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## 17 blasts rock cities in Chile

United Press International

SANTIAGO, Chile — A powerful car bomb exploded near the Ministry of Defense Wednesday, hours after 16 nearly simultaneous blasts rocked major cities in the first terrorist bombings since the military government declared a state of siege a week ago.

No injuries were reported. The most powerful of the blasts was a taxi loaded with dynamite that went off 350 yards from the ministry building in downtown Santiago shattering windows of nearby buildings minutes after a nightly curfew began at midnight.

Sixteen almost simultaneous blasts rocked the Chilean capital and other cities two hours earlier, including an explosion that wrecked the offices of a newspaper in the copper mining town of Rancagua.

Six dynamite charges exploded at different points in the Chilean capital, damaging lamp posts to which they were attached, residents said. Ten explosions went off in the southern industrial city of Concepcion and the Pacific port of Valparaiso, authorities said.

President Augusto Pinochet declared a state of siege last Tuesday for the first time since 1978 to counter widespread demonstrations and growing terrorist violence that killed eight civilians and six policemen in the two weeks before the decree.

The state of siege broadened the government's powers of arrest and allows authorities to restrict the right of assembly, censor the press and open letters.

Despite the government crackdown, Chile's main opposition coalition agreed to stage a mass protest Nov. 27-28.

Neither the bombings nor the opposition's call for new demonstrations was reported by Chilean media because of the government's strict

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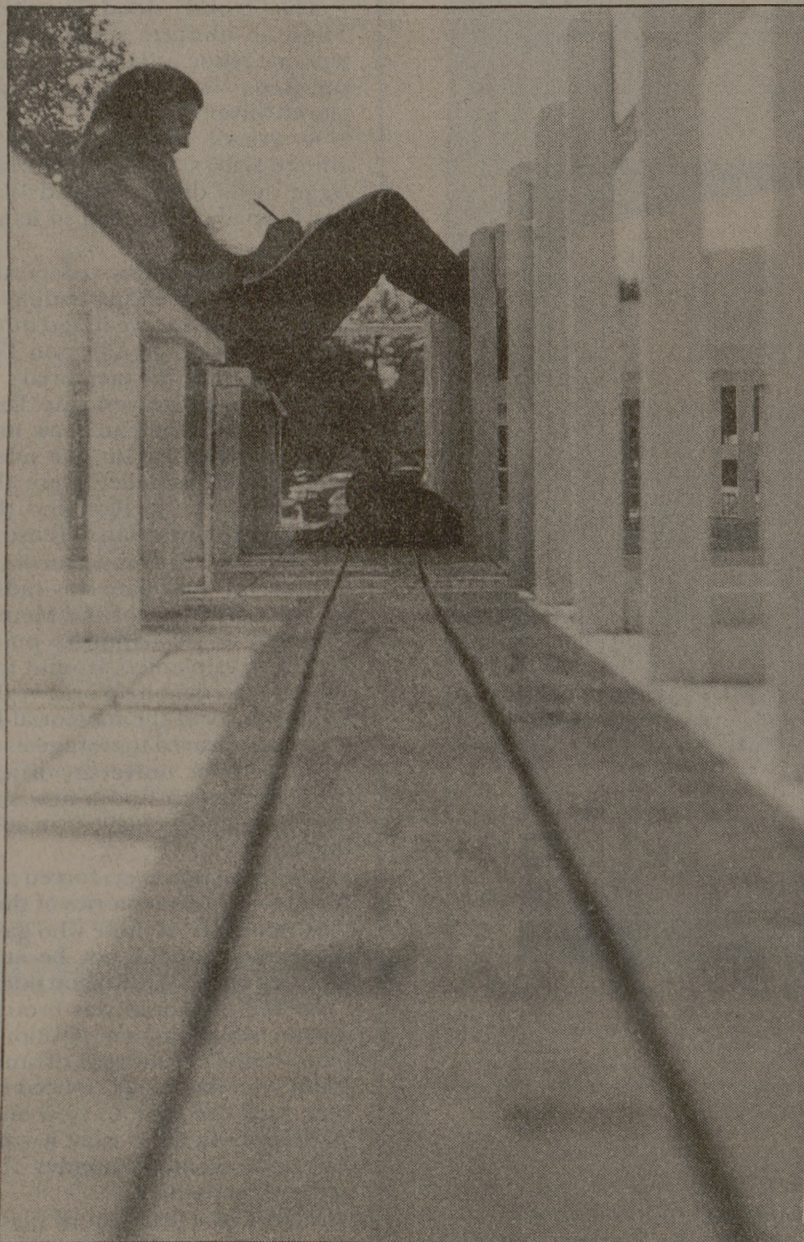


