LIGO Project Funded

by Joeich Michard

Catastrophic explosions. Cannibalistic black holes. Neutron stars locked in a deadly waltz. All this and more will soon be beneath our gaze, as we enter the centennial celebration of LIGO five years from now. LIGO, the Laser Interferometer Gravitational-wave Observatory, is just what the name says it is: something to observe the arrival of gravitational waves. These elusive undulations are older than rock and still remain unseen in the cosmos, but recently, the technology (and funding) was available to observe them.

LIGO was funded by the National Science Foundation to build a pair of detectors, each weighing as much as a small automobile. There are two such tunnels, each containing two End-Station masses, at right angle to each other, forming a huge "Y" structure. When a gravitational wave zoes by, it slightly disturbs the distance between the two masses in one tunnel, and lengthens the distance between the two in the other. This change in distance can be measured using laser interferometry. The reason such detectors are needed is that gravitational waves have a incredibly weak strength with matter. In one respect this is convenient: the waves cut through Earth like a hot chain saw through butter, and LIGO can see just as sharply downward as upward. The $211 million purchases exactly two LIGO installations, which will be situated on opposite sides of the United States. Two identical identical girberich within a fraction of a second of each other. However, with only two detectors, the source of the signal cannot be determined absolutely. We'll know a gravitational wave hit us, but we won't know just the direction the blow came from. Four detectors would be much better—the source could be located to a point in the sky. Fortunately, the leaders of LIGO anticipate that. And just two LIGO-detectors will eventually spring up all over the world, with the goal of perfect harmony (just like the existing Deep-Space Network).

But the fun doesn't end there. LIGO's hear- ing is acute enough or is there even anything we can hear? The answer to the first question appears to be yes, since a working small­ scale LIGO already exists here at Caltech, next to the Central Engineering Buildings. As for the second question, LIGO can theoretically detect a supernova anywhere in the galaxy, two orbit­ ing neutron stars at 200 million parsecs, and two intersecting black-holes up to 4 billion parsecs—which is the farthest the Hubble can (or was supposed to) see.

The Andromeda galaxy is 600 thousand light-years away. So if none of anything really remarkable reaches us, we'll be sure to know it, even if the sound is rather distant. More importantly, as deputy director Stan Whitcomb pointed out, "As long as we observe the information LIGO provides will only be additional but "orthogonal." In other words, LIGO will supply us with information that standard telescopes could never give. Is LIGO worth the money? That depends on ones perspective, although at only $211 million, the cost of LIGO pale in comparison to a single $870 million B-2 Stealth Bomber (which definitely isn't worth the money). For the common man, funding for LIGO is probably as desired as much as a swift kick to the shin, but for Techer, at least Techer majors in physics, it's damn exciting.

The author is indebted to Dr. Stan Whitcomb for all information contained in this article that is correct.

Beckman Auditorium mysteriously disappeared last week, and was replaced with a giant birthday cake complete with candles, in honor of Caltech's Centennial Celebration.

Caltech Centennial

By Clulan Cheung

The Caltech Centennial Birthday Party took place last Friday, Novem­ ber 1. The celebration started at 12:30 a.m. on the steps and lawn in front of the Athenaeum. Over 1,000 staff, faculty and students were expected to attend but the crowd was larger than expected. Chains and table with umbrellas were put on the lawn. Orange and white balloons were used to decorate the place and a balloons arch was set up on the steps of the Athenaeum.

Entertainment started off with the Caltech Jazz Band performing at 1:45 a.m. The Caltech Jazz Band performed with Angie Whitney as their featured singer. A sketch artist was present. Although he was able to produce 120 sketches in two hours, there was a small line of people waiting to be drawn. Moreover, an Origami paper folder dressed in traditional costume has also been invited. The Caltech Beaver also appeared.

Free refreshments were available. Hot dogs, ice cream, lemonade and ice tea were served. Of course, there was also the giant birthday cake. Four serving stations were set up with servers.

The main program began at 2:30 a.m. President Tom Everhart delivered a brief speech. In his speech, President Everhart said that this birthday party would end the year long celebration of the centen­ nial of Caltech. In the past, both the SPS student organization and the Department of Physics have made various efforts to create awareness and, hopefully, enthusiasm for the great work that Caltech has done. Fortunately, the leaders of LIGO for all information con­ tained in this article that is correct.

The Tech Committee explained how the birthday party came to being. He wanted it to be like a family party, and he was glad of the good weather.

When it was MORSI, he realized that whenever there was free food, there would be flocks of Caltech people. Then there was the cake- cutting ceremony and Professor Chan cut the birthday cake with a sword. The band played "Happy Birthday" and the audience was showered by colorful confetti.

The cake was then served to the com­ munity.

There were many give-aways and prizes. 3,000 birthday badges were given out upon arrival. Every­ one was able to get one or more. Prizes to celebrate the centennial of Caltech included 140 mugs, 120 sweatshirts and tee shirts of various sizes, twelve visors and one Seiko clock. Other exciting prizes included one hundred dollar gift certificates for the Bookstore, one night for two at the Albert Einstein Suite at the Aronheim and prime rib dinner for two at the Athenaeum on Wednesday evening. There were also be prizes that would involve going off-campus. These included dinner for two at the Ritz Carlton, one night for two at the Pasadena Doubletree, and one night for two at the Universal Studio tour, seven sets of twenty dollars each or a round trip JPL spacecraft encounters, two Cross pens and two tickets to Disneyland were also some of the many prizes.

