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Aeronautica

November 14,1990

Volume 67, Issue106

Learjet flies to Siberia to help child-burn victim

boy in the Soviet Union was recently flown from Siberia on Providence Hospital's LifeGuard Alaska Learjet to the Shriners Hospital in Galveston, Texas to undergo treatment. The boy, Amon Adveenko, suffered third and fourth-degree burns over 35 percent of his body in an accident playing with gasoline at his home. The boy's plight was brought to Alaska officials' attention by a school teacher on an exchange program in Magadan, Siberia after

the youngster took a turn for the worse and Soviet officials requested assistimee. The closest burn center in the U.S.S.R. equipped to treat the youngster was 4,000 miles away. Officials in both the U.S. and the U.S.S.R. worked to process the paper-

work for the trip. The U.S. crew and attendants were allowed to enter the Soviet Union without visus, while the U.S. waived the visa requirement for Anton and his mother, who accompanied him on the trip. The total flight involved 8-1/2 hours of flying time with a 10 hour stopover in Anchorage after the boy experienced respiratory problems during the trip.

Doctors said this type of difficulty is common with burn

WICHITA, KS (October 31, 1990) An eight year-old victims. After the boy's condition stabilized, the Learjet flew on to Salt Lake and then to its final destination in Galveston. The flight was donated by Rocky Mountain Helicopters of Provo, Utah, which provides aviation services for Anchorage's Providence Hospital. The aircraft flew from Anchorage to Nome where an Aeroflot navigator boarded the plane and flew to Magadan.

> It was the first time a foreign airplane over landed in the Siberian city and is the first known medical flight to the

Soviet Union. The Shriners' Hospital in Galveston is providing free medical care, while the Shriners in Alaska and Seattle are providing transportation and living costs for Anton's mother while she is in the U.S. Since his arrival in Galveston, the boy has

Soviet Union within the next few weeks.

Officials at the Institute for Circumpolar Health Studies are optimistic that the flight will encourage more emergency medical flights between Alaska and Siberia. Dr. Ted Burnin' flyer... Mala, the Institute's director, said, "At least we've come to a point we can look at a child and say: 'This is a child -- not a Russian or an American.



A LifeGuard Alaska Learlet was recently flown from Siberia to the Shriners Hospital in Galveston. Texas to treat a eight year-old boy who was burned over 35 percent of his body.

'This is a child -- not a

Russian or an American.'

Dr. Ted Mala

completes around-the-world Yuma, Arizona, - A McDonnell. On the flight, which took 13 hours and. Joint Airworthiness Authority and. General Electric CP6-80C2 engines.

Douglas MD-11 long range trijet has began in late October and covered 22,900 miles (35,871 km) in 43 hours and 13 minutes of flying time.

The big aircraft flew four legs during the trip, setting two point-topoint speed records in the process. On a Monday, the MD-11 left Yuma at 5:24 a.m. and arrived in Dallas, Texas, along the westtwo hours later

Fuel and ballast were then added to Canada and the a manifest that included 35 passengers and crew. The airplane flew close to such westward nonstop from Dallas to cities as Edmon-Seoul, Korea, covering 7,266 miles (11,693 km) in 14 hours and 50 minutes, a record for flight between these two points.

The following day the MD-11 completed a second record-setting flight, and three minutes. linking Seoul with London, England, a distance of 7,005 miles (11,273 km).

24 minutes, the MD-11 carried a John Miller, chief engineering test completed a trip around the world that simulated payload equivalent to 281 passengers and their baggage.

The final leg of the journey North Pole for navigation tests.

central region of Certification and first delivery of MD-11s to United States, customers is expected in the next few weeks. ton, Alberta and

Nevada and into Yuma. The final leg flight covered exactly

Vigas.

7,000 miles (11,264 km) in 13 hours navigation systems and to obtain

pilot on the MD-11 for McDonnell Douglas.

U.S. Federal Aviation Administradeparted London at 9 a.m. local time tion evaluation pilot Jim Richmond and took the MD-11 directly over the also flew part of the mission. It was the first time that pilots for the two It then flew southward along the major aircraft certification agencies 115 degree meridian, which runs have shared the controls on a formal evaluation flight.

The long flights, part of the MD-II's certification flight test program, allowed regulatory officials from the

United States and Europe to evaluate flight crew workload, test the aircraft's advanced precise measurements of the aircraft's At the controls were Robert Galan, fuel consumption, power for the more than 400 passengers over interan evaluation pilot for the European aircraft was provided by three

Pratt & Whitney and Rolls-Royce engines may also be ordered for MD-

The Yuma/Dallas leg, covering 885 miles (1424 km), in just two hours, was flown to get the MD-11 in position for the three long test flights. This test series is scheduled to be the last in the MD-11's initial certification program that began on January 10th of this year and totals more than 2,000 bours

Certification and first delivery of MD-11s to customers is expected in the next few weeks. As of October 1, McDonnell Douglas had received 375 orders and other commitments for MD-11s from 32 customers worldwide.

The MD-11 is a three-engine, wide cabin aircraft capable of carrying continental ranges nonstep.

Record setter ...

photo coursely by 48. Ocean't Diagram

A McDonnell Douglas MD-11 long range trijet has completed a trip around the world that began here four days ago and covered 22,900 miles in 43 hours and 13 minutes of flying time.

Air China gets jumbo freighter

by Hoyt Brown

Lann

Aeronautica Editor

In late October, Air China took delivery today of its first widebody freighter, a Boeing 747-200F.

Air China Vice President Yan Shi An accepted the plane during a ceremony at Boeing corporate headquarters in Seanle.

The airline will use the world's largest commercial cargo plane to transport apparel, textiles and other products from Beijing to Los Anand Hong Kong, Mr. Yan said, He added that on the return flights the other electronic items.

The Boeing 747-200 freighter can transport up to 111,500 kilograms of cargo 6,500 kilograms (or lesser amounts on flights of more than been extremely helpful during the

10,000 kilometers). Nose-up entry delivery process. and side eargo doors provide easy loading and unloading of pallets and containers. In addition, the fuselage is environmentally controlled for carriage of live animals, perishable goods or temperature-sensitive electronic goods.

Nearly 50 airlines fly Boeing 747 freighters and combination passenger/cargo super jets.

Air China currently operates six 747 combi aircraft, including three geles, San Francisco, London, Paris new 747-400 combis, the first of which was delivered last year.

