

FERMILAB NEWS

 Fermi National Accelerator Laboratory

Vol. 1, No. 22

Operated by Universities Research Association Inc.
Under Contract with the United States Department of Energy

October 5, 1978

FERMILAB ADDS ENERGY DOUBLER DIVISION

Effective Monday (Oct. 2) a new division went into operation at Fermilab.

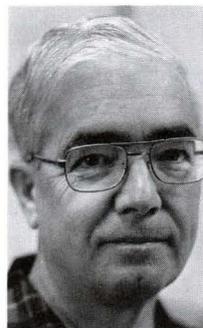
Philip V. Livdahl, Laboratory acting director, announced formation of the Energy Doubler Magnet Division. The Doubler Division was created to strengthen management for production of Energy Doubler/Saver electromagnets. About 1,000 Doubler magnets will be built in the next two to three years for Fermilab's "Tevatron" project, a plan to add a new higher energy accelerator ring of energy-saving magnets under the existing ring of conventional magnets. The new division was formed from the former Energy Doubler/Saver group of the Accelerator Division as well as employees who had been working on Energy Doubler magnets.

William B. Fowler heads the new division. The organization includes Richard Lundy (Business Manager) as deputy head; Alvin Tollestrup (Colliding Detector Facility Head), associate head in charge of the superconducting magnet development.

Jim Finks, Jr. and Bruce Strauss are assistant division heads; former Laboratory Director R.R. Wilson is liaison physicist; Henry Hinterberger (Technical Services Head) is liaison engineer. Tom Callans will join the Division as parts procurement and inventory control department head. Frank Cole will head magnet measurements and quality control department. Will Hanson heads the superconducting magnet fabrication and engineering department, and Fowler will lead the refrigeration systems department.

The new division joins four existing divisions in the Fermilab organization. Others are the Accelerator and Research divisions, formed in 1968; Technical Services, created in 1972, and Administrative, dating to 1974.

The Energy Doubler/Saver will enable physicists to conduct experiments at a deep new level of understanding that is now just beyond the reach of existing accelerators.



W. Fowler



R. Wilson



H. Hinterberger



F. Cole



W. Hanson



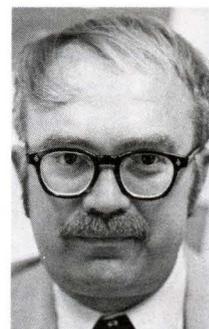
A. Tollestrup



B. Strauss



T. Callans



J. Finks



R. Lundy



E. Renaud, M. Richardson,
Doubler Office assistants

A PHYSICS ANECDOTE FROM JAPAN

Last week's FERMINews reported Fermilab participation in the 19th International Conference on High Energy Physics at Tokyo, Japan. Chuck Brown, Physics Department Head, adds an anecdote from the Tokyo meeting.

Researchers at the Deutsches Elektronen-Synchrotron Laboratory (DESY), Hamburg, had worked very hard to also observe the Upsilon family discovered at Fermilab last year. They arrived at the conference with an announcement that they had succeeded in seeing both the Upsilon and the Upsilon-Prime, at precisely the mass values quoted by the E-288 group. The German physicists used a different technique for observing the new particles, an electron-positron colliding beam accelerator, which enabled them to measure the mass of the two particles more accurately than was possible at Fermilab.

Leon Lederman, the spokesman for E-288, after hearing the German's report, immediately recognized the consequences of the more accurate values reported by the Germans. He telephoned the news to his colleagues here at Fermilab. The analysis of the E-288 data was rerun with the new values, on the Computing Department CDC6600 computer.

Leon was awakened by phone in his Tokyo hotel room the next morning. The call brought the good news from Fermilab that the data now definitely showed the existence of a third member of the Upsilon family, the Upsilon double-prime. In his review talk that afternoon at the conference, Leon announced his result.

He pointed out that it agreed perfectly with predictions made by Chris Quigg, Hank Thacker, and Jon Rosner of the Fermilab Theory Group. He chided the Germans to work harder, telling them exactly where to find the next member of the Upsilon family with their equipment.

