Men’s Volleyball Dominates Opponents Over Spring Break

While many were struggling through finals or relaxing, the Men’s Volleyball Club team was hard at work winning three of four matches over the period from the start of exams to the end of break.

Caltech’s only loss over this period was to La Sierra University. Perhaps a bit tired from a hard match and practice schedule, or perhaps a bit overconfident coming off a 5-game winning streak, the team sent a small squad to La Sierra on Tuesday, the 12th of March. The team got off to a slow start, losing the first two games to La Sierra’s pumped-up squad. Caltech woke up in the third, stringing together a virtually flawless performance to show the team’s capabilities, but was ultimately unable to keep the momentum through the fourth, eventually losing the match 1-3.

Chalking up the La Sierra match experience, the team was determined not to let the same thing happen against Azusa the following Friday, the 15th. The team got off to a steady start, losing an early lead to give the game to Azusa, 16-17. However, Tech then came back with a vengeance, winning the next two games, 15-3, 15-7. Azusa was able to rally in the fourth against the Caltech bench, and took the game 15-8. However, Caltech rattled the Azusa team enough in the fifth for them to make a critical rotation error, giving Caltech the game and match, scored at 15-13.

Pomona-Pitzer was the next team to fall to Tech’s home-court dominance, as they came to Tech on the 22nd. Caltech was hungry for the rematch with Pomona, to whom they had lost early in the season in 3 games. Eager to return the favor, Tech smothered the Pomona team from the get-go, guided by the setting of Chad Edwards and the powerhouse that is Mike Burl. Everyone on the team showed his skills in court as Caltech steamrolled to a 15-9, 15-9, 15-12 victory.

Caltech continued its rampage against Cal Poly Pomona, who came on the 26th of March. Explosive from the get-go, Tech took the first two games, 15-11 and 15-5. Cal Poly proved stubborn in the third, refusing to give up and taking the game, 16-14. However, Caltech was not to be denied. Although Cal Poly’s play improved dramatically as they

Four Caltech Professors Win Sloan Fellowships

The catalysts are important for accelerating reactions that create molecules with the correct molecular asymmetry to be biologically active. "Left-handed" and "right-handed" forms of a drug molecule can produce very different effects in plants and animals; one may be beneficial while the other is poisonous. So scientists use asymmetric catalysts in reactions, such as the chiral Lewis acids that are chiral Lewis acids.

Carreira, an assistant professor of chemistry at Caltech since 1992, studies the design and synthesis of metal complexes that are chiral Lewis acids. Chiral means that the molecules have a special asymmetry, or "handedness," so that they are exact mirror images of each other. Researchers in Carreira's lab use these Lewis acids as catalysts in chemical reactions that produce compounds with the potential to be useful drugs.

Chemical Engineers Show that Directed Evolution Can Be Useful

Caltech engineers have shown for the first time that an experimental technique known as directed evolution can solve real, industrial problems in pharmaceutical manufacturing. The result, published in the April 1 issue of Nature Biotechnol-
EVOLUTION: With Some Help, Mother Nature Finds a Better Solution

CONTINUED FROM PAGE 1

requires many steps, some of which are quite slow. To speed up this process, chemical engineers use catalysts, which can be metals, metal-based molecules, or ordinary enzymes.

In the present case, researchers were working on a step in the production of a class of antibiotics derived from cephalosporus. The pharmaceutical company Eli Lilly, while developing the manufacturing process for these antibiotics some years ago, found that zinc catalyzes this step effectively, but the zinc process is expensive, and they wanted to find something less costly.

Company scientists thought a naturally occurring enzyme might catalyze the reaction, in this case cutting molecules called p-nitrobenzyl esters into two smaller pieces, one of which forms the basis for an antibiotic called loracarbef. After screening many enzymes, they finally found one that catalyzed the reaction, but it was only weakly effective, so they suspended research on the project.

In 1994 Eli Lilly gave the enzyme to Arnold, to see whether her lab might improve it using directed evolution. Directed evolution is a process in which the gene that produces a natural enzyme is mutated so that it produces variants of the enzyme. Several generations of mutation and screening for enhanced activity can significantly improve the enzyme.

Enzymes are made of strings of hundreds of amino acids, and the mutated genes typically create enzymes with several of the many amino acids replaced by different ones. Substituting amino acids can enhance activity by at least 10 times. They far surpassed their parent's ability to solve real problems. I'm sure it will find many useful applications in the future.

—FRANCES ARNOLD

CONTINUED FROM PAGE 1

nized in mathematical circles. Specifically, by introducing a new variable he showed that a certain group of mathematical elements contains only a finite number of members.

He then applied this result to a neighboring area of research called the "deformation theory of Galois representations."

Flach's current research is a collaborative effort in an area known as Galois module theory. The overarching theme that links this to his previous work, and that might be applied to all his research, is the study of special values of L-functions, an area he describes as "full of beautiful isolated examples, not connected by equally beautiful sweeping conjectures, but marked by a sore lack of general techniques."

