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COVER: Ideopathic scoliosis, or lateral curvature of the spine, is a little-understood, incurable condition that deforms and debilitates thousands. It is now known that early detection of the condition through screening programs can at least prevent it. See p. 298. (Photo: Scoliosis Research Society)

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LETTERS

A well full of fish

Regarding the item "Moving Experience in Arizona" (SN: 3/31/79, p. 201) concerning the fault line near Picacho, Ariz., I have some personal experience with that area which may be of interest.

First, the faulting began earlier than 1961. I was raised in the area and clearly remember the "ground crack" and road patching problems well back into the 1950s.

Another phenomenon of interest was the pumping of live fish from the ground in wells on the farms adjacent to the fault. As a boy I collected these fish from the well-supplied pond on the Houser farm in about 1956. At the time, I believed they were of the genus *Gambusia*, as they were viviporous and thrived in my home aquarium. They closely resembled top minnows collected from other surface waters in the area. They were not blind and obviously had not evolved underground. There was no question about the fish coming from the well as the pond had no other source and the small fish could be collected by holding a net directly in the discharge stream of the well pump (which was used only for irrigation). I do not know the exact depth of that well but most irrigation wells in the area at that time were between 300 feet and 400 feet deep.

The one-foot-high ridge was not particularly apparent in the 1950s but a long, irregular crack extended for about 10 miles, and where it crossed the road there was a continual effort by the highway department to keep the pavement intact.

*Richard W. Quine
Denver, Colo.*

Clarification

Although I think your article on the talks by Schmidt and myself at the American Physical Society meetings (SN: 2/10/79, p. 83) accurately conveys the major points, I think I ought to clarify my own position to forestall some possible misinterpretations of my critique.

One possible misinterpretation involves your reference to "a hint of possible intentional bias" which "drew an indignant response from 'The Amazing Randi.'" The juxtaposition may confuse the reader into believing that I was the source of this hint, when, in fact, Randi was responding to a question from a member of the audience who implied that Schmidt's results would vanish if a qualified magician were on the scene. Both Randi and I, while not convinced that Schmidt's results are sufficient to justify concluding that psychokinesis is real, firmly believe that Dr. Schmidt is an honest investigator who is dedicated to the scientific method in his attempt to understand what is behind his findings.

My presentation urged caution in accepting Schmidt's findings because of several reasons. Schmidt's experiments are the most sophisticated and challenging, in my opinion, that have as yet appeared in parapsychological history. But it is much too soon to judge their ultimate status. Each year, since the beginnings of psychical research in 1882, the parapsychologists have exhibited one or two experiments as the long-awaited ironclad proof of psi. Inevitably, however, the experiments that were hailed as the shining exemplars at one time have, for one reason or another, been dropped from the lists of good examples at a later time.

Already Dr. Schmidt's experiments show some of the disturbing qualities that plagued previous candidates for exemplary status. Although some researchers have claimed to have gotten positive results using his machines or ones patterned after them, other well-known parapsychologists have completely failed to replicate the findings. In addition, many of the "confirmatory" studies are not strict replications. For example, one published study claiming to be a confirmation of one of Schmidt's experiments actually produced an overall score consistent with chance as compared with a significant negative deviation from chance reported by Schmidt. The study did find a significant deviation from chance when the investigator looked at the morning sessions, but this deviation was positive instead of negative.

The effects reported by Schmidt, as indicated in the article, are extremely low (the high level of significance being achieved through running thousands of trials), usually around one-half to one percent above a chance rate of 50. Because his machines have each only been used in a few experiments, we do not yet have sufficient evidence about their operating characteristics and possible bugs. A very slight bias in some part of the machine might account for some of the findings.

The most serious problem, alluded to in the article, is what I call that of the privileged observer. Schmidt believes that only a select group of experimenters can achieve his results — and even for this select group the nature of the results might vary in unpredictable ways from experiment to experiment. If, indeed, the phenomena can be observed only in the presence of a privileged group of observers, replicability in an important sense is completely unattainable.

*Ray Hyman
Eugene, Ore.*

Correction: Researchers J. R. Cannon, et al. of The University of Western Australia in Nedlands, did not use a "ton of lobster tails" to isolate arsenobetaine, as reported in "How are Kings and Marine Algae Alike?" (SN: 3/24/79, p. 189). Rather, according to the researchers, they used only 4 kilograms of tails in order to obtain sufficient arsenobetaine for X-ray crystallographic analysis and other studies.

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