A detailed report of the Tokyo meeting also appears in the September issue of CERN COURIER Magazine. Copies are available in the Public Information Office, CL 1-West.

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...L. Lederman (L) and A. Brenner at Tokyo meeting...

SCIENTIFIC AMERICAN REPORTS UPSILON

"The Upsilon Particle," a profile of a major Fermilab discovery, comprises a nine-page article in the October, 1978, Scientific American.

Author is Leon Lederman, spokesman for the E-288 group that made the discovery.

Upsilon, Lederman writes, is the latest advance in a 2,400-year-old search for the ultimate, indivisible constituents of matter. The heaviest particle was found by a Columbia University-State University of New York (Stony Brook)-Fermilab collaboration. The discovery prompted physicists to introduce another new elementary subparticle to the theory of "quarks".

"The impact of the Upsilon has already been far-reaching," Lederman says. "It has prompted searches for other heavy particles in hitherto unexplored ranges of mass, and it has shed light on the inscrutable strong force." He speculates that quarks may be unlimited in number and may not be the final elementary particles.

The magazine is available in the Central Laboratory Library, CL-3 crossover.



LUNCHEON HONORS 10-YEAR SERVICE AWARD WINNERS

A champagne luncheon last week saluted 44 employees who each have completed 10 years service. Each service award winner received a memento of his choice to mark the occasion. The recognition luncheon was the third in a series begun last year. The Personnel Department coordinates arrangements. Honored last week were:

C. Anderson, R. Andrews, J. Arado, H. Barber, R. Bermel,
 L. Beverly, D. Blayney, W. Butler, W. Carter, D. Champion,
 F. Cilyo, J. Gannon, H. Gerzevske, P. Gollon, W. Hanson, R.
 Huendorf, G. Jones, W. Kautz, J. Klen, R. Kolar, J. Lasenby,
 R. McLin, H. Miller, J. Misek, F. Nezrick, A. Oleck, M. Paul,
 R. Peters, A. Rehbein, W. Riches, D. Richied, C. Rode, J. Ryk,
 B. Sandberg, E. Schmidt, V. Smith, E. Steigmeyer, S. Tawzer,
 J. Thompson, R. Thompson, A. Tummillo, D. Vineyard, C. Weissert,
 L. Winteroud.

NALREC OKTOBERFEST SATURDAY

German-style food, music and souvenir beer mugs will highlight an Oktoberfest celebration Saturday. NALREC will sponsor the festivities from 6 p.m. to midnight in the Village barn. Employees, visitors and their guests are invited. Bratwurst, thuringer, German potato salad, sauerkraut, sausage sticks, beer and wine will be served.

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AUDUBON BIRD HIKE OCTOBER 15

Fermilab employees, visitors and families are invited to join a bird hike on site Sunday, Oct. 15. Dave Carey (Computing) is hike leader. He said a group will form at 9:30 a.m. near the gatehouse at the Rt. 59 entrance. For about 2 hours, birders will hike around the ponds south of Batavia Rd. For more information, call Carey at Ext. 3952.

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HIGH INTENSITY LABORATORY COMMISSIONED

Experiments will begin this month in a unique Fermilab experimental facility. Commissioned in July and August was the High Intensity Laboratory in the Proton Area. Experimentation with pion and anti-proton beam of intensities available nowhere else in the world has become possible said Brad Cox, the physicist in charge of the design and construction of this area.

In announcing the success of the commissioning, Cox said that both the negative pi meson and antiproton beams will produce approximately 1000 times the flux of presently-existing beams.

This facility, which is situated in the west branch of the Proton Area, consists of over 1000 feet of beam line tunnel and enclosures, including a 230-foot long experimental hall. Because of the high intensity nature of the primary proton and secondary meson beams, these enclosures are 20 feet underground and massive shielding is required around the target and beam dump areas.