Peter Schroder, an assistant professor of computer science, joined the Caltech faculty in 1995. His area of research is computer graphics, and he is one of the world's leading authorities on wavelet methods in this field. Specifically, his research focuses on efficient numerical methods for tackling the large-scale computational problems of computer graphics. A number of fundamental algorithms in parallel computer graphics, scientific visualization, and rendering have grown out of his research.

Graphics is a branch of computer science with applications everywhere these days, from desktops to laboratories and classrooms, and even to feature films. For Schroder, the challenge is to make efficient numerical methods work on desktop computers, make them run fast enough to be useful in interactive design, analysis, and content creation, and ensure that they are robust enough to hold up under the demands of real-world users.

Wang has been an assistant professor of chemical engineering at Caltech since 1991, where he does research in the theory of complex fluids, including polymers, liquid crystals, surfactant solutions, and molecular monolayers.

He uses modern statistical mechanics to investigate structures, phase transitions, and dynamics in these complex fluids. His recent research includes an effort to understand self-assembly—the spontaneous organization of molecules into ordered, nanometer-scale domains—of certain types of polymers, which often result in rather exotic shapes and symmetries.

His ultimate goal with this research is to establish the relationship between the large-scale properties of materials—such as how their structures respond to temperature changes, or how they deform or break under stress—and their molecular characteristics. Understanding how the arrangement of molecules creates substances with different traits would provide a theoretical basis for the design and control of new materials with very specific properties.

The Alfred P. Sloan Foundation, of New York City, was founded in 1934 by Alfred P. Sloan Jr., who was chief executive officer of General Motors for 23 years. The foundation gives grants for higher education and research in the fields of science, technology, economics, and public policy.
Coffeehouse Gets New Look

By Autumn Louhen

Walk into the Coffeehouse this Monday and you may be in for a surprise: not only does the Coffeehouse actually serve coffee, thanks to a new $15,000 espresso machine, but the decor has been entirely redone.

A walk through the doors takes one back into the world of the Fonz, complete with black and white checkered floor and jukebox. Comfy, low-backed seats prevent shady dealings behind the walls of the booths. Instead of the clock fitting the coffeehouse's atmosphere, the coffeehouse's atmosphere now fits the clock.

Coffeehouse waiters are practicing making everything from lattes to mochas to espressos, all of which have been added to the menu.

These are not the only changes in the Coffeehouse: live bands will be playing every Saturday night. Chump will begin this series of concerts on Saturday, April 13.

One thing, however, will remain the same: waiters promise that coffeehouse service will be as good as ever.

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See Our Ads On Page Two

The California Tech

March 1, 1996

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The Outside World

by Jim Cheng

LINCOLN, MONTANA — The FBI has arrested former Berkeley professor Theodore Kaczynski as a possible suspect in the 18-year-old Unabomber case. Kaczynski was taken into custody while his residence was being searched for materials which might link him to the mail bombings.

DUBROVNIK, CROATIA — Commerce Secretary Robert Brown and 32 others were killed when the military plane carrying them crashed into a hill minutes before they were to land. Brown and his delegation were to have met with Croatian officials to discuss the reconstruction of the former Yugoslavian republics.

LOS ANGELES, CALIFORNIA — After an 80-mile chase from the Mexican border, two Riverside County Sheriff's Deputies were killed by television news crews beating two illegal immigrants after they were stopped in South El Monte, a suburb east of Los Angeles. Several agencies, including the FBI and the Riverside County Sheriff Department have launched investigations into the matter.

NEW YORK, NEW YORK — A federal appeals court has ruled that the state's ban on doctor assisted suicide is unconstitutional, and that the prescription of drugs intended to hasten death is no different than disconnecting life support.

JORDAN, MONTANA — The FBI have surrounded a number of anti-government "Freemen" who are currently hiding in a ranch outside Jordan, Montana. The standoff started after the leaders of the group were arrested earlier for passing fraudulent checks and other legal materials.

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Pedro Almodóvar's
The Flower of My Secret

Daily 5:00, 7:30, 9:50 p.m.
Sun-Sat Bargain Matinee 2:30 p.m.

Antonia's Line

Daily 4:30, 7:00, 9:30 p.m.
Sun-Sat Bargain Matinee 1:45 p.m.

1996-97 UPPER CLASS MERIT AWARDS

Each year, the Faculty Committee on Scholarships and Financial Aid grants a number of Upper Class Merit Awards to the most academically talented of the Institute's Sophomores, Juniors, and, occasionally, Freshmen. Upper Class Merit Awards are based on outstanding scholastic achievement as demonstrated by exceptional performance in formal classes and/or in independent research, and not on financial need. Last year, the Committee recommended a total of 45 Upper Class Merit Awards. Awards ranged from $6,000 to full-tuition, $17,370. The level of awards in any year is determined by the number and caliber of the applicants.
Present: Dave R., Dave B., Emily, Kristie, Grace, Kohl, Kara, Alexis, Ben Turk, Gavin

Meeting starts at 10:05 p.m. Officer’s reports were given.

