Collaborative Action Research: Methods

Action research provides the basic methodology for most socio-technical studies, as these are concerned with identifying organizational change processes as they occur and with understanding their unexpected developments and the constraints that often limit and even negate them, i.e. change and the conditions under which change occurs or fails to occur. Organizations have to be willing to allow the necessary contacts to take place. The client as well as the research team is active. This gives rise to a process of co-learning between the client and the research team. The emphasis on learning has led the writer and some of his colleagues to prefer the term "action learning" to "action research."

Unit Operations, the scheme put out by Arthur D. Little for technological analysis of the chemical industry, recommended itself as a takeoff point for socio-technical operational analysis. After intensive research, however, Emery and his colleagues found that the analytic unit for a socio-technical system had to be itself a socio-technical system.

The first widely practiced method for undertaking action research inquiries in bringing about socio-technical change has been called the nine-step model. In the light of work at Norwegian plants and a new Shell refinery in England, Emery presented the method at a conference of socio-technical academics held in Lincoln, England, in 1967. This method was used in training the managers and union representatives in the yearly courses presented by Davis and his colleagues at UCLA throughout the 1970s and, indeed, subsequently. The group undertaking the design has first to make an overall scan of the problems likely to arise and then an analysis of the unit operations of the technology. The method goes on to identify the variances in these which must be coped with if improvements are to be made. Special attention

is paid to the key variances involving the social system, and a separate analysis is made of workers' perceptions. The implications for maintenance and user and supplier departments (inside or outside the company) are examined. Finally, account is taken of the effect of general policies on the constraints and opportunities within the company. Proposals for change may arise at any point but need to take all these factors into account. This procedure has been found remarkably effective in continuous process plants for which it was originally designed.

It became necessary to specify how tasks might best be converted into jobs to be undertaken by workers so that they would experience a jointly optimized product. Emery's hypotheses in this regard are presented.

In Australia, the Emerys have moved forward to Participant Design Workshops that immediately involve those concerned in job redesign on the grounds that they know more about their jobs than anyone else. They have been successful in simpler heavy industries where there is great hostility to any procedures which smack of academia.

In Norway and Sweden, as the 1970s wore on, the question arose of introducing national legislation to ensure that jobs were designed in accordance with the six recognized criteria proposed by Emery as needing satisfaction for a high quality of working life. Workers were given the right to demand the presence of such criteria and to refuse work which did not exemplify them. These questions came to the fore in the design of new plants. Emery and Thorsrud used them in designing a new plant for Norsk Hydro.

Murray pioneers a new way of reaching engineering designers. Simulation is used in projects involving group and organizational factors which are part of formative training so that experience of them, rather than merely information on them, is built into engineering education.

Trist emphasizes the need to include all levels of the work force in socio-technical change. The effectiveness of socio-technical changes is linked to the level at which they are initiated. Local initiation often leads to fade out unless unusually well protected. Central mandate for socio-technical change is not sufficient alone but must be worked through with intermediate levels. There can be innovative subsidiares and innovative divisions, but in the end all divisions and functions have to be involved. Trist emphasized this in his keynote address to the conference on Work Improvement and Industrial Democracy of the European Economic Community in 1974.

Entirely new problems arise in the design of advanced technology using microprocessors and computers. There is great danger at present that these industries will produce large numbers of narrow, unproductive jobs. Pava's account of change in an organization with advanced computer and microprocessor technology shows that newer factors are involved than those encountered in continuous process and manufacturing technologies. Trist comments on the general implications of Pava's analysis.

Though the search conference is reserved for Volume III, it was felt that a brief introduction to it might be a suitable last contribution to Volume II. A statement taken from a report by Morley and Trist on a search conference on day care in Saskatchewan is provided.