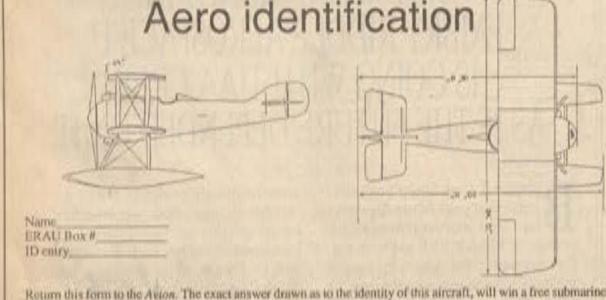
"We believe, on the basis of using freighters will carry computers and combis in the past, that we can utilize the all-cargo freighter very well," Mr. Yan explained.

He added that Boeing management "up and down the organization" has

'Air China is a world-class airline," said Jim Chorlton, Boeing vice president, international sales, "We are pleased that Air China has placed its confidence in us for its passenger and cargo transportation needs."

Boeing has been a partner with China in commercial aviation since 1972, when the Civil Aviation Administration of China ordered 10 Boeing 707s. China has since ordered more than 100 Boeing jets, nearly two-thirds of which have been delivered.

On May 31, CAAC placed its largest Boeing order to date- 36 aircraft with options on 36 more. Included in the 54 billion order are five advanced-technology 747-400s, four widebody 767-300s, 13 757s and 13 737-300s.



sandwich of their choice from Sorremo's Delt. The student publication staff and their families are not eligible

Results of previous Aero identifications...

Michael Marsden won the October 31 ID. He correctly identified the plane as an AN-72, even though a few entries were tracked into thinking it was a Roeing YC-14.

Deane Crittey beat other entries for the November 7 ID. The aircraft was identified as a Rockwell XFV-12A. Good luck on this weeks ID! Keep bringing in those those entries.

Jetstream 41 stays on schedule

by John McDermott Aeronautica Writer

Aircraft, Airline Division of Prestwick, Scotland has accepted the first Jetstream 41 wing from sub-contractor, Gulfitream Aerospace Technologies. An acceptance ceremony held in Oklahoma City included executives of the two aerospace companies and the entire Gulfstream Oklaboma work force.

The Jetstream 41 is a 29 passenger, twin tuboprop powered airliner. The Jetstream 41 is a development of the Jeistream 31, it retains the walkaround headroom of 5 feet 11 1/2 inches without the aisle step of the 31 fuselage. Airlines have committed for more than 70 of the Jetsteam 41's. The turboprops are flat-rated at 1500 shp.

for 200 wings. Following the accepathan the 31 with a five or six bladed British Aerospace Commercial tance ceremony the wing was composite propellers and the latest prepared for shipment to Prestwick, Scotland to be joined with the the first flight in the summer of 1991.

The Jetstream 41 wing project was engineered by Gulfstream Aerospace Corp. in Savannah, GA, and is built by Gulfstrteam Aeroaspace Technologies. The wing design enjoys a highly favorable strength-to-weight ratio as a result of the large number of machined parts, bonding, and reduction in wing openings. The 41 shares many of the parts of the 31, improvements over the 31 include a larger by lowering the wing to below the wing and more powerful Garrett TPE331-14GR/HR engines. The new

present contract with Gulfaream is The Jetstream 41 will be much quieter technology fuselage sound proofing.

The balance of technology, perforfuselage. British Aerospace projects mance, and passenger comfort is set to produce a pressurized airliner operating up to 25,000 feet with trip costs 15 to 25% better than its competitors and with comparable seatmile costs. Break-even payload will be one to three passengers less than

the competition. The 41 is capable of two one hour flights without refueling, out of a 2,000 foot elevation airfield, or a single one hour flight out of a 5,000 foot elevation airfield. The 41 has a max takeoff weight of 22,377 pounds, with a payload of 6,300 and fuel load



Nose-up entry and side cargo doors enable easy loading of pallets and containers for Air China's first widebody freighter, a Boeing 747-200F, shown being readied for delivery.

Congratulations to the Embry-Riddle Eagles!



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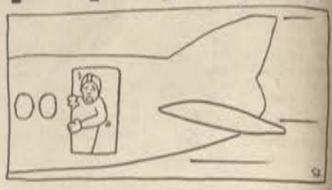
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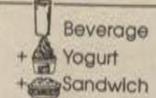
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Space news...

Soviet Zenit booster explodes... On October 4, just seconds after liftoff from Baikonur, Australia, a Soviet two-stage Zenit rocket booster exploded. Tass did not report the accident until October 11. It is believed that the rocket was carrying a spy satellite at the time of launch.

According to reports, the launch will affect the Cape York Space Agency which has present plans to launch commercial payloads on Zenit vehicles from Australia. Zenit has made 13 launches since 1985, with only one prior failure recorded. The four Zenit first-stages are also used as strap-on boosters for Energia, which has made two successful launches.

Journalists will fly to space... Early October, six Soviet journalists began training to prepare for a mission to the Soviet space station Mir. There is no scheduled date for the mission yet. The six reporters which began training are A.Andryushkov and V. Buberdain from the Krasnaya Zuerda Newspaper in Yu, V. Krikum from the Ukranimian TV Film Studio, P. Mukhortov from the Sovetskaya Moledyozh Newspaper, S. Omelchenko from the Delovoi Mir Newspaper and V. Sharob from the Literaturnaya Gazeta.

Secret payloads revealed... On June 8, a military Timn 4 booster was launched with a classified payload. It was thought that such a payload was a reconnaissance satellite. However, in accordance with the International treaties, the United States has listed the satellites launched aboard the Titan rockets. The announcement revealed the surprising news that instead of one, four different payloads were deployed, namely USA 59-62.

No orbital data was revealed for USA 60-62 and the purpose of the satellites is not known.

Mir profits are "hypothetical" ... For the first time, the Soviet space station Mir might profit as a result of work done on the manned space station by cosmonants Anatoll Solovyov and Aleksandr Balandin, Solovyov and Balandin took over 2,000 pictures of the surface of the Earth and oceans with each one worth \$1,000 on the world market. It is estimated that the profit earned by the cosmonauts could be 13 million roubles. However, Glavkosmos head Aleksandr Dunayen says that no money has yet been transfered into the account of that agency and the projected amount of 13 million roubles is "hypothetical".