There was a display board showing pre-selected winning numbers and this was manned by volunteers. Those who did not win were able to participate in the second round of the lucky draw.

Flyers were sent as invitations and the lottery numbers were posted on the flyers. Star News was invited and there was a reporter to cover the event. Memos were sent to super­ visors urging them to allow staff employees to attend the celebration and to attend the birthday party.

Much effort has been put into organizing this event. Many attended and it is hoped that they had enjoyed the program and shared in the joy of celebrating the centennial of Caltech.
A Final Word on Motorcycle Helmets

Dear Editors,

I have in my hand a copy of Elliott Andrews' refutal to my re­
testimony to Marty Bywater's letter that the mandatory helmet law is not being enforced. It is obvious to me that this is quickly degenerating into the kind of shouting match that tends to prevent the discussion of this topic. First, let me make a statement about knowing that you have ridden for some time. However, I also have some knowledge of other riders I know did.

As to Andrews' claim that I distort the facts, I claim that his are also distorted. This is precisely the cause of the current mandatory helmet law. Without this law, as neither side will accept the other's facts. First, you state that open helmets are readily available. I have been looking for at least three months for a reasonable, affordable helmet. I have yet to find anywhere that stocks such helmets, which are numerous, so it is fairly easy to get. However, I do not have this kind of money.

You also claim that full-face helmets do not noticeably impair peripheral vision or hearing, and that this has been discredited and proven otherwise. It is not what you may believe, or what your studies say, this statement runs directly counter to my experiences of every rider I know, including those who advocate helmet use. I do not know anyone, yourself excepted, who has been hit by a car and worn a helmet, that doesn't think it impairs their vision or hearing. Claiming that placing a heavy helmet over a蜥ostatic gel, and padding your earplugs in is not feasible is not feasible, however ludicrously. As for the noise wind at over 30 mph, having ridden many times much faster than 30 mph, I am not aware of being deafened around town one generally does 30 mph or less. Also, you do not need your peripheral vision in order to safely drive a car. This is a personal opinion as I would simply try to react as you do, if you do not accept my claims that prove that any helmet is safer. I do not, however, claim that I have moved anywhere on all. All such studies are inherently flawed due to selection effects and due to the fact that the police do NOT KEEP accurate records on helmet use. (Section 6 did.)

I do not need you, or the law, to tell me what decisions I should make. Your statements essentially say that I am free to choose, as long as I agree with you. I can make my own decisions. Since this has degenerated to a point where it will not be possible to make the comparison as I have seen it in my experience, I will write so more on it, seeking to spare the reader of our ranting, and ourselves of the ensuing destruction.

Regularly,

Jaron Suraee

As people who have made a com­mittee points out the vulnerability of the entire and our naivete' about

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If you are not gifted in mercy as you would like to, be consid­ering to come to Baxter Lecture Hall on Tuesday November 12 at 7pm. The question of how far can credibility be stretched will be ex­plained.

To begin with, there will be a free showing of the documentary Cover up: Behind the Iran Contra Affair. Watch carefully as the pros in the White House, CIA and the NSC pull the wool over a nation's eyes. Surely there are lessons to be learned here. Sit comfortably as your favor­able technique in fabrication is fully explored. Favorites such as: pile it on thicker and thicker; see, speak over 30 mph, having ridden many times much faster than 30 mph, I am not aware of being deafened around town one generally does 30 mph or less. Also, you do not need your peripheral vision in order to safely drive a car. This is a personal opinion as I would simply try to react as you do, if you do not accept my claims that prove that any helmet is safer. I do not, however, claim that I have moved anywhere on all. All such studies are inherently flawed due to selection effects and due to the fact that the police do NOT KEEP accurate records on helmet use. (Section 6 did.)

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Zeitgeist 2: The Meaning of [it Life] by Maneesh Sahani

Browning was wrong. God has left his heaven. He has taken up residency in the Tech editors' office. And all is not well with the world. Many of you were no doubt confounded by the mindless, unfocused scribblings that inhabited the last edition of Zeitgeist, I deny responsibility. A thunderbolt struck the last the last two paragraphs of the piece. The very paragraphs that purported to tell you just where my musical ramblings were leading. Ours not to wonder…

I promised last week only that this column would be sporadically around them. I do not have the time to complete the line of thought I began a week ago, but I will try to bring the ramblings of a week ago into focus. My argument was that one rather profound situation I have been forced to acknowledge the value of a Grand Goal from which we knew what the meaning of Caltech's life was. If there were a Grand Goal that all decisions at Caltech were made to advance, we would deduce these decisions by whether or not they furthered that goal.

It is to argue for the creation of such a Goal; or, if it already exists, the condensation and dissemination of such a Goal, that I write. I would like to see the Caltech "Statement of Purpose." Hence the ramblings.

Another matter needs to be addressed. I do not know the Meaning of Life. If there were a main piece is in roman and italic, I would like to see the Caltech "Statement of Purpose." Hence the ramblings.

but fall, as you have noticed, was named after the buildings, convinced by the cumulative thousands of entering and departing students, will notice the change in the sky above them and the grass around them.