***Before anything is reported, there is something everyone should know: BUDGET REQUEST FORMS ARE OUT!!! The forms are by the copier in the SAC. Ten copies of the club's or event's budget need to be returned to the copier room in the SAC. If this is not possible, give them to Kristie. They have to be in by April 12. You can mail them to her at MSC#180 or drop them off at her room Lloyd 114. If you have any questions, her e-mail is karmen@uga.c. By the way, DON'T SAY WE DIDN'T TELL YOU ABOUT THE BUDGET REQUESTS!!!

Kara started the officers' reports. She didn’t have anything to report. Emily stated that she had contacted the Admissions office about the ASCIT prefrosh party. The Admissions office had reserved Dabney Hall for the night of April 19 from 9 p.m. to 12 midnight. Usually the prefrosh party is held on Saturday night, so Emily will call and confirm with the Admissions office that the party is indeed supposed to be held Friday night. The Ritz-Carlton at Marina del Rey is reserved for Friday, May 24 (Dave Bacon's birthday). For all of you who are interested in the process of finding funding for the event.

Kohl wanted to know about the Student Faculty Conference. He was unaware of the conference. Dave R. reassured him by telling Kohl that it wasn’t still second term of next year. By the way, if you have any suggestions on new classes that you would like to see introduced, you can contact Kohl by e-mail, kohl@caltech.edu.

The IHC chair reported that the IHC thought it would be a good idea to rotate the prefrosh through the houses for dinner. Dave B. is going to talk to Lee Reavis about not having In and Out during prefrosh weekend.

Kristie dourfully reported that having one's tonsils out is an extremely painful experience (at this point, you should be feeling sorry for her).

Grace had an envelope addressed to ASCIT by a Swiss man who wanted information on an alum. Also, for those who are puzzled by the absence of a coin operated photocopier, there’s one on the sixth floor of Milikan.

Alexis has hives and a sore throat, but besides that she's doing fine.

The president had a list of reports. It’s a long one, boys and girls. Two of the Tech editors resigned. They wanted for ASCIT to hold elections to find replacements, but since there are two elected editors left, it was decided that the editors could find capable replacements.

The budget meeting will be held Saturday, April 13 from 2 p.m. to 10 p.m. ASCIT was just informed that it must still make payments on the lease of the old copier till 1997 because the person that leased the copier did not make arrangements in the contract to stop payments if the copier broke. Unfortunately, the copier is at large as well. As for the new copier, its transformer was removed by Graphic Arts so that it can be fixed. By the way, it is not the upperclassmen at large who is responsible for handing out copier accounts. She has been submitting the request to Graphic Arts. (I feel your pain if you have been waiting for a copier account and have not yet received one. I’ve been waiting since last year).

Tanya Tickel is the new ASCIT Historian and Heidi Eldenburg is the new Tech Business Manager. The Election Chairman will be appointed shortly. The sign-ups for Senior and Junior Class Presidents, Secretaries and Treasurers, Publication Editors and Business Managers will be posted next week.

Meeting closed at 11:10 p.m. Respectfully submitted,

Grace Yang

ASCIT Secretary

P.S. Remember to fill out the budget request forms!
by Samson Timoner

Questioning conventional wisdom can often lead to surprising results. In that spirit, and in honor of the frosh starting to receive grades, let’s examine a question that seems obvious: are grades important? Considering that almost no one will care about your college grades in 5 years, perhaps the answer isn’t so obvious. Maybe all of us who labor for a high GPA are wasting our time.

To answer this question, I interviewed a professor about graduate admissions to Caltech and a recruiter from a company. I also talked with four undergraduates to hear their opinions on the subject and their techniques for obtaining good grades. (A Bio, Chem, Phys, & E&AS major with GPAs between 3.5 and 4.0)

The general conclusion: grades are only a stepping stone to the next point in your career. Whether they are important or not depends on you.

In graduate admissions, I was told, grades are a very important element in the selection process. An excellent recommendation can sometimes eclipse all other factors. However, an applicant without such a overwhelming letter forces a graduate committee to consider GPA as one of the most important factors for admission. To an admissions committee, grades measure your desire to succeed. Your professors I talked with agreed that GPA is a good indicator of how well you will perform in graduate school.

But if you have a dream to go to a specific top-notch graduate school, then the answer is “yes.” Conversely, if you plan to get your Ph.D. and then enter the job market, perhaps it isn’t so important to you.

Learning the material is most important—don’t lose sight of why you are at Caltech.

where you go to graduate school. Similarly, if you plan to find a job after graduation and you perform well during interviews, you can probably afford to have lower grades.

