artist, most recognized for spatial illusions, impossible buildings, repeating geometric patterns (tessellations), and his incredible techniques in woodcutting and lithography. He was born June 1898 and died March 1972. His work continues to fascinate both young and old across a broad spectrum of interests. He was a man studied and greatly appreciated by respected mathematicians, scientists and crystallographers yet he had no formal training in math or science. He was a humble man who considered himself neither an artist or mathematician. Intricate repeating patterns, mathematically complex structures, spatial perspectives all require a "second look". In Escher's work, what you see the first time is not all there is to see." (quoted from The World of Escher)



RELATIVITY

His drawings are just as important as the basic equations themselves. The above print makes concepts such as relativity and quantum theory understandable in a very intuitive sense. Once again, he is proof that there is more than one way to approach and understand any topic. You do not have to be a scientist to understand science. I hope one day educated people will envision this.

You can find Escher and his artistic works at:
<http://www.cs.unc.edu/~davemc/Pic/Escher>



NIGHT & DAY



WATERFALL

M.C. ESCHER'S famous WATERFALL violates the laws of thermodynamics by creating a waterfall picture of perpetual motion. Look at the above picture carefully. Looking at this picture in a certain way, it appears the water is all on the same level, yet it falls. The ability to view this picture in more than one way, in my opinion, is very much the same way parallel worlds and superposition exists in quantum theory. Viewing art and science on the level of Escher allows us to begin to understand the quantum ideas of science.

Computer Haikus

Joanna Broder, bcjoanna@qwest.net



In Japan, they have replaced the impersonal
and unhelpful Microsoft error messages with
Haiku poetry messages. Haikus are used to
communicate a timeless message often
achieving a wistful, yearning and powerful
insight through extreme brevity ... the essence
of Zen

Your file was so big.
It might be very useful.
But now it is gone.



The Website you seek
Cannot be located, but
Countless more exist.

Chaos reigns within.
Reflect, repent, and reboot.
Order shall return.

Program aborting
Close all that you have worked on.
You ask far too much.

Windows NT crashed.
I am the Blue Screen of Death.
No one hears your screams.

Yesterday it worked.
Today it is not working.
Windows is like that.



First snow, then silence.
This thousand-dollar screen dies
So beautifully.

With searching comes loss
And the presence of absence
"My Novel" not found.

The Tao that is seen
Is not the true Tao-until
You bring fresh toner.



Stay the patient course.
Of little worth is your ire.
The network is down.

A crash reduces
Your expensive computer
To a simple stone.

Three things are certain
Death, taxes and lost data.
Guess which has occurred.



You step in the stream,
But the water has moved on.
This page is not here.

Out of memory.
We wish to hold the whole sky,
But we never will.

Having been erased,
The document you're seeking
Must now be retyped.

Serious error.
All shortcuts have disappeared.
Screen. Mind. Both are blank.



We are living in an age where old ideas are being pushed to their limits and are slowly giving away to newer visions and paradigms. Sure a 1.5 Ghz AMD Thunderbird or Pentium 4 chip is lightning compared to a classical Pentium 133, but believe it or not, all these CPUs are really old fashioned Newtonian principled chips! They run on the idea of flowing on and off switching. Basically a classical bit is an on an off switch like the light in your bedroom. The new quantum bit is on and off at the same time and depends on direct observation. To visualize quantum thinking you must throw away your old ideas of cause and effect---put them in your new Windows XP trash can (recycling bin). :-)

A qbit is short for a quantum bit. Quantum bits or qbits are related to normal bits. A bit is either a 0 or a 1, and eight of these bits make a normal byte. A quantum bit also is a 0 or a 1, but exists as a 0 and a 1 at the same time!

Being able to exist as a 0 and a 1 at the same time is called superposition in quantum theory. Superposition is ultimately everything existing at once, and at the same time in parallel universes or multiverses. Mathematically since this new bit is really a 0 and a 1 at the same time, rather than a 0 OR a 1, gives this new quantum definition amazing power and speed since the qbit is in 2 states at once rather than one state at a time as a normal bit is. Mathematically this becomes very powerful since everything then becomes exponential. With only a few hundred qbits, it is possible to represent simultaneously more numbers than there are atoms in the universe!

