

stages were telescoped. It was impossible wholly to separate the anthracite and bituminous studies, so that the chart is not entirely accurate in suggesting that the work on anthracite began on November 16, 1922, and that the work on bituminous coal began on April 1, 1923. The rigidity of the instructions, however, had a marked and probably deleterious effect on the conduct of the studies.

It at once became evident to the Commission and Congress that the amount originally appropriated was insufficient and in March, 1923, the appropriation was increased from \$200,000 to \$600,000. This meant a profound change in plan and scale of operations at a time when the Commission had served nearly one-half of its allotted life.

The Commission examined cost reports of 1,752 operators and profit and loss statements of three hundred of the largest operators; it assembled and analyzed reports from 424 wholesalers and several hundred retailers, and its field agents went over the books of both wholesalers and retailers. It measured the economic status of 660,000 miners and their families, including a retabulation of schedules from the Census of 1920 for all men who reported as coal miners; on the cost schedule alone there were seventy-five items. On the investment schedules 276 items. As a part of the inquiry into the cost of bituminous coal there were collected and analyzed eight quarterly returns for each of the 2,399 operators and this one inquiry involved the compilation of nearly 20,000 schedules. And there were literally dozens of other studies which the Commission was obliged by law to make.

With these facts in mind, a glance at the chart will show that an excessive proportion of the time was devoted to field work and that the time devoted to statistical compilations, analyses of results and the drafting of the reports was too short. This condition was foreseen by the Commission and deliberately adopted. The work had to end on September 22, 1923, and the necessary information required by Congress could not be secured in the opinion of the commission in an interval shorter than the time shown in "E." The digestion of the material suffered greatly.

Congress in passing the bill which established the United States Coal Commission made no careful examination of the size of the task set and the

sum necessary to do the job which it outlined. The result was that an enlarged appropriation, granted when the Commission was already middle-aged, could not be used anywhere nearly as effectively as if the entire sum could have been budgeted at the start.

Congress did not give the Commission authority to print its reports, and consequently these were frozen assets. It was not until February 6, 1925—nearly a year and a half after they were submitted—that Congress authorized that the reports be printed. On this account step "H" is omitted from the bar chart and no allowance for printing is shown on the pie chart.

In the case of the Coal Commission fifty cents out of every dollar went to field work, salaries of investigators taking thirty-eight cents, railroad fares four cents, living expenses in the field eight cents. Administration cost twelve cents, the salaries of the commissioners, seven cents; equipment, eight cents; statistical analyses and compilations of the results, twenty-three cents.

Planning

Adequate planning is of primary importance in reconnaissance surveys.

An interesting method has been developed by the Institute of Social and Religious Research in connection with the planning of social surveys. The work is done on a project basis, the control of operations resting in the technical staff of the Institute in co-operation with the director of the particular project. The project director is engaged only for the duration of the project.

A project first comes to the Institute in the form of a proposal, and the by-laws require that "a proposal when first presented for the consideration of the Board shall be in the form of a proposal synopsis." This synopsis is made out by the proponent or the person bringing the proposal to the attention of the Institute, and there is a standard questionnaire to proponents of proposals which is handed to the proponent and acts as a statement of his case. In answering this questionnaire the proponent shows to a large extent how far he has thought through his project.

The proposal is submitted to the Directors of the Institute, who look at it from the point of view of the desirability of the undertaking irrespective of the details of cost, etc., and if they think favor-

ably of it they refer it back to the technical staff of the Institute. The staff compiles a report which might include all of the items contained in the standard form of proposal reports and makes definite recommendations to the Board of Directors for accepting or rejecting the proposal, going thoroughly into the several statements contained in the proponent's questionnaire or "synopsis" and particularly into the method involved and the funds necessary to do the work. The proponent's failure to answer any of the questions contained in the original questionnaire may or may not be important.

When the proposal is accepted and the project director is decided upon—he may or may not be the proponent—the Controller of the Institute drafts a contract which the director is required to sign, the terms of which cover among other things the purpose of the study, term of employment, salary, allowance for expenses, reports and accounting, the engagement of the members of the project staff and reservation to the Institute of rights of publication as well as property rights in all material and data brought together during the work.

When the director has been engaged he makes a detailed summary outline of procedure for the study. With the outline a detailed budget is prepared. There is careful supervision of the accounts and of every stage of the work by the technical staff.

The experience of the Institute is that these planning steps should take from two weeks to several months.

The seven reconnaissances which we have been examining illustrate a wide variation in time spent in the planning stages. Nothing so detailed as the method developed by the Institute of Social and Religious Research was worked out in connection with these studies. A synopsis was prepared, however, for all but the study of Waste in Industry, and in the case of that study, the careful questionnaire and evaluation sheet represented most meticulous planning on the part of the committee in charge.

It may be contended that where the problem is one about which little is known and research is necessary, the preliminary plan necessarily must be tentative and uncertain; it is not known precisely what will be discovered and plans must be adjusted to shift emphasis to points where support

is needed, and so there must be a margin for modification of the plan after the work is undertaken. But in general a reconnaissance can and should be planned in detail and with a definite budget and calendar of operations.

In the first place there should be a brief explanation of the purpose of the study which is to be undertaken, together with a statement of the major sources of information and the method to be adopted. It is necessary to determine whether the investigation depends primarily on: (1) public hearings, (2) personal investigation, (3) estimates from correspondents, (4) questionnaires filled out by correspondents, (5) questionnaires filled out by field investigators.

In the second place the calendar of operations should be planned in sufficient detail to show what time is to be devoted to the development of the idea and method; when the preliminary organization is to begin; when the field organization or corps of investigators is to be formed and when it should complete its work; when the field work shall begin and when it should end; when the drafting of the report is to begin and when it should be completed; when the manuscript is to be submitted and when the volume or volumes are to appear.

In the third place a budget of the amounts to be expended on the various steps should be made to show functionally where the money is to go and controlling accounts should be set up for each step to make sure that the estimates will not be exceeded without due reason. This budget should show how much is to go into preliminary organization work, how much into the field or laboratory work, how much into the preparation of the report or reports, and how much into the various items connected with the publications.

Organizing

One of the gravest problems connected with the organization of a reconnaissance is the question of personnel. Trained and able investigators are hard to find, and when found they are hard to pry loose for temporary employment. For persons able to manage investigations and to recruit a staff, one must turn to the government service, the universities and business colleges, the research foundations and institutes, trade associations, or similar bodies.