Suns's atmosphere seems infinite... a September 22, the Ptoneer 10 spacecraft reached the 50 AU point. This is the point where the spacecraft is 50 times farther from the Sun than the Sun is from Earth, Reaching the 50 astronomical unit (AU) point "marks a new epoch in exploration of the outer solar system", according to Pioneer experimenter James van Allen, discoverer of the radiation belts around the Earth that bear his name.

Pioneer has travelled further than any man-made object, a distance of 4,647,809,889 miles from Earth. The launch of Pioneer occurred on March 2, 1972. Since then it has not stopped making discoveries about the limits of the Sun's atmosphere, called the heliosphere. Pioneer 10 is seeking, among many things, the boundary between the solar heliosphere and the true stellar gas. It is also looking for the possible location of a 10th planet.

Communication with the spacecraft, which left the solar planets behind on June 13, 1983, is expected to continue until the year 2000 when Pioneer is 6.9 billion miles from the Sun or 74.2 AU's

It takes 13 hours and 47 minutes at the speed of light (186,000 miles per second) for round trip radio transmission between Earth and Pioneer 10, the spacecraft speed is about 28,900 miles per hour. The most important finding yet for Pioneer 10 about the outer solar system, is the extent of the Sun's beliosphere, which was originally thought to end at the orbit of Jupiter. At the present time, Pioneer is ten times farther away from Jupiter and still within the solar heliosphere.

Atlantis will fly with secret cargo

by Jose L. Vazquez-Delgado Jr. Space Technology Editor

The launch countdown for Mission STS-38 began at 10:30 p.m. tast Sunday. Closcouts of the aft compartment are complete. Both of the cargo bay doors were installed on Monday and the counidown events are proceeding without problems.

Atlantis' last mission was in February. Then too it flew with a classified Department of Defense (DOD) payload.

Atlantis, along with Discovery and Columbia, were grounded during the summer after a fuel leak was discovered in Columbia, Later in October, a beam was left in the engine compartment while the shuttle was

mated with the external tank. However, this only caused minor delays. After being cleared for faunch, Atlantis was rolled out to Pad 39-A where the launch had to be halted once again last weekecause of payload anomalies.

The only foreseen problem is the weather. There is only a 40 percent chance that overall conditions will be acceptable for tomorrow's launch. Crosswinds at the KSC Shuttle Landing Facility, ceilings below 8,000 feet and rain showers in the area are of concern.

carry a classified DOD payload. A four hour launch window will go in effect at 6:30 p.m. tomorrow.



Atlantis and Mission STS-38 will Shhh, Shuttle is going up ...

Shuttle Atlantis will finally fly again after a trouble plagued summer. Like its last mission, it will fly a DOD payload,

Is Buran a copy of U.S. technology?

by Dennis Adams

Space Technology Writer

Since the first pictures of Buran were seen, its obvious similarities to our space shuttle caused everyone to wonder. To Americans, the only pos-



Carbon copies...

The Soviet space shuttle Buran has only flown once. It is scheduled to fly unmanned again in late 1991 and return some of Mir's crewmembers.

pathize with), the similarities between the shuttles may be few and far between,

According to Mikhail Chernyshov, the shuttle dictate the design. Different models of cars, purpose. His example is that an iron can be designed to be round, but it would not be function-

ing 30 tons of payload into orbit and returning 20 has at least been designed with a system that may tons to earth. Buran's interior shows a clear difference between the two shuttles. Buran's electronics and computers are entirely Soviet made, as are titanium, beryl, aluminum, boride, nobium and other alloys and composites. It's heat-insulation tiles can brag on temperature extremes of up to consist of two pilots and a basic reserve crew. It is 1500 degrees Celsius.

To prepare for Buran, the Soviets developed extremely sophisticated air and gas-dynamic test beds, heat chambers and unique strength testing equipment. Laboratory aircraft and shuttle models were sent on thousands of test flights. All of its design developments were tested, not only on the ground and in the air, but also in orbit, Four acrospace vehicles were used to test Buran's heatinsulation system.

The entire booster system of their shuttle greatly differs from ours. Aviation Week and Space Technology makes a point that the United States has no booster that would rival Energia in power.

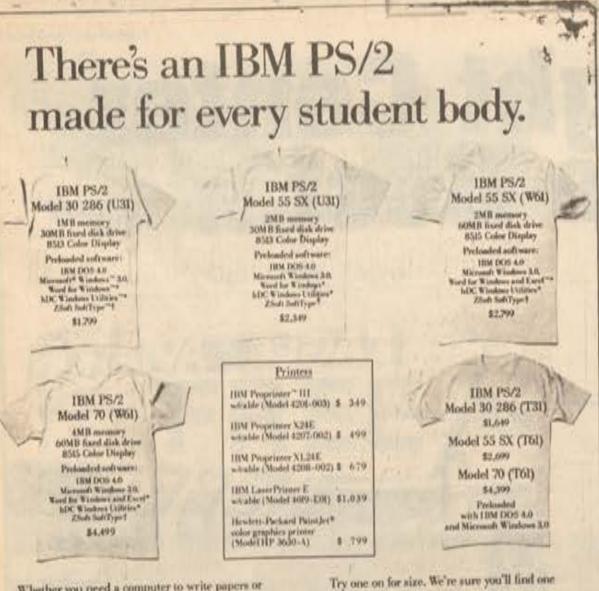
sible reason behind these similarities was that the tile does, Energia employs liquid rocket motors. Al-Soviets had copied the basic design of our shuttle, though more difficult to exploit, the Besides' the Soviets difficulty with their first oxygen/hydrogen fuel gives the ability to lift much launch (a subject NASA can undoubtedly sym-heavier-weights. Our shuttle and booster constitutes one system, where the Energia-Buran Tandem is not interdependent.

Also, despite what Chernyble may have lead the similarities are easily explained: the requirements world to believe about lacks Soviet safety measures the Buran is very "safety-smart". The shuttle is entelevisions, and refrigerators are produced around tirely automated, which relieves the crew of the the world and are all similar in design due to their routine tasks and enhances safety. It is also equipped with many other safety features such as an ejection system that will function up to a height of 20km, and a parachute. Since the system has The Soviet Energia-Buran is capable of bring- never been used, its effectiveness is unknown, it very likely have saved the Challenger crew

Buran's next flight, planned for late 1991, will see it dock with Mir and return part of its crew to earth, all in a completely automated mode. It's first manned flight is scheduled for 1992. Its crew will possible for Buran to compliment a crew of seven. Four would be positioned in the upper command section and three in the lower living chamber, At the moment Igor Volk and Rimantas Stankyavikus are the most probable candidates for the mission.