The question is: what do you want to do with the rest of your life? If you know you would like to be in ten to twenty years, than you know what first step you will need to take coming out of Caltech. If you don’t need high grades for that next step, spend your time on more important tasks and worry about good grades after that.

The question comes down to, what do you want to do in your future? If you haven’t already, start thinking about it now. Perhaps you would be content with getting a job, making fifty or sixty thousand a year and living happily. Perhaps not. In any case, your job right now is to figure out what you want to do and what steps you will need to take to achieve it. From there, grades will be important if you want to do that job. If not, you can probably afford to have lower grades.

As a last note, I asked four undergraduates how they obtained good grades. The methods and techniques varied widely, suggesting that the best ways to obtain good grades is to think and come up with the techniques that work best for you. The students I talked with all agree that learning the material is most important—don’t lose sight of why you are at Caltech. Other than that, they disagree on working in groups versus working alone; the importance of grades can take on an even smaller importance.

The conclusion: GPA is not the most important factor, experience is— but a high GPA can be important.

Whether or not grades are important to you depends on what you want to do. If you have a dream to go to a specific top-notch graduate school, then the answer is “yes.” Conversely, if you plan to get your Ph.D. and then enter the job market, perhaps it isn’t so important to you.

The 3-1 record over the last few matches will be a testament of the hard work that the team has put in to get to the top of the game and match, 14-16.

The 3-1 record over the last few matches will be a testament of the hard work that the team has put in to get to the top of the game and match, 14-16.

For more information on the Tech team, please visit the official Caltech Athletics website (athletics.caltech.edu) or follow them on social media.
Velo Rolls Through Spring Break

BY MICHAEL KANTNER

While most of Caltech was on vacation, Cyrus Behroozi and Michael Kantner were racing for Caltech Velo. With strong performances in the Claremont criterium and UC Irvine criterium, the team moved into 18th place in the state.

Spring break started with the Claremont Criterium, held in Bonelli regional park. The course, with its steep hill, quickly destroyed the pack. Michael took 2nd in one of the primes, but did not place in the final standings. Cyrus, who has been riding very well this year, placed 6th overall.

During a prime lap, Cyrus attacked and was alone ahead of the field.

UC Irvine criterium, and this year was no exception. Both Michael and Cyrus were riding strong, staying near the front of the field. During a prime lap, Cyrus attacked and was alone ahead of the rest of the field. Going into the final turn, he had about a 40 yard gap over the quickly charging field. However, he ran out of energy just before the finish line, and was caught. While not earning points, the move did string out the pack and showed who the stronger riders were. The field regrouped after the prime, and the race remained together until the final sprint where: Michael took 5th and Cyrus took 7th.

For the second time in a week Caltech tied for 8th place in the team competition.

Sunday’s East Fork Time Trial was not as successful. Cyrus and Michael placed 11th and 12th, respectively, in the 10 mile uphill race. Though both placed, it was not enough to earn team points. Caltech finished 11th overall, 1 place out of the top 10.

Caltech Velo’s road season continues on April 13th and 14th with the UCLA road race and criterium. For more information, send mail to cycling@cco.caltech.edu or visit the club’s web page at http://www.cco.caltech.edu/cycling.
HELLO, DEAR READERS,
IF YOU ARE READING THIS TEXT, IT MEANS THAT THE DNRC HAS SUCCESSFULLY INFILTRATED YET ANOTHER COLLEGE NEWSPAPER. ALTHOUGH I AM PROBABLY NOT PERSONALLY OVERSEEING THE TAKEOVER, I AM QUITE CONFIDENT THAT WE HAVE SUCCEEDED IN OUR GOAL OF BEFRIENDING THE EDITORS, DESPITE THE FACT THAT THEY ARE REALLY COOL GUYS WHO SHOULD BE PAID MORE MONEY AND HAVE COMPLETE EDITING POWER OVER ALL THE TEXT, WHICH THEY ABUSE HORRIBLY. THE DISTRIBUTION OF THESE PANELS ARE INTENDED TO BEFUDdle THE PUBLIC WHO THINK THAT OUR STRIP IS COMPLETELY TECHNOLOGY BASED. THIS WILL CREATE GENERAL CHAOS ON THE CAMPUS AS EVERYONE IS CONFUSED BY THE MYSTICAL ASPECTS OF OUR STRIPS. THOSE LAST TWO SENTENCES ARE OF COURSE BLATANT LIES THAT WE MADE UP SO THAT YOU WILL NOT BE ABLE TO DISCOVER OUR TRUE GOAL. PLEASE ENJOY THE CARDS, POST THEM ALL AROUND CAMPUS. IT IS IMPOSSIBLE TO RESIST.