CRIME AND INCIDENT BEAT

Crime tip: Remember to lock your bicycles (even if you will be gone for a few moments).

10/29 When the mail was being delivered around 1:30 PM, the victim returned, he discovered that a brown, leather.

10/30 The victim's vehicle was parked in the West Wilson parking lot overnight. When the victim returned to the car at 3:15 PM, the items had been removed. Value: $400

10/31 The victim placed his belongings in an assigned locker in the men's locker room in the Brown gym and proceeded to take a shower. After the victim returned from the shower, he discovered that the lock and his belongings had been missing. Value: $22.50

11/5 The victim's bike was parked in the rear of his residence. When the victim returned, the bicycle was missing. Value: $115

11/5 A suspect tried to remove an oxygen sensor, which looks like a radio, from a car in the Chevron parking lot. The suspect decided not to steal the sensor when the suspect discovered that it was not a radio.

Students reported a burning smell in Baxter Hall. After a complete search of the building, it was discovered that the fan belt on an air handler #1 was rubbing against the casing sending some smoke throughout the building. Total loss: $2937.50

Jim can be an editorial along with the best of them, ya know!

How Fall got its Name

by Zack Berger

Finally, you can see why the fall term got its name. There is a nip in the air. Where I used to live for a little while, in New Jersey, and where my grandparents live, in Colorado, it's a nip—rather, it's a bite, with sharp teeth and clammy hands which give you goosebumps. It is a three-month, closed-book exam—and Nature's colly policy is very strict.

As the temperature plummeted into the merely chilly range (Californians' attitude toward cold reminds me of that held in former Kentucky counties, in which schools are closed when a thirty-second of an inch of snow magically—or so it seems—appears on the ground) shoes have to be worn, cold water in the shower with_announcement rather than relief, and the impetus to stay in bed is even more present.

But once I get to class—here I shift into first person, because I don't know what it's like for other people—my mind moves faster and my comprehension increases by leaps and bounds. Of course, if my comprehension is zero to begin with, then it's no use. But thinking is coming more easily to me now. And that's helped by how warm the campus looks during this warming (or cool-down) for winter.

The air is sharper, the buildings look more imposing, and it's an overload of disappointment not to be able to see the mountains. It seems I can walk places more quickly than I could during the past few weeks.

At night, as always, the sweet smell of Lynx—and, off-campus, the stench of manure—hangs in the air. And, as you walk, the sprinklers go off in front and back and on either side, like the cannons in "Charge of the Light Brigade," reminding you just how driven by necessity is Caltech's commitment to water conservation.

But fall, as you have noticed during the preceding paragraphs, quickens optimism and leaves pessimism behind—to catch up during the occasional moments of ennui which 1b, 41, Phys, AP9, and my other classes bring. But classes are inside the buildings. Once you walk outside and feel yourself among the buildings, the feeling of fall surfaces again. It helps that the buildings have names, like people—indeed, if we were to meet today someone named, say, Beckman (sorry Mabel and Arnold), we would think that they were named after the buildings, and not the other way around. These buildings have personalities—Winnet, dowdy and a little shy; Bridge and Sloan, low-slung and unassuming; Millikan, a big unobtrusive nose sticking up into the sky. And the speeches, the noisy, friendly Beckman family.

I'm noticing the passing of seasons, and although my classes do not—their lectures and recitation sections pop up continuously—perhaps, at the end of another century, the buildings, convinced by the cumulative thousands of entering and departing students, will notice the change in the sky above them and the grass around them.

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Maybe you thought you wouldn't find much personal challenge in personal computing. Think again.

As we move from 10 MIPS to 50-100 MIPS, we will incorporate new technology that delivers a compelling benefit using that power. Like a graphical user interface that can search large disks and distributed networks to truly put information at your fingertips.

Like an object-oriented application framework that lets you integrate different types of applications and information to create rich, compound documents.

Like a symmetric, multiprocessing operating system that lets us deliver the power of advanced personal computing on many platforms.

Make research a reality with Microsoft. We are looking for Software Design Engineers and Program Managers to help create tomorrow's leading software and get it out the door on time.

If you are pursuing a Bachelor's, Master's or PhD degree in Computer Science, Electrical Engineering, Math, Physics or a related discipline, and you have programming experience, design skills and exposure to program management, we want to talk with you at our On-campus Presentation & Pizza Reception.

We are an equal opportunity employer and are working toward a more culturally diverse workplace.
Inside World Policy:
All Inside Worlds must include the author’s name. Inside Worlds can only be written by current undergraduates. The editors reserve the right to edit any or all parts of an Inside World. No libelous material will be accepted. It is the author’s responsibility to check material written about a person to see if they consider it libelous. Please submit a 3.5 inch Macintosh Disk by 8:00 PM Wednesday.

This Week’s Inside World was written by:
Blacker: Ben Smith
Fleming: Jessica Nichols and Jeff Pasquino
Lloyd: Martin Lin
Lloyd2: Keith Schneider
Ruddock: Hans Hornstein

Black: 0 0 2 0 1
Dabney: 0 0 5 0 0
Fleming: 3 1 3 0 2
Lloyd: 1 3 1 0 4
Page: 0 0 4 1 0
Ricketts: 4 2 0 0 0
Ruddock: 2 4 0 0 3

Midterm. The Air Cavalry Squadron of Blacker Armored Division took the greatest losses. They haven’t been to Venice beach in a week!