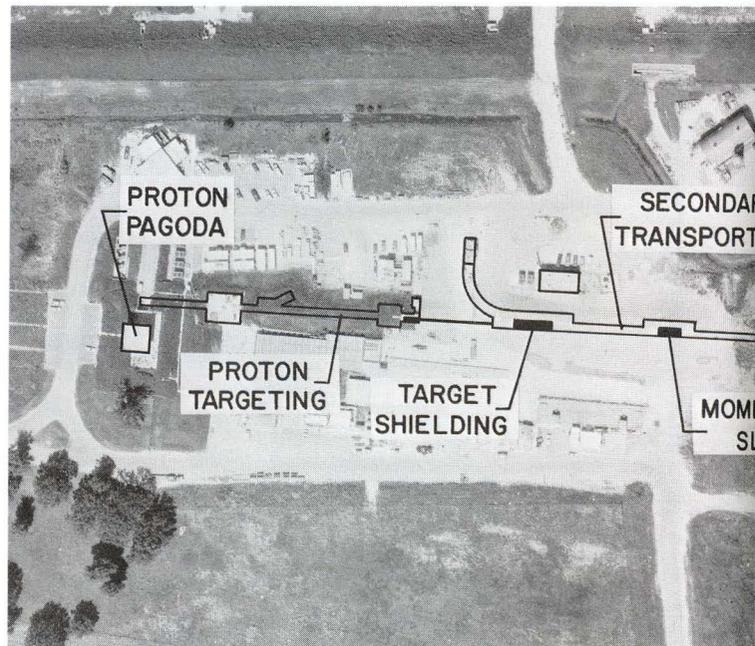
The high intensity pion beam is produced by colliding the extracted proton beam, which has traveled 3500 feet from the accelerator, with a beryllium target. An intense cone of negative pions is produced at zero degrees with respect to the incident protons. These pions are captured and transported by a 750-foot magnetic lens and bending magnet system consisting of 22 magnets to the experimental target.

In the case of the antiproton beam, this intense charged secondary beam is magnetically swept away from the lenses of the transport system producing a zero degree neutral beam. Part of this neutral beam consists of anti-lambda particles which decay into antiprotons and positive pi mesons. These antiprotons are captured by the transport system in a manner similar to the capture of the negative pi mesons to produce a high energy antiproton beam of unique intensity and purity.

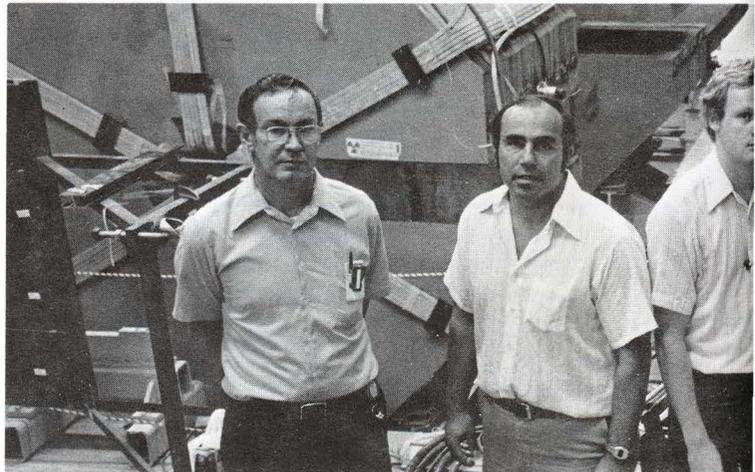
"These antiprotons and pi mesons are extremely interesting to high energy physicists," Cox said. Since these particles are thought to contain antiquarks, the antimatter counterpart of the quarks which are thought to make up the proton and neutrons of ordinary matter.