DOGBERT

where the panels came from

THE SCOREBOARD

| MAYBERRY | SUCKS |
| BLACK DEATH | SUCKS |
| HECK MAN | SUCKS |
| BAD KNEE | SUCKS |
| FLAMING LAID | SUCKS |
| PAGE | ALREADY AN INOUT |
| RICKETS | SUCKS |
| BUTTOCK | SUCKS |

No. Name Panel Date Year Features
00 The Fool 2 02/25 1993 Ratbert
01 The Magician 2 02/12 1996 Catbert
02 The High Priestess 1 03/30 1995 Liz, Dilbert's Girlfriend
03 The Empress 3 09/28 1995 Alice, the Female Co-Worker
04 The Emperor 1 03/27 1993 Dogbert
05 The Hierophant 3 01/31 1994 Dogbert
06 The Lovers 2 04/24 1993 Dilbert and his Laptop
07 The Chariot 3 01/24 1994 Dogbert
08 Strength 2 11/10 1992 Floyd, the Abusive Co-Worker
09 The Hermit 2 04/06 1993 Ratbert
10 The Wheel of Fortune 3 02/09 1993 Mmm...
11 Justice 2 07/24 1993 Dilbert
12 The Hanged Man 3 04/30 1994 Dilbert's Boss
13 Death 1 03/14 1995 Dilbert's Boss
14 Temperance 1 02/01 1995 Dilbert and Wally
15 The Devil 1 12/09 1993 Phil from Heck
16 The Tower 1 10/28 1995 Dilbert's Cubicle
17 The Star 2 04/19 1994 Dilbert
18 The Moon 3 02/02 1993 Peter the Programmer
19 The Sun 1 02/19 1994 Dilbert's New Computer
20 Judgment 2 07/26 1993 Dogbert's Jury
21 The World 2 03/31 1993 Dogbert's Satellite
I built a spreadsheet to compare our relative qualities. I'm afraid I'm twenty percent too good for you. We must stop dating.

**THE FOOL**

As long as she doesn't get an attitude...

**THE MAGICIAN**

Looks easy enough.

**THE EMPRESS**

I hope those things aren't expensive.

**THE EMPEROR**

I hate this job! I hate everything! The only thing I like is being mean to co-workers who need the vital information that I control!

**THE LOVERS**

I'm going to hide in your waste basket until my absence makes you fond of me.

**THE CHARIOT**

**STRENGTH**

**THE HERMIT**
I can't legally offer you large cash kickbacks for deciding in my favor. But please take a moment to complete a self-addressed stamped envelope.

I'm getting mixed signals here. And let's pull our neckties until it hurts!

The Wheel of Fortune

Justice

The Hanged Man

My consultant will audit your company to make sure there are no surprises before I buy it.

My status report is a bit light this week because I'm having an email flame war with Wally.

It's 'Phil, the Prince of Insufficient Light'!

Death

Temperance

The Devil

You can't let my company pay fifty billion dollars to buy your so-called film library.

I'll have to call their '800' help line again.

35-inch monitor, 20 meg of RAM, 1.2 gigabytes of hard disk space...

The Star

The Moon

The Sun
I DECLARE MYSELF THE PATRON SAINT OF TECHNOLOGY

WE AWARD DOGBERT FIFTY MILLION DOLLARS BECAUSE WE HATE BIG COMPANIES AND WE LIKE LITTLE DOGS WITH GLASSES.

THE HIEROPHANT

JUDGEMENT

IT LOOKS LIKE SOMEBODY IS USING BINDERS TO ILLEGALLY INCREASE THE SIZE OF HIS CUBICLE.

I AM THE SUPREME RULER OF EARTH. YOU MUST ALL CARRY DOGBERT POSTERS AND CHANT "DOGBERT IS MY KING."

THE TOWER

THE WORLD
Baseball 1996: A Team by Team Analysis

by Mason A. Porter

National League East

Atlanta Braves

The Braves are clearly the best team in the National League (NL). They have won the best starting pitching staff in the majors. Age: Greg Maddux, winner of four consecutive Cy Young Awards, is the best pitcher in the game. Tom Glavine has more wins than any other player during the last five years. Steve Avery and John Smoltz are also excellent starters. Rookie Jason Schmidt rounds out the staff. The Braves are clearly the best team in the NL. Their pitching staff would be the envy of any team in any league.

New York Mets

The Mets are one of the best young teams in baseball. Their starting pitching, though unestablished, should be one of the best in the league by the time the season is over. Veteran Pete Hamils, who begins the season on the DL, is a good pitcher when he can avoid injuries. Until he comes back, his spot will be held by former Indians Dave Mirkich and Mark Clark. Clark was traded in a trade last Sunday. The man in the middle is John Franco, a third baseman. Expect Alfonso to be the full time starter by the end of the season. At catcher, Todd Hundley is a defector from Cuba who supposedly can make defensive plays that Ozzie Smith cannot. However, he cannot hit at all; I would be shocked if he finishes the season with more than the Mendoza Line (.200). Third baseman Jeff Kent is a solid batter, but a good hitter. The left fielder is former Cardinal Bernard Gilkey, an excellent defender who can also hit for both power and average. Lance Johnson patrols center and is an excellent defensive player. Jason Isringhausen, a good pitcher when he can avoid injuries. The Expos, as they won’t be recovering from shoulder surgery for some time. They must work hard to make the playoffs, with the Boston Red Sox among other teams. The Expos, as they will face in the NL East.

