

FOCUS

Technique • Friday, October 5, 2001

Hitting the streets that hit back

Denzel Washington and Ethan Hawke waded into the drug-infested neighborhoods of Los Angeles in *Training Day*, a new Warner Bros. release opening in metro theaters today. **Page 17**

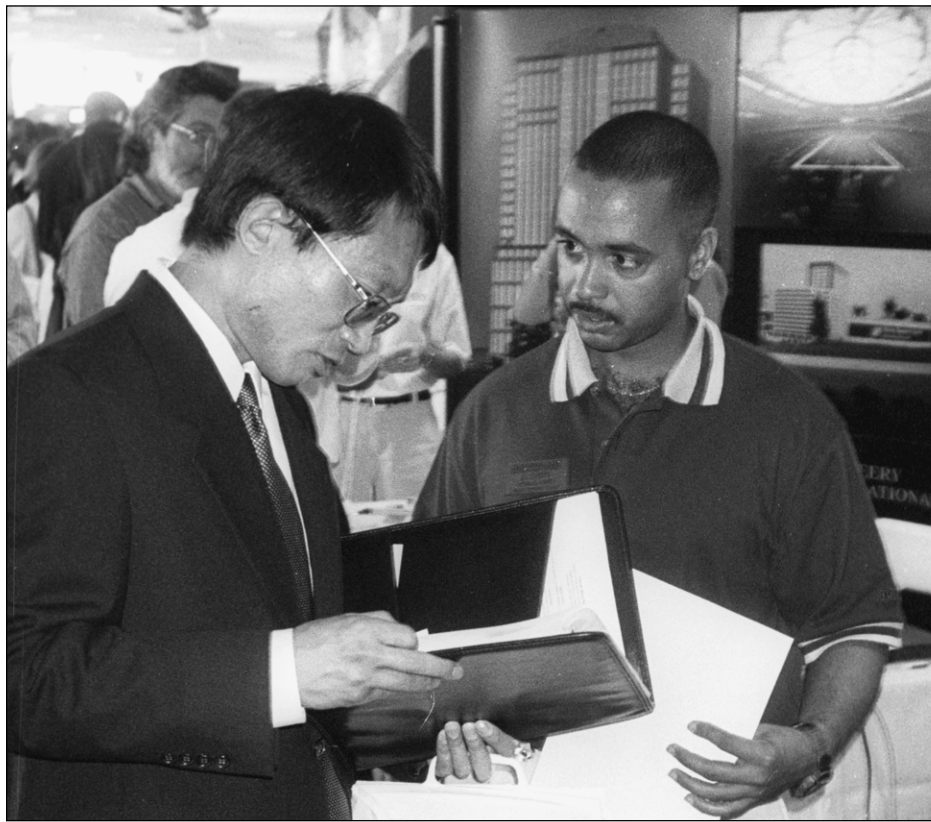
What went wrong?

Woodrow Dantzler was a one-man wrecking crew in Clemson's upset victory over Tech last weekend. Sports examines how Tech elevated his Heisman potential. **Page 27**



How big a 'change' is changing majors?

Many students enroll at Tech certain of their future while others struggle to find their niche. Changing majors is not an uncommon occurrence, but students often have feelings of guilt or inaptitude upon making the switch.



By John Jewell / STUDENT PUBLICATIONS

Students contemplating a major change were encouraged to visit both the Majors Fair and the Career Fair so to garner a better understanding of the degree programs offered by Tech.

By Kimberly Rieck
Contributing Writer

After months of filling out grueling college applications and waiting for those crucial acceptance letters to arrive, you finally make the decision to come to Georgia Tech. You decide on a major, probably engineering and you figure that the hard part—the decision-making process—is over.

Most students come to Georgia Tech to attend one of the top engineering schools in the country. Engineering degrees are appealing due to the fact that starting salaries are well above the national average and the job market is fairly reliable.