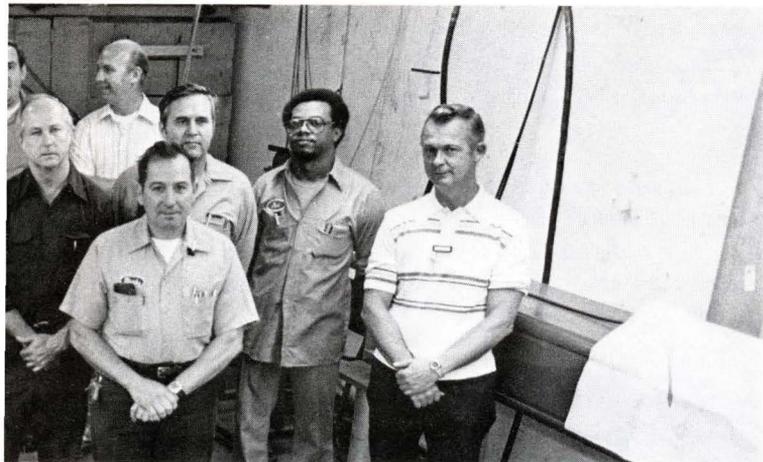
...Proton Engineering/Technical staff including E. LaVallie, T. Waldrop, G. Zielbauer, J. Gran, W. Carter, D. Lee, M. Solis...



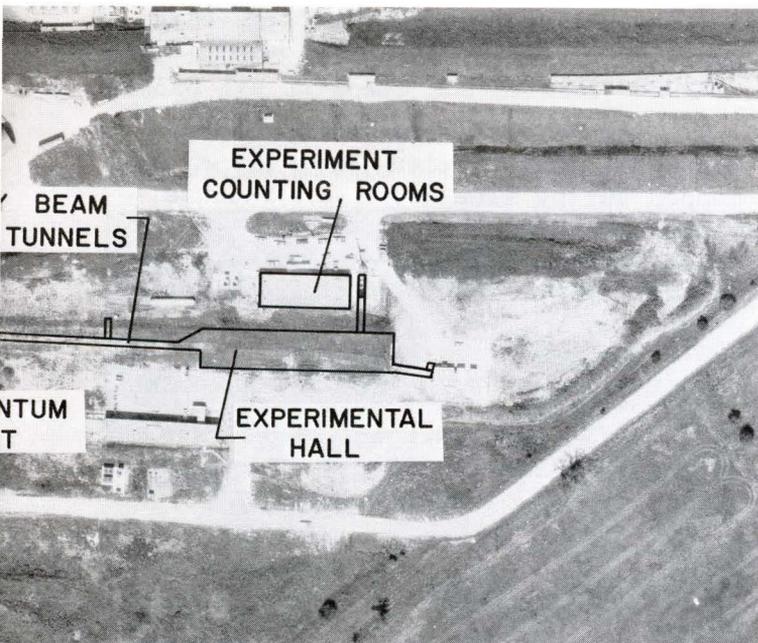
...Aerial view of new Fermilab high intensity experimental area...



...In Pion Experimental Hall, electricians J. Shaffer, C. Rotolo, T. Kiper, W. A. Visser...



L-R: R. Innes, W. Jaskierny, R. Oram, W. Noe, Jr., R. Currier, D. Hoffman, E. Mottys, R. Davis, W. Strickland...



Intensity laboratory in Proton-West



Instrumentation group members are L-R: Jaskierny, L. Tate, R. Innes, S. Orr,

By producing intense beams of antiprotons and pi mesons, in effect intense beams of antiquarks with the quarks in the experimental targets will give much insight into the structure of hadrons.

John Peoples, head of the Research Division notes that this new area makes it possible to do new experiments in very exciting physics areas.

Three groups are preparing experiments for the new area. A University of Chicago-Princeton University team will study the production of high transverse momentum particles and the production of dimuon final states using the intense pi meson beam. A Princeton University-SACLAY collaboration will investigate charmed particle production by pi mesons and study charge pi meson symmetry in antiproton-proton interaction. A third group, consisting of a Fermilab-University of Athens-University of Michigan-McGill University collaboration, will use the antiproton beam to study dimuon production in antiproton-nucleon interactions.

Practically every Proton Department employee contributed to the completion of the new area. Design work began in 1975; construction and installation phases were completed during 1977-78; Architectural Services and Research Services people also played major roles in the work.

