

Engineers' Forum

Volume 23 • No. 3
September 2004



System X Virginia Tech's new best friend

A photograph of the Lane Stadium building facade. The building is a multi-story concrete structure with a grid of windows. The words 'LANE STADIUM' are prominently displayed in large, raised, white letters across the top section of the facade. Below that, in smaller raised letters, is 'HOME OF THE FIGHTING GOBBLERS'. The sky is a clear, bright blue.

LANE
STADIUM
HOME OF THE
FIGHTING GOBBLERS

Also Inside: Hokie Traditions, E-mail Bag

An Engineering Student's Voice

Written by Sunny Chang

Congratulations!

You've made it to your first year at Virginia Tech's Engineering Program.

Congratulations!

You've successfully transferred into the Engineering Program.

Congratulations!

You are still excelling in the Engineering Program here at Tech.

Regardless of which category you fall into, you are a part of a department that wishes to take care of you.

However, many of you may be thinking to yourselves that the Engineering Department is huge. You may also be wondering how every single enrollment can be recognized as an individual student, and how your voice can be heard. The task is by no means impossible. Among many organizations that are here to aid and provide guidance, there is one run purely by the students, for the students, student societies, and the College of Engineering. This group is called the Student Engineers' Council (SEC).

The SEC is, "directed toward the improvement of service to the engineering student body. To realize this vision, we dedicate this educational organization to promote and advance engineering students through a single, collective voice," according to the campus SEC website: www.sec.vt.edu.

Elizabeth Joyce, a Chemical Engineering Major, heads the SEC as a Chair on the Executive Board. "We are an umbrella organization, we like to think we would be able to help the freshman since we have no affiliation with anyone, yet we have a good grasp on everything going on among the school, departments, etc.," says Joyce. Under the umbrella includes a long list of societies, which can be found on the web page, that work together with the SEC to communicate ideas and changes with and between the Dean and students.

Among the projects that are annually implemented, Joyce explains that Engineering Expo 2004 will be the largest undertaking. Purely sponsored by the SEC, the Engineering Expo 2004 includes more than 200 companies visiting Virginia Tech in order to recruit for internships and full time positions for virtually every existing Engineering field of study. This is one of the largest showcases for Engineer recruiting in the country. Students acquire the chance to explore and learn about companies of interest.

Additionally, Expo is an excellent chance to meet recruiters

before the actual interview process begins as well as to provide valuable information and first-hand learning experiences. This year, Expo will be held September 21-22, 2004.

Besides Expo, the SEC also sponsors the Engineering Leadership Conference (ELC). The Conference allows Engineering students the opportunity to develop leadership skills as well as interact with companies in a different atmosphere. ELC typically occurs every November.

Later in the academic year, the SEC hosts Engineers' Week (E-Week) set aside to celebrate everything engineering. "It is a chance for everyone to be clever, imaginative, and innovative ... the engineering departments become really involved, and it helps raise money that goes back to the students," Joyce said enthusiastically.

Besides organizing advantageous and supportive activities, the SEC is also a philanthropic council. In the 2003-2004 academic year, the SEC distributed cumulative scholarship awards of 18, 20, and even 50,000 dollars. Slush funds for various school-related engineering societies are also set aside as aid. The design teams in the Ware lab, freshman design program and First-Year Lecture series were awarded grants as well. Not to mention, the SEC is the only student-run organization that offers a teacher award where students vote on who they think is the best faculty member of the year. The award is allotted to financially aid in that member's research. The organization's only interest is to aid the Engineering environment at Virginia Tech.



Elizabeth Joyce, head of the SEC.

The Student Engineers' Council seeks to accomplish the following goals:

- ¥Facilitating communication among the engineering students, engineering student societies, and the College of Engineering.
- ¥Expanding the educational and career opportunities for engineering students.
- ¥Serving as a single, collective voice for the engineering student body and societies.
- ¥Acting as a resource for information about engineering student activities.
- ¥Promoting the engineering profession
(www.sec.vt.edu, 2004)

Don't hesitate to seek help.

The SEC is always glad to accept new members.



Virginia Tech's New Best Friend

Written by Enoch Dames

When you first heard that Virginia Tech built one of the fastest supercomputers in the world, you might have discussed it with your friends. Maybe, with a sense of pride, you told your family. It's obvious that such a tool is a great thing to have, but why exactly? Will System X begin to change Virginia Tech and its reputation as a school with a solid engineering program? Virginia Tech has always been well respected as a research institution, and have we just jumped up one notch on the ladder of academia? To answer this question, you must understand how VT will utilize its "new toy."

As this behemoth of a physically localized computer cluster, "System X," is being reassembled to improve its computing power, it was not included in the latest Top 500 poll, which lists the 500 fastest computers in the world. For the record, System X was ranked as the third fastest computer in the world last November by the same organization. Also, System X may be up and running before the publication of this article. Undoubtedly, the next Top 500 list will again show System X as one of the fastest computers in the world.

The most striking characteristic of System X is its price tag, \$5.2 million. Compared to the cost of other supercomputers of similar performance, it was a great investment. "System X

has set a new standard for price-performance in the supercomputing world with its cost of construction," says Jason Lockhart, Director of High Performance Computing and Technology Innovation, College of Engineering, and the Terascale Computing Facility Associate Director. At the top sits the Earth Simulator, with over twice the computing power as System X. As its name suggests, the Earth Simulator exists primarily to investigate what, if any, equilibrium exists between the Earth and its human inhabitants. I know, you're probably thinking the same thing I am — good luck Earth Simulator! Let's forget the Earth Simulator for a moment, and now focus on System X.

System X and the Future of Virginia Tech

I walked around campus one sunny summer afternoon asking random students two seemingly simple questions: "What do you think the point of building the supercomputer was?" And, "How do you think the supercomputer will be used?" Responses include the following:

I'm not so sure, hopefully for a good use.

- Victor Warden,
Business Major

I think it will be a good selling-point for the university.

- Arun George,
M.B.A. Graduate Program

I have no idea. I heard it was there, but that is about it. If it's something that students have access to, that they can use and learn from I would see that being beneficial. Sorry I don't know more about it...

- David,
Mechanical Engineering

Well, David, I'm not sorry you don't know more about it because that would negate the purpose of this article. These are all great answers though, and illustrate how many Virginia Tech students don't yet understand the implications of possessing a tool such as System X. However, most undergrads will not have access to System X - sorry, David. Dr. Lay Nam Chang, the Dean of Science, tells me there's

even a waiting list for most of Virginia Tech's prominent researchers who want time with the computer.

