Acute Poisonings

During the period 1943 to 1946 a total of 59 acute gas poisonings with unconsciousness occurred at the shale oil plant. Fifty-four of the poisoned workers had been exposed to crude gas (*A* to *E* in table 1), i. e., to gas containing 14 to 26 per cent of hydrogen sulfide; three, to gas from oil with a high content of hydrogen sulfide; one, to gas from the sulfur plant, containing approximately 90 per cent of hydrogen sulfide, and, finally, one—at the quicklime furnace—to carbon monoxide. There has been no death after proved hydrogen sulfide exposure. Fourteen men were hospitalized immediately after poisoning, and the total number have been examined again from two months to three years after the accident. With exceptions discussed below, they have shown no signs of permanent damage.

The symptoms have been fairly uniform: a sudden feeling of fatigue, especially in the legs; dizziness, and intense anxiety followed by unconsciousness with or without respiratory failure. The latter symptom usually subsided after a few minutes in fresh air. Only in a few cases was it necessary to apply artificial respiration. Regaining consciousness, the patients complained of pronounced pains in the back of the head, dizziness and sometimes nausea. Examination approximately half an hour after the accident revealed hardly any objective symptoms except, in some cases, nystagmus and Romberg's sign. On the whole, reflexes, coordination, eye movements and visual acuity were normal. The usual examination of lungs, heart, urine, blood and blood pressure revealed no pathological condition during the period of observation. Psychically they have appeared anxious and have been obviously afraid of any gas, which sometimes has led to difficulties in oxygen treatment.

There have been several cases of acute poisoning without unconsciousness but with symptoms of disturbance of the central nervous system dominating over those of irritation of the mucous membranes. Otherwise, their symptoms did not differ from those described above.

The duration of the troubles varies from half an hour to several weeks. At least partly, it seems to be dependent on the treatment, shortest after immediate administration of oxygen and 5 per cent carbon dioxide, longest if the patient has returned to work immediately, which actually has happened. The injuries to the mucous membranes have usually been slight.

Exposure, as well as the clinical picture, speaks in favor of the poisonings described having been caused entirely by hydrogen sulfide.

Sequelae of Acute Intoxications

In three cases sequelae have developed in immediate connection with acute intoxication followed by unconsciousness. Conditions for exposure as well as clinical course differing in the individual cases, a more detailed description seems justified:

Case 1.—The patient was a 41 year old foreman at the refinery, who earlier had been in fairly good health and had had no concussion of the brain or nerve disease. Five to six times previously he had had acute intoxications after inhaling hydrogen sulfide or gasoline vapor. After each intoxication he had had headache, dizziness and nausea for about 24 hours. Two months ago he was again seriously intoxicated when changing pumps on a pipeline for oil containing hydrogen sulfide. After that he showed considerable susceptibility to hydrogen sulfide with