Photo by WALTER SMITH

### Outdoor classes?

Not really, but Jaque Angerstein does like to study in the quiet surroundings of the drill field bleachers. The junior biology major says she usually lies in the middle of the field, but couldn't Tuesday because the grass was being mowed.

## Spacewalking crew saves 2nd satellite

United Press International

CAPE CANAVERAL, Fla. — Discovery's spacewalking salvage crew pulled a second satellite out of a useless orbit Wednesday in a spectacular space triumph made easy by using Joseph Allen as a human skyhook 223 miles above Earth.

Allen, perched on the end of the shuttle's 50-foot robot arm, held the glittering, 1,098-pound Westar 6 spacecraft "steady like a rock" above the cargo bay for more than an hour and half while Dale Gardner prepared to secure it.

With Anna Fisher operating the arm and David Walker giving directions from inside the cabin, the two spacewalkers outside lowered Westar into a berth next to the Palapa satellite retrieved Monday.

"We have two satellites latched in the bay," commander Frederick Hauck reported jubilantly nearly four hours after the spacewalk began.

"Roger, that gave us a big cheer down here," Jerry Ross in mission control said.

The astronauts are scheduled to bring their \$70 million haul back to Earth Friday, landing at the Kennedy Space Center landing strip five miles west of the launch pad they blasted away from Thursday, Dec. 8.

"I think you'll find that satellite is very clean," Hauck said, after inspecting Westar from his vantage point at a rear window of Discovery's cabin. "We may have nicked it a couple of places but I can't see anywhere we did."

A television camera scanned the cargo bay and Ronald McNair in Houston control said, "It looks like you've got a full truck load there."

"We sure do, and you've got one happy crew up here," replied Fisher, two hours before the crew turned in for the night.

Although an earlier shuttle crew retrieved a scientific satellite for repairs in orbit, never before had men rescued satellites written off as lost by the insurance industry because of rocket failure. No other nation has that capability.

"We're absolutely delighted to be the beneficiaries of such a demonstration of skill and technical excellence," said Stephen Merrett, head of the British insurance syndicate that financed most of the historic salvage mission.

"All in all, there are literally hundreds of insurers who will benefit from the successful completion of this mission," he said, noting that the satellites will be overhauled and sold again to offset part of the insurance loss.

"As much as anything, this flight is a confidence builder that we should not set our sights too low on what we can accomplish in space," said Gerald Griffin, a former flight director and now head of the Johnson Space Center in Houston.

"We found that without exotic equipment ... that the astronauts, through the use of the gloved hand, were able to handle some large hardware and handle it precisely."

The 5½-hour spacewalk went much more smoothly than Monday's retrieval when an obstruction on the satellite prevented the astronauts from using the arm to hold the satellite while it was prepared for mounting. It was to avoid such a problem Wednesday that Allen used the arm perch.

Hauck maneuvered Discovery to within 35 feet below Westar 6 while the astronauts waited at the ready, gazing up at their gently spinning quarry.

"Oh, wow, look at that satellite," said Allen.

As soon as the sun appeared over

the horizon, Gardner took off with his 24-jet backpack and soared toward Westar, approaching the 9-foot-long cylinder with the blue-white globe in the background, producing some of the most spectacular space television ever seen.

Like the capture operation Allen performed Monday, Gardner inserted a lance-like grapple into a spent rocket in Westar, tightened some toggle bolts and secured himself to the satellite. A few bursts from his jetpack stopped the rotation.