In terms of System X and its role in the future of Virginia Tech, it's obvious that the collaborative creators of the computer had the idea of changing our school's reputation. True, we are having problems with the lack of funding in

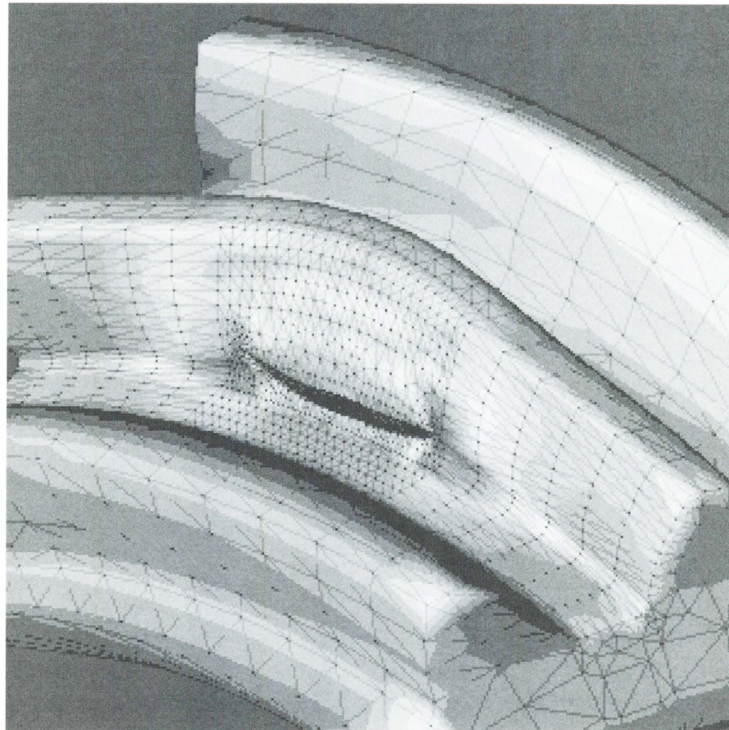
many departments, and I'm sure it has affected us all in some way. Virginia Tech, however, is now the only University with a world-class supercomputer.

Addressing the question: "Will System X be put to good use?" Well, that depends on what "good" means. As far as I am concerned with this article, the word "good" is closely related to money, and in turn, the source of money. With the United States now at war, much of the research for supercomputer funding comes from defense-related contracts. And by

defense, I refer to such things as modeling nuclear explosions and the development of new materials for all sorts of things.

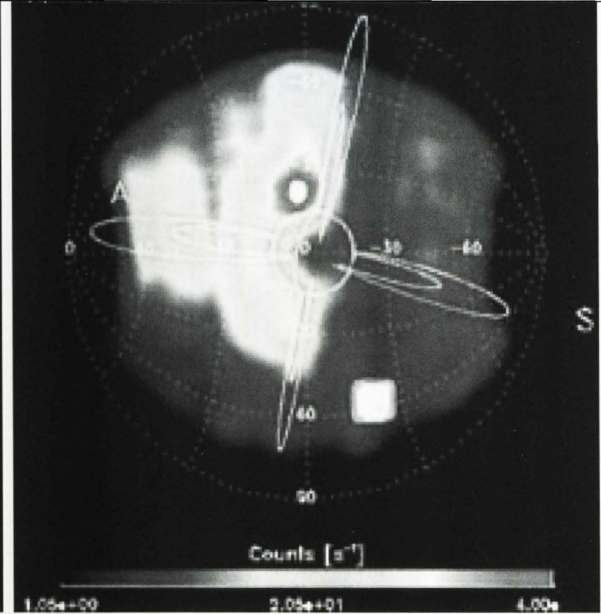
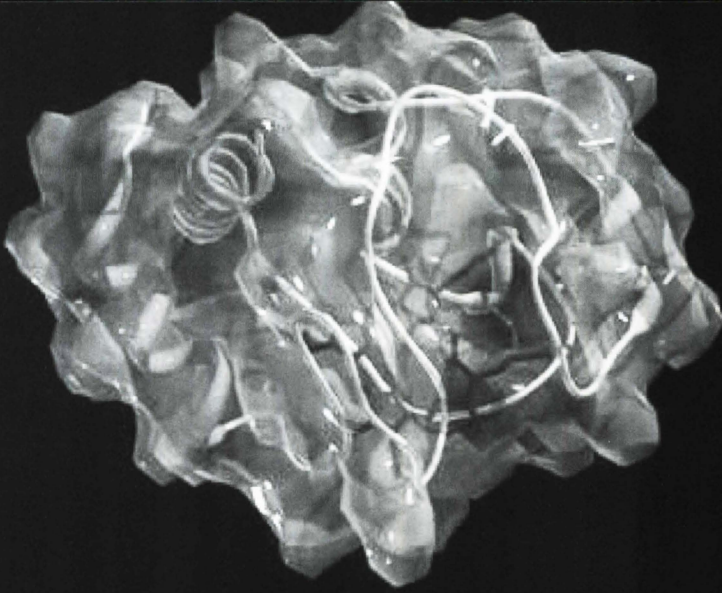
Computational Solid Mechanics

Dr. Romesh Batra, Clifton C. Garvin Professor of Engineering Science and Mechanics, very politely provided me with a brief list of several applications System X may be used for: blast-resistant sandwich structures for marine applications, multifunctional energetic materials for the Air Force, armor



Advanced materials research can be greatly enhanced with supercomputing facilities.

Continued on page 14



At left, Cytochrome C, one of the best studied soluble proteins, in a molecular surface representation (source — http://www.biophysik.uni-freiburg.de/Spectroscopy/Protein%20Folding/Prot_fold.html). At right, a magnetospheric substorm as seen by the Medium Energy Neutral Atom instrument on the Image spacecraft (source — www.ruf.rice.edu/~atmol/).

and anti-armor components for the Army, resolution of crack initiation and propagation in large deformations of materials at high strain rates such as those encountered in explosions, impact of missiles, etc., and visualization of crack propagation in three-dimensional problems.

Many of the aforementioned potential applications of System X are tied closely to a specialized field of engineering. However, System X is a tool — various researchers will exploit its potential, however they please.

Molecular Modeling and Proteins

“The societal impact of some of the research that will be undertaken using System X is immense. The results of research, especially those in biochemistry, bioinformatics and biotechnology, could have major outcomes on quality of life, disease prevention, anti-terrorism, and many other areas that directly affect our lives,” says Jason Lockhart. For example, structural determination of proteins has always been a hot topic.

The ability to determine any protein structure could allow for the design of new drugs and a deeper understanding of

many diseases. X-ray crystallography has been applied to this purpose for decades, but it is a very difficult and lengthy process.

Dr. Karen Boeshans, of the X-Ray Crystallography Facility, Office of Science and Technology, at the National Institutes of Health, in Bethesda, Maryland, explained to me how a solution containing the desired protein must be purified into its crystalline form.

To grossly summarize, technicians and scientists use lasers are, create diffraction patterns, and little-by-little, determined the structure. Don’t let me fool you though; solving a protein structure this way could take years.

In terms of purpose, the most important aspect of a protein concerns its organization, or how the molecules within it interact to form a folded structure. Computational solutions to protein structure are possible, via the correct molecular modeling and by understanding these key points:

- * All proteins fold into a conformation (shape) of lowest energy based on molecular bonding principles.
- * Proteins are composed of long-chain amino acids which are composed of a type of ribosomal nucleic acid (RNA).
- * It is possible to sequence the gene of a protein.