The Soviets only plan to fly their shuttle 2-4 times a year, when its immense power is necessary. Otherwise smaller booster rockets will handle lighter loads. The Soviet shuttle concept clearly difters from that of the U.S.

In general, the Buran program is also in trouble and some analysts speculate that the entire program may be cancelled as a cost saving measure. It has been admitted in Moscow that the Buran program Instead of using solid rocket boosters as our shut- cost the Soviet people 14 billion roubles to build,



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Astrofuel to be mined from the moon

by Dennis Adams

Space Technology Writer

Future energy sources is a topic being looked into very closely today. It is realized that the power plants of today that derive their energy from the burning of fossil fuel will no longer be acceptable. The problem is that these power plants make up to 90 percent efficiency. The only other option thus far is nuclear fission energy. These can operate at 60-70 percent efficiency, but produce dangerous radioactive under isotopes.

Now there is another possibility, Astrofuel. Astrofuel is Univerhelium-3 that would be mined from the moon. Helium-3 fusion plants are not a new concept, but due to the element's rarity on earth, the theory lacked a great deal of study. With the Apollo 17 landing, the moon proved to hold a fairly plentiful supply. All factors indicate the lunar resources could supply the Earth's energy needs for at least 1,000 years. The Helium-3 originated form the sun and was carried to the moon by

studied. Through the Apollo 11 the moon, and in effect, covering several other resources needed on. Moon for its resources.

that the Sea of Tranquillity is the timated that the cost of exploiting prime target for initial investiga- the resource would be equivalent tion. It seems to have a high to paying \$7 per barrel for oil. potential for many tons of Helium-3 below the surface. The Helium-3 also creates byproducts Apollo 17 mission points to the such as helium, nitrogen, water, vicinity of Mare Serentatis methane and carbon-oxygen as another possible location.

The actual act of Lunar soll can also mining provide several other the soil is resources needed 1110 on Earth. Ilmenite has study The and is a possible sity of source for iron Wisconsin and titanium... 's Center

for Space Automation and Robotics is designing solar powered robotic equipment to do the mining. These devices would scoop up the top layer of lunar soil and beat it to separate the Helium-3 from the other lunar material. The unused material would be dropped off the back of the lunar miner causing Several mining sites are being minimal environmental impact to

growth, a water supply and even the ostabproven to be abundant of a conon the lunar surface tained at-

> habitants. It is also very important to note the one byproduct not created during Helium-3 processing is a radioactive isotope, In the worst reactor accident, no meltdown life is spent, it would be disassembled and disposed of as lowlevel nuclear waste.

Besides a vastenergy resource,

compounds. These would permit

food

mosphere

thousands

of lunar in-

f o r

Lunar soil can also provide

mission, the U.S. has determined its own tracks. It has also been es- Earth. Ilmenite has proven to be abundant on the lunar surface and is a possible source for iron and titanium. Plagioclase is extremely widespread on the moon and is a potential source for aluminum and silicon.

So far the main difficulty with the program is that we still do not have a feasible design for a fusion reactor. Since the University of Wisconsin began it's fusion program in 1963, it has granted some 186 Ph.D.'s. However, no one has been able to develop a reactor lishment to date that releases more energy than it consumes.

Studies are continuing as interest grows and potential ways of commercial exploitation are realized. As the United States continues in quest for the stars, the Moon will most likely be the departure point.

This and the pressure for new advanced technology will no doubt lead to the development of a safe and efficient fusion prowould occur. When the reactors gram, Once this obstacle is cleared, NASA and probably other international space organizations will create a program that will enable man to mine the



Gold mining on the moon ...

The University of Wisconsin-Madison has come up with a concept for a robotic unit to extract gases from lunar soil. It will take time to fully develop the robotic unit, but it seems a good energy alternative.

Re-entry capsules are again looked to for space market

Re-entry capsule

technology has

fundamentally

remained unchanged

since the 1960's ...

by Marcelle Gibson Space Technology Writer

Researchers identify re-entry capsule services as a growing international market for the 1990's. Small capsules could provide researchers with regular access to space. Orbits can last as long as 120 days with high quality microgravity environments of 10⁻⁴ to 10⁻⁵ G's. Upon retrieval, the researcher can analyze results, modify the experiment and refly the system within a year. Rapid research would be capsules like photon launched by a Soyur rocka boon to scientific en-

deavors Reentry capsule technology has fundamentally remained unchanged since the 1960's except for new heat shield materials and space subsystems improvements. *

United States allow spacecrafts to be built more economically than their predecessors. Capsules could help achieve a balance between expensive manned missions and lower cost unmanned research platforms.

Ballistic design is the industry trend for cap-reentry capsules for space research.

sules. The best known is the blunt nose cone developed by General Electric for the U.S. Discoverer program. This design has proven effective in over 500 flights. It offers good volume/mass ratio for microgravity experiments and best optimizes sample payload capability for small launch vehicles. The Chinese FSW and MBB Express parallel the Discoverer design.

The Soviets extensively employ spherical

et. Apollo and Gemini style capsules with maneuvering abilities include the Dornier Rawmkurier, Aeritalia Carina, and MAN Arane 415 capsules, Space Industries and British Aerospace are now developing high lifting capsules

New manufacturing methods developed in the Previously these received little research attention due to high development and refurbish ment costs plus operational complexity.

After four years of limited space flight since the Challenger explosion, microgravity scientists are returning to proven methods like

Satellite entrepreneur speaks to ERAS

by Jose L. Vazquez Jr., Roland T. Houle Jr. and Michael D. Fried Jr. Space Technology Writers

Aerospace Society (ERAS) had a guest rooms. speaker from Astrotech, Steve Griffin, a West Point graduate, Jectured the highly the 40 acres giving Astrotech the ability to motivated group of space interested expand when needed. In fact, all the students about his company.

