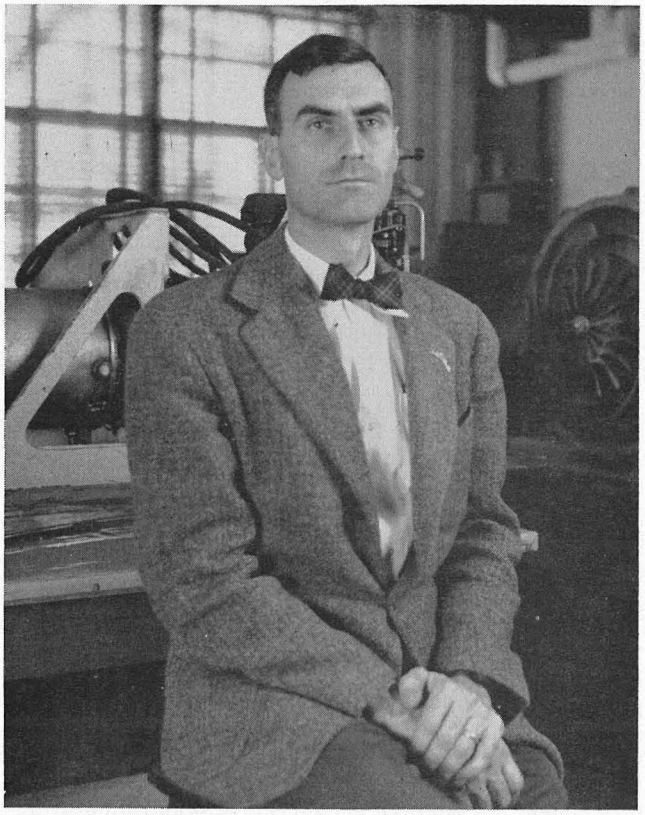

PETER KYROPOULOS

He's Assistant Professor of Mechanical Engineering at the Institute, and General Automotive Adviser—both in and out of the department

THE FIRST RECORDED instance of Peter Kyropoulos' interest in engines occurred when he was four years old. He discovered his mother cleaning the living room with the family's irascible vacuum cleaner, listened attentively to the sound of the motor for a few minutes, then walked over to his mother and embraced her.

"I am so happy," he said tenderly, "that the thing hums so nicely."

To this day the sound of a nicely humming motor can make Peter a happy man—though the world does not yet produce many motors whose hums come up to his high standards.

As Assistant Professor of Mechanical Engineering at the Institute, Kyropoulos teaches basic fluid mechanics and thermodynamics to ME juniors and seniors in the engineering lab, and gives graduate courses in the experimental background of engine research.

Research under his supervision at the Institute includes studies of reaction kinetics, involving the reciprocating engine. The general problem here—and it's one that concerns everyone who studies engines—is detonation, or the behavior of fuel in knocking combustion.

Another Kyropoulos project is the spectrographic analysis of crankcase drainage. This, as he explains it, is simply urology applied to engines. He wants to know what and how much you can tell about what ails an engine by looking at drainage oil.

These are his catalogued or advertised functions in the ME department. His actual functions go far beyond this—to the point where he is the all-around handy man of the department, performing several dozen odd jobs around the place just because he likes to see things get done.

During the war, for instance, he gave a good many of the Navy V-12 courses in ME. Even before the Institute reached the point where it became necessary, he developed and gave a course in naval machinery as an elective. Later this became a required course in the V-12 program—and was, according to a good many men in active service, one of the most valuable courses given here.

He's been largely responsible for building up the ME lab to a top position here, and his special interest in internal combustion engines has resulted in a marked development of the work in that field at the Institute.

He serves as placement representative of the ME department, as director of the enormously complicated procedure by which Caltech students serve as observers for the Automobile Association of America in the

annual Mobilgas Economy Run, and as general automotive adviser for the Institute—involving everything from the loftiest theoretical problem to why a freshman is getting such poor mileage on his rebuilt Maxwell.