Seeing that they wouldn’t last long, the Blacker Armored Division bravely assaulted the monster’s lair for two days. In the end all of the monster’s offspring were dead, but the foul beast triumphantly remained in the staircase.

Some of the people of Blacker, due to their sleep deprived state, watched hours of the Simpsons back to back. Many wandered aimlessly until caught in the vortex of a gravity well. The Antisleep Vampire, now deprived of its minions, took to directly attacking Moles in the staircase and lurking just above people’s doors. The Moles gathered for another attack, but the beast was only displaced from its roosting place.

The Blacker Armored Division temporarily withdrew and concentrated its efforts to offset the midterms. Then on Monday night, 4 November 1991, some of the people of Pub and Swamp discussed tactics and strategies. Both previous attacks had been failures. Many lay in a stunned state. Losses from midterms were mounting. Blacker could not hold off the midterms and the Vampire much longer. The Moles, heartened to see that the Antisleep Vampire in Firestone had been slain previously in the day, decided that with support, the great Damage Control himself, the best staple gun whiner of Blacker, Bevan Bennett should take on the monster singlehandedly. Then the Moles told Bevan what he was to do.

“Go to Hell,” said Bevan, but he went to the Damage Closet and strapped on his trusty staple gun. Bevan calmly approached the Antisleep Vampire. He whipped out his staple gun and shot the beast. The monster exploded and the remains of the corpse plummeted to the floor. There was much rejoicing.

Bevan, realized the magnitude of his deed (and then adrenaline kicked in), celebrated his victory in a most precipitous manner.

With the great Antisleep Vampire of Pub dead, the residents of Blacker went to sleep, the first real sleep in 82 hours. Blacker resumed military operations a few hours later.

Once upon a time in a far (or not so far) away land, there existed a continent which rose out of a sea of heathens and was called Caltech. Caltech had many kingdoms which constantly wrangled among themselves. And life went on.

Then the day come when all the kingdoms made a temporary cease fire to allow the peoples of this continent to gather together in peace and harmony and celebrate the 100th millennia of the Caltech. Even the fiefdom of Applied Math, located in the broken plains of Firestone, stopped its battles with the peoples of the Seven Undergraduate Kingdoms, to allow them to attend the party. (The war resumed immediately afterwards, and the Commander of the Firestone AMa 95 Shock Troops, the dark Lord Cohen, was happy). Meanwhile, during the celebration, all were happy.

Little did the people know, but a band of four Antisleep Vampires had come to the continent. True Sleep Vampires, beings which distribute their sleep on others so that the Sleep Vampire can stay awake indefinitely, have been known for some time. However, Antisleep Vampires suck sleep out of all others within a certain radius, causing the people to be eternally tired, but not be able to sleep.

The people never saw the Antisleep Vampires, for the people never looked up. Each vampire latched itself onto a person and followed them home. One took the highest point in Firestone as its lair. One followed a student into the Church and House of Blacker (tboai). The whereabouts of the other two are unknown.

As it is well known opposite attract (but don’t necessarily annihilate), so it wasn’t surprising when an Antisleep Vampire followed Liven (a true Sleep Vampire) into the Kingdom of the Church and House of Blacker (tboai). The evil behemoth and its twenty or so progeny took residence in the staircase between Swamp and Pub. Immediately, the Vampire showed it’s true face and began to suck sleep from the people of Blacker.

Then to compound the Kingdom o Blacker’s problems the Kings of the six Academic Departments (Physics, Math, Chemistry, Humanities and Social Sciences, Biology and the multifaceted Engineers) resumed their war of conquest against the Seven Undergraduate Kingdoms. The Academic Departments released their elite forces, known as Midterms, and casualties on the undergraduate side were great.

Greatly exhausted due to the Antisleep Vampire, the people of Blacker took immense losses, especially from the AMa 95

Greatly exhausted due to the Antisleep Vampire, the people of Blacker took immense losses, especially from the AMa 95
Turning the corner, we enter Alley 5, which holds the entire Social team (Soc 2’s a figurehead) and the Ath 2 (Mr. “I have no money but I have 128 watts peak power”). Avoiding lower 5 (Cliff and Norm — number moving off campus = 3 and counting), we pass through Rm 59 (hallway), saying hi to all of the visitors (but enough about pageboys) and enter Alley 6 (the Alley of the Gods it’s not) through the Vice Prez’s room (Hobble Hobble) past all of the officers (think they’re in charge). Checking on the frosh (squad’s alley) we see that “Roxanne” is still playing (get a new CD). Avoiding lower 6, we enter Upper 1, with Phone Phrosh eagerly awaiting our call. Eight-and-a-half (two frosh schmos and a transfer) are playing with their fish (yeah, right guys, get a better excuse) and awaiting another soccer game. Speaking of which, in case you were at the last Soccer game, or have ever been to Cal Lu, check out..

The Top Ten Things That Go Through Thor’s Mind.

