

they differed from the usual run of men. If so, adequate understanding would require knowing much more about the sighter-believers than seems possible from the survey data used by Warren.

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Warren attributed the greater frequency of "sightings" among white males whose incomes lagged appreciably behind their educational and occupational levels to the "marginality" of their situation, saying: "Alienation and distrust of official explanations and a general questioning of the merits of the 'system' are common attitudes among status inconsistent." As mediating variables Warren postulated "status frustration and, especially, . . . perceived status deprivations relative to one's position on the social ladder." This explanation suggests that removal of status inconsistency, for example, by providing these individuals with higher pay, would reduce saucer sightings, and their concomitant attitudes.

This sociological report ignores an obvious alternative explanation. Like many present-day sociologists, Warren completely disregards individual differences between people, in this case, differences in degree of mental health. Sighting saucers, and especially believing that they represent extraterrestrial vehicles, might easily be considered neurotic and psychotic symptoms. Abnormally low income in the case of a person with a high amount of education is apt to be pathognomic of a level of functioning that has been reduced by mental illness to such a point that society is unwilling to remunerate him at the going rate for his educational level and nominal job classification. . . . The mental health interpretation also fits the fact that certain kinds of inconsistency in achieved status, as I infer from Warren's presentation, apparently do not lead to sighting saucers: for example, low education combined with high income. This is because they suggest a *high* level of functioning. . . .

Although Warren freely acknowledges that, "Another and reasonable, though not necessarily mutually exclusive, procedure for organizing social data might provide an equal degree of explanatory consistency," this is always true, and therefore no excuse, in view of the virtual monopoly that sociol-

ogists have over the presentation of certain kinds of data, for consistently ignoring obvious interpretations that are informed by knowledge from other sciences. Natural scientists should be made aware that many sociologists hold to a doctrinaire antireductionist position concerning the psychological explanation of social phenomena, particularly when individual differences may be involved. As it stands, Warren's acknowledgment of other possibilities is tantamount to being a disguised claim that the task of science is merely to point out the logically possible, not necessarily the empirically probable. It may be questioned whether such a peculiar science, which weaves its nomological net horizontally, but seldom vertically, is meeting its public responsibilities by presenting findings unconstrained by the need for epistemological consistency in *all* directions.

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Flying saucer sightings may have been an unfortunate choice of behavior phenomena by Warren to employ to support the theory of status inconsistency. Nearly all of those sightings have occurred in rural areas. The theory does not explain why status inconsistent individuals residing in cities almost never have reported such sightings.

Warren may perhaps explore the notion that the rural-urban dimension may be ordered along a status inconsistent continuum, so that those who reside in rural areas are more likely to be status inconsistent than those individuals who reside in cities. The theory needs more validation than has been supplied by Warren.

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In Cowgill's comparison of my figures 4 and 6 the cross-tabulations described are misleading. "Nonbelievers" and "believers" are calculated *only for the population of "sighters."* Therefore the statement by Cowgill that "among the nonbelievers with consistent or moderately inconsistent status there are only about four fewer UFO sighters. . . ." confuses the issue. What figure 5 shows is the incidence of reported sightings among white male status consistent, moderate inconsistent, and sharp in-

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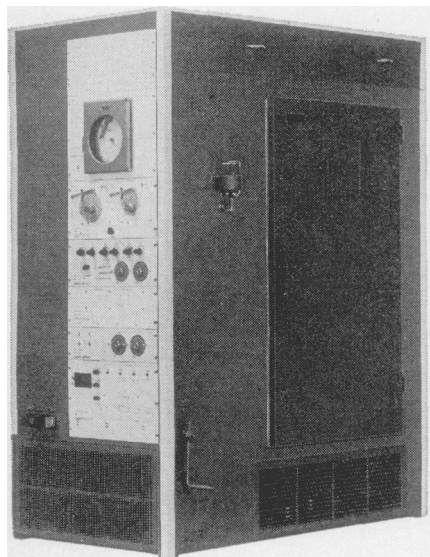
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consistents; figure 6 takes sighters from these same categories and shows that moderate and particularly sharp inconsistencies when they report sightings are more likely to believe they are objects or vehicles from outer space. (Chi-square value calculated with consistents versus moderate inconsistencies is significant beyond the .065 level, direction predicted; that for consistents and sharp inconsistencies is significant beyond the .001 level.)

Cowgill's next point about the etiology of status inconsistency is worth investigating, but hardly a valid criticism of my own argument. Moreover, I frankly don't see how data on the academic job market is pertinent to the situation of the population of status inconsistencies enumerated in the national Gallup study, since they are not necessarily college graduates but only persons who have attended college and academia hardly absorbs a significant portion of persons so described. The more basic idea suggested by Cowgill of reversing the implied causal ordering of variables—that is, status inconsistency is due to prior attitudes, values, or personality attributes rather than that status inconsistency produces such characteristics—is discussed in one other study with which I am familiar (1). Schizophrenic sons are found to be more status consistent than their fathers, but their educational achievement beyond the developmental years leaves them with a distinct disadvantage when they enter the job market. Schizophrenia, therefore, may be seen as a source or "cause" for status inconsistency.

I must take serious issue with Gordon's statement that "this sociological report ignores an obvious alternative"—it is neither obvious nor attractive from the standpoint of at least one canon of science: parsimony of explanation. The argument raised reminds me of the 19th century criticisms surrounding Emile Durkheim's empirical study of 1897, *La Suicide* (2). It is a most unfortunate flight of psychological reductionism to treat all socioeconomic differences as sources of individual pathology. Present-day psychiatry and clinical psychology by and large eschew such an imperialistic hegemony over social phenomena. On what basis but the most blatant class-bound parochialism can one argue that social stratification variables and psychopathological factors are reducible to one another or interchangeable? We do serious injustice to the diversity of our own society and mankind in general when we de-

scribe as "mental illness" all those differences of perspective, value, and behavior that upset the status quo of middle class "rationality"—particularly that of the academic elite. If Gordon wishes to measure the kinds of variables he is interested in, I wish him full success. To attack the appropriateness of the variables I employed as a "peculiar science" is to ignore over a century of European and American social research derived from the traditions of Durkheim, Max Weber, and others.