Cited for their special efforts are the Proton Department groups. The Mechanical Group led by Ron Currier, the Electrical Group led by Age Visser, the Instrumentation Group led by Carmen Rotolo, and the Site Support Group led by Al Guthke bore the brunt of the installation work of the beam line. Proton crew chiefs were very instrumental in the commissioning of the beam. The Cryogenics Group led by Peter Mazur labored mightily to provide refrigeration for the Energy Doubler dipole which formed part of the proton targeting system for the H.I.A. Other individuals who were singled out for their special efforts include Dean Lee, Ed LaVallie, and Ron Oram who made major contributions to the design and installation of the mechanical systems.

Finally, many physicists who are either currently part of the Proton Department or have been members of the Proton Department in the past contributed their expertise to this project. These especially include Morris Binkley, Dave Eartly, John Peoples Peter Mazur, Thornton Murphy (current head of Proton Dept.), Roy Rubinstein, and Ken Stanfield.



...Fire extinguisher use demonstrated at Receiving...

OPENHOUSE OCT. 9-13 AT FIRE DEPARTMENT

Fermilab's fire station will be open for visitors in observance of Fire Prevention Week.

Ralph Kramp, chief, said employees and families are invited to visit the station from 9 a.m. to 4 p.m. Monday through Friday (Oct. 9-13). The station is off Road B, south of the central warehouse at Site 38 on the northeast side of the site.

Fire Prevention Week is observed in the U.S. and Canada. Originated in 1911, it is always the Sunday-through-Saturday period including October 9--date of the Chicago Fire of 1871. It is the only major conflagration marked by an international observance.

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"There is no place like home ...for a fire," says Fermilab Fire Chief Ralph Kramp. "It's where most fires happen," he said. In conjunction with Fire Prevention Week, he offers these notes on home fire safety.

--11,000 fire deaths occurred in 1977; most victims were in their homes. Generally, these deaths could have been prevented by good judgment.

--Careless use of smoking materials--smoking in bed and children playing with matches or lighters--cause many fire deaths.

--Flammable liquids should be carefully used and stored. Cleaning fluid fumes can be ignited by a nearby pilot light of a water heater or stove.

Store gasoline only in approved metal container, labeled and outside of the residence.

--Smoke detectors are a good investment. Most serious home fires happen during sleeping hours because flames progress undiscovered. A smoke detector is designed to sound an alarm in sufficient time to permit escape.

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EMPLOYEES LEARN FIRE EXTINGUISHER USE

Receiving Department staffers were taught fire extinguisher use recently by Fermilab firefighters.

The class was the latest in a series conducted year around by the fire department. Ralph Kramp, chief, said a lecture/demonstration describes three types of fires--ordinary combustibles, flammable liquids, electrical--and students are given the opportunity to extinguish flammable liquid fires with dry powder and carbon dioxide extinguishers.

Also covered is what happens when an extinguisher designed to fight one type of fire is mistakenly used on another fire type. Lt. Ray Brandolino showed Receiving personnel how application of water on a flammable liquid can spread and intensify the fire.

Chief Kramp said his office will provide literature outlining extinguisher use. Laboratory group leaders may arrange demonstration sessions by contacting the department office at Ext. 3428.

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IN-HOUSE JANITORIAL SERVICE BEGINS

In one of the largest mass hirings in recent years, 49 employees joined the Fermilab family Monday.

The group comprises a new janitorial services crew. For the first time in the Laboratory's 10-year history, janitorial functions will not be handled by a subcontractor. Site Services, in the Administrative Division, has assumed the function.

John Paulk, acting head of Site Services, said the in-house janitor service was adopted in an effort to improve service and control with cost savings.

According to Paulk, 44 janitors are former subcontractor employees. Some have worked here up to eight years. Included are 24 women and 25 men.

Fermilab's Employment Office began seeking candidates about a month ago.

Bill Butler, assistant personnel manager, said personnel administrators Wilma Carrasquillo and Mildred Meyer processed the group. Included was recruiting, arranging physicals and first-day orientation sessions. Paperwork was completed and an introduction to the Laboratory was given at meetings held for groups of about 17 persons each at 8 a.m., 9:30 a.m. and 1:30 p.m. on Monday.

