losing. A child of two years that had had persistent and very dangerous disturbance of digestion with advanced malnutrition improved immediately, the digestive tract became nearly normal within a few days, and the child repeatedly gained over two pounds a week. The last-mentioned child took nothing but bean-flour solution; the infants took usually about 2½ per cent. of bean flour in milk modifications.

These results are certainly unusual. They need to be controlled in several ways before any definite conclusions can be drawn from them, but it seems possible that they were due to a special influence of the legume flour on metabolism, and, perhaps, to a particular influence of the nuclein contained in this flour upon the tissue-building processes.

One point that appears to be of some importance we have definitely determined: it is easily possible to administer in this way as much as 0.75 per cent. to 1.0 per cent. of proteid, a fact of decided consequence in those common cases in which it is difficult or impossible to administer a proper amount of milk proteid.

It is desirable to test this preparation further in older children and adults who are the subjects of malnutrition. This will necessitate, however, some method of preparing the bean-flour solution by which it can be pleasantly flavored, as when unflavored its taste prevents its use with older patients for any considerable period. Infants, however, take it readily in milk.

THREE CASES OF POISONING BY POTASSIUM CYANIDE.

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Cases of poisoning by cyanide of potassium are not frequent in this country, being met with more frequently in England, Germany, and France. The drug is usually taken with suicidal intent; thus, in 402 cases of cyanic poisoning collected by Witthaus[1] in 65.4 per cent. of cases the poison was taken for this purpose. Of this number cyanide of potassium was the drug used in 83 cases. Of the 256 suicides, but 43 were women, and of those who took cyanide of potassium 5 were relatives of photographers and 4 of platers. This fact is of interest, as the majority of cases reported occur among photographers, electroplaters, mirror-makers, chemists, and soldiers, their occupations rendering the procuring of the drug comparatively easy.

I am indebted to Dr. John D. Curran, of Binghamton, New

York, under whose observation the first case came, for permission to report it.

CASE I.—A. B., female, aged thirty-eight years, hair-dresser by occupation. Had been dyeing a patron's hair during the afternoon with a dye containing silver, thus discoloring her fingers. On her way home from work she entered a drug-store, asking for ammonia with which to remove the stains. The clerk gave her several large pieces of cyanide of potassium, telling her that "this is better than ammonia," advising her to moisten her fingers and rub them with the cyanide of potassium, but failing, either through ignorance or carelessness, to inform her of the poisonous properties of the drug. At ten o'clock that evening she entered her bath-room, a small room (dimensions about 6 x 8 feet), imperfectly ventilated by one small window opening into an air shaft. Selecting a piece of cyanide of potassium about the size of a hickory-nut, she rubbed it vigorously on her fingers and hands, removing the stain. This took about five or ten minutes, at the end of which time, *and before she had an opportunity of washing her hands*, she was suddenly attacked with vertigo, felt faint, "everything turned black before her," and she experienced much difficulty in breathing. Her husband, in an adjoining room, heard her scream, and, rushing in, found her unconscious. He carried her into the fresh air and succeeded in a few minutes in restoring her to consciousness, she then taking about two ounces of whiskey. She improved rapidly, and soon was able to walk up stairs and go to bed. At 11.30 P.M. she became much worse, vomited freely, and Dr. Curran was called. He found her with her lips, fingers, and extremities deeply cyanosed. She was in a condition of shock, as evidenced by her subnormal temperature, cold perspiration, rapid, weak heart action, and sighing respiration. Under repeated hypodermic injections of strychnine sulphate, $\frac{1}{30}$ grain, and atropine sulphate, $\frac{1}{100}$ grain, with the application of external heat, she improved for about one and one-half hours, when she became restless, active, and tossed her head from side to side. This condition of motor activity was probably due to the action of the strychnine, which had been given freely during the period of collapse. She was readily quieted by the administration of morphine sulphate, $\frac{1}{8}$ grain, given hypodermically, and fell into a quiet sleep, from which she awoke the next morning weak and somewhat prostrated. During the following day she was nauseated, her heart action rapid and weak, and she continued to give some evidences of shock. She made a rapid and uneventful recovery, being up and about the third day.

The following cases came under my own observation while resident physician in the Pennsylvania Hospital, Philadelphia:

CASE II.—George R., aged thirty-five years, mirror-maker, admitted to the Pennsylvania Hospital February 8, 1901, with the following history:

About fifteen minutes before his admission to the hospital he entered a saloon, sat down, and called for a drink of whiskey. Upon receiving the liquor he placed a small quantity of a white substance into it and a few minutes later picked up his glass and drank the contents. He almost immediately fell forward on his face, unconscious, without uttering a sound. He was hurried to the hospital, where upon admission his condition was as follows: Completely insensible; face cyanosed. Respiration somewhat jerky in character, twenty per minute. Jaws clenched, requiring a gag to open them. Some mucus in mouth. Characteristic odor of bitter almonds on breath. Pulse weak and small. Eyelids closed; eyes fixed; pupils dilated, equal, did not react to light or accommodation; conjunctival reflexes absent. No escape of urine or feces.