This then, is what someone who really, really, liked this stuff would do — determine the sequence of amino acids in a given protein, and then (here's the fun part) use his knowledge of molecular thermodynamics to predict how this string will most likely fold. This person lets a computer do all the work, computations the difficulty of which is analogous to trying to find a needle in a haystack. And because this would take months, or longer, for most computers to do, System X offers an attractive time-saving alternative. Oh, and there are faculty in the College of Arts and Sciences who really, really like this stuff.

Theoretical Physics

Dr. Lay Nam Chang, Dean of Science, happens to have an interest in this, and specifically in high-energy collisions.

You know the process of accelerating two atoms towards each other near the speed of light, and observing the results? As a kid, I would sometimes smash two Mattel brand Hot Wheels cars together, but something tells me this is a little different. "Typically, when you smash two atoms together, you produce a lot of final products, and to be able to extract, analyze, and to understand what these collisions contain, you need supercomputers," explained Dr. Chang.

However, Dr. Chang also told me, "This is something that high energy physicists were doing for many, many years." But according to Dr. Chang, you need a teraflop machine to solve extremely complex computations that could provide a deeper understanding of quantum thermodynamics.

An interesting topic that some of these physicists frequent is the beginning of time, notably the Big Bang theory. These same physicists study high-energy collisions in hopes of better understanding how the universe may have begun.

Now you understand that Dr. Chang wasn't kidding when he said smashing two atoms together produces "a lot of final products."

It's All About the Model

There are more things that I can list that System X is capable of investigating. Computationally, one does not need a supercomputer to come up with a model that can theoretically provide solutions to incredibly complex systems. You do not need a supercomputer to formulate a problem with ten million equations and ten million unknown variables. Many engineers and scientists are capable of devising models necessitating the use of a supercomputer. However, there are many more of us scientists and engineers than there are supercomputers. And what does this mean? This means that we force ourselves to make more assumptions concerning our models - we reduce the system of equations into a more manageable form.

In the end, for most cases, this results in two things: a less accurate model of our system, and less accurate results. But then again, aren't all models simply created in the likeness of an actual or physical phenomenon? And, aren't they all simplified to some extent? Why yes, but there is a difference between modeling a steel cable as a two-dimensional homogenous wire and modeling it as a network of smaller cables, each which could be seen to be composed of millions of microstructures.

System X will allow our researchers to more accurately mimic the phenomena they investigate, an incredible advantage over others studying the same phenomena without anything like System X nearby.

So now you may have a better understanding of why VT has decided to invest in System X, and why it was such a good idea. You now know how such an instrument can be used, and some of the diverse applications it has.

From modeling nuclear explosions to searching for an equilibrium between earth and its inhabitants, it all comes down to the desires of those who use it. I can only hope that, whatever it is used for, System X will serve as an aid to the many problems facing the world today. But, wait; let's redefine the word "problem" . . .



All jokes for this issue are compliments of <http://www.jokes-jokes.net/cat-Jokes-genre-Engineer-Jokes.html>.

Three Freshman Engineers

Three freshman engineering students were sitting around one day arguing about who might ve designed the human body. The first one said, It must ve been a mechanical engineer. The human body has all those levers and pivots and stuff - a mechanical engineer must have designed all that.

The second one said, No, it had to have been an electrical engineer. The complex way the nerves are wired up to the brain must have been designed by an electrical engineer.

Then the third one said, No, it was a civil engineer. Who else would have run a waste water line through a recreational area?

Wife or Mistress

An architect, an artist, and an engineer were discussing whether it was better to spend time with the wife or a mistress.

The architect said he enjoyed time with his wife, building a solid foundation for an enduring relationship.

The artist said he enjoyed time with his mistress, because of the passion and mystery he found there. The engineer said, I like both.

Both? asked the architect and artist in unison.

The engineer replied, Yeah. If you have a wife and a mistress, they will each assume that you are spending time with the other woman, so you can go to the office and get some work done.

Engineering Patients

Five surgeons were taking a coffee break. The first surgeon said, Accountants are the best to operate on because when you open them up, everything inside is numbered.

The second surgeon said, Nah, librarians are the best. Everything inside them is in alphabetical order.

The third surgeon responded, Try electricians, man! Everything inside them is color coded.

Then the fourth doctor interceded, I prefer lawyers. They re heartless, spineless, gutless, and their heads and their butts are interchangeable.

To which the fifth surgeon, who had been quietly listening to the conversation, replied, I like engineers. They always understand when you have a few parts left over at the end.

Top Engineering Terms and Expressions (What engineers SAYversus what they MEAN)	
A number of different approaches are being tried. <i>(We are still guessing at this point.)</i>	Test results were extremely gratifying! <i>(Unbelievable, it actually worked!)</i>
Close project coordination. <i>(We sat down and had coffee together.)</i>	The entire concept will have to be abandoned. <i>(The only guy who understood the thing quit.)</i>
An extensive report is being prepared on a fresh approach. <i>(We just hired three punk kids out of school.)</i>	It is in process. <i>(It is so wrapped in red tape that the situation is completely hopeless.)</i>
Major technological breakthrough! <i>(It works OK, but looks very hi-tech!)</i>	We will look into it. <i>(Forget it! We have enough problems already.)</i>
Customer satisfaction is believed assured. <i>(We are so far behind schedule, that the customer will take anything.)</i>	Please note and initial. <i>(Let s spread the responsibility for this.)</i>
Preliminary operational tests were inconclusive. <i>(The darn thing blew up when we threw the switch.)</i>	Give us the benefit of your thinking. <i>(We ll listen to what you have to say as long as it doesn t interfere with what we have already done or with what we are going to do.)</i>

Riddles

*Riddles are all compliments of
<http://rec-puzzles.org/riddles.html>*

#1

Who makes it, has no need of it.
 Who buys it, has no use for it.
 Who uses it can neither see nor feel it.

#2

I know a word of letters three.
 Add two, and fewer there will be.

#3

Whoever makes it, tells it not.
 Whoever takes it, knows it not.
 And whoever knows it wants it not.

#4

All about, but cannot be seen,
 Can be captured, cannot be held,
 No throat, but can be heard.

#5

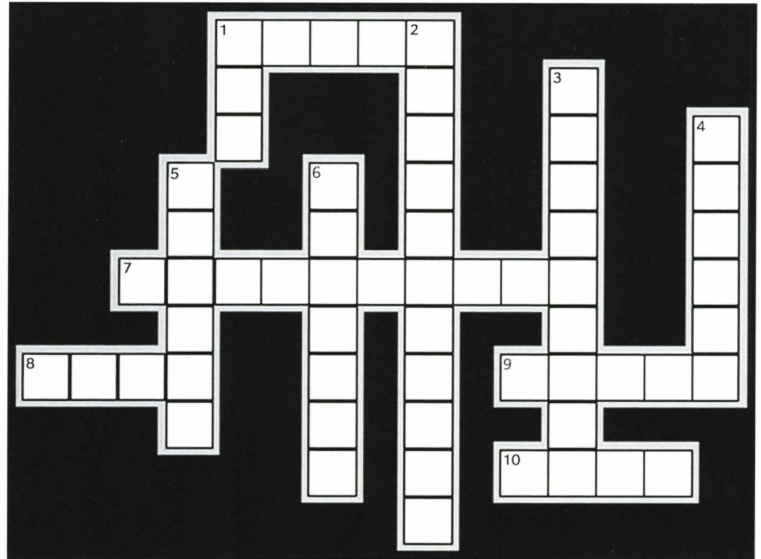
I turn around once,
 What is out will not get in.
 I turn around again,
 What is in will not get out.

