The Village Crier

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THE SEARCH FOR LEON'S TREASURE

The word "exotic" is frequently used to refer to the whole class of new particles that have appeared in the high energy physics scene recently -- the "charmed" mesons discovered at SLAC and at the Brookhaven National Laboratory, the charmed baryon discovered in the Proton-East area at Fermilab, and the Fermilab emulsion discoveries. The search for these and other yet-to-be-discovered exotic particles requires ingenuity, patience, and, at times, exotic materials.

...Bob Adams (L), Safety, Bill Thomas, Proton, check in beryllium shipment...

The most common indication of a charmed particle is the presence of one or more muons passing through the experimental apparatus in the decay process. A problem for experimenters is that when protons from the accelerator smash into a target to produce the charmed particle, that collision also produces many other particles. This is easily observed in the photographs taken in the bubble chambers. When millions of protons strike a metal target, tens of millions of secondary particles, including charmed particles, may be produced. A redeeming feature is that the muons which signal the presence of charm, pass right through material like steel, which absorbs all of the other particles.

As the first generation of experiments searching and studying charm was completed, more sophisticated experiments were devised to move into the next phase of discovery. It is known for example, that beryllium metal is superior to steel as a muon filter because it makes possible precise identification of the point of origin of the muon. This in turn allows more exact determination of the mass of the charmed particle that produced the muon.

Beryllium can be both expensive and scarce. But to Prof. Leon Lederman of Columbia University, beryllium holds an important key in the plot of the mystery he hopes to solve in Experiment Number "Super 288," in the Proton Area. Dr. Lederman put in his request to the Proton Area to locate beryllium. Proton Head Brad Cox and Proton Engineer Bill Thomas consulted with John Colson and Norman Hill of Materials Management and the treasure hunt was on.

The next stop was enlisting the aid of the local ERDA officials, who, at first, registered an incredulous gasp at the quantity requested -- two metric tons. But ERDA manager Don Bray and Irv Schau entered the game and searched ERDA's resources to the limit. The hunt finally led to an almost-forgotten warehouse in Oak Ridge, Tennessee, where leftover beryllium from an Oak Ridge project was discovered. The diligent cooperation of all of the institutions involved led to a long-term loan of the precious metal to Fermilab for Dr. Lederman's experiment.

The material was trucked to Fermilab, together with another small quantity borrowed from the Argonne National Laboratory. When the exciting results from Super 288 start to come in, many people can share the excitement. High energy physics experiments are not the work of an isolated person working alone in an isolated room; they can only be achieved by the smooth working of spirited organizations and people.

The whimsical account of the beryllium search appearing on page 2 occurred to one of the participants on a flight to Oak Ridge, Tennessee.

LEON AND THE LADY

A STORY WITH A HAPPY ENDING

Once upon a time in the far off land of Protonia there lived a troglodyte with the unlikely name of Leon. Now Leon was very troubled. Whenever he walked into his cave he sniffed the perfume of the seductive charmed quark, but of her he never managed to catch sight. He was in a frenzy.

One day Leon decided to set a trap. He went to the court of the Prince of the Troglodytes. Right up to the throne of the Prince he went and announced in a firm voice: "More beryllium." The court was shocked: the Prince was shocked. Finally the Prince gasped, "Leon wants more beryllium." The Royal Artificer had already provided Leon with all the beryllium in the kingdom.

The Prince knew that Leon dined often with the King and had performed many valorous deeds for the kingdom. And he knew that the vision of the Charmed Quark would make Leon deliriously happy beyond all his imaginings. So he wanted to help Leon. But, what to do? He decided to seek the help of the Grand Vizier of the Kingdom.

Now the Vizier was a very wise man whose caravans had travelled to most of the Kingdoms of the world. He had consulted with the Royal Wizard, Benjamin and the Sorcerer's Apprentice, Christopher, and knew that if Leon were to trap the Charmed Quark he would need beryllium. Beryllium had just the ratio of nucleon interaction length to radiation length the Wizard would recommend for his magic potion.

The Vizier wanted to help Leon, so he mounted his mighty stallion, Studley, and rode out to see Squire John and his vassal, Norman. Squire John and Norman had served long in the crusades. They had many old comrades-in-arms in various kingdoms with whom they had warred and wenched. The call went out to all the old comrades; "Leon wants more beryllium."

One comrade recalled that in a long-ago campaign he had seen a veritable mountain of beryllium in a dusty cave in far away Tennessee. It was guarded by a fierce dragon homoensis burocraticus. But who would slay the dragon?

From high in the tower the Legate of the Emperor, Donald, espied the predicament of the Vizier's minions. "I shall slay the dragon," he proclaimed. With dexterity that revived the glorious memories of El Cid, the Legate drew his sword, and slew the dragon with one mighty stroke.

The dragon writhed in agony and finally collapsed in a great heap atop the trove of beryllium. The Vizier was at a loss as to how to proceed. Clearly the bulk of the dragon was too great even for Studley to move. Squire John surveyed the awesome scene. His Caravan Master, Raymond, with much experience in moving great loads, might be of help. Many weeks passed; the Caravan Master employed all of his ingenuity and skill. The great carcass slowly yielded and was finally dislodged from atop the beryllium.

So the beryllium was brought to Leon and he withdrew with it into his cave.

Occasionally even today travellers to Protonia bring back tales of gleeful sounds issuing from deep within Leon's cave. The natives believe that Leon still dwells there in endless hot pursuit of his fair lady.