Florida Marlins

The Marlins have improved dramatically following a disappointing season in 1993. Their pitching staff is reasonably solid, with veteran Kevin Brown, former Giant John Burkett, Al Leiter, Pat Rapp, and Chris Hammond. Rapp tied for the NL lead in wins during the second half last year and is expected to continue his success in 1996. In the season, the Marlins will call upon Cuban defector Livan Hernandez to fill the rest of the bullpen as he struggles to adjust to the new pitcher well in both halves this season.

Stolen Bases

NL: Marquis Grissom, Atlanta
AL: Kenny Lofton, Cleveland

Victories

NL: Greg Maddux, Atlanta
AL: Jack McDowell, Cleveland

ERA

NL: Greg Maddux, Atlanta
AL: Kevin Appier, Kansas City

Strikeouts

NL: Hideo Nomo, Los Angeles
AL: Randy Johnson, Seattle

Saves

NL: Mark Worthington, Atlanta
AL: Jose Mesa, Cleveland

Pennant caliber year in 1994. Expect him to recover, even though he has been injured in the past. The same cannot, however, be said of the Expos. As they will face in the NL East.

Philadelphia Phillies

The Phillies have a really bad defense. To begin, their rotation is in tatters. Curt Schilling, Tommy Greene, and Troy Tarpley have an excuse for a season on the disabled list. Schilling and Greene have had considerable success, but have had to miss a lot of time due to injuries. Each of the three, however, has been susceptible to injuries. If they are going to turn around, they will all miss a large portion of the 1996 season. However, they do have the talent to turn around and therefere rely on the utterly unreliable Sid Fernandez to be their ace.

Chicago Cubs

They had an injury-ridden year in several seasons. The Phillies are also relying on relievers Mike Rose, Steve Slocumb, and Mike Williams to fill out their starting staff. Their rotation is in tatters. Their defense is also a problem for Daulton as well. Center fielder Lenny Dykstra has a problem for the season. He stayed in shape this season, but still failed to make the playoffs. He failed to hit with power. However, he has had a decent year in Tim Scott and former Astro Dave Vetter. The Expos’ catcher is Danny, is not in as good shape as he was last year. He is already a liability in the field, and expect him to become a center at the plate this year. The man in the middle is Jeff Conine (The Barbarian) is an excellent hitter, but weak in the field. To play center field, is former Indian White Walls from Toronto. He has won several gold gloves for his defensive work. He also has some power, and the former White Sox left fielder Gary Sheffield, a poor defender, is Jones is already a solid, though average defensive, but is one of the best hitters in the league. He had an off year last year. The Braves will easily win their division this year.

New York Yankees

The Mets are one of the best young teams in baseball. Their starting pitching, though unestablished, should be one of the best in the league by the time the season is over. Veteran Pete Hamils, who begins the season on the DL, is a good pitcher when he can avoid injuries. Until he comes back, his spot will be held by former Indians Dave Mirkich and Mark Clark. Clark was traded in a trade last Sunday. The man in the middle is John Franco, a third baseman. Expect Alfonso to be the full time starter by the end of the season. At catcher, Todd Hundley is a defector from Cuba who supposedly can make defensive plays that Ozzie Smith cannot. However, he cannot hit at all; I would be shocked if he finishes the season with more than the Mendoza Line (.200). Third baseman Jeff Kent is a solid batter, but a good hitter. The left fielder is former Cardinal Bernard Gilkey, an excellent defender who can also hit for both power and average. Lance Johnson patrols center and is an excellent defensive player. Jason Isringhausen, a good pitcher when he can avoid injuries. The Expos, as they won’t be recovering from shoulder surgery for some time. They must work hard to make the playoffs, with the Boston Red Sox among other teams. The Expos, as they will face in the NL East.

The Cardinals were one of the busiest organizations in the offseason. They have acquired a young, hardworking catcher, a new coaching staff, and many new players, many of whom played for LaRussa in Oakland. However, there is one thing that the organization is quite good, though a bit unproven. Free agent signee Andy Benes has had such projects before. Duncan has had such projects before.
March 1, 1996