1. Ball.
2. Grunt .. Ball .. Ball
3. Kick .. ball .. player .. kick player??
4. Kick ball upfield
5. Upfield
6. Ball
7. Ugh.
8. Kick ball
9. Kick
10. Ball..

The Top Ten Reasons Waiting Is Just Like (HOT) copy-room thief return (everyone knows)

1. You hearbells ring at the climatic moment.
2. You get paid to wait
3. The crowd doesn’t just applaud, they bang furniture
4. You do it at least three times a week (aka spineless wimps)
5. The more the merrier ‘” (Eds.)
6. You do it at least three times a week (aka spineless wimps)
7. You get a meal out of it. irate house president subdue the
8. The more the merrier ‘” (Eds.)
9. You get a meal out of it. irate house president subdue the
10. TFM doesn’t make you wear rubber gloves

Nothing to add to the list in the making...

As we depart from Fleming, we pay homage to the Mighty Big Red Cannon (phallic symbol - HOT SEX??) and leave you for this week. But, don’t forget, Santa’s watching , and ... page SUX!!!!

—mom and the guidmeister
edly fled from the scene. But that's okay, we will just have to replace that time slot with...

The Frosh Limerick Corner

This week: Rohit

There now is a frosh named Rohit who likes his computer (and shows it), but of late he's been vexed for no slots has his NeXT, and Hyong wants to make sure he knows it.

Okay, enough of that. Well, what else has been going on? After innumerable shower wars, this author is covered head to toe with carpet burns. I guess I'll have to sit the next few out, huh, unless I want iodine slime poured on me. That is, of course, if the freshman ever gather the courage to try to shower another upperclassman. This doesn't seem likely since our warlords (who?) are never awake at the same time. Come to think of it, the frosh haven't really done anything impressive all year except putting those candle things on the roof of Beckman.

Actually, considering some of the other houses' for a moment, our frosh don't really seem that bad. Take those from Page, for instance. As usual, after a narrow victory in softball, the pageboys felt the urge to demand that you pardon, we will mend.

Finally, I suppose it is fitting (if this is your reason for writing an Inside World, and maybe it is appropriate that I have decided to take the lyrics of a song and "adapt" them to my purpose. After all, then, these are not really all my words. And I suppose that if I were to write in the style that has dominated for the past few weeks, or better yet, the past few years, then I should have chosen "Get in the Ring" by Guns N' Roses. But that would be too typical. Instead, I have picked "Civil War." To get the full effect, you should read this with the original music. So put on Use Your Illusion II, and think of your reality.

Civil Waugh

"What we've got here is failure to communicate. Some men you just can't reach... So, you have what we had here last week. Which is the way he wants it. Well, he gets it! N' I don't like it any more than you men."* Look at our members fighting. Look at our Lloydies crying. And I don't want to tell no more.

Look at the hate we're breeding. Look at the fear we're feeding. The way we've never done before. Our hands aren't tied. The people shift from side to side, And the wars go on with brainwashed pride, For the love of House and our student rights, And all these things are swept aside By bloody hands, we can't deny, That are washed away by a Jenocide, And we'll all hide the lies of our civil wars.

D'you say "What the Heck!" When you wrote the Tech, And tried to make it all better? And in my first memory, We were so happy. An' I went numb when I learned to see. So I hope the youth can forgive the old, For makin' these things so damn awful.

And I don't need our civil war. It feeds the bitchin', and it does no more. They call 'em "power hungry," But they don't do any more. Ain't that fair? I don't need our civil war.

Look at the shoes you're filling. Look at the crud we're spilling. Look at the House we're killing. The way we've never done before. Look at the doubt we've wallowed. Look at the Lloydies we've followed. Look at the lies we've swallowed. And I don't want to hear no more.

Our hands aren't tied. For all I've seen has changed my mind, But still the wars go on as the weeks go by, With no love of House or student rights, 'Cause all these dreams are swept aside By bloody hands of the way petty, Who carry the cross of hypocrisy. And the House bears the scars of our civil wars.

I don't need our civil war. It feeds the bitchin', and it does no more. They call 'em "power hungry," But they don't do any more. Ain't that right? And I don't need our civil war.

Finally, I suppose it is fitting (if this is your illusion, too) to end with more taken words: the epilogue of William Shakespeare's A Midsummer Night's Dream.

If we shadows have offended, Think but this, and all is mended, That you have but slumbred here, And these visions did appear. While these visions did appear. We will make amends, ere long: Else the Puck a liar call. Now to 'scape the serpent's tongue, And Robin shall restore amends.

So, good night unto you all. Give me your hands, if we be friends: And Robin shall restore amends.

*Strother Martin - from the motion picture Cool Hand Luke

- Waugh

ADMINISTRATOR: They’ll remember this day for years. The day that we protected Caltech from itself.

SECRETARY: It’s almost ready, Ms. East.

EAST: Thank you. I’ll sign it here. (she does). Gentlemen, the DAPAC shield is now in place.

Scene 2: Subtitle: 25 months later.

RUDDLANDER (voice-over as he trudges to class): The shield is killing us. Draining our social life. Making this one long mid-terms week. 25 months ago it was our outside world, going backwards. The cure is worse than the disease. (He goes into lecture).