#6

Five hundred begins it,
 five hundred ends it,
 Five in the middle is seen;
 First of all figures, the first of all letters,
 Take up their stations between.
 Join all together, and then you will bring
 Before you the name of an eminent
 king.

For answers to riddles, see page 25.

Crossword Puzzle



Across

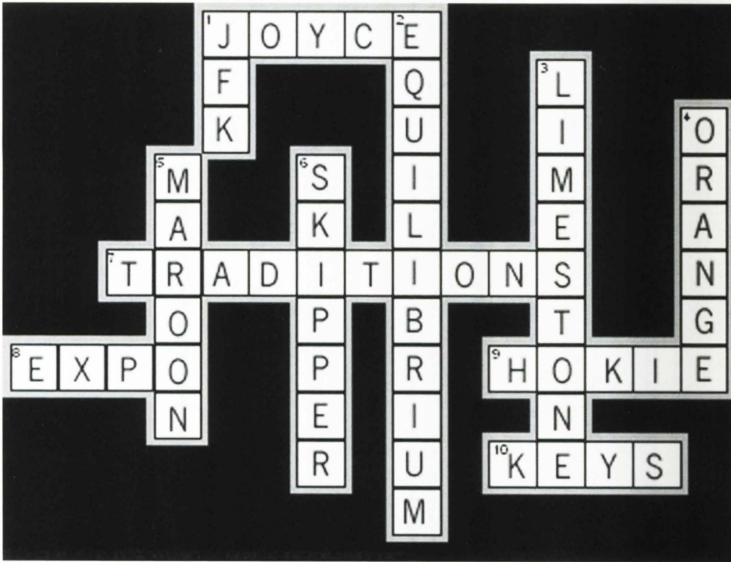
1. the SEC chair, Elizabeth _____
7. Hokie _____
8. Fall engineering career fair
9. _____ stone
10. football fan noise-makers

Down

1. who was the Skipper Cannon named for?
2. The earth simulator is trying to find an _____ between Earth and her inhabitants
3. what kind of stone is hokie stone
4. Burnt _____
5. Chicago _____
6. _____ cannon

For solution to puzzle, see page 18.

Crossword Puzzle Solution



Across

1. JOYCE | the SEC chair, Elizabeth _____
7. TRADITIONS | Hokie _____
8. EXPO | Fall engineering career fair
9. HOKIE | _____ stone
10. KEYS | football fan noise-makers

Down

1. JFK | who was the Skipper Cannon named for?
2. EQUILIBRIUM | The earth simulator is trying to find an _____ between Earth and her inhabitants
3. LIMESTONE | what kind of stone is Hokie stone
4. ORANGE | Burnt _____
5. MAROON | Chicago _____
6. SKIPPER | _____ cannon

Challenge

It's like trying to find a slide-rule on an Engineering Campus!

Your challenge, should you choose to accept it, is to locate the slide-rule somewhere in this magazine. It may be hidden anywhere: a photograph, an illustration, anywhere we could deviously think of to hide it. When you locate it, either send an email to forum@vt.edu or an index card to:

VA Tech Engineers' Forum
333 Norris Hall
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with your name, major, year, email address, and where you found the slide-rule by Monday, October 11, 2004.

All correct entries will be combined in a random drawing, and the winner will be notified by Friday, October 15, 2004.



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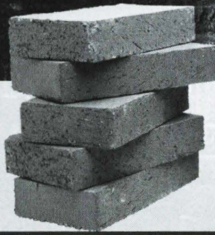


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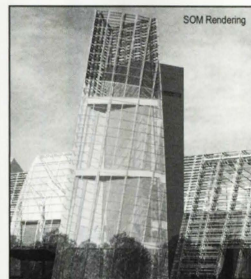