His interest in automobiles, in fact, reaches a peak in his own car, which is usually bristling with gadgets for measuring gas consumption, oil consumption and general wear and tear in every conceivable part of the vehicle. In recent months—and largely as a result of his having worked on Project Vista—he has broadened his horizons somewhat, and developed a passion for armored vehicles. He is already collecting models of armor with such vigor that his colleagues at the Institute are nervously awaiting the day when he will rumble in to work in a late-model tank.

Some family history

Peter Kyropoulos was born and raised in Göttingen, Germany, where his father was Professor of Applied Physics at the University. The family originally came from Macedonia, in Greece—whose people are not unlike the Scotch Highlanders. (In Peter this affinity is not only responsible for his enormous collection of tartan neckties, but for his wife—a Scotch girl—as well.) Peter's grandfather, a Macedonian fur merchant, and a Christian Greek, quit the country rather than serve in the Turkish army.

Peter's interest in engineering may possibly have been partly due to genetics. His mother's family founded and operated one of the largest agricultural machinery factories in Europe. More probably, however, the interest was due to environment—specifically, the Harley-Davidson motorcycle his father bought from the U.S. Army of Occupation in 1922, when Peter was eight years old. This machine was lovingly rebuilt into a very showy vehicle by Peter and his father—the first of a long series of motorcycles in the Kyropoulos family.

From motorcycles to aeroplanes

At the University of Göttingen, Peter switched his allegiance from motorcycles to aeroplanes when he joined a student flying and gliding group. In 1935, when he was inducted into the German Army, he was given pilot's training as well as a special course for engineering students, who were ultimately expected to become inspectors in the German Air Force.

At about this time Peter's parents began to come in for a good deal of criticism from the Nazis for whom they had little love. In 1936, Spyro Kyropoulos lost his university position and was charged with "showing no enthusiasm" for Nazism, preventing people from making the Nazi salute and similar crimes.

It was ironic that the Kyropoulos family, which had fled from Greece rather than knuckle under to a regime it opposed, now had to leave Germany for the same reason. Spyro Kyropoulos came to America, and to Caltech, in 1937. Peter followed him a few months later—ostensibly to complete his studies in the U. S.

He took out his first citizenship papers here as soon as he arrived in Pasadena, where he enrolled in the graduate school in aeronautics at Caltech, to work for his M.S. in Mechanical Engineering.

After receiving his degree in 1938, Peter went to work for Consolidated Vultee, both in California and in Detroit, as flight test engineer for Vultee Aircraft and as Chief of Aerodynamics for the Stimson Division of the company. Back at Caltech on a Vultee Research Fellowship, Peter became an instructor in the Mechanical Engineering Department in 1943. In 1948 he received his Ph.D., writing his thesis on Exhaust Dynamics of Diesel Engines. In 1948 he also became Assistant Professor of Mechanical Engineering at Caltech.

ME students at the Institute generally consider Kyropoulos' courses pretty tough. At the same time, his are some of the most popular courses in the engineering curriculum. Unwary students are often thrown off guard by the Kyropoulos teaching technique when first exposed to it. The deadpan humor and slangy terminology are apt to be taken at their face value—only to result in the sad discovery that they are the sugar-coating on the bitter pill of concentrated knowledge.

Report on reports

Nowhere is this more apparent than in the way Kyropoulos teaches his students how to write technical reports. Bedded down with flu recently, Peter made the mistake of trying to convalesce by grading some of his students' lab reports. He ended by writing a report on how to write a report which is not only a model of its kind, but a particularly juicy sample of his teaching technique.

The laboratory report, explains the Kyropoulos report, is addressed to people who

(a) want to disagree with you
(b) have to follow up your work
(c) have to check you numerically
(d) want to make a similar test and need enlightenment as to "how."

"Put yourself into one or all of these categories," Peter advises his students, "and read your own reports. You will hate yourself."

The Kyropoulos report goes on to present a few choice samples of richly inventive English from several student reports.

"And all this," he remarks, "after we spend 25 percent of our time on Humanities."

"Discuss all graphs you have made," he notes. "If you cannot find any good reason why you were asked to make a plot or calculation, *ask*. Don't just write it off as another one of the old man's peculiarities. There is method in his madness."

The whole report is cheerfully signed by

P. Kyropoulos
Hell on Wheels