by Eber at the same 1952 convention at which Peters made his initial report. It is entertaining to think of these two men passing each other in the crowded corridors immersed in thoughts of virtually the same "unique" apparatus.

The priority issue in a case like this is not important enough to concern anyone very much. Indeed, given some knowledge of devices like the old Yerkes multiple-choice apparatus and the current interest of psychologists in learning and in small cooperating groups, the independent convergence of separate workers on something like what Peters and Murphree have described would seem to be nearly inevitable. Still, the incident does raise the question of how close neighbors scientists have to be in order that one may know what the others are doing. It would not surprise me to learn that McCurdy and Lambert were mistaken in 1952 when they referred to their method as "new." Bibliographic research is rarely as thorough as it ought to be, and, what with publication lag and inadequate abstracting and all the other barriers that exist in spite of everybody's good efforts, the communication lines get pretty tangled.

HAROLD G. MCCURDY

Psychology Department
University of North Carolina, Chapel Hill

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Rejoinder

We wish to express our appreciation for having attention called to work so very similar to our own, with which we were not familiar, and also to express our entire agreement with the ideas in the preceding "Communication" on the present tangled condition of communication in psychology.

Although almost every statement made about our apparatus can, with slight change, be made about McCurdy and Lambert's, we believe that there is a fundamental difference in the uses to which the two have been put. McCurdy and Lambert emphasized, as most of the other studies have, the product or "gross outcome" of cooperation; we applied the procedure to the *process* of cooperation. This emphasis naturally followed from the use of the procedure with chronic schizophrenics, in whom the very possibility of cooperation is often questionable, and where communication is at a level even lower than that among psychologists.

H. N. PETERS
O. D. MURPHREE

Veterans Administration Hospital
North Little Rock, Arkansas

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Computations of Total Sediment Discharge, Niobrara River near Cody, Nebraska

A need has existed for many years for a practical procedure for measuring or computing the total quantity of sediment transported by a natural stream. Methods of measuring the part of the total sediment load of a stream that is carried in suspension in the flowing water and that can be sampled with approved suspended-sediment sampling equipment, are much farther advanced than those for measuring the quantity of sediment moving on or near the bed. Several investigators have developed equations on the basis of laboratory observations and experiments to meet this need. It was the objective of this investigation by the Geological Survey to test the application of these equations in a natural stream and, perhaps, to derive an improved procedure for determining the total quantity of sediment transported by an alluvial stream.

A natural chute in the Niobrara River near Cody, Neb., constricts the flow of the river, except at high stages, to a narrow channel in which the turbulence is sufficient to suspend essentially all the sediment transported by the stream. Periodic suspended-sediment measurements have been made at the relatively unconfined sections of the stream for comparison with measurements at the contracted section. The average of 71 ratios of measured concentration at relatively unconfined sections to measured concentration at the contraction was 0.51.

Alluvial material in the bed of the stream, at relatively unconfined sections near the chute, has a median diameter of 0.28 mm and falls mostly in the size range from 0.125 to 0.50 mm.

Sediment discharge at these relatively unconfined sections was computed by a form of the DuBoys formula, by the Schoklitsch formula, and by the Straub formula. All three of these formulas gave sediment discharges that increased much less rapidly with increasing water discharge than the measured discharges of sediment coarser than 0.125 mm in the contracted section. The Einstein procedure was applied to an alluvial reach that included 10 defined cross sections and gave much better agreement between computed sediment discharge and measured sediment discharge at the contracted section than did any one of the three other formulas that were used. Total sediment discharge computed for 8 different days with varying water discharge ranged from 63 to 175 percent of daily average sediment discharge at the contracted section and averaged 111 percent. The size distributions of the computed sediment discharge compared poorly with the size distributions at the contracted section. The sediment discharges computed by the Einstein procedure, when applied to a single section, averaged several times the measured sediment discharge at the contracted section.

The Einstein procedure was then modified to compute total sediment discharge at a single alluvial section from readily measurable field data. The modified procedure makes use of measurements of bed mate-