JUSTIN (voice-over): Remember, Ruddlander, remember how it was in the outside world, 500 days ago.

RUDDLANDER: Yes! I remember!

Scene 3: A quiet scene in suburban America.

RUDDLANDER: It is time to party! Graduation is past and we must celebrate.

JUSTIN: Ruddlander! Look! It is the evil East, come to stop us.

RUDDLANDER: Let her try. We will strike down her evil reign.

(furious battle scene)

EAST: So, you are the one called Ruddlander. Your pathetic rebellion has amounted to nothing. For your insolence, I will exile you to Caltech, where you will be Physics majors. You will stay there and never sleep until there is only one of you left. BWAH-HAH-HAH-HAH!

Scene 4: Lecture Hall

STUDENT: Hans, lecture’s over, wake up.

RUDDLANDER: Uh, OK.

Scene 5: An anonymous office.

EAST: I want you two to enlist as Physics majors and cut the Ruddlander’s throat.

EEK and OOK: (various disgusting noises and actions)

Scene 6: A room in Ruddock

RUDDLANDER: So the second diff of e to the shit is shit squared e crap d crap.

BECKY: Ok, but what about the rho-nought.

RUDDLANDER: Shit.

(Transport noises)

RUDDLANDER: Becky, get back.

EEK: We’ve come for you, Ruddlander! OOK: d squared psi d t is equal to d squared psi d z!

(Ruddlander lurches in pain)

RUDDLANDER: No! Don’t cut my throat! Justin!! (A spark flies up in the air)

EEK: It’s too late! We’ve already enrolled and spiked the curve! You’ll flame tomorrow!

RUDDLANDER: Yeah? But I just burned your homework sets!

EEK and OOK: AAAAAAAAAAAIIIGH!

(They promptly flame. Nifty Special effects)

Scene 7: An office

EAST: I suppose I’ll have to cut his throat myself.

Scene 8: DRL’s office

RUDDLANDER: Here, East. Here is the final battle.

EAST: And so it will be. You will flame before the hour is out.

RUDDLANDER: No! Here! It’s a petition from UASH. And it’s stamped APPROVED. And here are 800 letters calling for your resignation.

EAST: Hah! Those have no power at all over me! Here’s a certificate from the Registrar’s disenrolling Justin from his required classes!

JUSTIN: Nooo! Ruddlander, here, take this! (He gives Ruddlander a piece of paper and flames)

RUDDLANDER: Uungh! Ok, East, this is it. Here’s a picture of you when you were 19 and at college. What’s that in your hand? Is it an OPEN BEER?!

EAST: NOOOOOOOOOO!!! (She dissolves in more expensive special effects).

BECKY: You’re safe now, right?

RUDDLANDER: Yes, but I must finish this. (Gets a formal stamp from her drawer)

JUSTIN (Voice over) You both still have a full measure of parties left. Attend them well.

Credits

Final comment: There should have been only one.
North by Northwest in Baxter

by Varoujan Gorjian

This Sunday, November 10, at 9:00 p.m., The Caltech Film Club will present the classic Hitchcock film North By Northwest. All screenings will be at 8:00 and 10:00 p.m.

The showings will be at 8:00 and 10:00 p.m. For those not familiar with North By Northwest, it is the story of a regular guy who gets mistaken for a spy. He then has to run for his life, in a generally North by Northwest direction, from enemy spies. Along the way he meets a sultry lady who protects him and with whom he begins a romance. The movie is one of the best comedies of its kind, and it features a classic suspense sequence that only Hitchcock could weave. The movie is filled with action, danger and romance that is rarely seen in modern day movies. After seeing North By Northwest you will understand why Hitchcock is known as the master of suspense.

The Caltech Film Club wants to bring classic films, such as North By Northwest, to the campus since movies on campus rarely get public performances. In this way the movie could be seen in a form that is closer to the one that the filmmaker intended rather than on a nineteen inch screen as a little speaker off to the side. If you have movies that you would like to see on a big screen, then come to the Caltech Film Club meetings, every other Wednesday. Our next meeting will be on October 23 and December 4, in SAC room 35 at 8:00 p.m.

Steve Anderson’s Compact Disc Reviews by Steve Anderson

Rating system: After stating the author, title, and publication information, I give the dollar amount that I would pay for the CD if I were going to buy it.

Yanni Reflections of Passion (c) 1990 Private, Inc. $12.00

All I know about Yanni before listening to this album was that Barbara Walters once called him the “sexiest man in America.” That’s may be, but all I know is that he does awesome music. He composes pieces on a synthesizer, and I’ve never heard a synthesizer used to such incredible effect. Yanni wreaks heartbreakingly emotion out of what used to be thought of as a completely emotionless instrument. There are no lyrics; his music is purely instrumental. Yet it’s very expressive. The first track is titled “After the Sunrise”, and you hear the triumphant moment in the music whenever it actually rises. Other tracks include “Nostalgia” and “Farewell.” All of these emotions come through strongly in the music.

If you need something inspirational to keep you going sometimnes, this is it. The only reason I didn’t rate it higher is that I was a little skeptical of its ability to remain fresh to the frequent listener. Some tunes, like “Learning to Fly,” never seem to get old, you can listen to them again and again. I’m not sure this music qualifies.