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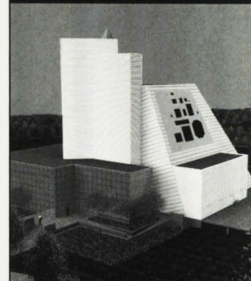
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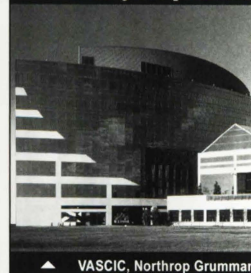
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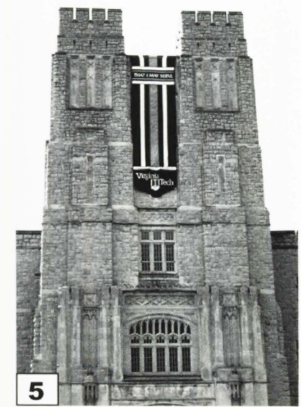
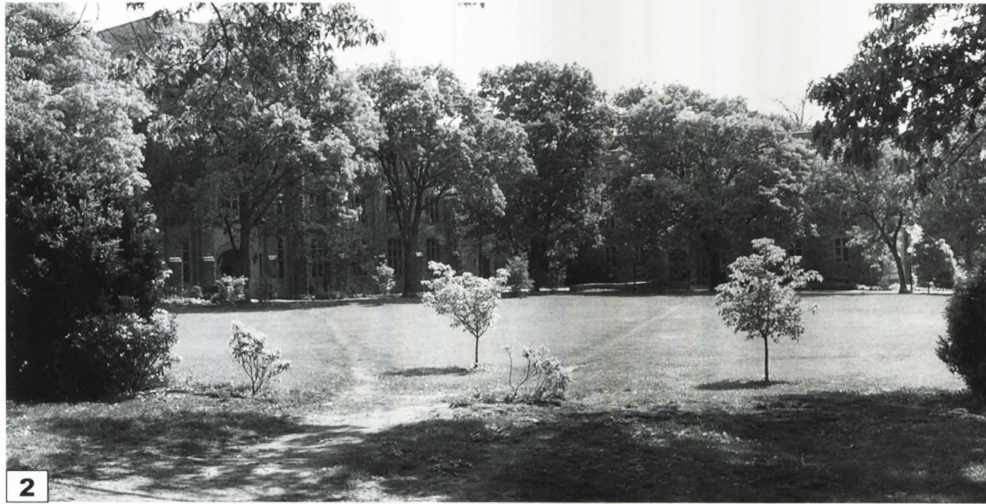
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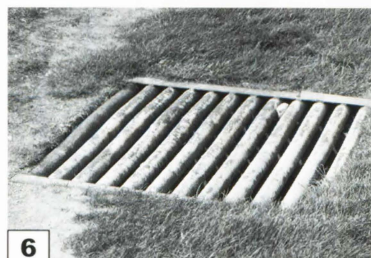
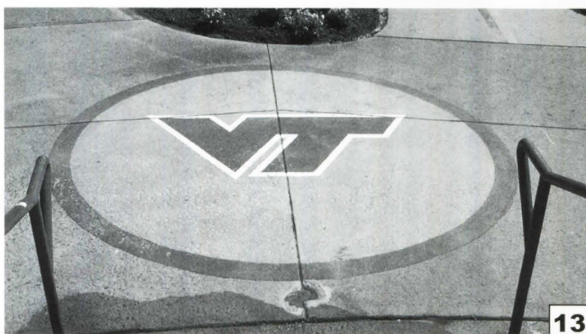
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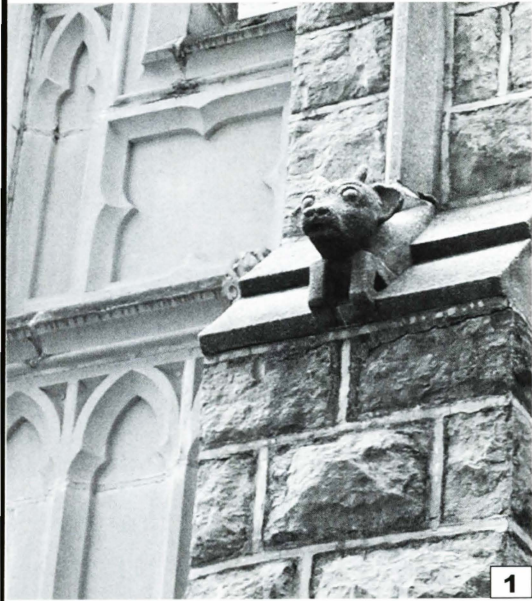
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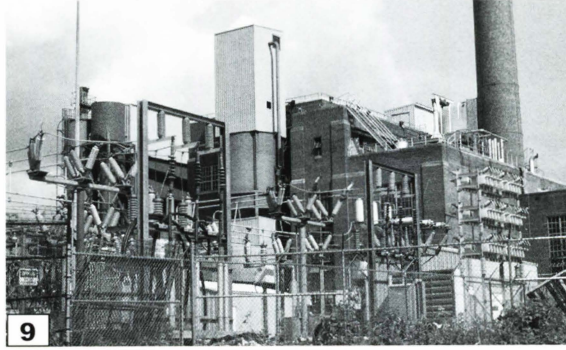
Reward: All the correct answers will be entered into a random drawing. The winner of the drawing will receive a gift certificate to the Outback Steakhouse, and his or her name will appear in the next issue.

Deadline: Monday, October 11, 2004

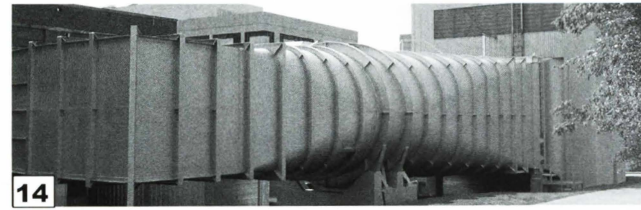




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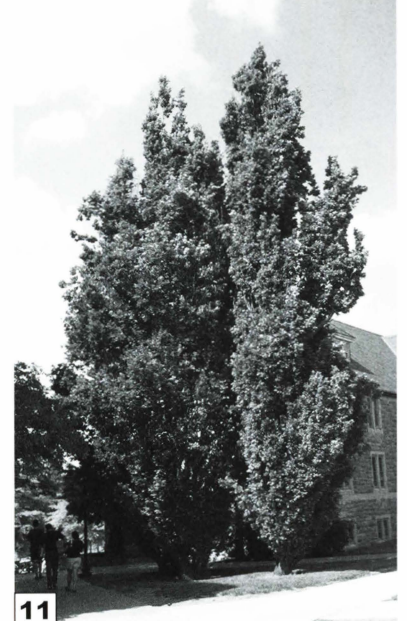
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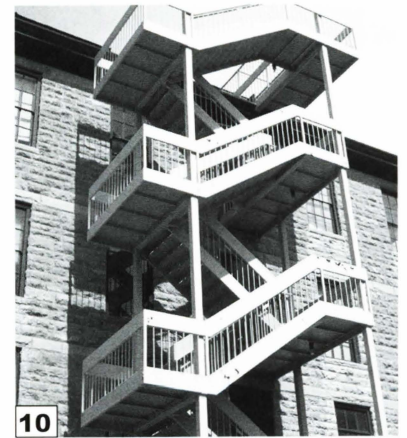
11



12



3



10

Schlumberger

"It's a 180 mph morning commute and a day that demands even faster decisions." Michael, Geophysicist

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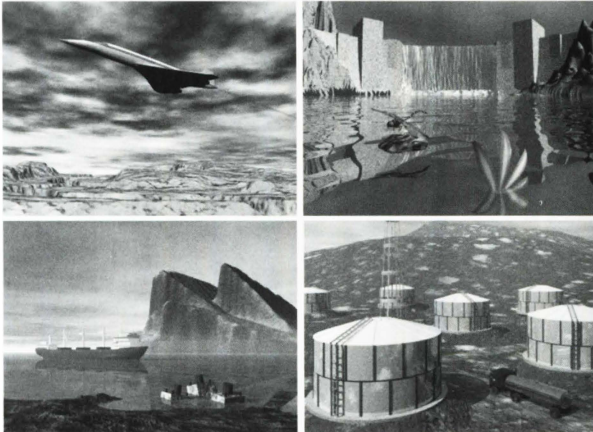
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Time for new beginnings

Written by Sarah Lewis

It is time once again for a new semester to begin. Every fall I have the same goals: make A's, hang out with friends more, stay organized, do all the assigned reading. Whether or not I stick to these goals, I find out later in the year. Everyone always uses the beginning of a new semester to make changes and prepare for their upcoming semester.

Here at the Engineers Forum we are also trying a little make-over, in order to make the magazine more fun and interesting for you to read. We decided to make several additions, including some games and contests.

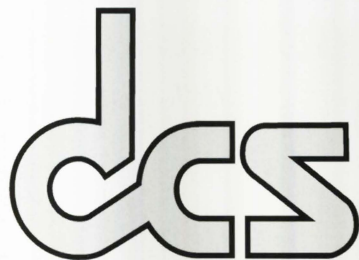
First, in this particular issue we decided to be creative with the standard photo spread theme. Usually, we use it to meet campus students and find out what they think. This issue the pictures are not of people, but of places around campus. Some of them are well-known, others not so well known. The challenge: be able to identify what the pictures are and where they were taken. If you can identify all of the pictures, and send in the answers by the deadline, all the correct answers will be entered into a random drawing for an Outback Steakhouse gift certificate.