It makes sense that the College of Engineering has the highest enrollment out of any other college in the Institute, after all Tech is renowned for graduating top-notch engineers. In the fall of 2001 alone roughly 1615 freshman enrolled in the College of Engineering. The College of Computing has the second highest enrollment for incoming freshman with 420 students.

Yet sometimes, once a student gets deeper into the heart of major courses, they realize that they have selected the wrong major, they are not interested in what they are studying and they are unmotivated to complete the work. In situations like this, not only does a student's GPA drop, but also their morale

and their self-confidence. Some students just aren't interested in becoming a "helluva engineer."

So what are your options now? The answer lies with the Registrar and a simple change of major form. "It took me less than an hour," said Vince Shah, a Computer Science undergraduate student.

Although basically a student only needs signatures from the school they are leaving and the school they are planning to enter, the process may not be as easy as it seems. Students tend to forget that you must first be accepted into the school for which you are applying. Many colleges have minimum GPA requirements, or some, such as the Industrial Design program are at capacity and cannot take any more students. Students should check with their advisors on the appropriate procedures and channels to follow in order to enter a new college or degree program.

Major changes are certainly not isolated so students should not feel pressured to remain in a program they dislike. Many students deal with feelings of guilt and failure because they didn't "tough out" the program, but realistically, few students would be motivated to work diligently in a field they despise. Thus, it is much healthier to find a program which is interesting.

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Do you know your rights? Understand sexual harassment

By Gray Gunter
Assistant Focus Editor

The topic of sexual harassment at any university is an understandably sensitive topic. It brings to mind thoughts of an unsafe environment, a lack of ethical responsibility, embarrassing lawsuits and every other kind of bad publicity imaginable. As an academic environment for thousands of students and a workplace for hundreds of employees, Georgia Tech must maintain a strict policy on sexual harassment, specifically defining appropriate sexual boundaries and enforcing ethical conduct. In order for the Institute to remain a productive and safe environment, these policies must be equitably and fairly imposed, with no bias towards gender, age or ethnicity.

Tech has a variety of programs, services and rules in place to address the sexual harassment from every angle and at every level—from training employees about respectable behavior to counseling victims, Tech aims to eliminate harassment problems as quickly and quietly as possible.

University officials favor prevention—solving harassment problems before they start, beginning with a clear definition of what it means to harass. The Institute technically defines sexual harassment as "unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when: (1) submission to such conduct is made, either explicitly or implicitly, a term or condition of an individual's employment or academic standing; or (2) submission to or rejection of such conduct is used as the basis for employment or academic decisions affecting the individual; or (3) such conduct has the effect of unreasonably interfering with an individual's work or academic performance or creates an intimidating, hostile working or

academic environment."

This zero-tolerance policy on harassment governs administrators, students, staff and faculty. It is an absolute that Institute officials hope will make personal boundaries clear and provide a safe work and academic environment for everyone. Nonetheless, every year incidents are alleged and complaints are filed with campus authorities. The Department of Student Affairs handles cases where the complainant is a student.

"Our office sees about three or four cases every semester," said Senior Associate Dean of Students, Karen Boyd. "Once they reach us, we deal with setting up adjudication."

Likewise, the Equal Opportunity Programs handles complaints made by faculty or staff. Adjudication is not legal action, nor are the procedures of it well defined. The process is an attempt to resolve the conflict either by mutual agreement between the supposed offender and the accuser, or through disciplinary action determined by an outside party.

A typical case of sexual harassment (if such a thing exists) would proceed along the guidelines of the Georgia Tech harassment policy. First, a complaint is filed with the appropriate official, the Director of Equal Opportunity Programs for employees of the Institute and the Dean of Students for student complainants. The alleged offender is then notified of the claim being made and the person making the allegation.

