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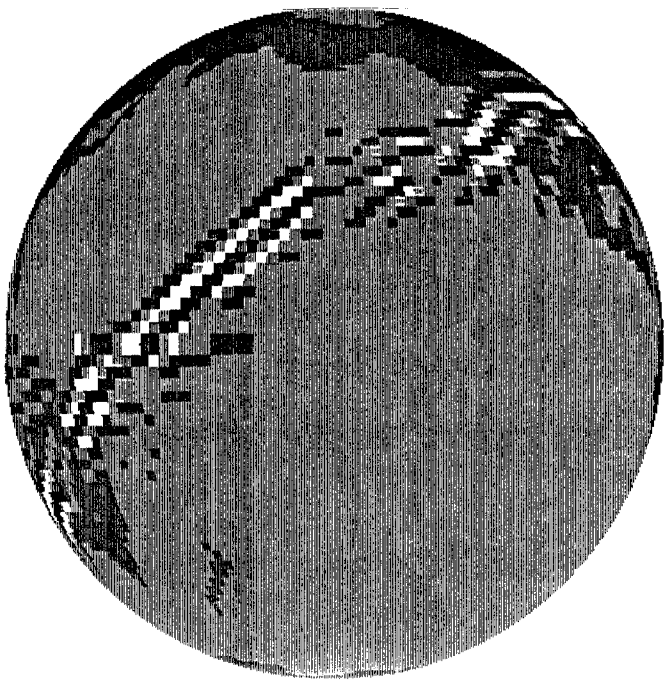

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SEP Golden Volume

This volume marks the fiftieth report of the Stanford Exploration Project. These reports now cover thirteen years, and include 26 semi-annual reports, 23 Ph.D. theses, and one textbook. Students trained at SEP have enjoyed considerable success as geophysicists, six as faculty members in leading U.S. and foreign universities, and fourteen as researchers in the petroleum industry. Twelve more students are now working on Ph.D. degrees at SEP.

Perhaps now is a good time to ask where we have been, where we are now, and where we are headed. SEP was initially chartered for the purpose of pursuing "fundamental research in reflection seismology." Through the years we have explored many areas both directly and indirectly related to this central goal, as perusal of the table of contents of this or most any other report will show. At first, finite-difference migration was the raison d'etre of SEP, and we are proud of having pioneered the application of wave propagation physics to exploration geophysics. SEP-1 came out in September, 1973. In all of 1973, there were no papers whatsoever in Geophysics on the subject of migration. In 1974 there were but two papers, and there were only four migration talks at the SEG annual meeting in October 1973. Now, of course, every SEG or EAEG meeting has many sessions on migration, and there are so many papers on the topic that SEG has published a collection of key reprints.

We are also proud to note (Leading Edge, October, 1986) that of the seven papers considered for the SEG's "Outstanding Paper in Geophysics" award this year, two were SEP contributions. These papers reflect current trends in SEP research. In the early days, geophysicists analyzed signals and noises for one-dimensional deconvolution problems. Now we know that classic migration is the first step of an optimization process. We are learning the subsequent steps towards uniting physics and statistics in the

broader context of velocity analysis. We are excited about the directions this has led us, and expect this viewpoint to receive more attention by our profession.

SEP began with 23 sponsoring organizations in 1973, and has grown in support to 41 sponsors in 1986. (And 16 of the 23 charter members are with us still!) Without the generosity of our sponsors, of course, we could not maintain such a large and active research program, nor obtain the state-of-the-art computing facilities which make testing of our ideas possible. But more than just the financial support and the donations of field data sets, we have benefited from the many suggestions and discussions with sponsor representatives, at the SEP meetings, during visits to Stanford, and through countless telephone and mail conversations. On this, the occasion of our fiftieth volume of SEP reports, we want to thank all of you who have supported our work and made it all possible.

P.J.F., R.O., and J.F.C.