Second, in this issue, and all of the following issues, there will be another challenge. In this one, a small picture of a slide-rule will be hidden somewhere in the issue. It can be hidden in words, pictures, borders, anything at all. The challenge: identify where the slide-rule is hidden. When you locate its hiding place, send in the answer by the deadline, and all the correct answers will be placed in a random drawing. The winner will then receive a prize.

Third, in order to give you something fun to do during class ... ahem ... did I say class ... I mean free time ... we have added a games and puzzles page to go along with the usual mail bag section. Readers are encouraged to send in suggestions, puzzles, jokes, puns, and anything else humorous and in good taste, for possible use in an upcoming issue.

If you want to send something in, for whatever reason, either email us at forum@vt.edu, or send in a piece of paper, with your name, major, year, and submission. All paper submissions should be sent to:

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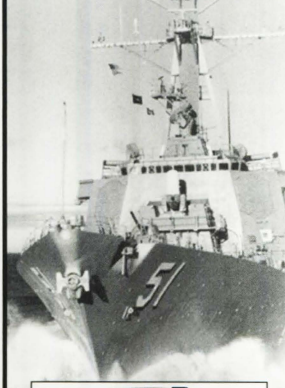
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Answers to riddles on page 17

#1 | A coffin

#2 | 'Few'

#3 | Counterfeit money

#4 | Wind

#5 | Stopcock

#6 | DAVID (Roman numerals)



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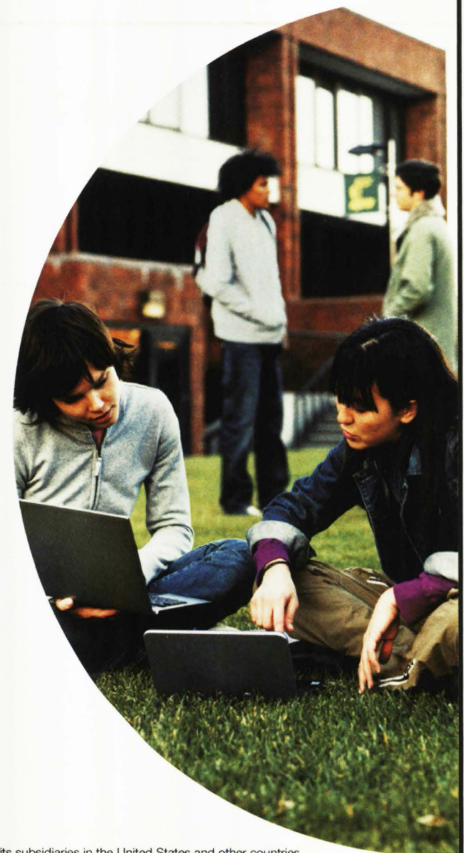
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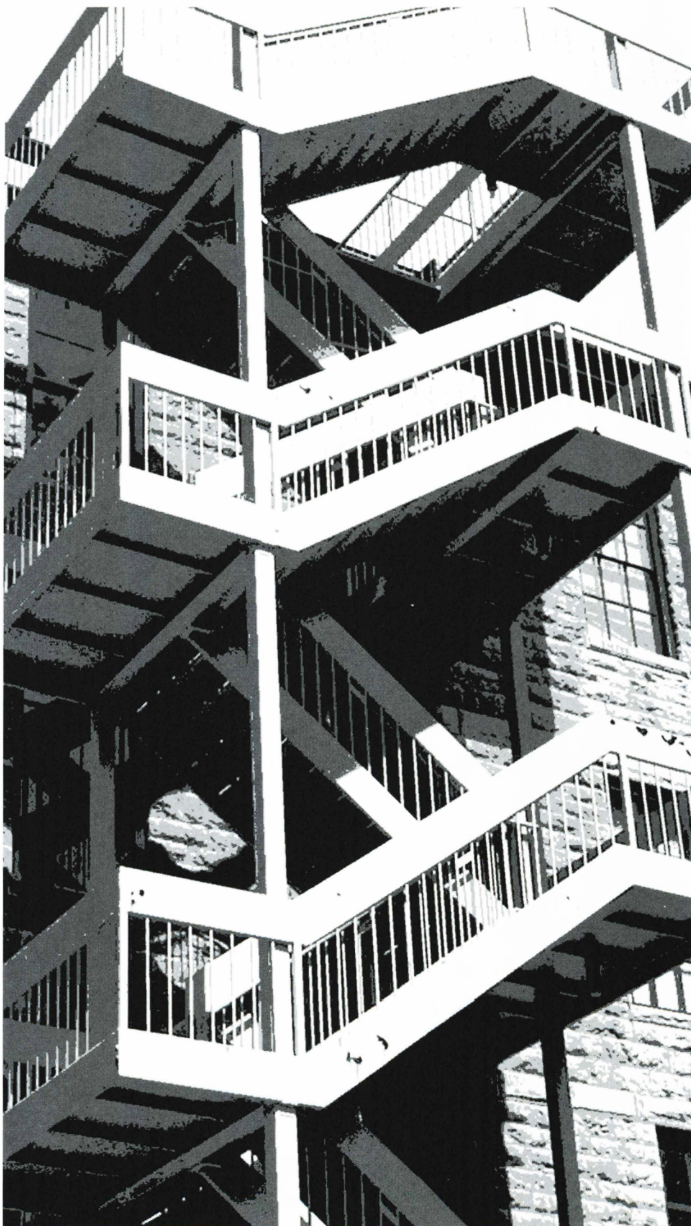
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Engineers' Forum

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September 2004

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Hokie Traditions

Be one with the Bird

Written by Landon Fraser

As Metallica's "Enter Sandman" starts to play over the loudspeakers, the crowd starts cheering, The Skipper Cannon fires, and the football players rush onto the field. As the players enter the stadium, each one touches a piece of Hokie Stone, mounted over the tunnel leading onto Worsham field, for good luck. Anyone who has been to a football game knows at least some of the football traditions, but what about the other traditions at Virginia Tech? How many other traditions can you name?



Virginia Tech is known for its long-standing traditions. Across the country, there is a wide knowledge and respect for VT's traditions, but among the students at VT there is a lack of familiarity with many of these same traditions. Currently there is a push to inform the students and staff about the traditions. If the staff and students don't care about University traditions, they could be lost. This is one reason why the Alumni Association is putting together a CD with information about all the traditions that will be handed out to students. It is tentatively scheduled to be ready in October of this year.