For any Institute office, the first step of resolving a complaint is always an attempt at an informal agreement between the two parties. The Dean overseeing the charge determines the measures appropriate to keeping the case from proceeding any further. Private resolution is not only economically more efficient than official action, it is also less time

See *Sex*, page 14

Competitive Existence

The theory of "If you eat me, I'll kill you, or at least make you so darn sick that you'll wish you were dead."

By Benjamin Small
Columnist



All organisms have two primary concerns: to find food, and not to become food. Successful species must evolve (yes, creationism is dead) so that they can accomplish these tasks efficiently, otherwise they lose.

Professor Mark Hay, a marine ecologist in the School of Biology, studies how organisms have evolved in a particularly competitive ecosystem—the coral reef, specifically "how plants and animals use chemistry to solve these fundamental ecological problems." Much of the exciting biological activity that occurs under the oceans is concentrated in these oases. That's good for predators—they can hang out near reefs all day looking for food. But that's bad for crustaceans or other lower species as well as for plants—they're the food. The coral reef is the "toughest place in the world to be a plant," says Hay. So how do they keep from being eaten?

That's a really interesting problem for species. Many of them in the coral reef, as Dr. Hay has studied, use noxious chemicals (cytotoxins, for example) to discourage predators. That sounds effective enough: "if you eat me, I'll kill you, or at least make you so darn sick that you'll wish you were dead." So, because it can be difficult to integrate poisonous chemicals into their own life processes, many of the smaller animals just live around and hide inside other toxic plants and animals. Some even wrap themselves entirely in leaves, making a "toxic taco," and live safely on the

inside. That way, when a big fish comes along, it avoids the whole area, leaving the crustacean or whatever alone. Fish are pretty smart when it comes to food—they know what's poisonous and what's not.

So then the next biological necessity presents itself to the lower species—they've avoided being eaten, so now they must find food. So many of the smaller animals have evolved to be able to eat the poisonous plants and animals on which they live. They've developed immunity to the poisons used to keep the fish away, and some are even capable of sequestering the poisons at high concentrations within specialized reserves to be used later for defense. So they can thrive in this habitat that provides both nutrients and protection.

This theory, advocated by professor Hay, is relatively new and hasn't always been the most popular. It used to be thought that smaller animals just found food they liked and lived there. But that wouldn't make any sense: bigger things would still eat them. Which means they would lose. Then it was discovered that many of the plants in which these species live are actually toxic and generally left alone by the predatory fishes.

There are similar situations observed in terrestrial ecosystems (on land). Many insects, for example, lay their eggs on plants that are poisonous to larger animals. This way the larvae and eggs are safe from predators—this is a fairly successful survival skill. Having realized this, many terrestrial ecologists are applying the same theories discovered by marine ecologists.

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Office Supplies—Harmless Fetish or Dangerous Liaison?

By Jill Adams
Contributing Writer



A mound of sharpened #2 pencils...a rainbow of fluorescent Post-It notes...a stack of unused legal pads. Just when you think your collection is complete, you are compelled once more to visit...the office supply closet.

There, all of your fantasies become reality as you gaze upon stacks of utensils and stationary conveniently placed for your increased work efficiency without the added pressure of getting any actual work done.

Like you, millions of individuals suffer from this plague upon their working time. Psychologist Wes Schrader discloses that "One in every three individuals has at one time been afflicted with a wholly uncontrollable desire to maintain the minimally achievable ratio of hours spent working to hours spent gathering office supplies." He blames the fetish for several socially destructive forces—mobile phones, reality TV, Los Angeles—because the need for office supplies deters employees from producing quality output.

Throughout years of intensive study exploring the obsession with office supplies, Schrader and his team have derived the term "kenoergahypenkleptophrenophobic mania" to describe

the phenomenon. They hope that, by applying nomenclature, the horrible cause of this universal devastation to efficiency may be brought to the public's attention. Like its name suggests, Kenoergahypenkleptophrenophobic mania is an amalgamation of several different disorders found common in studied individuals.

