What's up, Murph?

By Lily Wu and Ken Whang

How are things at Caltech? We spoke with President Marvin Goldberger along these lines about rotation, the Institute's teaching quality, the school and the students' attitudes towards earning, the Faculty-Student Conference, women at Tech, and some other issues.

The five committee topics are, in most cases, subtopics of the committee topics from the 1982 conference. For instance, Chem 1 is a subtopic of the 1982 Core Curriculum Committee. At the Conference each committee will present the investigation of a topic, present inherent problems, possible solutions and, in some cases, will show progress towards implementing the solutions. The topics to be discussed are: Chemistry I, Humanities, the Summer Undergraduate Research Fellowship (SURF) program, improving graduation-graduate relations, and a transfer-out mechanism.

Invitations distributed last November asked all faculty and graduate students interested to return the form which accompanied the invitation. Those who have not returned the form but are interested in attending should contact the Undergraduate Dean's Office.

Undergraduates have been asked to sign up this week in the student house lounges or at the Y. The signups will come down today. The organizers of the conference need an approximate count in order to buy donuts and lunches.

There will be a booklet for all conference participants which will provide a conference schedule and committee reports. This booklet will enable participants to become familiar with the topics before the conference.

Copies will be distributed by students to all faculty participants. Graduate and undergraduate participants may obtain copies in the Dean's office, The Y, or the Red Door Cafeteria after Wednesday, February 22.

Professor Shair Elected Fellow

Caltech News Bureau

Frederick H. Shair, professor of chemical engineering at Caltech, has been elected a Fellow of the Institute for the Advancement of Engineering for his many distinguished contributions to the field of engineering in the greater Los Angeles area. Dr. Shair will be inducted into the Institute at a dinner today at the Quiet Cannon Restaurant in Montebello.

A member of the Caltech faculty since 1963, Dr. Shair is currently conducting research into the transport, dispersion, and identification of polluting agents associated with air pollution and contaminants in the air and water. He also played a key role in helping to develop and maintain a tracking system capable of following air dispersion patterns by detecting minute levels of tracer gas released upward. He has assembled teams that have conducted atmospheric trend experiments throughout the state of California, the midwest, and overseas. Shair also helped develop the Institute's Summer Undergraduate Research Program (SURF), now in its sixth year. In 1975, he received a Western Electric Fund Award for instructional excellence from the Pacific Southwest Section of the American Society for Engineering Education.

In addition to his academic work at Caltech, Dr. Shair is active in numerous public service groups and engineering committees. He is currently a member of the Environmental Protection Agency, and served as the 1983 chairman of the Southern California Section of the American Institute of Chemical Engineers.

Shair earned his BS degree in chemical engineering from the University of Illinois in 1957, and his PhD degree in chemical engineering from the University of California at Berkeley in 1963. He joined the Caltech faculty in 1963 after spending time in private industry.

The Faculty-Student Conference will be held a week from Saturday. All members of the Caltech community are invited.

The conference will be slightly different from the 1982 conference in emphasis and structure. For the first time all undergraduates have been invited. Also for the first time graduate students have been invited and have been members of the conference committee on graduate-undergraduate relations.

The upcoming conference will be partly a day long and will be held on campus, at Ramo Auditorium. Conference organizers hope that this will encourage attendance.

The emphasis of this year's conference will be on problems which existed 2 years ago, were discussed at the 1982 conference, but which still exist. An objective of the conference is to remind faculty and students about these problems through discussion and to thereby initiate changes.

The following is a proposal and a statement:

You don't just go up and select an arbitrary rich person and hit them across the face with a proposal and say, 'I would like a million dollars, thank you, by noon.'

We go to one of these corporations and I arrange a meeting with the chairman of the board of directors and tell them what a marvelous place Caltech is and how advantageous it would be for them to have a close association with us, and arrange for teams of people come in and visit and continued on page 4
TRECO LEFT IN 3 MINUTES

To the Editors:

I feel that I must respond to Mr. Brian Treco's letter to the editor last week concerning a lecture that I presented on February 1st. Mr. Treco stated that I had erred in stating that women's views regarding religion, or at least the records kept of them, were actually erased from the history of science. This seems to go right along with what he stated in his letter last week concerning a lecture that I presented on February 1st. Mr. Treco was correct in stating that many women have made contributions to science, but I think that the women who have lived and contributed to science have been erased from the history of science. The problem in Pale and Fleming was that they did not understand the importance of involving women in science. This is not lechery, but paternalism, which I think is a much more serious offense to women.