Astrotech is the only commercial owned issued already, and operated payload processing company. Titan rockets and the space shuttle.

the areas of assembly, mechanical and 1.2 million dollars. The processing integration, 3rd stage rocket motors, would take about 12-16 weeks and the propellants and station keeping of satellites company renting the facilities brings its while in orbit. The physical facilities own people in charge of doing the work on

consist of various clean rooms, payload storage facilities, hazardous and nonhazardous processing facilities (explosion Last Wednesday night, the Embry-Riddle proof rooms) and environmental control

All these facilities occupy only part of all necessary permits for expansion have been

Astrotech contract prices are 20-25 It only employs eleven persons and is percent less than government prices. This is located in 40 acres of land only miles from possible since the government is not the Kennedy Space Center in Titusville, FL. allowed to compete with commercial The company provides facilities and entrepreneurs, Commercial contracts are support for the launch site preparation of handled in a fixed price fashion. That is, the satellites and other payloads which are price is set at the beginning of the operation launched into space aboard Delta rockets, and it guarantees the use of all the facilities

Full service capability is also provided in Usual cost per contract run between 9

the satellite. And for that price, Astrotech will even fly the flag of the nation whose payload is on the premises. There is enough room for five different payloads to be processed at one time.

There is a NATO satellite that will be processed at the Astrotech facilities which will be the 25th satellite to go through the facilities. The NATO satellite will fly into space in mid-December aboard a Titan

This activity of the Embry-Riddle Aerospace Society is one of the last ones of the semester. Other activities have included going to the Discovery launch, going to Space Camp, having a BBQ at the Ponce Inlet and having an aviation art sale in school. The last two activities planned are a planeturium visit tonight and an awards dinner in two weeks. ERAS is no doubt one of the most active clubs in the university with a continuous high number of members attending the weekly, Wednesday night meetings in room E-609.

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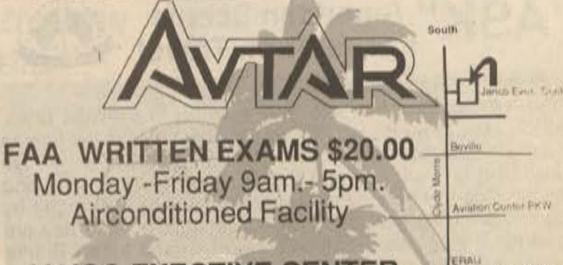
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INSOC releases HACK

by Jason Simon Diversions Editor

The Information Society has finally released their new album, which is entitled HACK. This album is the follow up to their first album

If you can remember, the Information Society's first album had some hard hitting songs with digitized introductions and background tracks. Unfortunately, this album seriously lacks the quality found in the first album.

The songs have very little redeem-ing quality; the feel of the Information Society is missing from this album. Of the fifteen songs on this Compact Disc there is only one which I truly like, that is the first track, titled "Seek 200." In the other tracks the lyrics sound butchered into the songs, and that isn't saying anything about the third grade quality of the actual music. This is a very poor attempt at a comeback

chisions, I decided to re-review the formation Society almost made me do should wait for it to go on sale.



Hacked album....

The Information Society has finally released the follow up to their first album, HACK. Unfortunately HACK lacks the spirit that made the group famous

gave the fact away that it was Information Society but the style change was dramatic. The new songs are at best described as new wave, but it was a shame that they didn't stick to their original style. It would have made for a better album.

Overall HACK, created by the In-

songs on their first album, then 1 as the title said. For those who enjoy played HACK immediately afterward. the sound of the Information Society, The groups instruments and vocals the only thing I can recommend is dollars. However I still think you

those who like to remember the haunting sounds of their third grade band ensemble, HACK is available at most major record stores for about fifteen

Eddings' Diamond Throne sparkles

by Joseph A. Salerno

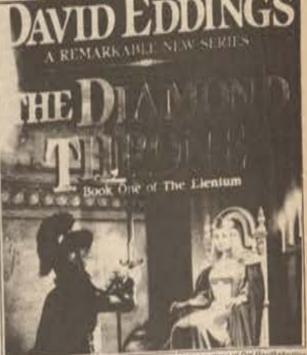
The Diamond Throne is the first book in the Ellenium series by David Eddings, author of the bestselling Belgariad series. Now available in paperback, The Diamond Throne is an exciting book written in the typical Eddings

The story is divided into sections, which, like the Belgariad, are titled after the cities in which they take place. The sections are further subdivided into chapters.

The setting for the novel is a world created by Eddings which has some similarities to medieval Europe. The most prominent similarity is that the central religion of the land is a monotheistic church which worships a deity known only as God, which parallels the God worshipped by the Roman Catholic Church of the real world. Though the God of Eddings tale doesn't have a Jesus tale within his history. The church which worships him is strucutured the same as the Roman Catholic Church. However, instead of a Pope, Eddings church is headed by an Archprelate.

The book's plot is thick and exciting. The story revolves around a knight by the name of Sparhawk, who is a member of a militant branch of the church known as the Pandion Knights and the Queen's champion, It is the militant orders who fight the church's battles. Upon return from a ten year exile, Sparhawk finds his Queen ill and encased in a block of crystal that sustains her life and will stick to the first album. This is not a preserve her for one more year. He takes it upon himself disc for listening, this is a disc for to find a cure for his Queen's ailment. During his search, laying down and avoiding. But for he finds himself becoming wrapped up in the plots of others, including the schemes of a crooked clergyman aspiring to the Archprelacy, the fantic maneuvers of a religious heretic and the aspirations of an evil god.

The Diamond Throne is colorfully written and filled with exciting characters who, as always, have that Eddings sarcasm always ready at a moments notice. It is worth the



Many faceted ...

David Eddings invents colorful, complex characters with believable human traits in his book The Diamond Throne.

time involved to read The Diamond Throne.

The Ellenium series is continued in The Ruby Knight, which is due out in hardback copy this November, and ends with The Sapphire Rose, which is forthcoming from David Eddings. The entire series is published by Del Rey Books/Ballantine Books

Eric Johnson plays at Finky's

by David Fekke

Diversions Writer

Eric Johnson performed at Finkys last Thursday night. It was only the second night of his Ah Via Musicom tour. If you have not heard of Eric Johnson, you will soon,

The 36 year old guitarist and singer from Texas dazzled audience members with his music and technical playing

He played songs from his 1986 album Tones, and the

new album. Johnson received virtually no airplay off of Tones, but two songs off of the Ah Via Musicom have received limited airplay from a couple of rock stations. The song over the radio that is getting the most airplay is "Cliffs of Dover", which is an instrumental.