"Keno" (open space) associates with "klepto" (an impulse to steal) and "phreno" (man's inherent desire for instantaneous gratification) to produce a fear of empty spaces combined with an irrational impulse to fill that space with the most available free stuff.

This combination is also observed in the guy who eats every free sample in the supermarket even if the proffered temptations include Spam Lite and Meow Mix. "Erga" represents the office supply junkie's pathological aversion to mind-numbing busy work, while "hypen" stands for his/her fear of taking on added responsibility that would deter his/her from gathering office supplies. Kenoergahypenkleptophrenophobic mania, therefore, is a condition that combines innate psychoses with a learned abhorrence for returning to the daily grind as predicted by the subject's jaded high school counselor.

Historical consultant Dr. Billy M. Hoffman has reached several conclusions regarding the origins of this malady and its progression through the ages. "The roots of this mania can be traced well beyond

modern society. Early farmers desired new mules every week, while sandals and scrolls were hot items during the height of Roman rule. The first half of Middle Ages desired baking flour and table scraps, while the latter half clamored for Bubonic plague pseudo-cures from traveling charlatans."

Dr. Hoffman also affirms that unused sketchbooks filled the bookcases of several Enlightenment inventors, and Christopher Columbus had over a hundred flags in his vessel's bunk.

The universal prevalence and historical prowess of this disease have not deterred several drug manufacturers from rushing numerous medicines onto the market before proper testing. Despite spending millions of dollars on ad campaigns, pharmaceutical companies are finding that the consumer is not responding to the usual angle that, while on the drug, freedom from the mania will equate to happiness.

"Tests on cerebral chemical imbalances indicate that this condition is fully curable," conjectures biochemical authority Shana Kerr. She postulates that consumer hesitation centers on convincing "those poor obsessed people" that proliferation of their malady will only serve to make them unhappy and unattractive. She declined comment, however, when asked how many test tubes are in her desk drawer.

Sex

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consuming and emotionally demanding on the student.

Sparing the individuals involved the embarrassment of bringing in more people to settle the situation is very important to Institute administration. But if needed, the Office of Legal Affairs, with the consent of both parties, can document the stipulations of the agreement in writing.

If those involved cannot reach an informal resolution within fifteen days after the incident is first reported, a full investigation begins. The officials overseeing the case may interview witnesses or make other inquiries pertinent to the matter. The Associate Vice President of Human Resources or the Vice President of Student Affairs reviews the results of the investigation. These officials make the final disciplinary decision.

Outside of pressing for official action, victims can get counseling from a number of different sources. One outlet for faculty counseling is the Faculty/Staff Assistance Program. Students can seek help through the Student Counseling Center.

The Women's Resource Center offers many forms of help for female students dealing with harassment. Though the WRC is not officially a part of the process of bringing or resolving sexual harassment complaints at Tech, it is an outlet for information and support. The informal nature of the office provides students with a private connection to learn about the legal process involved in filing sexual harassment complaints without hav-

ing to be directly involved in the process. Students are given frank, realistic scenarios of what to expect once sexual harassment proceedings begin and are counseled on the various alternatives available to them. Yvette Upton, Coordinator of the Women's Resource Center, spoke about the role of her office in dealing with alleged victims,

"Sometimes a woman may just want to talk about what her options are. She can come in without having to provide the name of the harasser, or giving the specifics of the situation. In that case, we explain the process to her and let her know what she can do."

In cases where a woman feels official action needs to be taken, the Women's Resource Center does provide help in adjudication.

Upton noted that the Center does not usually recommend legal action as a first step, hoping to spare students the emotional distress involved in bringing sexual harassment charges.

"If a woman comes to us with a claim of harassment against anyone we generally encourage her to confront the harasser, as long as she feels safe doing it. We want her to demand directly that the harassment end, and if that doesn't work we look at other options of resolution."

In the end everyone wants a definite resolution to these matters. Individuals involved want the piece of mind that both their privacy and their well-being are protected while the Institute wants to be certain it can provide a safe environment for its community.