I will treat you with respect, dear, but you must be a second class citizen and out of men's business. There is not a lot that a woman could do about that. This seems to go right along with a macho image presented by the two jock houses. In my experience, sports freaks tend to be that way quite a bit.

-Mike Crawford

FRIDAY, FEBRUARY 17

NOON CONCERT—It will be a pleasant surprise. Saunter over to the Quad around noon.

RIGHT BRAIN LAB—This is the last session. Develop your creativity, 3:00 to 5:30 pm in the Y Workroom. Thank you, Cynthia.

WEDNESDAY, FEBRUARY 22


Would you like to go to the Grand Canyon over Spring Break? Contact the Y office for details.

Get ready, A person will be knocking at your door...soon.

For more information, call the Y at 356-6163.

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CINEMATECH

Two for the Road

GUESS WHO'S COMING TO DINNER

7:30

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SATURDAY EVENING IN BAXTER LECTURE HALL

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PIANTING

BY GREG SUSCA

CINEMATECH WANTS TO DO SIDE WORK, SPRAY, BRUSH OR ROLL, COMMERCIAL, HOUSES, APARTMENT BUILDINGS, LACUER, CABINETS, NEW WORK OR OLD WORK, INSIDE OR OUTSIDE, NO JOB TOO BIG OR SMALL. FREE ADVICE WITH EVERY FREE ESTIMATE. SPECIAL RATES FOR ALL COLLEGE EMPLOYEES AND ASSOCIATES.

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First Watson Lecture To Be Repeated

The first in what is now known as the Earnest C. Watson Lecture Series was given when Beckman Auditorium opened its doors in the fall of 1964. This lecture became famous throughout the U.S. as Earnest C. Watson's "Light and Air."

To celebrate Beckman's 20th birthday, Dr. Victor Neher, Caltech emeritus professor of physics, will recreate this renowned demonstration of the properties of liquid air.

Dr. Neher's presentation, the first in the Winter-Spring 1984 Ernest C. Watson Lecture Series, will be held at 8 pm Wednesday, February 22, in the Beckman Auditorium on the Caltech campus. Admission is free.

All subsequent lectures in the winter-spring series will also be presented on Wednesday at 8 pm in Beckman. All are open to the public.

The lectures in the series will be:

Midterms? Holidays?

Time and again, students can be overheard discussing the latest thing that one of their professors has done which seemed unfair or unreasonable. However it is manifested, most of these conflicts have their roots in the tug of war between education and evaluation. How much of each should be sacrificed for the other and to what ends? While trying to learn, the evaluation process often gets in the way and often too much. Here are some examples.

Midterms week just passed and as usual, one either does will on them or fall behind in class. Despite the fact that midterms were distributed, many professors still hold class during that week and continue lecturing on materials to be covered on the final. The exams alters one's schedule, and the studying preparation often means that there is no time for classes, which means falling behind for next week's homework material. If that is not bad enough, some classes do not cancel the weekly homework assignment for midterms. Due for the exam week is still the regular 200 pages of reading or the 6 problem sets. That often creates a burden that is unmanageable, particularly if one is on top of having to attend classes. Finally, some professors, with a bizarre sense of good will, would cancel the homework due for midterms week, only to assign a double homework set for the following week. The motivation behind so much emphasis on evaluation puzzles me, especially since it comes from an institute which likes to emphasize education and research not hampered by the petty abuse. A few classes which have homeworks due regularly on finals and other exams are not unreasonable, since midterms are the exact equivalent of the latter will take more time now and in the future to consider some of these points and perhaps delve into other problem policies and possible solutions thereof.

—Lily Wu
Goldberger's Worries Range From Institute Dollars to Human Survival

from page 1
we try to sell them on this.
So fund raising takes various forms. I travel around the country and appear before alumni groups, making inspirational speeches about Caltech.
The way that the admin-
istration works is that the president and the provost are involved through the lens of the various divisions in all mat-
ters of appointments and pro-
men, and he certainly is aware
to the president, but there is no formal interme-
se what my contact with the academic and campus af-
to support various funds that I have control over to support various kinds of research.