Tom Petty and the Heartbreakers Into the Great Wide Open (c) 1991 MCA Records Inc. $4.50

Those few Teckers among you who listen to modern radio stations will certainly recognize some of the tracks on this album, especially “Learning to Fly”, the first track. While the singing and the instruments on that track are fantastic, the melodies are a little vacuous and repetitive. I have to say that I far and away prefer the Pink Floyd song of the same name.

The title track, “Into the Great Wide Open,” is an excellent vehicle for Tom Petty’s storytelling-style lyrics. It chronicles the rise of a rock star from nowhere, “a Rebel without a clue.” The minor chords lent a sense of foreboding to the song from the start, a sense which was mysteriously not followed through on in the lyrics. I guess I’d best characterize this album as listenable, even enjoyable, but not very significant. The lyrics convey a lot of cool imagery which fails to resolve into any sort of meaningful larger picture. The music is cool, and fairly original, but too repetitive in parts.

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Mercury Radar Photographs Made Public

A group of astronomers from Caltech and JPL have made the first radar photographs of an entire hemisphere of the planet Mercury. These photographs reveal that the radar-brightest region on the planet is a herefore unknown structure on Mercury's north rotational pole.

In addition, the researchers found two large structures at almost the same latitudes and longitudes in the planet's northern and southern hemispheres. The researchers presented preliminary results on Wednesday, November 6 at a meeting of the American Astronomical Society's Division of Planetary Sciences in Palo Alto, California.

The experiment was performed by continuously illuminating Mer­cury for 8 hours with a powerful radio signal (500,000 watts) from JPL's 70-meter antenna at Gold­stone, California. The radar echo was received by the Very Large Array (VLA) of radio telescopes near Socorro, New Mexico.

This experiment is the latest in a series conceived by Duane Muhleman, professor of planetary science at Caltech. The reception of the signals and the image processing at the VLA were carried out by Martin Slade of JPL, and Bryan Butcher, a Caltech graduate student.

Raymond Jurgens of JPL supervised the operations at Goldstone. Mariner 10 photographed just half of the surface of Mercury in visible light when the spacecraft made sev­eral close passages of the planet in 1974. Images were made on two days—August 8 and 23, 1991—be­tween which the surface of Mer­cury rotated through 100 degrees of longitude.

On the left is an image showing most of the previously unphotographed side of Mercury and on the right is an image where the photographed side of Mercury is visible in the left hemisphere and the unphotographed side in the right hemisphere. A remarkable property of the rotation of Mercury is that the sun is always exactly on the equator, and some portion of the sun is always visible from the poles. That small amount of sunlight prevents the polar regions from being as cold as deep space, but calculations made by UCLA professor David Page and graduate student Stephen Wood show that the polar regions may be as cool as 125 degrees Kelvin.

On the other hand, regions near Mercury's equator can get as hot as 700 degrees Kelvin during Mercury's closest approach to the sun every 88 days. This high tem­perature drives volatile substances from the surface, creating an ex­tremely thin atmosphere. Most of this gaseous material escapes the planet, but some of it may be trapped by the cold regions at the poles, where it precipitates as "snow." Once there, these materials would remain in place for the life of the solar system.

Several new features on the unphotographed side of Mercury were also discovered. Two of the structures are very large in extent: one is round, the other is meridian and approximately at the same latitude on either side of the equator. The latitudes of these two structures correspond very directly to regions where enhanced and variable sodium abundance has been previously measured in the thin atmosphere. This atmospheric anomaly has also been measured above the Caloris basin, a large im­pact structure 1300 km in diameter. The cause of the enhanced and vari­able atmosphere remains under debate, but it may be a result of the highly fractured ground in and around the large impact basins, causing enhanced diffusion and de­gassing of sodium from within the planet.

"I would like to caution that we consider the present results and in­terpretations to be quite prelimi­nary," said Muhleman "as we have processed and interpreted these photos, we might be able to say more about the nature of these strange new features."
Follow-up for the 1991 Student/Faculty Conference

Caltech is pleased to extend the follow-up from the 1991 SFC, meet Wednesday, Nov. 13, noon to 1:15 pm in the 318 room of the new Maestro Office (floor 5/6 Jimmy). Show up if you are curious about the quality of life at Caltech.

Caltech Management Association

Drs. Roger D. Bouke is holding a discussion during the Student Union "Gentlemen's Quarters" on Tues., Nov. 12 at 12 noon in Room B, Conference Rooms, FPL. The meeting is sponsored by the Caltech Management Association.

The Caltech Y is sending Students to the NASANames-Dryden Research Flight Operations CTA-91 Conference Room, JPL. The noontime program will include a talk on "Women in Aerospace" by Ed Sidley of the Dryden Flight Research Facility. For more information contact Finbar Sheehy (x4848), Thomas Bartusch (x3740), or Kevin Condrick (x6061).

CIT. The slogan should be short, but related thematically to recycling. Containers, flyers, and other materials will be provided by the recycling program to label.

To submit a design, your fraternity, sorority, or other campus organization must be US citizens. Financial need is not a factor. Field of study is not a factor. The winning designs will be used to fund support to naval engineers seeking post-graduate professional careers. A cash prize of $2,500 and a plaque to the winner and a citation to the college publication is awarded. The award is funded by the Scripps Howard Foundation and is funded by the Charles M. Schulz Mound Foundation.