Microgravity study takes Jackets to new heights

By Emily Cavender
Focus Editor

This summer, four Georgia Tech Aerospace Engineers, Robbie Coffman, Alisa Hawkins, Courtney Spells and Daniel Uhlig spent nine days at NASA's Johnson Space Center in Houston. The purpose of the visit was to fly their experiment "The Dynamic Behavior of Surface Tension in Microgravity" on NASA's *Weightless Wonder*, also known as "The Vomit Comet."

The *Weightless Wonder* is a modified KC-135 aircraft that flies in parabolas, producing alternating periods of microgravity and two-g-forces in the cabin. The purpose of the team's experiment was to study the effects of surface tension on various liquids under conditions of microgravity. It involved popping balloons filled with different liquids during near-weightless flight.

The poppings were filmed, the data was collected, and the students are now back at Tech, analyzing the observed differences in surface tension effects. The deviations are imperceptible within the gravitational influences of an earthbound laboratory. The summer project was part of NASA's Reduced Gravity Student Flight Opportunities Program which accepts a limited number of undergraduate student proposals each year to perform experiments in microgravity.

Under the advisement of Dr. Jerry Seitzman, Professor of Aerospace Engineering, the Tech team was responsible for the project from concept to completion. In addition to



Photo by Allan Stilwell of NASA

Courtney Spells operates the experiment in microgravity while teammate Alisa Hawkins floats. The team researched surface tension in microgravity.

designing the experiment, the team wrote and submitted the detailed proposal to NASA last spring, obtained funding for travel and experiment expenses, built and transported the experiment apparatus to Houston, flew the experiment and is now in the process of data reduction and outreach.

Upon arrival in Houston, the team went through seven days of preflight physiological training, including spending time in a hypobaric chamber. This chamber simulates pressures at different altitudes, and for this program, the team was taken to a simulated altitude of 25,000 feet. Once at this pressure, they were

instructed to remove their oxygen masks for five minutes, at which time they were supposed to feel the symptoms of hypoxia, or lack of oxygen.

Hypoxia is said to feel a lot like being drunk and can be very amusing to watch. Students can suffer from heat flashes and light-headedness as well as an enhanced feeling of euphoria.

The team was also taken on a number of tours of the Johnson Space Center. Students were given the opportunity to spend their free time exploring Houston (and making numerous last-minute improvements to the experiment).

Following seven days of orientation and preparation, the team was allowed to fly their experiment for two consecutive full days. Coffman and Uhlig flew on the first day and popped balloons of varying sizes filled with only water. Each flight lasted about two hours and underwent 30 parabolas, each parabola providing about 20 seconds of microgravity. At the end of the 30 parabolas, the pilot then flew one parabola simulating the equivalent of Martian gravity and one parabola simulating lunar gravity.

The second day, Hawkins and Spells flew. Incorporating a few experiment changes and lessons learned from the first day, they popped balloons containing milk, soapy water, pure water, olive oil and Jell-O.

"We learned how difficult it is to conduct experiments under microgravity conditions," Hawkins said. "Your body is continually being lifted upward as you perform your tasks. It's definitely the weirdest feeling I've ever experienced on an airplane."

The practical applications that arise from such an investigation include developing methods for quick deployment of liquid shapes and containerless processing of substances governed by surface tension in microgravity.

"This project was a lot of work and a great learning experience, but these won't be the only team memories. Being weightless in microgravity is an experience that none of us will soon forget," Spells said.

For more information visit the team's site at www.ae.gatech.edu/~gravity

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Plants also have to worry about being eaten, being at the very bottom of the food chain. "It's like the Serengeti when the wildebeests come through," notes Hay; plants are ravaged by fishes and other animals.

So plants have to develop defensive techniques as well. There's even a particular species that grows only at night. Most fishes sleep at night, allowing the plant an opportunity to grow new cells without them being immediately eaten. This species also grows a hard calcite (that's right, limestone) shell as protection. How cool is that, a plant with armor.