CAST OF CHARACTERS

Leon - Leon Lederman, Columbia Univ.
Prince of the Troglodytes - Brad Cox, Proton
Royal Artificer - Bill Thomas, Proton
Grand Vizier - J. R. Orr, Business Office
Royal Wizard - Ben Lee, Theor. Phys.
Apprentice Wizard - Chris Quigg, Theor. Phys.
Studley - played by himself
Squire John - John Colson
Norman - Norm Hill
Homoensis Burocraticas - Federal bureaucracy
Legate of the Emperor - Don Bray, ERDA
Caravan Master - Ray Lewandowski

HALSEY ALLEN RETURNS TO PRINCETON

Halsey Allen, who has been head of Fermilab's Operations Section since its formation in 1973, left that post on December 31 to assume a position as Operations Manager for the TFTR (Tokamak Fusion Test Reactor) at the Princeton Plasma Physics Laboratory, Princeton, N. J. Allen came to Fermilab in August of 1971 as Senior Safety Officer, from the staff of the Princeton Penn Accelerator. In his return to Princeton he joins several other alumni of Fermilab who have carried the Batavia spirit to Princeton as they seek to develop fusion devices for the future production of energy.

...Allen R.R. in action...

Allen's new post will coordinate plant engineering with the administration of the scientific development and research programs. At a farewell luncheon several weeks ago, many of his Fermilab colleagues paid tribute to Halsey's energy, enthusiasm, and boundless good will, wishing him well with his new problems and new horizons.

Dr. James Mac Lachlan, who has worked with Halsey Allen since the section was established, will serve as Acting Head of the Operations Section. Bill Riches' Plant Support Department will move to the Technical Services Division. Coordination with Plant Support for routine maintenance and emergency repairs will be handled by Dr. Bruce Chrisman of the Accelerator Division.

...Halsey Allen...

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POSITION IN PUBLIC INFORMATION OPEN

The Fermilab Public Information Office has an opening for a position of Public Information Specialist. The position involves the preparation of written materials about the work of the Laboratory and other duties necessary in the operation of the Public Information Office. Applicants should have the equivalent of a bachelor's degree in journalism training with at least two years' experience and should bring to their first interview a portfolio which demonstrates their abilities. Contact the Personnel Department, CL 6E, Ext. 3324.

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C.O.D. ART CLASSES START HERE

College of DuPage Art 101 and Art 102 will be offered at Fermilab beginning January 6. Instruction in still life drawing, figure, and landscapes as well as composition and emphasis on drawing media are included in the courses. Three hours' credit will be given for successful completion of the instruction. The classes will be held on Thursdays from 5:30 p.m. to 9:20 p.m. Cost, $34.50. For applications, call Vivian Butler, Ext. 3324.

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HAVE A MOONLIGHT TALENT?

The Argonne Credit Union office now maintains a file of sideline services offered by employees of the Argonne National Laboratory and of Fermilab, for the benefit of co-workers who might need these services. Register name, phone number, and the service you can provide. Check this file when you're looking for a service.

The Credit Union office at Fermilab has a new location, on the west side of the first floor of the Central Laboratory. Enter by the hallway to the left of the west elevators. See June Olsen or Beverly Miller.

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COLLIDING BEAM MEETING SLATED

A Colliding Beam Department has been organized recently in the Fermilab Research Division. James W. Cronin will act as Department Head with James K. Walker as Associate Head. A steering committee consisting of Cronin, Walker, Alvin Tollestrup, Chuck Ankenbrandt, and Peter McIntyre will guide the work of the department in the near future.

First priority of the department in the next few months will be to define the plan that Fermilab will follow in developing a colliding beam facility, Cronin states. Design of detectors will follow.

All interested persons are invited to attend an open meeting at Fermilab on Friday, January 14, at 1:30 p.m., sponsored by the CBD. The meeting will outline the options to be explored in developing concrete plans for a colliding beam facility. A series of monthly meetings to discuss the current status of the project is planned after that.

Further information can be obtained from Cronin or Walker at Ext. 4272.

CARDS APPRECIATED

Two Fermilab people would appreciate hearing from friends as they recuperate from an automobile accident in which they were involved on December 30th. Dr. A. Lincoln Read, head of Research Services, is a patient at Central DuPage Hospital, Winfield. William R. Ryan, employed by Mutual Maintenance Company janitorial service is a patient at Mercy Center, Aurora. The accident occurred shortly after 5 p.m. on Thursday, December 30th, on Road D just east of the Industrial Area.

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...DUPLICATE BRIDGE GROUP...Play will resume Monday, January 10, promptly at 7:30.

SKATING REGULATIONS AT FERMILAB

NO SKATING - On Casey's Pond (Wilson Road at the Neutrino Area) on Main Ring ponds.

SKATING IS PERMITTED - on all other ponds, at skaters' discretion.

RECOMMENDED: The center pond at the Central Laboratory when ice is suitable.

CLASSIFIED ADS

FOR SALE - Cornet, King Model 602, good cond., 3 yrs. old. $150. Jim Engelbrecht, X4073.

FOR SALE - SKIS, Yamaha Hi-Flex Giant Slalom (205 cm) Marker Rotomat Bindings; Lange fiber-glass boots (swivel-post buckles) size 10. Pete X3381.

FOR SALE - Xmas tree, 6½ ft., $10, orig. $30; Stereo record player, fold-up case w/handle, $20; Super "8" film editor, $5; call John X3157.

FOR SALE - Two H78-14 Snow tires. Make offer. Call Jim X4421.

FOR SALE - Two H78-15 Snow tires mounted on Ford wheels. Like new. Both for $30.00. Call Cheryl X3351.

FOR SALE - Refrigerator, Full-size (large freezer) "Hotpoint" runs excellently. Very quiet. Color - copper. Must sell $35. Call X4236 or X4250. Tom Kephart.

FOR RENT OR LEASE - House, 8 room frame, 2 story, 2 baths, full basement, large 3-car garage (barn), backs on river, close-in Naperville. $450 mo. Contact John Colson, X-3470.

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