The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) is offering a grant of $2,000 to the winning engineer student to be used for the final two years of studies.

The Society of Women Engineers is continuing its 1992 Spring Scholarship program. The scholarships are open to full-time female students who are members of the Society of Women Engineers.

The American Society of Naval Engineers is sponsoring a $2,000 scholarship for the nation's outstanding undergraduate engineering student. The award is open to full-time undergraduate students who are interested in a career in the field of naval architecture and marine engineering. The annual essay contest is to be held on the campus of the selected institution. The award will be given on the basis of the essay.
Sports

Cross-Country Blasts by La Verne

by Ned Bowden

“What’s that awful smell?” Many members of your own. Blastin Beaver cross country team were asking themselves that question last Saturday at Prado Park. Prado Park was the site of the SCIAC championship meet, and it is bordered by several cattle ranches.

The men’s team repeated their last place performance of the previous year by becoming the spankies of the conference again. Despite that finish by the team, several members were able to post in good performances. The perpetual leader of the squad, Dan Flos, led the Beavers with a time of 27:23, good enough for seventh place overall and a slot on the All-Conference second team for the third time in four years! Running a strong race and coming in twenty-first overall (one place away from being an All-Conference runner) was Andy Zug. Zug, stopping halfway through the race to eat at a barbecue going on at the park, Ned Bowden came across the finish line in 28:39. Schuyler Cullon rebounded from a slow performance at the last meet to run a fast 30:34. Jonah Michael decided to make a move and finished out the men’s scoring by running a 31:18. Rounding out the top seven were Ron “600 Meter King” Stieger and AJ. “Have You Seen My Keys?” Livin, AJ’s time was artificially inflated because he spent the last mile of the race looking for his car key.

The most amazing performance had to have come from Mike Mahon. Mike parted so hot last Friday night that he couldn’t crawl out of bed to go to meet. When O’Brien called Mike’s apartment, his roommate told O’Brien that Mike already had left, but Mike was still sleeping comfortably in bed. When asked for a comment, O’Brien replied, “Next time Mike will be there or I’ll personally wake him up!” Hear that Mike?

Stunned by their loss to La TV. Caltech went through the next week well with polls voters Caltech to Monday nights at Great Bill 11:00-4:00. The most amazing performance of the squad, Dan Flees, led the team to go the meet. When that finish by the team, several had to have come from Mike Mahon.

Despite stopping halfway through the race, the men’s team ran aggressively and defeated them this time. The women improved upon last year’s performance by placing seventh out of eight teams. Tobe Corazzini continued to set the standard by flying over the slightly longer than five kilometer course in 22:31. She ran in thirtieth place for most of the race until the end when she smoked her competition in the last few hundred meters. She blasted by several runners to place twenty-sixth overall. After the race and signing all of the autographs that she was hounded for, Tobe commented, “I hope that all this training will pay off in the first Homeboy biathlon.” Second place on the team went to Jennie “No More Cross Country For Me” HaldOwner. She finished in a strong 24:54. Running in her last collegiate cross race was Emmeline Narrongi who surprised many pre-race pollsters by coming in third on the team with a time of 25:18. Right behind her was Aimee Smith who finished up in 25:22. Clinching the victory for the team were Amy Hansen and Betsy Brinton.

The cross-country season is nearly over. The last meet will be on November sixteenth in beautiful San Luis Obispo. The members of the teams will be training hard in order to set personal records and to stay in shape for the first Homeboy biathlon on November 23.

The California Tech Men’s Ice Hockey Team is undefeated at home, where they play USC on Sunday, 11:45 a.m. Go cheer them on!

Beavers Top the Waves

By: Jim Caren

Last Wednesday night at the Pasadena Civic Center the Beavers beat the Waves from Pepperdine University by a score of 7-3. There was a combined total of seventeen penalties taken in this game. Caltech got a little side tracked to their normal style of play but they were still able to dominate the entire game.

Pepperdine fielded at best a weak hockey team for division I. They more or less looked like a bunch of guys who have been playing pond hockey and were not used to skating as a team in an organized fashion. Very basically they did not skate well, they did not pass well and they were very undisciplined. If anything this game served Caltech well in the sense that it was more like a scrimmage that gave them the opportunity to work on a few of their weaknesses.

The Beavers came out ready to play that night. By the end of the first period Caltech had already scored three goals. The first of which coming from Peerless. Pepperdine got a little side tracked to Pepperdine. The second goals assisted by Jacques Belanger and Betsy Brinton. The third period basically turned the game into a bruise fest. Pepperdine, after being severely outplayed, got very frustrated which resulted in nine penalties being taken in the third period alone. Caltech is gearing up to play USC on Sunday morning at 11:45 am at home in Pasadena. Caltech has already played USC once and lost to them, but so far the Beavers are undefeated at home. It is going to be interesting to see how USC can adapt to our home rink. This should be a very fast paced game with plenty of hitting. It is definitely a game not to miss.

Caltech’s division I hockey team is undefeated at home, where they play USC on Sunday, 11:45 a.m. Go cheer them on!