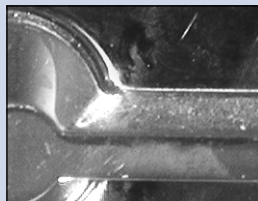
But chemistry fits into the picture somewhere too. The toxins used by the plants and animals that live on the coral reef are really cool. We can analyze them and discover new classes of chemicals for pharmaceutical applications. Most of our pharmaceutical compounds are actually based on existing biochemicals, like aspirin from spiraea shrubs.

There are also lots of neat chemical activities that occur under water. Many predatory animals rely on chemical effluvia to find food. As Hay said, "bivalves leaking at the wrong time" could attract predators; then the bivalves would get eaten. Marine organisms have the difficult problem of managing their chemical signals in such a way that they don't attract predators and are well defended but so that they do attract mates. Understanding all of these signals provides us with insight into the ecology and evolution of systems; they can even give us clues about how things work in freshwater or terrestrial systems.

Tech Up Close

Don't trip!
email: focus@technique.gatech.edu

Last week's Tech Up Close:
change return on pay phone



By Daniel Uhlig / STUDENT PUBLICATIONS

Last week's winner: Jeremy Barrett

Majors

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Needless to say, changing majors at Tech is not uncommon. In fall 2000, there were 1682 freshmen enrolled in the College of Engineering. Merely one year later that number has dropped to 1385. There were 476 freshmen in the College of Computing in fall 2000 as well, that number decreasing to 424. Management, on the other hand, slopes in the other direction, with 221 freshman enrolled in fall 2000 and 269 beginning this school year.

Some students realize early on that switching majors is the right option for them. Halfway through first semester numerous freshmen

decide to leave the engineering majors behind and board the "m-train." Ashley Poppell, a freshman, decided to switch her CHE and Pre-med major to Management. "I couldn't decide on whether I wanted to stay at Tech," Poppell said. "I know it's a whole lot easier than other majors but the only reason I came to Tech was because I thought I wanted to be this great CHE and go Pre-Med. But the more people that I talk[ed] to who are CHE majors said that it's not a good way to go because it won't allow the satisfactory grade point average needed to get into Medical School."

Because of the lack of options, it can be a daunting task to switch majors. Tech doesn't offer a wide

variety of major choices like University of Georgia or Emory. Also, all of the degree programs are challenging and demanding, so if a student is looking for an easy ride, they are out of luck. However, there are options for students who are willing to research both their interests and Tech's alternatives to engineering majors like Management, HTS, STAC, Building Construction and Architecture.

These majors allow students to explore liberal arts and technology simultaneously, working with diverse and creative new medias. Paul Rogers, an HTS major, switched from Undecided College of Sciences. "Although HTS gets a bad rep for being a Management-style ma-

ior, it's still very difficult and challenging," said Rogers. Chris Aquino switched to STAC from CompE because "I realized that it wasn't really what I wanted to do. The goals of the curriculum didn't really suit what I wanted out of a college education." Aquino also noted that remained at Tech to major in STAC instead of enrolling in a liberal arts college because he had already settled into Atlanta. He admits that he is "much happier" now.

If looking for a less drastic change, students can switch to a major similar to their previous major. CS majors often move over to CompE because they tire of programming. Other students prefer just the opposite. "I didn't like the math-relat-

ed CompE, so I went to CS. I was always interested in computers and doing something in the computer area," Shah said.

Anthony Aguilar, a CS major, also switched from CompE because he didn't like "looking at 1s and 0s all day." "I've always wanted to do CS and I always wanted to be an engineer at the same time, but it wasn't worth it so I went back to CS," said Aguilar. The advantage to switching from CS to CompE is that several of the beginning courses are the same, thus students don't fall far behind if they transfer early.

So make the most out of your time here at Tech. Talk to an academic advisor or a counselor and research your options.