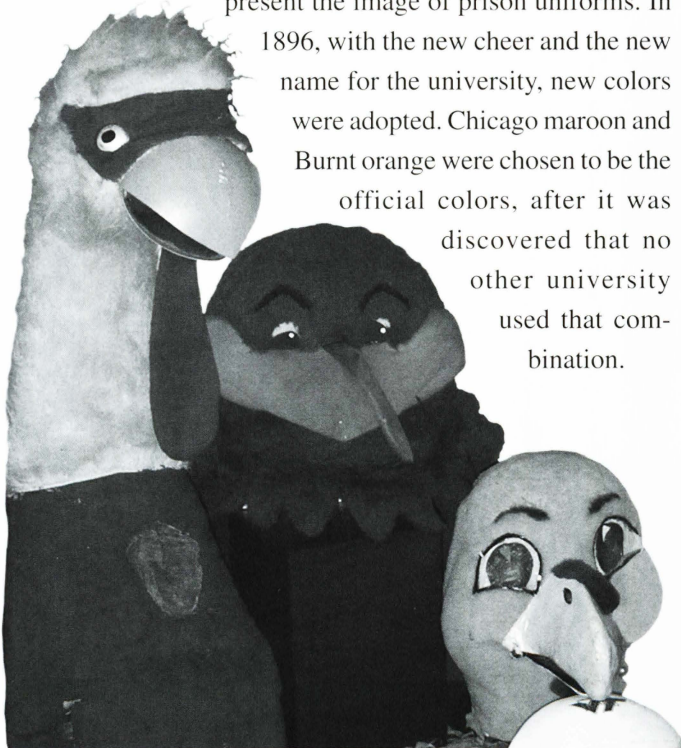
Football games contain perhaps the largest percentage of traditions known by the students. The first tradition used to be seen before people even enter into the stadium with the words "Lane Stadium Home of the Fighting Gobblers" in big letters on the West side bleachers. Unfortunately, these

words were removed from the side of the stadium this past summer while renovation of the west end took place and there are no plans on putting them back up.

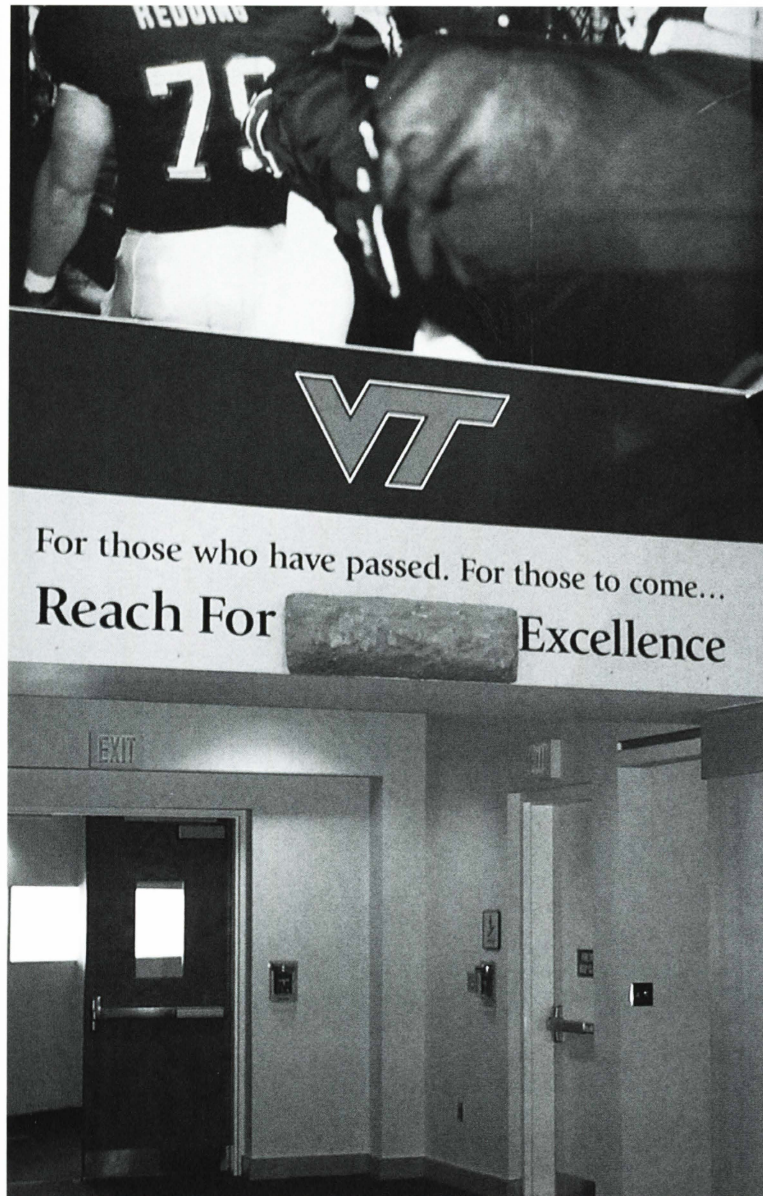
Where the term “gobblers” come from is unknown. One of the stories attributes the name to the fact that football players would “gobble” up their huge portions of food. Another story talks about the creation of a “Gobbler Club” for team spirit.

Starting in 1913, there was a live turkey present at football games to represent the mascot. In 1962, a costumed gobbler permanently replaced the live turkey. The football coach of the late 1970s did not like the story of where the term gobbler came from, so he promoted the use of the word Hokie instead of Gobbler for the mascot. In 1982, the mascot completely ceased being called the Gobbler and started being referred to as a Hokie. It wasn't until 1987, however, that the current Hokie Bird costume made its first appearance.

Virginia Tech is not only represented by the Hokie Bird but also by the unique school colors of orange and maroon. The original school colors were black and gray. VT gear displayed these colors using horizontal stripes, which were thought to present the image of prison uniforms. In 1896, with the new cheer and the new name for the university, new colors were adopted. Chicago maroon and Burnt orange were chosen to be the official colors, after it was discovered that no other university used that combination.



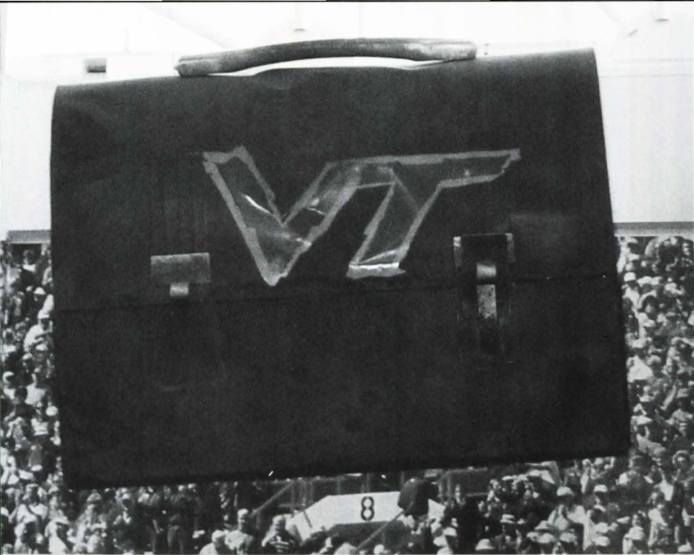
Various versions of the Hokie Bird mascot on display in the Virginia Tech football museum.



As VT football players enter the stadium, each one touches a piece of Hokie Stone, mounted over the tunnel leading onto Worsham field, for good luck.