I have an involvement with the students which I really enjoy. I'm sorry to say has not been as close in the past few years as I would have liked, and I'm taking at least one positive step to cure that. I left a note with Chris Brennan a couple of weeks ago that I will visit each of the houses on a regular basis to work with them, to be a presence at me as I'm letting you know.

Do you have any time for physics?

MO: Oh physics is zero. Zero. Identically zero. It's been hard, it really has.

I knew when I came here that there was no realism to my thinking. The field moves rapidly. It requires long stretches of time and con-
centration and although I sometimes have trouble figuring out how I spent a day, well, I get home I'm really tired.

I sometimes have eight ap-
pointments a day, but I can think terribly hard about something for a half hour, 45

If you have people working on projects which involve proprietary information, then it is only cosmetically different from working on classified things.

There's no classified work on the campus at all, identically zero. With considerable reluctance and for a variety of complex reasons, we've agreed to take on a modest amount of classified research at JPL.

There's no question that everybody knew what we were doing. We were trying to build nuclear weapons.

And even when Germany surrendered, we didn't stop.

There has been talk recently about nuclear explosive driven X-ray lasers. Abstractly, the physics is fun. And it's very easy to get caught up in it and stop thinking about the larger issues.

There are problems not unrelated to the ones you run into when you go into the government sponsor-
ship of research that you run into with the industrial com-
panies. You have to put too narrow restrictions on where you can go. By and large, we've never undertook anything in a for-
mal way which involves pro-
prietary information. We insist that we have the right to publish anything that we deal with, and that's very important because if you have people classified research at JPL, but it all goes on up there, and the amount of it is relatively small, and it's been hard. That's a long and complex story which I'd just as soon not go into.

You are very vocal about your anti-nuclear feelings, yet Caltech is full of scientists who built the first one. What is the use of technology if it can be equally bad as good. Don't we have a responsibility to society?

Sure we do. Dick Feynman in a set of lectures somewhere told us that basically said that the gates of heaven and the gates of hell are open.

The problem is a very complex problem. The people who discovered nuclear fission and its possibilities.

I have a friend who for his PhD thesis in 1936 was work-
ing on trying to develop an effec-
tive weed killer and it's now what we call Agent Orange.

You never know, that's one part of the problem. You know a science could be used for good, it could be used for evil.

You could use lasers for tissue surgery in the eye, and these army clowns are talking about a weapon that will blind a person over the distance of a mile. You know it only takes 10^4 joules per square centimeter of laser light to blind a person. It's not a hell of a lot of energy.

Charles Townes when he invented the laser was not thinking about blinding people with even looking at the eyes, as a matter of fact, you never know where those kinds of things come from. That's one part of it.

The other part is what is your responsibility in regard to involving yourself in these military things or choosing not to. I believe this is an individual decision. I can give a fifteen minute argument on either side of the question, as to whether you should or should not participate, then you don't know anything and consequently, you don't have to what to fight. It's a big subject.

What about the students here? What do they face?

Well it is something to care about, the problem is probably more complex than you can ap-
preciate at this time, at this stage of your development.

There has been a lot of talk recently about nuclear ex-
plosive driven X-ray lasers and I went up to Livermore

and the gates of hell are open. It's a big subject.

What do you tell your students at Caltech? And I tell them that I don't tell them anything.
George is known to many Caltech students as the driving force behind the Thacher Summer Science Program. When he directed UCLA's astronomy department and rethored the popular astronomy textbook Exploration of the Universe, Most of all though, he was known for his good humor and easy style of teaching, combined with a demand for excellence, that made being his student a treat and it's free!

Dabney Lounge
Something else to look forward to this Sunday is Dabney's own Elma Schonbach in the Dabney Lounge Chamber Music Series fourth event. Beginning at 3:30 pm, she will play Bach and Schubert on the piano with the accompaniment of flutist Leonard Fenton, who played First Flute with the America Youth Symphony.

The Schubert piece is "Introduction and Variations," which was composed after a three year fall in chamber music writing. It was composed for Ferdinand Bogner, a professor at the Vienna Conservatory.

As the title implies, this work is a good beginning for listening to variational forms. These are basically five different types of variational. These are melodic, contrapuntal, rhythmic, harmonic, and a combination of the previous four.