Allen then locked his booted feet to the end of the arm and Fisher slowly raised him toward the satellite. With one hand he grabbed a tubular antenna and got a grip on a piece of spacecraft structure with the other.

Gardner then backed away, leaving Westar in Allen's hands.

"Establish a comfortable position and just kind of stay there," Walker told Allen.

"I'm just going to relax," he replied.

While Allen held Westar, Gardner worked under it in the payload bay, first attaching a plastic cover over the craft's dirty rocket nozzle and then bolting on a mounting ring.

At one point, Gardner lost a wrench. Walker spotted it floating against a bulkhead and Gardner — attached to a safety line — dove after the wrench and retrieved it.

With the mount attached, Allen lowered the satellite gently into three open latches.

Hauck gave an update to Ross to be relayed to mission controllers:

"You can tell them the airlock is depressurized and all is well with the world."

"Roger that, give 'em a good handshake and a slap on the back," Ross replied. "They did super jobs."

## Nobel Laureate: computers yield data on people

By SARAH OATES  
Staff Writer

"Artificial intelligence is simply the performance by a computer of human tasks requiring human intelligence," Nobel Laureate Dr. Herbert Simon told an audience of about 300 Wednesday.

Simon, a professor of psychology and computer science at Carnegie Mellon University, spoke about current research in teaching computers to think like humans, also known as artificial intelligence. This research began in 1955, he said, when computers were taught to solve logical theorems.

He said computer programs for intelligence are based on a "physical symbol system," which mimics human intellect.

To do this computers must take in symbols and analyze them, which the 68-year-old Simon said is comparable to a human's ability to hear, see and read. It also must be able to retrieve information from its memory bank and compare or combine it with other information, he said.

"Like a human, the computer does something different depending on what symbols it receives," Simon said.

Artificial intelligence computer programs include tasks such as solving math problems, developing chess strategies and making medical diagnoses. These tasks test the computer's ability to read and analyze different symbols.

Some computer companies are now developing "expert systems" de-

signed to analyze symbols relating to a particular field, Simon said. These computers are tailored to a customer's specific needs. For example, a business may order a computer system specifically designed to handle payroll accounts.

Simon said that artificial intelligence research has yielded new information about human intellect.

The research has shown humans must spend 10 years studying and working to become an expert in a particular field, he said. During that 10 years the person becomes familiar with about 50,000 units or "chunks" of knowledge pertaining only to that field.

"English experts would know about 50,000 chunks in the form of words," he said. "This is perceptual

learning, the ability to recognize and retrieve information from memory. It is not memorization. A large part of expert skill resides in these chunks."

Computer intelligence research also has shown that humans mostly use intuition to reason through problems. Simon said that researchers are programming computers to be intuitive.

"The inference engines" of an expert computer system allows it to reason," he said. "It allows it to think 'The goal is there and I'm here. How do I get to there?' It then can go to memory and see how it has dealt with a similar situation in the past."

Computers taught to "learn" this way have been able to look at examples of problems, pick out relevant

points and apply them to solving an entire class of similar problems, something Simon said humans normally do not do.

However, researchers have run successful experiments applying this technique to human learning, he said.

Simon is part of the three-man research team that developed "BACON," a computer program capable of inductive reasoning, or reaching an answer after analyzing a set of data. The program is named for renaissance philosopher Francis Bacon.

"We gave BACON Kepler's data for the planetary motion and within

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Dr. Herbert Simon

## Alzheimer's disease irreversible, unpreventable

Editor's note: This is the first in a two-part series on Alzheimer's disease.

By DAINAH BULLARD  
Staff Writer

It's rated as the fourth leading cause of death in the United States, it's responsible for about 120,000 deaths each year in this country, and it now affects 2 to 4 million Americans, but few people are familiar with Alzheimer's disease.

Alzheimer's is a progressive, degenerative disease that causes mental deterioration in its victims. Alzheimer's usually affects people over the age of 50. It is unpreventable, uncontrollable and irreversible.