The songs that highlighted the show were "Cliffs of Dover", and "Zap". But Johnson played with an incredible amount of energy through all his songs.

Instrumental music has not been popular in the past. A couple of instrumental guitarists have gained some notericty over the years. People like Jimi Hendrix, Jeff Beck, Steve Vai, and Joe Satriani have played instrumental music, and their music is becoming more popular

These people are paving the way for other musicians, like Johnson, Johnson is destined to become a major influence for many musicians.

On this tour, Johnson brought along two very good musicians to accompany him. Kyle Brock moved the audience with his bass playing, while Tommy Taylor hammered away rhythms on the drums.

While Johnson used complex chord structures, he had incredible dexterity and speed, and is the most accurate guitarist I have ever heard.

By the end of the concert, Johnson and his band had come out for two encores. They had put on a very good

There were no major glitches, except for some minor amplification problems, everything went smoothly.

Jonnson is just one of the major acts that has performed at Finkys recently. Earlier this semester, Dread Zeppelin and Vixen played there. Meat Loaf is going to play on the 14 of this month, and Edgar Winter and Rick Derringer will be playing on the 29.

Johnson is no stranger to clubs. He said that he had been playing in clubs since he was 14. He had been working as a studio musician before making his first album.



Excellent music...

Eric Johnson is currently touring in his Ah Via Musicom tour. Finky's patrons were recently treated to the sights and sounds of Eric Johnson and his band,

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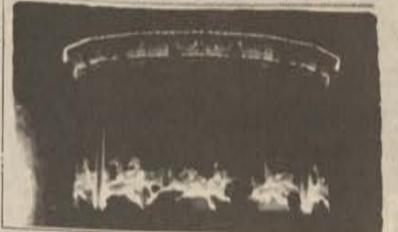
Collins releases live CD

by Jason Simon Diversions Editor

I really think Phil Collins is the only person in the music business who can do no wrong. After many hit albums and singles he has released a compilation of live songs from his "Serious Tour 1990" titled Serious Hits. Live!

The hits begin with a live recording of "Something Happened On The Way To Heaven" which sounds very good. Collins, unlike certain performers like Madonna, sounds just as good in person as on Disc and this proves it. The only drawback was the sound of the background singers which were a little off key for the per-

The next song is "Against All Odds" which was excellent, followed PHIL COLLINS



But seriously... Phil Collins has released a new album which features live cuts from his recent tour.

"Another Day In Paradise", and "Take Me Home." Separate Lives.

After "Separate Lives" the disc continues into "In The Air Tonight" which is the best performance on the lins really hit a homeron with the

After "In The Air Tonight", Serious Hits...Live! continues into "You Can't Hurry Love", "Two Hearts", the by "One More Night", "Don't Lose smash hit" Sussudio", "Groovy Kind My Number", "Do You Remember", Of Love", "Easy Lover" and finally

A total of fifteen super hits on one album, what more could someone want from a Compact Disc. Phil Colrelease of Serious Hits...Live! Mainly because he sounds just as good live as be does in the recording studio. Serious Hits...Live! is available at record stores everywhere for about nineteen dollars in Compact Disc.

Child's Play II is horrifying

by Jason Simon Diversions Editor

Child's Play II hit the theaters last Friday, I expected another dull sequel to a horror movie, such as Halloween Five, but I was drastically wrong.

The movie starts out in the toy factory where the Good Guys dolls are made. The president of the company is worried about the sales of the Good Guys dolls since the problems encountered with the Chuckie doll have hit the front pages of Chicago's newspapers and television news shows. One of the president's advisors tells the president that he has nothing to worry about, and that the company currently has the Chuckie doll that was supposed to be possessed. He also tells the president that the company is currently rebuilding the doll to do tests on it.

In the lab are two technicians who report that all systems aboard the Chuckie doll are performing normally, the only thing left to do is insert the dolls eyes. A robotic crane is used to insert the dolls special moveable eyes. At first the crane refuses to work, then it inserts the eyes. What happens is that all hell breaks loose, the crane apparently has a malfunction and sends feedback to the operator, deadly feedback which throws the technician through a plate glass window. Chuckie is back!

Later in the movie it is discovered that Andy, The little boy who owned the Chuckie doll in the first place, has finally been removed from the children's hospital mental ward and is being escorted to a foster home, since his mother is still insane from the original Good Guys doll incident. Little does he know that Chuckie is back and look-

ing for him. Since Andy was the first person Chuckier revealed his true identity to; Andy is the only person Chuckie can transfer his spirit into in order to be human again. This leads to some awesome killing scenes and car chases as Chuckie tries to find Andy so that he can be Human again.

As far as the quality of the movie goes. The special effects were first rate and it looks like they made some serious improvements in the actions of the Chuckie doll, since it appears more lifelike than ever. The only true technical problem I saw in this movie was when they filmed a basement scene in the movie. It was obvious that of the camera was not mounted on a tripod or on a camera ; track. The images filmed in this one scene seem to bounce of around the screen, as if a Daytona Beach tourist were put on salary to make home movies.

The one thing I really enjoyed was the fact that they in interjected some subtile humor in to the killing scenes, ib such as when the foster Father is walking down thew stairs of to the basement scene. Chuckie hooks one of his feet with its a fisherman's gaff and effectively hangs him by his feet from the stairs. Chuckie then circles around to the front and into the face of the foster father. Chuckie then asks no the father "hows it hanging" before he releases him to fall 32 to the floor, breaking his neck in the fall. Little flashes of six humor are what make this movie not only horrifying, but in

Overall, I would recommend those who enjoyed the all original Child's play to go see this movie. There is no way art you could be disappointed in this performance.

Mary's Danish hits big

by Brian Gerk Managing Editor

Mary's Danish took everyone by surprise last summer with their smash single "Don't Crash the Car Tonight," and after numerous opening stints with other Los Angeles bands such as-The Red Hot Chili Peppers and Thelonius Monster, they had firmly established themselves as a superior rock band.

Occasionally compared to the likes of L.A rock gods X, Mary's Danish, released There Goes the Wondertruck. Saoon developing their own following and proving themselves to be a rich pool of talent and originality. Their unique mix of twin lead female vocalists along with frenetic punk and jazz influences thoroughly absorb the listener in a psychedelic magic carpet ride through the weird worlds that comprise the L. A. basin.