Also, some written materials were translated into Spanish and Spanish-speaking employees assisted in the orientation. They were: Lily Aguilar (Personnel), Saul Cepeda (Material Support), Erene Garcia (Accelerator), Jesse Guerra (Proton), Carmen Vera (Meson), Leticia Chavez (Research Services) and Joe Trevino (CL-Services).

On behalf of the Laboratory, we welcome many old friends and some new.



...At new janitors' orientation, W. Carrasquillo (seated), W. French confer...



...L-R at volunteers' briefing are w. Carrasquillo, S. Cepeda, J. Trevino, C. Vera, E. Garcia, L. Aguilar...



...C. Vera (L) assists L. Rivas at orientation for new janitors...

WANTED: PRAIRIE SEED PICKERS

Volunteers are being sought to help hand harvest prairie seeds. In annual fall cleaning, seeds will be collected at Morton Arboretum, Lisle, for re-planting in Fermilab's prairie restoration project.

Tony Donaldson (Accelerator), chairman of the Laboratory's Prairie Committee, announced harvesting is set for 9 a.m. three consecutive Saturdays: October 14, 21, and 28. Rain dates will be the Sundays following these dates. In case of inclement weather, volunteers can contact the Fermilab switchboard (840-3000) after 7 a.m. for harvest plans.

"We will strive to harvest flower seeds and quantities of switch grass and little bluestem," Donaldson says. "Everyone over 10 years old is invited to help." Harvesters should enter the Arboretum on the east side, on Leask Lane, north of Warrenville Road in Lisle.

Donaldson said volunteers will need transportation, a sack lunch, and harvesting gear. Items suggested are:

- at least six paper grocery bags
- small bucket with rope
- pruning shears
- garden gloves

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FERMI FILM MARKS 'IVAN ALBRIGHT DAY'

"The Picture of Dorian Gray," a 1945 MGM Academy Award winner, is coming to Fermilab Sunday, October 15.

The film will be shown at 7 p.m. in the Fermilab auditorium; admission will be \$1.50 for adults, 50¢ for children. Sponsored by the Inter/National Film Society, the special screening is offered in conjunction with a Warrenville "Ivan Albright Day." Nancy Carrigan, wife of Richard Carrigan (Research Div.) is coordinating the observance.

Albright is a former Warrenville artist known for his realistic style.



...1977 Prairie seed collector at Fermilab...

"Fermilab's second annual on-site harvest will be done by a modified farm combine," Donaldson said.

The first Fermilab harvest was conducted in 1974 at the Arboretum. Last year, about 300 pounds of seed were collected and planted on 16 acres here. Some 650 acres have been set aside in the Main Ring for the prairie project.

For more information, contact Rene Donaldson (Tech. Info) on Ext. 3278.

His art appears in "Dorian Gray." He will be honored at a 3 p.m. reception at Warrenville's city hall on October 15 and with exhibits at the town's public library (Oct. 9-15) and at the Art Institute of Chicago (Oct. 21 - Dec. 10).

The Art Institute display will include a portrait of the aged Dorian Gray done for the movie.

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Sometimes the news just piles up -- 8 pages worth this week. It won't happen often; glad you made it to the end - -

...P.I.O.

