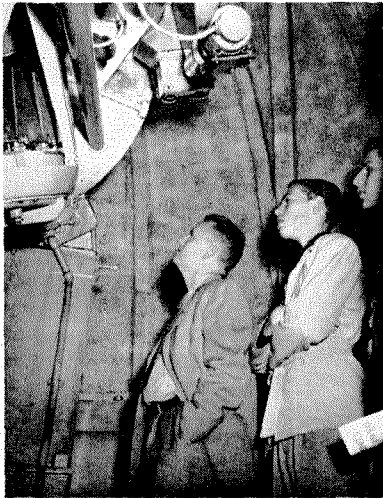


ENGINEERING | AND | SCIENCE

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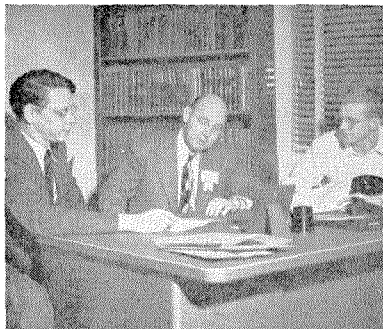
ON THE COVER

This month's cover picture shows some of the visitors to the Institute campus on Students' Day, Saturday December 2, looking over the 20-inch telescope on the roof of Robinson Hall, the astrophysics building.

Students' Day was the first open house to be held at the Institute since before the war—and a highly successful one too. Instead of holding a wide-open-house this time, the Institute limited attendance to prospective students. Some 750 Southern California high school seniors, with their teachers, were therefore invited to tour the campus on Students' Day. The function was a joint effort of Caltech students, faculty and other participating groups, including alumni.

You'll find some pictures of Students' Day activities on pages 14 and 15—a couple of pages, by the way, which we held up until the last minute, so we could get these pictures in this issue.

CONTINUED ON PAGE 6



Committee in charge of Students' Day—Hildebrand, Varney, Tautz

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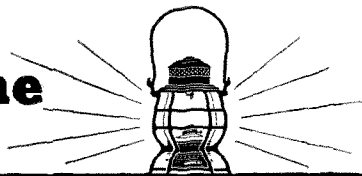
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The Main Line



DECEMBER, 1950

Here it is, winter again. And unless this year turns out different from all the years that have gone before, winter means that the whole countryside is going to be slopped up with rain, mud, sleet, snow, fog, wind and what have you?

Except, of course, down in the South and Southwest. Around Palm Springs, Phoenix, Tucson, etc. the sun is now spending the winter. You can do all the shirt-sleeve loafing you like there. We recommend it.

How're You Going?

There are, of course, many ways to get to the Southwest resort and guest ranch country. For example, you could walk. (You'd probably encounter some interesting bone formations from people who found this method over-tiring.)

Another possibility is to drive your own car. On the off chance that you may be considering this method, we have prepared a special presentation of the scenery you can expect to encounter en route.

In the crowded, metropolitan areas, where traffic creeps along bumper to bumper, if you dare take your eyes off the car ahead for a moment, chances are you'll receive a by-then untimely suggestion like this:



Farther along, where the highways are narrow, winding and slippery when wet, you'll more than likely see this:



And then, before you get there, about the time you're wondering why you undertook the project at all, you'll probably get another cheery greeting like the one at the top of the adjoining column.



Having thus eliminated the unreasonable ways to go, that brings us to the one best way to travel. In short, as it says on the signs...

Next Time, Try The Train

We have fine, fast, streamlined trains to take you to winter sunshine. Our new *Sunset Limited* and *Golden State* streamliners directly serve the heart of the winter resort country.

And what a way to go!

You relax in complete, air-conditioned comfort, while the engineer does the driving. Sleep (if you're sleepy) in luxurious private Pullman rooms. Or, if you're traveling on a budget, doze in super-comfortable "Sleepy-Hollow" chair car seats.

Good food travels with you in dining and coffee shop cars. You eat when you want to on S. P. trains—not when you happen to pass a place that looks suitable. And you'll find all the companionship—or all the privacy—you want. Baggage allowance is generous, too—probably more than you can lift.

Snow-bound?

Of course, some people aren't sun worshippers. So if you believe there's no fun like snow fun—or if you have some other reason for heading north—we have some very sweet streamliners headed thataway.

From Los Angeles to San Francisco, you can go by *Daylights*, *Starlight* or *Lark*. From San Francisco to Portland, take the *Shasta Daylight* or the *Cascade*. And if your spirits need a Reno-vation, go there over the High Sierra on the *City of San Francisco*.

Happy Holiday

The nearly 90,000 men and women who are Southern Pacific join in wishing you a very merry Christmas and a happy, prosperous and peaceful New Year.

S·P

The friendly Southern Pacific

IN THIS ISSUE

CONTINUED



Students' Day visitors listen to an address by President DuBridge

SMOG

On page 7 of this issue you'll find an article by Dr. A. J. Haagen-Smit on "The Air Pollution Problem in Los Angeles." It's the most informative, most straightforward, most unemotional article on smog we've seen. And, as far as we're concerned, it couldn't have come at a better time.

The long succession of smoggy days in the Los Angeles area last month not only got everybody fighting mad; it routed out every crackpot, headline-hunter and sure-cure expert in the area. Now that we've heard from all of them, it is even more interesting to turn to a consideration of some of the facts about smog which are given in Dr. Haagen-Smit's article.

Dr. Haagen-Smit, Professor of Bio-organic Chemistry at the Institute is on leave this year to conduct research on smog for the Los Angeles Air Pollution Control District.

RADIATION DETECTORS

On pages 16-18 C. M. Stearns tells about two interesting machines which have been developed recently at the Institute—both radiation detectors. One, Dr. Eugene Cowan's nonstop cloud chamber is proving useful in cosmic ray studies in Physics; the other, Dr. Geoffrey Keighley's nonstop Geiger counter is working on protein synthesis studies in Biology.

Work on the Cowan cloud chamber, incidentally, was in part supported by funds granted by the office of Naval Research and the Atomic Energy Commission.

PICTURE CREDITS

Cover	Charles Davies
pps. 5-6	Charles Davies
p. 7	Max Yavno
p. 11	Charles Davies
pps. 14-15	Charles Davies
pps. 16, 18, 22	Charles Davies
p. 24	Morgan Ogilvie