Loss of memory — the prevalent symptom associated with Alzheimer's — eventually becomes so extensive that victims forget how to perform basic acts, such as eating and walking. Memories of family and friends slip away as the patient gradually becomes unable to care for himself and finally enters a vegetative state.

Disorientation, confusion and lack of judgment are other symptoms which accompany Alzheimer's disease.

Though it is listed as the fourth leading cause of death, Alzheimer's does not directly cause death. How-

ever, Alzheimer's is indirectly responsible for the deaths.

"The disease does not cause death in the sense that the lungs stop breathing or the heart stops beating," said Dr. Robert T. Matthews, an assistant professor of anatomy at Texas A&M. The results of Alzheimer's, such as being bedridden or confined to a nursing home in the advanced stages, provide an ideal setting for diseases such as pneumonia, which actually cause death, he said.

"Older people are more susceptible (to diseases) in general," Matthews said. "But people who have Alzheimer's, as compared to an identical age group, show a higher rate of diseases."

While research on cancer and heart disease is supported by well known organizations, the Alzheimer's Disease and Related Disorders Association Inc. is not a household name. The organization, like the disease, is not well known because it is new compared to the other organizations.

"Alzheimer's is a subgroup of the larger group of senility," Matthews said. "About 50 percent to 60 percent of the patients showing signs of dementia have Alzheimer's."

Matthews said research on Alzheimer's began about five years ago

## Neurologist: Alzheimer's best treated with caring

By KARI FLUEGEL  
Staff Writer

At the second meeting of the Brazos Valley Alzheimer's Disease Family Support Group at the Brazos Center Wednesday, Dr. Randall Light, a local neurologist, discussed Alzheimer's disease.

The meeting corresponds with the observance of November as Alzheimer's Awareness month.

Alzheimer's disease, which is a type of dementia (loss of cognitive abilities), decreases memory capacity, alters judgement and decreases attention span. It usually occurs in older adults, but

after pathologists proved that the cholinergic neurons in some people (Alzheimer's victims) were unusual. The cholinergic neurons are located in the substantia innominata part of the brain.

it is not considered a normal part of aging, Light said.

About 5 percent of the population over 65 has a severe form of dementia and about another 10 percent has a mild to moderate form of the disease, Light said.

Diagnosis is made by making a profile about the patient from accounts of his activities by friends and family members. But this diagnosis cannot be confirmed until death when the victim's brain can be put underneath a magnifying glass, he said.

The cause remains unknown, but Light said it could be linked to a reaction to medication, exposure to toxins, the presence of a

blood clot or multiple small strokes.

There have been a variety of treatments used, Light said. Most of those treatments have attempted to build up the resistance of the neurotransmitters in the brain.

"Much of the treatment, though, is what is termed sensitive caring (by the family)," he said.

"I think this community is very fortunate to have a support group such as yourselves," Light told the group. "Know that you're not alone and that there are a lot of people who want to help and support you."

nergic neurons, they do know that the neurons send messages associated with memory, Matthews said.

Unlike Parkinson's disease and Huntington's disease, which have symptoms similar to Alzheimer's,

there is no test to positively confirm Alzheimer's in living patients, Matthews said. A diagnosis of Alzheimer's disease is made when the possibility of similar diseases is eliminated, he said. Positive diagnosis can be made by examining the brain after death.

"It's kind of a strange diagnosis," he said. "You can diagnose a patient as having dementia. But Alzheimer's is defined narrowly in that after death, the brain has very distinct plaques ... which are not present in other people. They think this is the remains of dying neurons."

Both clinical research, which includes developing diagnostic tools and therapy, and basic research, concerning the function of neurons and why they die, are accelerating, Matthews said.

Dr. Randall Light, a Bryan neurologist, agreed that there is no specific test used to diagnose Alzheimer's. The disease can be confirmed during the patient's life if tests are performed on certain brain cells, he said. However, this test is seldom performed because it will make no difference in the treatment afforded the patient.

Light was the guest speaker at the Brazos Valley Alzheimer's Disease Family Support Group meeting Wednesday evening.