A third sense in which costs can properly be regarded as fixed is reflected in the "out-of-pocket" cost principle, to which reference is frequently made in ratemaking for public utilities. Here, if a given increment to a carrier's total business will produce more revenue than the resulting increment to expenses, the new business is said to cover out-of-pocket costs. Any excess is a contribution toward overhead and profit. Fixed expenses here are all those which are not increased. The problem of defining fixed expenses in such cases is complicated by the fact that, whereas an increment of one size may not affect certain costs, a larger increment will do so. Each case must be analyzed from its own facts. It is apropos to remark here that where competition leads to widespread use of rates sufficient only to cover out-ofpocket costs, financial failures can be expected.

Contrasting with fixed costs, certain costs such as commissions, premium taxes, and assessments are clearly variable with respect to premiums. The correlation here is complete within a kind of business subject to the same tax rates. Another kind of variable cost is allocated overhead. This paradoxical definition arises from the fact that important "fixed" expenses must be covered one way or another. One way is to allocate them arbitrarily as a function of premium, say as a constant percentage. If the allocation at every instant is in proportion to "standardized premium in force,"\* then the fixed expenses so allocated are made a function of earned premium by fiat.

It is no wonder, considering the foregoing, that different meanings have been attached to the expression "fixed expenses." Different things are meant in different contexts. The Author suggests that when we refer to "fixed" expenses we take pains to be sure that the sense in which the word is used is clear. The use of such expressions as "costs independent of premium," "minimum costs per policy," "costs independent of exposure," etc., would make for better understanding in many cases.

## DISCUSSION BY PAUL S. LISCORD

As one who is constantly being tripped up by terminology I find Mr. Roberts' paper on Fixed and Variable Expenses extremely helpful. It should be required reading for those of us who are faced with the forthcoming study of expenses by size of risk for Workmen's Compensation on Liability lines.

Such a study after all concerns itself with an analysis of "fixed expenses" which include those defined by Mr. Roberts as "'... costs independent of premium,' 'minimum costs per policy', 'costs independent of exposure,' etc." The fact that these expenses are subsequently related to premiums (by size) only makes it of increasing importance to recognize differences not only in terminology, but also in measurability and controllability.

We are indebted to Mr. Roberts for what I hope is an introduction to many more contributions to our *Proceedings* on this subject.

<sup>\*</sup> An expression coined by the author to denote the value obtained by dividing each premium in force by the term which it covers and adding the quotients. Integration of this sum with respect to time yields earned premium.