Patient was immediately given a hypodermic injection of strychnine sulphate, $\frac{1}{10}$ grain; his jaws separated, the stomach tube introduced, and his stomach thoroughly washed out with warm water. Sylvester's method of artificial respiration was instituted. Despite this the cyanosis increased rapidly, and he died eight minutes after admission. A considerable quantity of cyanide of potassium, properly labelled, was found in his pocket.

The post-mortem examination made by the coroner's physician, Dr. Wadsworth (to whom I am indebted for the findings), showed the heart to be normal, excepting for a considerable deposit of fat; the lungs were congested. The stomach was empty; the mucous membrane much inflamed, especially toward the pyloric end. The liver and kidneys were slightly engorged.

CASE III.—X., male, aged about forty years, was found dead in bed in a hotel. He was last seen alive about eight hours before his body was discovered.

The post-mortem examination made by the coroner's physician, Dr. Morton (who kindly furnished me with the findings of the examination), showed results quite similar to those found in Case II. The heart was normal, excepting for beginning atheroma in the aorta. The lungs were much congested and dark in color. The larynx was also much congested. The mucous membrane of the stomach was greatly inflamed, especially at the pyloric end. The odor of hydrocyanic acid was noticed immediately upon opening the stomach. The liver was engorged, as were also the kidneys. The mucous membrane of the bladder was not inflamed.

Dr. Curran's case (Case I.) is of great interest, as there was apparently poisoning by cyanide of posassium by two methods in the one case. The unconsciousness and vertigo, which the patient first experienced, were unquestionably caused by the inhalation of the drug in a small, poorly ventilated room. The period of shock, occurring an hour and one-half later, was undoubtedly due to the absorption of the drug through the skin, it being recalled

that after removing the silver stains from her hands with the cyanide, the patient had no opportunity of washing her hands, falling unconscious before she could do so. That poisoning by these two methods may, and does, occur is proven by cases reported by Souwers[2] and by a writer in the *British and Foreign Med.-Chir. Review.*[3]

The minimum lethal dose of cyanide of potassium varies, according to the different authorities, but is generally fixed at from 2 to 5 grains, Bennett[4] reporting two cases with fatal results after taking 2 grains and 4⅓ grains, respectively. Death does not occur as rapidly in cases of poisoning by potassium cyanide as in cases of hydrocyanic acid poisoning, usually not taking place for from fifteen minutes to an hour after the ingestion of the drug. Cases are reported, however, in which death has taken place in less than ten minutes, Casper-Liman[5] reporting a case in which the drug was taken with suicidal intent by a young woman twenty years of age, death occurring "immediately." Valcourt[6] and Haskins[7] mention cases in which death resulted in two and five minutes, respectively. The mortality in cases of cyanic poisoning is high, Witthaus[1] stating that in 455 cases, 382, or 84 per cent., died. Death in these cases is due to paralysis of the respiratory centre, although it would appear that in some cases it is caused by the depressant action of the drug upon the heart itself.

That recovery frequently takes place, even after the ingestion of large doses, is shown by cases reported by Higgins,[8] Wiglesworth,[9] Stevenson,[10] Quintin,[11] Brockett,[12] and Gillibrand,[13] in which from 19½ grains to 50 grains of cyanide of potassium have been taken, the patient in each instance recovering. While death takes place more slowly in fatal cases of cyanide of potassium poisoning than in fatal cases of hydrocyanic acid poisoning, recovery is more delayed in these cases than in those of hydrocyanic acid poisoning. Unconsciousness generally persists from two hours to six or eight hours, Dobson,[14] Quintin,[11] and others reporting cases in which the period of unconsciousness extended over this length of time, and one remarkable case is reported[15] in which the unconsciousness persisted for three days, the patient not being discharged from the hospital for ten days. In the other cases cited the patients have usually been discharged in from three to four days.

Autopsy has usually shown the left ventricle of the heart empty and firmly contracted, the right containing uncoagulated blood. The stomach is frequently found much inflamed, especially toward the pyloric end. The lips, mouth, and stomach at times show evidences of corrosive poisoning, probably due to the carbonate of potassium used in the manufacture of the cyanide of potassium.

The most important factor in the treatment of cases of cyanic poisoning is the promptness with which it is instituted. Immediate evacuation of the stomach and intestinal canal, the administration

of cardiac and respiratory stimulants, artificial respiration, friction of the extremities, and cold affusions to the spine, with the patient in a warm bath, or the use of the alternate hot and cold douche to the spine, offer the best results. Various drugs have been suggested as additions to water in washing out the stomach: hydrogen peroxide; potassium permanganate; ferric and ferrous salts in combination; carbonate of potash in solution or in combination with sulphate of iron and ether. Of these probably the best is the permanganate of potassium, the use of which is recommended by Kossa[16] and other writers. Witherstine[17] calls attention to the article of Heim,[18] in which the author states that "morphine seems to be the antidote to cyanide of potassium, and vice versa."

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EVENTRATION OF THE DIAPHRAGM, WITH A REPORT OF A CASE.

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Eventration of the diaphragm has been known ever since J. L. Petit reported and named a case in 1790. It may be described as an abnormally high position of the left half of the diaphragm, with dislocation upward of the abdominal viscera, particularly the stomach, on the left side; hypoplasia of the left lung, and displacement of the heart to the right. It gives rise to physical signs closely resembling those of diaphragmatic hernia. Its proper