Once inside the stadium, the first striking element is the abundance of maroon and orange. As if there wasn't enough maroon and orange present to begin with, a few years ago the “orange effect” and the “maroon effect” were initiated. Shirts were sold, and on dedicated days fans were told to wear either orange, on the orange effect day, or maroon, on the maroon effect day.

Continued on page 6



At left, one of the more well-known football traditions, the lunch pail. At right, the Skipper cannon.

Attending Hokie Football games is one of the easiest places to go see many school traditions in one place. The football players also have some game traditions that the fans hardly ever see. They have something called the walk, where the

The Changing of Command ceremony.



team enters the stadium two hours before the game to get a feel for it before the fans ever enter. Also prior to every game, the football team goes away for the night, away from all possible distractions.

One of the more well-known traditions observed by the football team is the lunch pail. In the 1995 season, a lunch pail was starting to represent representation of the blue-collar work ethic that the football players must live by to be successful, both on and off the field.

Throughout the duration of the game other traditions appear. After every touch down, The Skipper Cannon fires and the Hokie Bird bench presses weights the number of times equal to the number of points that the score board displays. Also, the Hokie bird isn't the only one to physically show the current score, when VT scores, the freshmen Corps of Cadets members do push-ups equaling the number of points just scored.

Another well-known football tradition is, between the third and the fourth quarters all the tuba players from the Marching Virginians come down onto the field and do the Hokie Pokie. The fans also have their own football traditions: during a third down, the fans all get out their keys and shake them to make as much noise as possible. These traditions, however, are just a subset of all the traditions that regularly occur at football games.

University traditions can also be found on parts of the campus other than the football field. For the homecoming pep rally, a

flaming VT is lit and then burned into the Alumni lawn by the hotel. Originally the flaming VT was carried through the streets before it reached the hotel. Now it is carried out to the lawn by freshmen and sophomore cadets, raised above the lawn, and lighted by the Hotel Company Commander using a torch that has been around since Hotel 04.

Football comprises many of the newer traditions on campus, but what about the oldest traditions at VT? The Corps of Cadets is responsible for all the original traditions. It could be argued that the Corps is a tradition in itself. Starting in 1872, when the university was founded, the Corps of Cadets was established, and it mandated participation by all students. It was only in 1964 that the Corps of Cadets became voluntary. Currently, VT is one of only three public universities in the country with both an active Corps and civilians attending the same school. Unlike many of the civilians on campus, the Corps members are quite active in maintaining the traditions of VT so that they don't die off. The traditions and the brotherhood, which is maintained within the Corps, are two of the major reasons why people join. Recently the Corps has

been changing slightly each year, and there is a sentiment among many of the Corps members that they want the old Corps ways back.

Many of the traditions in the Corps are at the company level, each company having its own unique set of traditions. The Corps together is called the regiment. The regiment is divided into Battalions which are further divided into companies comprised of 20 cadets apiece. When freshmen arrive they are split amongst the different companies and become "bud classes." They are not allowed to associate with any class except their own, which creates a close-knit bud class. After freshman year, the cadets get shuffled around into different companies than they started in, and the new company is their company for the rest of their time at Tech. Each company has their own initiation rituals each member has to go through at the beginning of their time with that company.

A newer tradition, for the Corps, is the Caldwell march. Addison Caldwell was the first student to enroll at Virginia

Continued on page 8

Corps of Cadets members are quite active in maintaining Virginia Tech traditions so they don't die off.



Tech, and he hiked 26 miles from Jefferson Forest. The freshmen do the first half of the march after they have completed their first six weeks of training, and at the end of the year before the changing of the command the entire Corps completes the second half.

By looking at a cadet, it can be easily determined by the uniform whether or not the cadet is a freshman. All freshmen cadets wear white rat belts instead of black belts with the uniforms. After the Change of Command ceremony, where the freshmen are turned into upperclassmen at the end of April, the freshmen are allowed to start wearing black belts. Previously the Corps used to partake in a tradition called "belt wars" in which the freshmen would put the belt into their mouth and would be dragged around by upperclassmen.

The Skipper, heard at football games and other events, is a cannon built in part by Homer Hickam and Alton Harper to outshine the cannon at VMI. It is named Skipper after former president John F. Kennedy, who was a skipper of a PT-boat, and who had recently been assassinated. The Skipper's first use blew out the windows of the VMI press booth during the annual VT vs. VMI game. Since then, it has been a staple at

football games, formations, and fireworks displays.

There are also several memorials around campus honoring various cadets. There are 8 pylons on the War Memorial Chapel, each one representing one Corps value. On the pylons are the names of the alumni who have served our country. The large stone in the center honors those who have received the Congressional Medal of Honor. On the upper quad, at the base of the flag pole resides a WWI Memorial with the names of all VT graduates who died in war. Cadets salute this memorial as they pass.

Also, the class ring at VT is special. Each year the ring committee designs a completely unique ring. They all have a few common elements integrated into the design, but each incorporates different elements representing customs and distinct memories of the particular class. Each ring has a screaming eagle incorporated into it with other symbols representing VT's military heritage, campus buildings, and the class logo and motto, to name a few. Virginia Tech is one of only a few schools with a unique class ring each year.

Ring Dance is one of VT's most renowned and anticipated

At left, the Color Guard. At right, the Skipper cannon, a staple at football games, formations, and fireworks displays.





There are 8 pylons on the War Memorial Chapel, each one representing one Corps value. On the pylons are the names of the alumni who have served our country. The large stone in the center honors those who have received the Congressional Medal of Honor.

traditions for the entire student body. This past year the 70th anniversary of Ring Dance was celebrated. Ring Dance each year is a special time for the current junior class in general, but more specifically for the junior cadets. In the middle of the dance, the junior cadets form a saber arch under which freshmen escort in their junior's dates. After all the dates are escorted into the room, the ring exchange for everyone at the dance begins, while Moonlight VPI, a song written for this particular occasion, is sung. The Corps members are not allowed to see their class rings until that night. There is a superstition that if the junior cadet sees their ring before the dance, either they or their date (depending on the gender of the cadet) will get pregnant. The freshman cadet for each of the junior cadet's dates makes sure to hold onto the ring and not to let the junior see it.

During the middle of the dance a pig is released by the freshmen cadets. Originally, the freshmen released the pig to try to ruin the dance because they were mad that they weren't invited. Since then, it has become a long-standing tradition. After the dance, fireworks are displayed at midnight over the

drillfield, while "Silver Taps" is played from the top of War Memorial.

Another lasting tradition at Tech is the usage of Hokie Stone in most of the buildings. Hokie stone is a limestone that is native to the southwest Virginia/Tennessee/Alabama area. Virginia Tech operates its own quarry, and since the 1950s it has been a requirement to incorporate Hokie Stone into every building. The upper quad contains the original part of campus made out of red brick. The Performing Arts Building was the first building to contain Hokie Stone.

Departments also observe their own traditions. An engineering department tradition is that in Randolph, students rub the nose of the statue of Randolph in the main lobby for good luck before they have a test.

There have been many new traditions made and some old traditions lost, but the current traditions should be maintained and carried through for generations to come.