A melodic variant is simply a variation in the melody itself. Although the outer contour is maintained, the actual line can be changed. For example, instead of going from C to D, the varied melody will go from C to C sharp to D. Of course, beginning with the latter, the variation can do the reverse, making the line less florid.

Contrapuntal variation is the addition of a new theme to the original. Usually the new theme is emphasized, using the old as a background.

The third form, rhythm, is just a change in rhythm, such as from three-quarter to four-quarter time.

Finally, harmonic variation is a transformation in the accompanying harmonies or a change in texture. Also, the melody can be suppressed and/or the basic outline of chords varied.

The Schubert work to be played this Sunday will include some of the above forms and they should be readily recognizable. Thus the concert will offer a chance to test your musical ear.

Also on the program are three contemporary works by Dutilleux, Messaien, and Walter Piston, the Pulitzer-prize winning American composer and teacher.

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Physicists (solid state and optics)

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High Energy Lasers
Manufacturing
Microelectronics
Missile Systems Engineering
Optical Communications Systems
Propulsion Systems
Scientific/Manned Spacecraft
Sensor Systems/Scientific Experiments
Telemetry, Tracking and Control Systems
Basketball Team Defeated Twice

by Ath Man at Large

The Caltech Beaver basketball team, despite providing competitive opposition for significant stretches of both games, lost two more league games last week by scores 103-56 to Whittier and 80-55 to Claremont-Mudd.

Jim Helgren led the point parade against Whittier with 16, while Stewart Peebles added 12 and Tom Heer netted 11. Perhaps motivated by a large, vocal personal rooting section, Heer was on target throughout the game, making good on four of seven field goal attempts. Ed Zanelli scored nine points and dished off for five assists, while Peebles grabbed a team-leading eight rebounds.

The game was utterly devoid of drama until Whittier approached the century mark with a few minutes to go. They reached it with just moments to play, to the delight of their fans.

After falling far behind Claremont in the first half, the Beavers played the Stags nearly even in the second half, losing the second half only 35-30. Stewart Peebles led the way for the Beavers scoring 17 points, grabbing 12 rebounds, and creating four steals. Ed Zanelli scored 10 and fed teammates for seven assists.

Phil Scott, holding a half-game lead in the Stags' scoring charts, also had four steals, and Chris Cotterell, starring his first game ever at Caltech, chipped in with three. Chris Kyriakakis shot well from the outside, netting four shots for eight points.

Baptists Beat Beavers

by Doug Oute

It was one of those weeks for the Caltech baseball team. Although they played hard, the first inning, PCBBC scored two runs on a walk and a home run. As it turned out, that was all they needed, as they went on to win the game 3-1. The Beavers collected only one hit, with Steve Havadst hitting a single to avert a no-hitter.

Tuesday against LA Baptists, the Beavers did a solid job pitching, with Jim Hamrick, Ed Casey, and Phil Scott combining to allow only 6 hits. The Beavers, however, suffered through another tough offensive outing, getting only two hits in nine innings. Kurt Mott was allowed in the fifth and Bob Mostert ripped a triple into deep left field in the sixth. The Beavers scored three more runs to close it to 11-9. Unfortunately, that's as close as Caltech got, as PCBBC pull away with four more runs in the top of the seventh, and the Beavers lost 15-10.

In the second game, Caltech benefited from a strong pitching performance. PCBBC was allowed only four hits, but two of them were home runs. In the top of the first inning, PCBBC scored two runs on a walk and a home run. As it turned out, that was all they needed, as they went on to win the game 3-1. The Beavers collected only one hit, with Steve Havadst hitting a single to avert a no-hitter.

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A Generation Ago —

From the January 7, 1960 issue of the Tech.

National College Food Service
To Supply All Houses, Greasy

By CLEVE MOLER

Saga Foods, a national organization specializing in feeding college students, will take over the planning and preparation of meals in all seven Student Houses next fall. This welcome announcement was made by George Green, Institute vice-president for business affairs, in an interview with the California Tech. Food Service committee of a number of Saga’s members was made Monday by the Board of Trustees.