Quantum theory is a branch of physics which is now about 100 years old. It is not new. Since the early 1980s progress is being made to build a quantum computer. A 3 bit and 7 bit quantum computer have been created in the laboratory using simple molecules in a drop of liquid as a CPU. "What we find particularly intriguing, said Laflamme, "is that this latest advance seems to follow Moore's Law." Moore's Law says that the density of transistors on integrated circuits, and in turn the calculating speed of the computer, doubles every 18 months. The birth of the three-qubit quantum computer came roughly 18 months ago at Los Alamos. "I think it is a bit premature, however, to really assume it follows Moore's Law, but who knows what future technological developments will do. Of course, if Moore's Law is at work here," Laflamme added, "then we could have a 30-qubit quantum computer in less than five years."

A 30-qubit quantum computer would be roughly equivalent to a conventional computer running at 10 trillion operations per second. The fastest supercomputers in the world have achieved speeds of about two trillion.

No one can guarantee the next generation of processors will come from Intel or AMD, since current experimentation is being done on ordinary simple molecules like chloroform to act like a CPU. The basic idea really is to take the models that currently work and define computing now, and metaphorically apply these models quantum mechanically to simple atoms and molecules.

The quantum computer has moved out of the realm of fiction into reality. If a functional quantum computer was built and working, it would destroy all the security on the Internet. Current web browser security encryption would be meaningless. Modern encryption and keys basically assume that computers take a long time to factor numbers. The quantum computer destroys this idea completely since it works on infinite parallel processing, and can crack security codes quickly.

The neat thing about quantum theory is that no one really understands it, and that is one of the reasons why I love it. It's like a beautiful woman or a beautiful sunset--just accept it for what it is like an eternal poem or painting. The late Richard Feynman, Nobel Laureate, said, "nobody alive understands quantum theory. You have to just accept it for what it is." Einstein always disliked quantum theory since it defied logic, he always said "god does not play dice." However, quantum theory is here to stay, and it is real, and it works. There are many obstacles to overcome, but the days of the quantum computer are approaching. Out in the total universe everything imaginable is going on at once, present, past, and future. We just have to guide ourselves to see it!





The Clockwork Universe

Bill Pryor, Unplugged

March 1, 1998

The invention of the mechanical clock, along with Newton's Laws of Gravitation and Motion, brought us into The Machine Age. Up to the turn of the century, the Universe was always interpreted as mechanical. Everything was deemed predictable and orderly. The human body, atomic theory, solar systems, and biology, were all fashioned after a mechanical interpretation of the Universe. Everything that existed worked on the principles of gears and ratchets, and everything including science, was interpreted to be like a Clockwork Universe. Typewriters, adding machines, even Babbage's first computer vision was completely mechanical in nature. Atomic orbitals were interpreted to be a simple solar system with the nucleus (the sun) at the center, and the orbiting planets were the electrons. Everything was viewed with great regularity and order. If it was eight o'clock in Allentown, it was eight o'clock everywhere in the Clockwork Universe, including distant galaxies. This way of interpreting reality was deemed to be the absolute truth to all living at this time.

At the turn of this century, the probing of the atomic realm by physicists broke the illusion of the Clockwork Universe. Experimentation showed that the atom did not behave like a Newtonian solar system, but really behaved in a very mysterious way, which could only be interpreted by probabilities and indefiniteness; this interpretation is known as quantum theory. Albert Einstein changed the Clockwork Universe by making light the constant instead of time, and this changed the concept of what a clock is, and what it measures. So time became different everywhere, and was related to motion in what Einstein called "space-time."

The Mechanical Age really begins to disappear with the invention of the vacuum tube, the diode, the transistor, the integrated circuit, and now the CPU. Past mechanical actions, computations and calculations are now relegated to electrons, atoms, and their flow and behavior in silicon environments. This has evolved a new way of looking at reality and Information. The Universe and time can now be anything and anywhere. Information is the key, and is the pervasive reality. The computer is the new time piece. The computer creates its own time. Time and information are indistinguishable in the computer universe just like space and time are indistinguishable in Einstein's universe. Information is always changing, nothing is static. The Universe we know and believe in today, with more information, will be different tomorrow. The model of the Universe is information. A Universe can be anything and anywhere, and so can information. Information can be extracted, simulated, into a reality all of its own. Our whole current existence and reality are becoming completely computer driven and oriented. Our genes and chromosomes are just mapped programs. Schedules, banking, manufacturing, navigation, medicine, and education are all program driven. The 21st century will be all Information Theory. Everything is becoming; nothing really is.