

letters

its "Fermi surface."

Finally, I observe the interesting juxtaposition of Dyson's and Bryce DeWitt's (September, page 30) articles. Dyson points out the suitability of particle experimentalists for dealing with the problem of sequencing quantum mechanics in conjunction with consciousness—a presumptive property of certain biological systems. The possibility of a need for a nonlinear generalization of quantum mechanics (distinct from Wigner's proposal) has also been mentioned³ in connection with certain aspects of particle theory. Perhaps, then, molecular biology calls for the talents not only of solid-state physicists and high-energy experimentalists, but even of high-energy theoreticians!

References

1. P. Rosen, *Biophys. J.* 8, 391 (1968).
2. J. Ladik, G. Biczko, J. Redly, *Phys. Rev.* 188, 710 (1969).
3. E. P. Wigner, "Remarks on the Mind-Body Question," in *Symmetries and Reflections*, Indiana U.P., Bloomington (1967).

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Jobs for Negro physicists

In a nation that has at least 10% of its population Negro there are, at most, 1% of the physics community who are Black Americans. Many direct and indirect efforts are under way to redress this gross imbalance. As a consequence colored physicists do not have the difficulties their white brothers experience in obtaining posts.

To correct this imbalance caused by the long racist bias against Negroes in the US such discrimination in favor of nonwhite scientists certainly should, and probably will, continue for some time. Negroes should therefore be encouraged to pursue studies in physics and physics-related fields.

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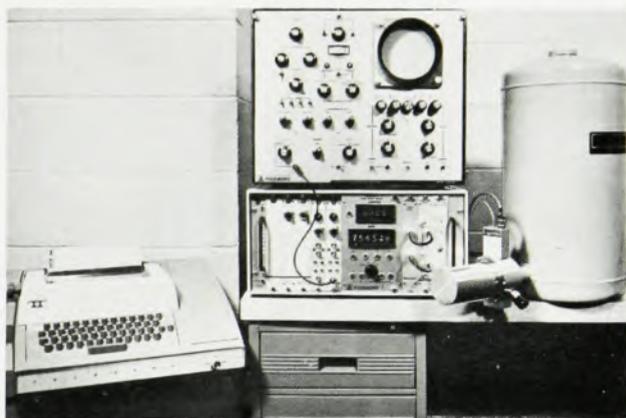
I wish to support wholeheartedly the suggestion by Enrique Grünbaum and Claudio Gonzalez in their letter (October, page 13) for simultaneous distribution of journals and a microfiche, or microfilm, copy. Their reason is primarily to speed the mailing of publications. The additional argument they give in their last paragraph is, however, of paramount importance to us and, I suspect, to many others. As the journals and the size of each journal in-

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creases we are losing shelf space rapidly. The logical solution, which we have discussed here, appears to be to take journals in both forms leaving the printed form unbound. After a few years these latter could be discarded. This has the additional advantage that the journal is not at the bindery just when you discover an important reference to it.

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More on UFO's

W. T. Powers (June, page 14) is correct about the generic difference between "good" UFO reports and those that can be identified. The organized study he desires has already been completed. Reference 1 is the final report of a two-year study of 2199 UFO re-

Table 1. Categorization of UFO Sighting Reports

Category	Number	Ratio, %
Astronomical	479	21.8
Aircraft	474	21.6
Balloon	339	15.4
Other	233	10.6
UNKNOWN	434	19.7
Insufficient information	240	10.9
Total	2199	100%

Data from reference 1

ports conducted by scientists and engineers at Battelle Memorial Institute in Columbus, Ohio. Every report was finally categorized and evaluated as shown in Tables 1 and 2. The "other" category includes a miscellaneous collection such as hoaxes, searchlights on clouds, birds, and so on. Of special interest are the UNKNOWNs—"Those reports of sightings wherein the description of the ob-

ject and its maneuvers could not be fitted to the pattern of any known phenomenon" and those labeled "insufficient information" defined as "some essential item of information missing or there was enough doubt about what data were available to disallow identification as a common object or some natural phenomenon." The UNKNOWNs were not sightings for which there was not enough information. Note, too, that the higher the quality of the report the more likely it was an UNKNOWN, and the less likely that there was insufficient information—exactly what one would expect if the UNKNOWNs were indeed generically different from the KNOWNs. In addition, a chi-square statistical comparison between the characteristics (speed, color and so on) of the UNKNOWNs and the KNOWNs showed that the probability is less than 1% that the distributions are the same. The average duration of observation for the UNKNOWNs was no longer than for the KNOWNs with 45% being observed for more than 5 minutes. In short, UNKNOWNs are neither like KNOWNs (IFO's), nor are they rapidly passing lights observed for a brief period of time by an incompetent observer—quite contrary to the viewpoints of the scoffers who know so little of the facts concerning UFO's. If one were to apply the same fallacious reasoning as implied by the notion "because most sightings can be identified, all can," one would certainly reject the discovery of the anti-He³ particle (June, page 59). Obviously, if all but five of the 2×10^{11} particles examined weren't anti-He³, none were.

After 11 years of study of UFO's I am convinced not only that some UFO's are extraterrestrial vehicles but that the problem with the acceptance of UFO's is a psychological one just as was the acceptance of the Copernican universe 300 years ago. Antihelium particles don't upset our present notions about the universe or our own importance. UFO's do. For example, about 30 of the 100 reports discussed in the Condon report² could not be identified. The negative conclusions about UFO real-

Table 2. Quality Distribution of UNKNOWNs

Quality Group	No.	% of Total	Unknowns	% of Group	Insufficient Information	% of Group
Excellent	213	9.7	71	33.3	9	4.2
Good	757	34.5	188	24.8	27	3.6
Doubtful	794	36.0	103	13.0	111	14.0
Poor	435	19.8	72	16.6	93	21.4
Total	2199	100%	434	19.7	240	10.9

Data from reference 1

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