Room Fees Boosted

An increase of between $160 and $100 a year in Student House room fees was also announced by Green. The present rate of $206 for a small double and $259 for a single or a single double will be increased to a uniform $365, applicable to all seven Houses. (A few large singles in the new Houses will be worth $425 a year.)

The food costs will remain at $520 under Saga. This will bring the total House bill to $885 a year.

Green listed rising costs and the switch to normal occupancy as the causes of the increase. He pointed out that it is the first hike in 3 years and hopes to leave it at the $365 figure for at least another 3 years.

Saga at Redlands

Saga Foods handles the food service of a number of colleges around the country, including Redlands locally. Green said that he has investigated many plans for improving House food and found Saga to offer the best possibilities. “But college food is still a growth business in the world,” he cautioned. “Don’t expect this plan to eliminate all complaints.”

Reports from many of the colleges served by Saga indicate that both students and administration are very satisfied by the service.

Saga will also handle operation of the new Chandler Dining Hall. They will begin by replacing Mrs. L. Lyall’s administration of the Greasy next month.

Miss Cheney will continue in her position as manager of the Student Houses. She will not as liaison between Saga, the Institute and the students.

Student housing will also be retained next year, although it will be Saga’s first non-college housing option. In addition, there will be opportunities for student employment by the new service.

All other Institute personnel involved in the food operation will have the opportunity to go to work for Saga.

Caltech has received a grant for a new dining hall to be named Harry Chandler Dining Hall. The gift of $400,000 is from the Chandler family, the Times-Mirror Company and the Pfaffinger Foundation.

Harry Chandler, publisher of The Times, president of the Times-Mirror Company and a pioneer Southern California civic leader, was a trustee of Caltech from 1920 until his death in 1944.

“Mr. Harry Chandler was a devoted friend of the Institute during his lifetime, and his son Norman is presently a loyal member of the Board of Trustees. The Harry Chandler Dining Hall will be completed in September 1961. It will be an important and distinguished addition to our campus,” Dr. DuBridge said.

The dining hall, which will have a main room with a seating capacity of 250 and four smaller rooms each seating 30 diners, will replace the 60 year old Greasy. The new building will be built alongside the three new Student Houses.

Chandler contributed much to Caltech growth. He was one of the persons instrumental in bringing to Caltech from the University of Chicago Nobel laureate Robert A. Millikan to serve as president of the Institute’s executive council. He also helped organize the Caltech Associates, an organization which has intensively supported the Institute, financially and otherwise.

The Harry Chandler Dining Hall is the latest project to be financed in Caltech’s $19,500,000 development program. Two more undergraduate houses, now nearing completion, remain unfunded.

The Inside World

Blocker: Our energetic(?) surly Social Team will lead, as Scoutingmasters, all moles during our maul to two days of Aretic wilderness of Joshua Tree.

The blocky House that has caught Blocker will continue next weekend with the house-owned Reggae Band Party and either a basketball game with Rudder or a party with Delboy or both or whatever.

Blocker will finally Capt. Bucabrera Trophy for once our basketball squad takes on Delboy. Fortunately half of the basketball team will be chopping wood in Joshua.

—This isn’t Rodneys

Dabney: Split Cal chimp bopped into Jim’s 24th. Joe water decked his room. The cat came back to Aunt Grace. While the vegies went by, Fleming: Sorry for the absence, dammit! I’ve got a lot of catching up to do, so here goes:

veep Dave Dabney will finally lead, as Scoutmasters, all moles daring enough to endure 2 days alongside the 3 new Student Houses.

Last Saturday’s Valentine making party was a huge success. Zuma beach here we come(to practice the elegant, P.S. Sophomores rule!

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THE NAVY OFFICER INFORMATION TEAM will be on campus February 23. For details call toll-free 800-252-0559.
Irish a Month Early
Jury's Irish Cabaret ofDublin brings to Caltech a
traditional Irish music and the
stories ofold Ireland to Beckman Auditorium tonight from 8 p.m. This ensemble is made up of thirty singers, dancers and comedians.

Highlighted in the show are
traditional Irish fiddlers, uillins, pipes, banjo, guitar, dancers and an Irish tenor. A special feature of the show is its Seanachaí or story-teller. With humor and drama, the Seanachaí is a repository of heroes, kings and magic.