**Sports**

Mason Porter Rates the National League

(Dave Stewart, for example) and has often proven successful. Andy’s brother Alan will also be a member of the Cardinals’ starting staff. He has as much potential as his brother. Todd Stottlemyre was imported from Oakland. He is another of those pitchers whose results have never matched his talent. A second year under Duncan and LaRussa will do wonders. Two other starters, Danny Jackson and Mike Morgan, begin the season on the disabled list. In the meantime, St. Louis will use Mark Petkovsek (who pitched reasonably well as a starter last year) and Tom Urba. In the bullpen, the Cardinals have aging closer Dennis Eckersley, whose performance has worsened for several consecutive seasons. Also in the mix are Rick Honeycutt and future closer T.J. Matthews. Also note that LaRussa and Duncan handle bullpens chores better than any other manager-pitching coach tandem in the game. At first base, the Cardinals have John Matry. He is dependable in the field, and can hit .300 (but without power). At second base is Luis Alicea (a good fielder who had a career year at the plate last year) and David Bell, whose father Buddy is the rookie manager of the Tigers. Bell has good offensive and defensive potential, but remains an unproven commodity. For the first time in over a decade, Ozzie Smith is not penciled in at the starting shortstop. Instead, it will be Royce Clayton, who is good defensive and improving offensively. He is going to be a star. The third baseman is Gary Gaetti. Gaetti is still pretty good defensively and seemed to rediscover how to hit last year (after not having had a good season at the plate for several years). This year, he is going to come back to reality and play his age. However, he will hit with some power. The Cardinals have one of the best outfield trios in the game. Left fielder Ron Guent hit 30 home runs and stole 30 bases, but is a defensive liability. Center fielder Ray Lankford can hit 25/25 and also excels defensively. Brian Jordan, the right fielder is a budding superstar. He is currently at Lankford’s level both offensively and defensively, and could get even better. Catcher Tom Pagonazzi is a good defender, but seems to have forgotten how to hit the last couple of years. The Cardinals are a good team and have the best manager in baseball. They should win the division.

Houston Astros: The Astros also have an excellent team. They have a solid starting pitching staff in Doug Drabek, Greg Swindell, Shane Reynolds, Mike Hampton, and Daryl Kile. Drabek has had off years two of the past three years, but is a former Cy Young award winner and should pitch like one again in 1996. Swindell is another one of those unheralded pitchers whose results belie their talent. He will be solid again, but he won’t ever fulfill the one high expectations. Shane Reynolds and Mike Hampton both pitched solidly last year, both are young and will continue to improve. Kile is an excellent pitcher when he can control his pitches. This has happened only in 1993, when Kile won 15 games and made the all-star team. He could either harness his ‘stuff’ and be an ace or turn into Steve Blass. The closer is John Hudek, but he will miss the first half of the season. The catcher, Tony Eusebio, can hit a relatively punchless .300. He is a decent defender. Backup Rick Wilkens is a dud. (His 30 homer season was a fluke.) Jeff Bagwell (who won the MVP in 1994) is one of the best first basemen, both offensively and defensively, in the major leagues. The same can be said if second baseman Craig Biggio relative to other players at his position. The most coveted free agent of the offseason, Biggio (another one of my personal favorites) resigned with the Astros to give them the best right side of the infield in the major leagues. The shortstop is the inconsistent (both in the field and at the plate) Orlando Mer. Houston will probably have a new shortstop next year. Third baseman Sean Berry is poor defensively, but has reached double digits in home runs for three consecutive seasons. In left field, one finds Derek May and James Mouton. May is solid offensively and poor defensively, while Mouton gets the reverse tag. Mouton is quite fast. Brian Hunter, the center fielder, is starting his...
in 1996 Season

major leaguer ever, has excellent power and plays well in the field. Barry Larkin, last season's NL MVP, is the best shortstop in the game. Chris (Spuds) Sabo and Jeff Branson will platooon at third base. Bronson is mediocre offensively, but Sabo, if he returns to the form he displayed in his previous tenure in Cincinnati, will do very well at the plate. Nevertheless, Sabo is a poor fielder. The left fielder is Vince Coleman, an archetypal leadoff hitter. Despite his excellent speed, he is not a good defensive outfielder. The center fielder could be either former Brave prospect Mike Kelly (a former “can’t miss” prospect in grave danger of missing) or rookie Steve Gilbraith. The latter will eventually be a star. In right field is superstar Reggie Sanders, who excelled offensively and defensively during the season before choking terribly during the post season. This year, he will not get such a chance to choke, as the Reds will finish in third. This team is in so much turmoil that rubbing the hair from the owner’s dead dog won’t work the wonders that owner Marge Schott thinks it has in the past.

Chicago Cubs

The novelty record, “A Dying Cub Fan’s Last Request,” has the following line: “When the snow melts away, do the Cubsbies still play in their ivy covered burial ground?” The answer, I’m afraid, is ‘yes.’ The Cubs have long played the role of the “lovable loser” and that should continue in 1996. Some of their starters have had success in the recent past, by most of them have also failed quite a bit recently. Ace Jaime Navarro had good years in 1991, 1992, and last year, but was horrendous in the two intervening years. Frank Castillo and Jim Bullinger are no better than a 4-6 pitcher. The Cubs have some good players, but are out classed in their division. Fortunately.

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www.bbnplanet.com
The Dodgers, under manager Tommy Lasorda, are the class of the National League West.