You can imagine what a delight it was for me to find out that this superior band had released a live album that was recorded in my very own not have seen us live yet, so they can hometown at the Ventura Theater, get a chance to 'experience' it.

The theater, with its neo-gothic architecture, is a perfect venue to showcase the diverse elements of this band. Patterning their latest release after classic 60's packaging, Mary's Danish presents Experience, a grand sample of the energy that this band exhibits on stage.

This album was obviously made with Jimi Hendryx in mind, down to a rave-up rendition of "Foxy Lady." The members of Mary's Danish recently expressed their approval of the new record. "We like this a lot," said vocalist Julie Ritter "because we consider ourselves a live band first, and both this and the (soon to be released) home video capture the spirit of the band. It just rocks. You can also see more of the influence of James (Bradley, Jr., the drummer) and Louis (Gutierrez, guitariat), both of whom joined the band late in the stages of recording of Wondertruck This is also great for people who may



Coffee and a danish...

Mary's Danish, pictured above, have firmly established themselves as a superior rock band.

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Calvin and Hobbes

by Bill Waterson

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The class was quietly doing its lesson when Russell, suffering from problems at home, prepared to employ an attention-getting device.



We must be careful, Ciscot . . . Thees could be the eenfamous Queek Sand Beds of Chihuahua."





HOLD ON

WRITE DOWN

MY NUMBER

AND HAVE WA







Fleaboys

The party-goers were enjoying themselves immensely - unaware that, across the street in the shadows, a killer waited.



NOW MOM SURE TURNED INTO

THE CONNECTION OWEEN WHEN

EVEN STARTED MY DIGRAMA

ALREADY DE

MODE

SHE POUND OUT I HAPH'T

PROJECT WHEN IT WAS



DAY LATE! WHAT'S

THE BIG DEAL ?



IN THE BIALANCE, RIGHT P.

ON TIME!







In a recurring nightmare, Arsenio Hall sees himself walk onstage wearing golf clothes.



Mister Boffo

by Joe Martin

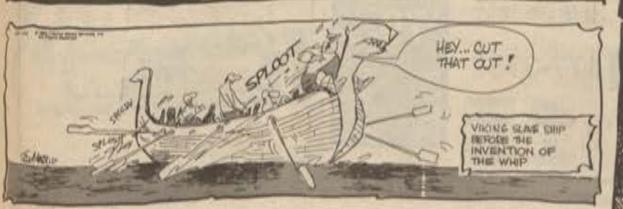
Mother Goose and Grimm

by Mike Peters

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SPRUANCE HALL & STUDENT CENTER BOXES LOCATED IN:

Wright Flyer Monument Dedicated by Negar Alshar-Zasnjani and sculpture was that of two now- box.

graduated students, Shannon Murphy

and Phil DeLange. He presented the

cated between the sculpture and the

One plaque lists the people and

Jack Hunt Memorial Library.

Jon Osterholm

Campus News Reporters

Embry-Riddle President Kenneth crowd of about 100 people two pla-Tallman began the dedication ques resting on stone pedestals, loceremony for the Wright Flyer Monument, welcoming all those in attendance on Friday afternoon, November 9, at about 3:05.

Due to rain, the ceremony was provided funding or services for the moved from in front of the monument to the covered walkway on the east side of A-building.

plans. The Experimental Aircraft Asafter the ceremony to before the ceremony, due to an airliner scheduled to be in the area at 3:30 pm.

The sculptor of the monument, Larry Godwin, who was interviewed sional speaker, was the Narrator for last summer by the Avion, could not the brief historical play. attend the ceremony.

Father Morris of the Campus Ministry did the invocation immediately following Tallman's welcome.

the original idea of the Wright Flyer lackadainically toying with a small

scene depicted by the sculpture. The Wright Flyer inspired student This was not the only change in Jon Osterholm to write a skit about the Wright brothers, Tallman stated, sociation flyover was moved from which was performed at the dedication by Osterholm and two other students, Greg Naccarato and Jason Simon, Wayne Pickering, a 47-yearold Vietnam Veteran and a profes-

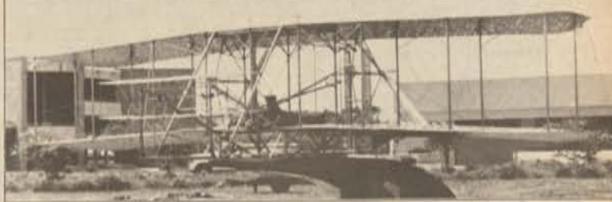
In the sketch it was revealed that the Embry-Riddle. Wrights' revolutionary idea for roll control, called wing-warping, was by thanking everyone, especially Mr. thought up at their bicycle shop, Wil-President Tallman explained that bur was inspired to the idea while the sculpture up close.

The skit also depicted the morning that Orville Wright made the first flight, which the stainless steel sculpture recreates. The actual picture was taken by a witness, John T. Daniels, on December 17, 1903.

After the skit, Embry-Riddle was given a plaque with a piece of cloth companies or organizations who from the lower left wing of the Wright brothers' original airplane. This was project. The other plaque explains the presented by a grand nephew of the Wrights, Wilkinson Wright.

Mr. Wright is the grandson of Lorin Wright, Orville and Wilbur's oldest brother. He spoke of his grand uncle, Orville Wright, whom he knew (Wilbur Wright died in 1912). He said Orville was shy and quiet, and that the two things Orville valued most were education and flight. He commented that Orville would fit right in at

Tallman concluded the ceremony Wright, and inviting everyone to see



A moment frozen in time...

The Wright Flier was dedicated last week, even though there was rain.

MAILROOM

(continued from A2) While talking to the supervisor, I understood that the supervisor had no intention of mailing our notices (at least not in the near future), so I got my club president to talk with

The manager told the president that he would not mail the notices because he had a personal problem with them. He stated that he would give the notices to his superior.

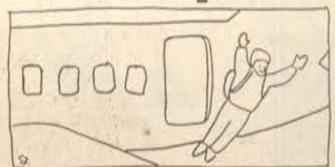
Why can a mail room worker read our mail and then refuse to send the however, is what can a club do to mail because of a personal problem stand up to groups like the mail with the contents of that mail? Is this legal?

