Symposium Explores Possibilities Of Solar Heating For Houses

Results of experiments in solar heating conducted throughout the United States were presented during the summer at a five-day symposium held at the Institute.

Dr. Hoyt C. Hottel, professor of chemical engineering and chairman of the Institute Solar Energy Conversion Committee, emphasized that the week's conference was designed to help architects and research engineers pool their knowledge of solar heating and focus on the problems yet to be solved.

Present-day solar heat collectors in use on experimental houses on Memorial Drive and in Colorado, Dr. Hottel said, operate with an efficiency of about 35 per cent . . . that is, they collect about one-third of the heat which actually falls on them. This means that present-day collectors as large as one-fifth the area of the house walls and roof are inadequate for house heating in climates such as that of Boston.

That Boston Weather

Because of cloudiness and haze even on clear days, Dr. Hottel said, the available sunlight in New England is "materially below" that required.

"We conclude," he said, "that solar heated houses in New England must be unusually well insulated.

Frosh Girls

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school in Chambersburg, Pennsylvania, although she lives in Manhasset, Long Island. She plans to become an architect, "a woman's field" she calls it. She's interested in working with the Drama Workshop or the Tech Show, backstage only. She was also drafted as a cheerleader although she says, "They don't know what they're in for." Phyl likes odd and queer things. Tech men take note.

Barbara Beyer calls Akron, Ohio, her far-away home. She hopes to become a chemical engineer but while waiting for her course to end, she plans to work on The Tech. (God Bless Her.)

Elaine Bialick came from Brooklyn to study biology. She plays the violin in the Tech orchestra and she wants to sing in the Tech Show —if they'll have her.

Elyria, Ohio, sent Helen Dugar to Technology. She plans to join the Drama Workshop and to become an active member of Voo Doo— A master of figures, Helen's major will be mathematics.

Texas Represented

Bobbie Gray, called "Tex" because of her unmistakable accent and loyalty to the Lone Star State, hails from Amarillo. She plans to major in architecture but her other interests are so extensive that she may not find time to study. "Tex" is a tournament golfer and also an enthusiastic follower of spectator sports. Her preferences include: boys, dancing, swimming, boats, friendly people, and of course TEXAS.

Florence Tse-yun Kao comes from Shanghai, China. She is a proficient knitter (wearers of argyles take note). Flo will be a biology major but hopes to find time to play badminton, her favorite sport, as well as study.

Marilyn Leader came to the Institute from Science High School in New York. She hopes to be a member of the Technique staff and W.M.I.T. though she says, "I was interested in Voo Doo until I read the jokes"—(What jokes?). Marilyn plans to major in Business and Engineering Administration.

Nancy Ann Mondock comes from Lorain, Ohio, famous for steel, boats, and steam shovels. She will major in food technology. Nancy's interests include swimming and music.

Alyce Staft hails from Brooklyn. Architecture is her choice for a major and she intends to write for The Tech and W.M.I.T.

There you are men. The line forms on the right.

Report

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arate organizational entity for the humanities and social sciences, the committee suggests that the advancement of knowledge be considered an essential part of the program of the school, that it assume responsibility for planning and administering the program of general education as a part of the common curriculum and that it offer professional courses leading to graduate as well as undergraduate degrees.

"The school will serve the Institute by planning and administering a general educational program for all M.I.T. students, designed to develop an awareness of the interrelations of the scientific, technical, and literary cultures, and a sensitiveness to the diverse forces that motivate the thoughts and actions of people."

The four-year humanities program proposed by the Committee provides for a two-year core curriculum to be taken by all freshmen and sophomores followed by eight or nine elective sequences to be chosen by juniors and seniors.

The core curriculum is expected to provide a general historical sense of the growth of western civilization plus some appreciation of the main elements of the contemporary American heritage. It is also expected to give the freshmen and sophomores an opportunity to determine which of the various methods of approach to the study of a culture they would like to follow more intensively in their upperclass years.

Based on this experience, juniors will be expected to elect a three-term sequence in one of three fields —history and government, or philosophy and the arts, or economics and social science. There will be a multiplicity of such sequences available in each of the three fields.

Financial Support

The problems of privately supported universities and colleges were studied by the committee and the report rehearses the dilemma confronting all institutions of higher learning which derive their principal support from private funds. It believes that these institutions must not go out of business, but it recommends that education at such institutions is likely to cost the student more money than elsewhere.

It rejects the suggestion frequently made that engineering undergraduate curricula should in general be increased to five or even six years; it also rejects the thesis that engineering education should now follow the lines of law and medicine and be built by graduate work on the foundation of a general education in a liberal arts college or university. Each of these it admits will have benefit for some students but it does not accept them as general solutions.

Pros and Cons of Sponsored Research

In considering sponsored research, the committee asks several questions: "Is all this work genuinely creative? Can it be justified on the ground that it strengthens the educational program? Is there the danger that the energy and interests of talented members of the staff are being diverted from education to income-producing work? Is it safe to rely on this source of income, to become accustomed to a standard of support that would be impossible to maintain in the event of a sudden cutback?"

"The serious implications of this situation are apparent," the committee reports. "Under the pressure of an expanding program, both our physical plant and our staff have been augmented steadily. In the interest of sound planning it would seem that some reasonable balance should be achieved between commitments to sponsored research and to the fulfillment of our normal obligations as an academic institution.

Sponsored research has obvious benefits. It permits the Institute staff to make contributions to their society; it provides the use of a large number of instruments, machine tools, and expendable materials by both staff and students; it has led to the postwar evolution of "large engineering laboratories, such as the Servomechanisms Laboratory, the Instrumentation Laboratory, and various others, that offer unusual opportunities to graduate students to become familiar with the actual processes and practical problems of engineering, while carrying on their other more academic studies."

The committee recommends that

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