- FOUND: Pair of strong glasses, plastic frames, possibility women's glasses, on Kirk Road. Call 898-5146.
- FOR SALE: Van, 68 Chev., Automatic, carpeted, paneled, and newly painted. \$895 or best offer. Call Bernie at Ext. 3207 or 232-7459.
- FOR SALE: Two 6.00-12 size snow tires, plus rims, \$50 or best offer. Call Alan at Ext. 3872 or 4149.
- FOR SALE: 1977 Corvette T-top, tan exterior, brown interior, power steering, power brakes, air-conditioning, leather upholstery, AM-FM-8 track, alloy rims, tilt wheel, excellent condition. Asking \$8,800. Call Ext. 3852/4612.
- FOR SALE: 1974 Pinto wagon, auto. trans., radio, 60,000 mi., good condition. Asking \$900. Call 840-4095 or 851-2578 after 6 p.m.
- FOR SALE: Kenmore gas dryer - \$60 or best offer. Call Dianne at Ext. 3808 or 815-436-7211 after 6 p.m.
- FOR SALE: Tabletop humidifier, \$10; tele 110 camera, \$10; small artificial Christmas tree with decorations, \$3. Call Ext. 3744.
- FOR SALE: Cottage, 11 miles east of Wis. Dells, 1 acre land, 100 ft. lake frontage, 3 bedrooms, bathroom, wooded lot. For information call Chuck at 879-2440 or 879-1925.
- LOST: Lawnmower blade at Batavia and Eola Roads on September 2, 1978. Call Pat at Ext. 4107.
- FOR SALE: 1976 Pinto wagon, auto., console, rear defog, AM-FM radio. \$2,200. Call Jack Smith at Ext. 4455.
- FOR SALE: 1973 Honda 750, 13,000 miles, extras, \$1,200 or offer. Call Jack Smith at Ext. 4455.
- FOR SALE: 1971 Merc. Wag., \$150. Call Bill at Ext. 3882.
- FOR SALE: 16' Sear's bass boat, 20 hp Johnson outboard, electric trolling motor, trailer and much more. \$1,700. Call Bob Noe at 859-8785.
- WANT TO JOIN CAR POOL: From Aurora to Des Plaines. Please contact Betsy at 391-2773 (work) or 851-3215 (home).
- FOR SALE: 1971 Dodge Van B200, V8 318 engine, \$1,200 or best offer. Call 898-9472.
- "THREE OF A KIND" - Musical entertainment for all occasions. Now accepting bookings for houseparties, weddings, anniversaries, etc. Call Vance at Ext. 4191.
- FOR SALE: Black Nikon FTN camera (W/internal meter) \$275 or best offer. Call Rick at Ext. 3349.
- FOR SALE: Chain link fence, 44" high x 220' long, 25 posts. \$300. Call R. Fast at Ext. 3381 or 879-2483.
- FOR SALE: Telephone answering machine, like new - \$100. A.B. Dick mimeograph machine - \$50. New Krueger folding metal chairs - \$35 for 4, 12 for \$95. Call R. Fast at Ext. 3381 or 879-2483.
- FOR SALE: 1973 Torino 2 dr. - equipped and nice condition. Good tires - \$1200. Call Bob at Ext. 4455.

CLASSIFIED ADS (Continued)

WANT TO JOIN A CAR POOL - from East side of St. Charles. Call Glenn Johnson at Ext. 4015.

FOR SALE: Two 20" Schwinn Breeze girls bicycles with speedometers, one blue, one yellow. Both in good condition, but outgrown. Price \$35 each. Call Dennis at Ext. 3167.

FOR RENT: Batavia. New two bedroom duplex. Central air and separate garage. New full size refrig., stove, washer and dryer furnished, fully carpeted. \$350, plus utilities. Call 879-1123 after 5 p.m.

FOR SALE: Used Carpet rug, excellent condition, Fiesta-Red, 100% Creslan Acrylic, includes binding all sides and cushion, \$300 value, asking \$225 or best offer. Phone 851-3034 after 5:30 p.m.

FOR SALE: Kodak XL-55 Super 8 Movie Camera Zoom Lens - Built in Lite Meter. Best offer - call Art Streccius - Ext. 4438 or 879-5215.

FOR SALE: 72 Chev. Van with open road camper pkg. complete (Stand up) Sleeps 4 - good tires plus snows - best offer - call Art Streccius - Ext. 4438 or 879-5215.

FOR RENT: By week or month - 2 bedroom house on waterfront - Pine Island, Florida (near Ft. Myers) good fishing boat and motor available - Thanksgiving and Christmas open - Art Streccius - Ext. 4438 or 879-5215.

WANTED: Mens Sport Bike - call Petri Laurikainen - ext 4104 or x3762.