With regard to Dubno's discussion I would make two points: First, I agree that "reported sightings" as defined by reports of official governmental agencies (local, state, or federal) and "reported" in the sense of the Gallup interview data are different; secondly, rural-urban differences are likely to be invalid considering the population growth and lack of connection between sighting site and home residence.

On the first issue the Condon report suggests problems in the area of official statistics and "actual" incidence of sightings. One could obviously speculate that telling a Gallup interviewer about seeing a UFO and calling the local police are different social behaviors—the first calling for little initiative by the sighter, the latter involving the seeking out of public visibility. But both situations do not cover instances of observations reported only to friends or relatives or to no one.

In terms of the rural-urban differences there is no correlation found in the Gallup data and it would be hard to interpret such differences even if they were large. Since population growth has taken place mainly in suburban areas the traditional "rural-urban" dichotomy is increasingly of little value in social analysis. Furthermore, many central city dwellers when they travel to more sparsely populated areas may then be in a situation where the "probability of being exposed to the risk of sighting a UFO" greatly increases.

That, as Dubno suggests, rural dwellers may well be status inconsistent in the sense employed by the other criteria of inconsistency I employed is a plausible hypothesis to investigate. Let me reiterate the closing discussion in my original article (3):

What has been attempted here is the employment of a sociological theory to account successfully for observed regularity in patterns of UFO sightings. Another and reasonable, though not necessarily mutually exclusive, procedure for organ-

ing social data might provide an equal degree of explanatory consistency. This analysis merely emphasizes the need to utilize such approaches outside the confines of laboratory groups and the more convenient and established domains of social science.

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#### References

1. H. W. Dunham, P. Phillips, B. Srinivasan, *Amer. Sociol. Rev.* 31, 223 (1966).
2. E. Durkheim, *La Suicide*, translated by J. A. Spaulding and G. Simpson (Free Press, New York, 1951).
3. D. I. Warren, *Science* 170, 603 (1970).

### Bomb Craters

I would be interested in being referred to any literature on the ecological impact of bomb craters.

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### "Before" and "After" Photos

I object to use of the photographs (4 Dec., p. 1119) that purport to illustrate the before and after of land reclamation practices on coal spoil banks. The area shown probably does represent progress in stabilizing the man-made barrens of stripping operations, but why the gilding of the lily by using a dormant season photograph as "before" and a midgrowing season photograph as "after?" Also, why the shift in perspective that eliminates the low waters edge vegetation in the foreground in the "before" scene?

This trick photography business is shabby. There are many examples of excellent coal spoil reclamation projects that are honestly photographed by many federal, state, and private agencies in the soil coal regions that are available should an illustration of this type be needed again.

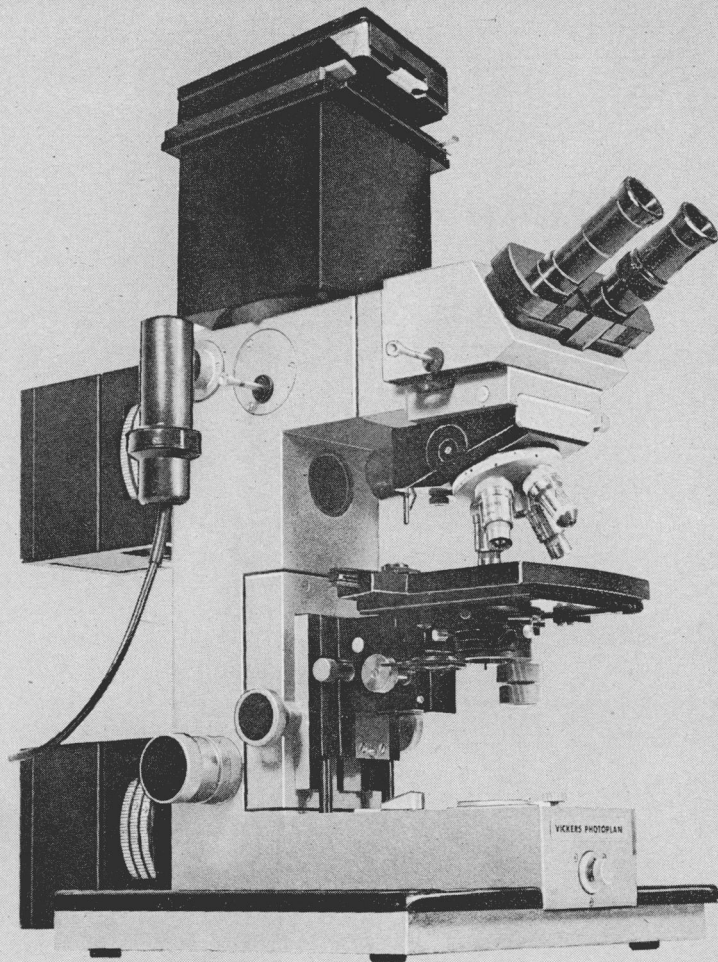
R. E. McDERMOTT

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The picture on the left was taken in February 1963, and that on the right, in July 1965, of an area in Claiborne County, Tennessee. It was inadvertent that pictures were used which were taken at different seasons.—Ed.

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