generator (or boiler) is a monotube that will operate almost forever on a supply of water, since the water is recirculated through the condensing system. The generator, condensor, and radiator will all be under the hood of the car, while the engine will be underneath the car. Lear says the engine in the standard model will be about 400 horsepower and will weigh about 65 pounds. The entire system will weigh about 650 pounds—a bit less than the engine system weighs in a regular car. As the size of the boiler is decreased (Lear hopes to bring it down to about two-thirds the present size) the weight of the system will also decrease. A small turbine engine, powered from the boiler, will handle the auxiliaries—air conditioning, power-assist systems, radio, and so on.

The Thermodynamic Systems engine, developed by Johnson, has six cylinders arranged around the shaft axis. Johnson uses a cam, rather than a crank, to convert the reciprocating motion to rotary motion. This, he says, makes his engine lighter and smaller than ordi-

Scientists Plan Research Strike at M.I.T. on 4 March

A group of professors and graduate students have scheduled a voluntary research halt at M.I.T. on 4 March to focus attention on how the "misuse of scientific and technical knowledge presents a major threat to the existence of mankind." From present indications, the research stoppage will spread to a number of institutions; activities on 4 March are being planned at Cornell and at other universities.

The idea of stopping research as a "practical and symbolic" expression of the apprehension felt by scientists seems to have originated among graduate students and professors in the M.I.T. physics department but, in the past few weeks, has spread to other M.I.T. departments as well. The heads of three departments were among those signing the original faculty statement supporting the research stoppage—B. Magasanik (biology), J. Ross (chemistry), and V. Weisskopf (physics).*

As well as stopping research, the day of 4 March will be devoted to a discussion of problems and possible ways for scientists to initiate political action. Senator George McGovern (D–S.Dak.) will speak on reconverting the U.S. economy from defense to domestic production, Cornell physicist Hans Bethe on the ABM, Harvard biologist Matthew Meselson on chemical and biological warfare, author Gar Alperovitz on scientists and the atomic bomb, and M.I.T. linguist Noam Chomsky on the responsibility of the intellectual. Panels will be conducted on the world food crisis, urban problems, and finding jobs for young scientists and engineers outside the defense industry.

At the beginning, the concern of the graduate students largely focused on Vietnam, but due to faculty feelings, the aims of the research halt have been expanded. The activities are being managed by a steering committee which is equally divided between graduate students and faculty members. The original faculty statement was signed by 47 senior faculty members; last week the statement was sent to the whole faculty for signing. Physicist Steven Weinberg, a member of the steering committee for the 4 March activities, says that "we expect very broad faculty support; on the order of a majority of the faculty."

The faculty statement asserts that "Through its actions in Vietnam our government has shaken our confidence in its ability to make wise and humane decisions. . . . The response of the scientific community to these developments has been hopelessly fragmented . . . The concerned majority has been on the sidelines and ineffective. We feel that it is no longer possible to remain uninvolved. We therefore call on scientists and engineers at M.I.T., and throughout the country, to unite for concerted action and leadership." Among the points which the faculty group proposes are:

► "To devise means for turning research applications away from the present overemphasis on military technology towards the solution of pressing environmental and social problems.

► "To convey to our students the hope that they will devote themselves to bringing the benefits of science and technology to mankind, and to ask them to scrutinize the issues raised here before participating in the construction of destructive weapons systems.

► "To express our determined opposition to ill-advised and hazardous projects such as the ABM system, the enlargement of our nuclear arsenal, and the development of chemical and biological weapons."

The separate statement signed by M.I.T. graduate students also affirms that technology should be redirected "from destructive to constructive ends" and protests the control exercised by the Selective Service System over the work of young scientists and engineers. A canvass will be held in February to enlist the support of more M.I.T. graduate students and undergraduates.

The stopping of research will be done on a voluntary basis; no effort will be made to enforce a compulsory research halt. The planning for the 4 March session is in no way an official M.I.T. activity. One M.I.T. scientist described the attitude of the M.I.T. administration as "friendly but disengaged" toward the research halt, neither opposing the activities nor supporting them.

The M.I.T. organizers are actively encouraging scientists at other universities to schedule similar activities on campus. The M.I.T. protest is indicative of what seems to be a growing desire among the nation's scientists to devote greater attention to social problems and to redirect scientific effort away from military research. Although the thrust of the ideas of the organizers will displease some scientists and engineers, the M.I.T. effort does represent a kind of cooperation between the generations which is rare at universities these days.

—BRYCE NELSON

* Other signers of the faculty document supporting the stopping of research include:
Linguistics: N. Chomsky, M. Halle, and G. H. Matthews
Electrical Engineering: M. Eden, P. Elias, J. Y. Lettvin, S. Mason, G. Pratt, and A. C. Smith
Physics: B. T. Feld, H. Feshbach, K. Gottfried, J. King, F. Low, P. Morse, B. Rossi, and S. Weinberg
Biology: S. Luria
J. Feigenbaum, a graduate student in physics, is the coordinator of the Science Action Co-ordinating Committee.