#### resonances

Here is a communication from Richard Robiscoe, David Anderson and E. F. Kelley at Montana State University, Bozeman:

Recent work on the John Quincy atom has finally led to a successful understanding of the total state of the union in terms of the Alexander Hamiltonian. The early work of Washington, Jefferson et al led to the diagonalization of this Hamiltonian, yielding 13 uniquely defined eigenstates. Later, when we took into account blackbody radiation coupled with (John) Brownian motion. and clearly resolved the Mason-Dixon line (MDL), it was apparent that those states lying below the MDL were degenerate to first order, having condensed to a substate of very low energy, asymptotically approaching lethargy.

Attempts were made to remove this degeneracy. Expansion of the union in a (Zachary) Taylor series merely gave a number of new states by analytic continuation. Finally Lincoln, Seward et al introduced a large perturbation, which led to a collective excitation and produced a metastable state (of war) with a lifetime of about four years. An attempted solution by J. Davis et al, using the methods of Lee groups, failed—since they took too many things for Granted. Thus, the overall state of the union remained partially degenerate.

Reconstruction of the total state function now indicates the states below MDL remain degenerate to all orders, and may be regarded as an irreducible representation (McClellan, Long et al). Unfortunately, these states are orthogonal to the remaining states of the union, and little hope is offered for the removal of the degeneracy, except perhaps by mass renormalization procedures.

# Cooper

Manuel Rotenberg at the University of California, La Jolla, inspired by Fred Seitz's recent article on Eugene Wigner, reports this example of Wigner's self-effacing style:

"In 1960, I arrived at Princeton as an Instructor, a total unknown, not even one paper to my credit. Someone whis-

pered my name into Wigner's ear, whereupon he jumped up, beamed, extended his hand and exclaimed 'Ah! So you are Professor Rotenberg! I am Mister Wigner.'"

# G E L A M N N

A memorandum, sent to us by Donald Gunter, warned Cal Tech personnel of an unusual service interruption:

TO: Campus

FROM: Physical Plant

SUBJECT: Interruption of gravity

The campus architect has requested a temporary interruption of gravity for the purpose of making certain major alterations of campus design. Gravity will be off for approximately 11 hours next Tuesday, from 7 AM to 6 PM. Only the campus area south of San Pasqual Street will be affected.

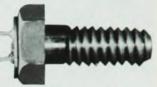
We have been advised that the interruption will undoubtedly create noncausal gravitational singularities along the boundaries of the region affected. Therefore San Pasqual will be closed to traffic throughout the day.

The following precautions are advised:

- ▶ All heavy equipment should be tied down.
- ▶ Personnel are urged not to leave buildings. If forced to travel from one building to another, use the steam tunnels.
- ▶ Since elevators will be inoperative during this time, please use stairways.
- ▶ All people normally parking cars south of San Pasqual should take care not to do so
- Please do not flush toilets.

The visual puns on this page are two of several sent to us by William M. Hartmann of Michigan State University.

#### RUGGED DT 500 Silicon Diode CRYOGENIC TEMPERATURE 1 TO 400K SENSOR



Extreme Sensitivity: below 30K, up to 50 mV/K; above 30K, 2.7 mV/K Interchangeability: Sensors available matched to .1K or better @ 4.2 and within 1K between 40 and 400K

Multiple Configurations: for every application

For further information write or call: TELEPHONE 716-992-3411

### RYOTRONICS, INC.

9631 SANDROCK RD. EDEN, N. Y. 14057

LAKE SHORE CRYOTRONICS, INC.

Announces

## MODEL DTC-500 CRYOGENIC TEMPERATURE

.001K 1 to 25K .01K 25 to 400K



with direct temperature readout from the control sensor and test specimen sensor.

Sensitivity: .001K from 1 to 25K, .01K from 25 to 400K

Control Range: 1 to 400K

Temp. Readout Accuracy: 0.1K or better

Sensors: TG-100 GaAs Diodes or DT-500

Silicon Diodes

Heater Input: 10<sup>-3</sup> to 10 watts Current Ranges: 10 mA, 100 mA, and 1 A f.s. Remote set point control capability



Circle No. 74 on Reader Service Card

PHYSICS TODAY / JANUARY 1973