Jury's Irish Cabaret was founded in 1954, and has per-
formed since then at Jury's Hotel in Dublin. The children of the show are from the late Pro-
insias O'Ceallaigh's Irish Children's Choir. In addition to performing with Jury's Irish Cabaret, they are regular per-
fomers on television, radio and the concert circuit of Ireland. Other young members of the choir performed in the 1981 CND Peace Walk.

Tickets to this event are priced at $15.00-$13.50-$12.00; students receive a $1 discount. For further informa-
tion, call 356-4652.

Klezmorim in Concert
The Klezmorim, an ensam-
ble of six young musicians from
Berkeley, will perform Thurs-
day, Feb. 23 at 8 p.m. in
Beckman Auditorium.

Klezmorim is an eclectic type of
music, originally performed by
Itinerant Yiddish troubadours in
Eastern Europe. Klezmer's 400 year history unites elements of gypsy music, military mar-
ches, light opera, Viennese classical, works will be played. The program will include tradi-
ional favorites, such as Bach's
Sonata in G minor and Schubert's Introduction and Variations. Contemporary pieces include Sonatine by Dutileux, Meister's "Le Mer Noir" and Piston's Sonata.

Fenton and Schonbach
Flutist Leonard Fenton and
pianist Elma Schonbach will
perform a concert of new dance-
inspired music for clarinet and
piano on Feb. 19 at 3:30 p.m. in
Dabney Hall Lounge. This concert is the fourteenth in the Lounge Chamber Music Series.

Concerto, as well as classical, works will be performed. The program will include tradi-
ional favorites, such as Bach's
Sonata in G minor and Schubert's Introduction and Variations. Contemporary pieces include Sonatine by Dutileux, Meister's "Le Mer Noir" and Piston's Sonata.

Fenton is an internationally
renowned flutist who has per-
fomed in many local events,
including the Los Angeles Chamber Orchestra, the Carneal Bach Festival and numerous solo ap-
pearances. He received his schooling at U.C. San Diego, and studied in Paris at the Ecole Normal and the Conservatoire. He was also a student in the International Academy of Music in Nice.

Schonbach is a Lecturer in Mu-
ic at Caltech. She graduated from the Conservatorium of Music, and later studied in New York with Ernest Hirschlin and in Washington with Glendall Quinn.

Admission to this concert is free of charge and no tickets are required. For further informa-
tion, call 356-4652.

Irish Folk Music
Tickets are now available for De Danaan, one of the world's finest groups perform-
ing traditional and revivalist Irish music. The concert will take place on Friday, March 23 at 8 p.m. in Beckman. (Yes, that does mean Friday night, but the only date De Danaan was available was Friday.) Tickets are available at the Caltech Ticket Office and at all Ticketron outlets for $9.50, $7.50 and $5.00 with discounts of $1 for Caltech students, upper-classmen and full-time students. Thanks to the support of the Caltech Y, Caltech students can pur-
chase two tickets per student at half price.

Biotherapy
Each term the Biotherapy Divi-
sion offers a flexible series of tutorials and other career-ir-
terested faculty and postdoc-
toral fellows in areas not other-
wise covered by the curriculum. The Spring Term selections in-
clude Current Medical Issues, Viruses and Cancer, Brain and Behavior (minimum eight students, additional percus-
sions can be conducted during the meetings), Ortho-
Biology, and Genetic Engineering. Further information on these tutorials is available in the Biology Office and at preregistration, or call J. Strauss at 4890.

Are You A Leader
The Robert L. Noland Leadership Scholarships were estab-
lished by Mr. and Mrs. Robert L. Noland, who is an alumnus of Caltech. These awards, which are named in honor of President of Caltech, have been established to recognize outstanding leadership by Caltech students.

The criteria of Ametek recog-
nizes that leadership takes many forms and can be ex-
cerized through both traditional organizational groups as well as through informal and ad hoc activities. The leadership to be recognized may be measured by scholastic achievement.

The leadership to be recognized may be measured by scholastic achievement. For information, call 356-4652.

Seaside Celtic Music and Dance School
This term the Sea
die Celtic Music and Dance
School will meet on

CLAGS Dance Planning Meeting
The place to be this Sunday afternoon at 2:00 is the CLAGS dance hall (room 210). Once again, CLAGS is throwing a dance party in Win-
niet, and it's only a week away. (800) 839-1011.

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