From this incident, many questions have arisen in my mind. Why does the mail room read the students' mail? Is it legal to hold mail? If so, can it be done for personal reasons? Why does the mail room administration support such activities?

The biggest question I have, room who are preventing the student clubs and organizations from utilizing all the campus facilities which the students pay for?

If anyone has answers to these questions, please respond. Since the mail room effects all of us, I feel it is best if they worked for us instead of against us as they clearly did

A course where the only way to pass

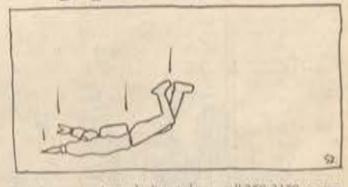


For information about skydiving classes call 258-2179 or stop by the Skydiving Club meeting Thursday at 7PM in room E611.

Embry Riddle University Skydiving

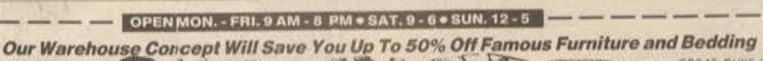


The course takes up to six weeks but the final goes by pretty fast.



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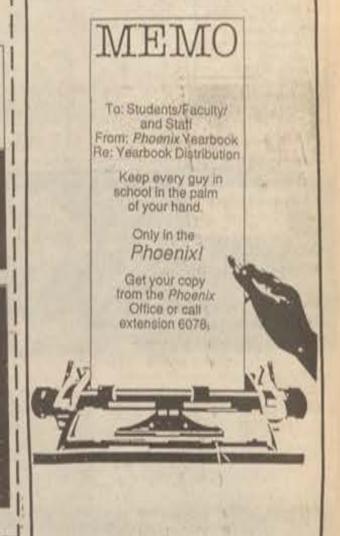
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TWIN

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& UP

179 m



a light bulb?

\$50.00 lab fee.

MARTY

JASON

DANETTIL

TOLL

TAMI

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NORM

gator luggage.

AND ENGINEERS:

CONCERNED ATC

Нарру

Birthdayl

didn't study

HOW MANY pilets does it take to serew it

ANSWITE one, but they get three sendits for

HOW MANY ENGINEERING suidents

ANSWER: one, but they are charged a

A riddle female calendar was considered at

one time but disaped because there was only

Your performance was very good Monday,

sloer it take to screw in a light built.

ANYONE AND EVERYONE

TO THE RED HEAD IN HUZZI

night. Break a leg Sammby night.

You own mu a bowl of clam chowder!

Good luck on Saturday. Bring home some

TO ALL YOU CONCERNED PILOTS

Quit writing stupid personals. I don't want a

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So howdy, shoken legs and the saliva man aren't good enough Good lack on new endeavors, you lose!

To Concerned Engineers and Palota: If a weren't for pilots, engineers wouldn't liave jobs. If it weren't for mulatenance unither of its

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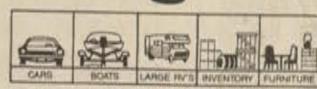
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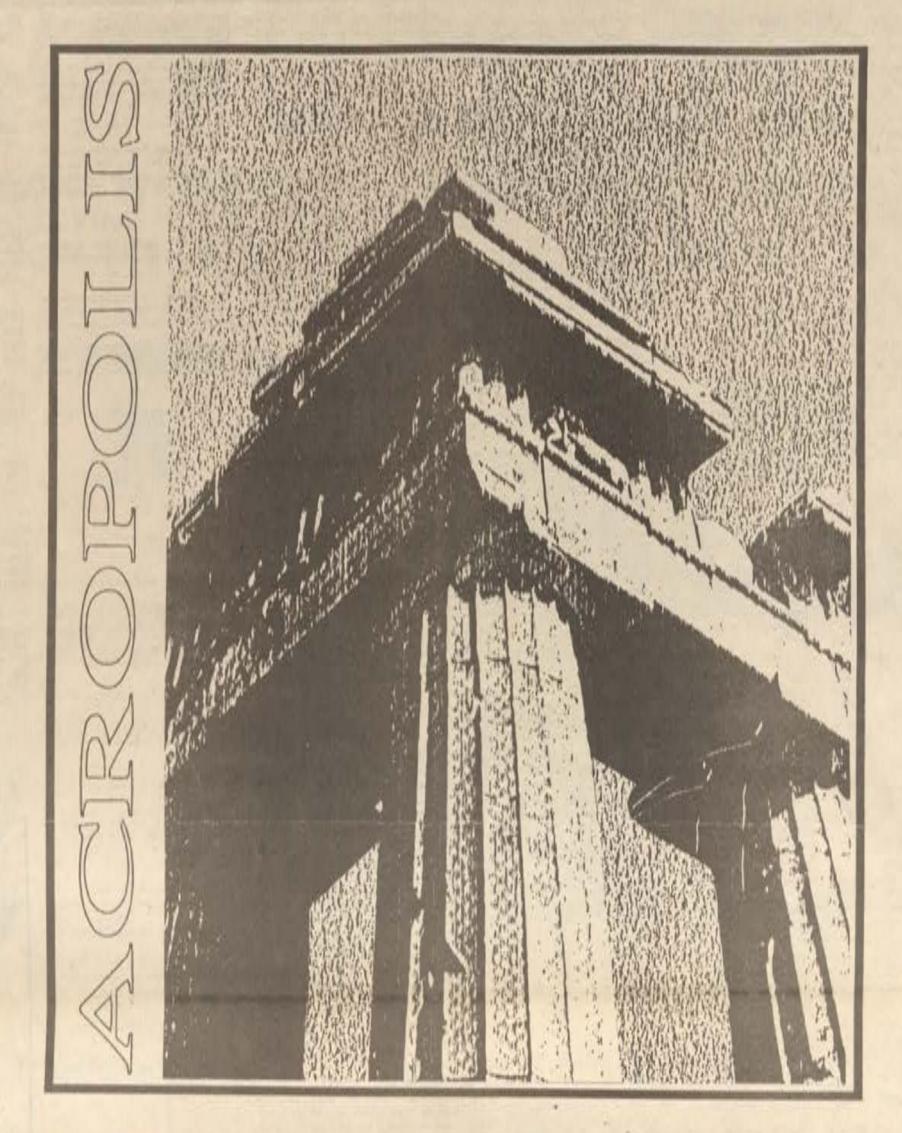
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