Introducing Two New Columbia University Programs at Biosphere 2

Biosphere 2 is a mini-campus, world renowned for its 3.1-acre research facility enclosed in a collection of diverse ecosystems, from rainforest to desert. On Jan 1, 1996, Columbia University joined Biosphere 2 to build and guide its research, education and visitor programs. Two new undergraduate programs in the earth and environmental sciences are now offered that immerse students in the multidisciplinary study of the environment and provide a base for future decision makers.

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For more information, contact:
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The California Tech
Chances in the Upcoming Baseball Season

San Francisco Giants

The Giants are the black sheep of the national league west. They are, by far, the worst team in the division. They have a largely unproven starting rotation. The Giants' bats, led by Matt Williams, the premier power hitter in the league. He is also a former gold glove winner. In left field is Barry Bonds, perhaps the best player in baseball. He is excellent defensively, and has several 30 home run seasons. Stan Javier patrols center field in Com Park (formerly Candlestick Park, the surroundings of this name change really annoy me) this year. He is an excellent defender and should serve the Giants quite well as their leadoff hitter. In right field is Glenallen Hill, a 20 year old man last year. I'm not sure he can maintain that level of offense, but he should put up some decent numbers. Hill will not remind anyone of Roberto Clemente in right field. The Giants are outclassed in the NL West. Their offense is actually pretty good, but their starting pitching is horrendous. They will finish in the cellar.

ampa, hit .300 with 9 home runs on their 75 home run team. Their defense is helped at Coors Field, the pitching is hurt by it. In fact, the Rockies' pitcher's mound is a bit higher than average. They collectivly had only one complete game last season, setting a major league record. They pitched into the eighth inning 14 times, four fewer than Greg Maddux. Bill Swift and Brett Saberhagen will begin the season on the DL, and Saberhagen will stay on until at least the All-Star Break. Meanwhile, the starters are Kevin Brix, Marvin Freeman, Bryan Rekar, Armando Reynoso, and somebody. Only Brix spent all of last year in the Rockies' rotation. Manager Don Baylor is going to be utilizing his bullpen quite a bit this year. The Rockies' relief corps, is actually a good one. They will again use a closer-by-committee of Steve Reed, Curtis Leskanic, Darin Oleson, and Bruce Ruffin. All four are solid relievers. The catcher is untested Jayhawk Owens. At first is The Big Cat, Andres Galarraga. He is one of the best defensive first basemen in the league and can still swing the bat quite well. However, he struck out an alarming 150+ times last season. At second is Eric Young, a poor fielder but a prototypical leadoff hitter. Jones bats (colled in the field and at the plate) will be playing second base for one month while Young is on the DL. The shortstop is ex-Cub Shawon Dunston, a solid-fielding, strong-armed player. He is also one of the better hitting shortstops in the league. He could hit 15 home runs. As a free agent this year is Mark Williams, the premier power hitter in the league. He is also a former gold glove winner. In left field is Barry Bonds, perhaps the best player in baseball. He is excellent defensively, and has several 30 home run seasons. Stan Javier patrols center field in Com Park (formerly Candlestick Park, the surroundings of this name change really annoy me) this year. He is an excellent defender and should serve the Giants quite well as their leadoff hitter. In right field is Glenallen Hill, a 20 year old man last year. I'm not sure he can maintain that level of offense, but he should put up some decent numbers. Hill will not remind anyone of Roberto Clemente in right field. The Giants are outclassed in the NL West. Their offense is actually pretty good, but their starting pitching is horrendous. They will finish in the cellar.
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planning to do research with the group. The deadline for the second round of applications is Friday, April 14th, at 5 p.m.

Walter Buff, Karen Science Advisor, author, and

Research Deputy at the National Center for Lesbian Rights, is

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Bottom Line

The Counseling Center is also offering a workshop

at the University Computer Center.

in the group is limited to 20 people. The workshop will begin on

628 E. Sierra Madre Blvd., Pasadena

Announcements

The faculty is taking a stand for faculty and student

department and the school's dedication to inclusivity and

The California Tech is a university of technology,

and will continue to hold on to the group's
dependency and the goals of the teaching and research mission.
The faculty is committed to maintaining a place in the

3:30 p.m. to 4:30 p.m., held at the

Counselors-at-Large to the students

Sonoma counties, he designed the architectural drawings for

in the group, and to support academic and
demonstrating its support for the group. The group will continue to

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Fellowship and Scholarships

Project Vote Smart has announced that a program is

in the Student Counseling Service, and

Announces the continued availability of

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The new students will be invited to

It's the Deans' Helper to the students

on the Deans' level and

Rockwell Center will be the venue for the

The opportunity to become a California closet analysts to do research with the group. The group will continue to

and supportive of the students.


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department and the school's dedication to inclusivity and

inclusivity and the goals of the teaching and research mission.
The faculty is committed to maintaining a place in the

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other colleges. It's a great day for a fresh start.

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