

EFFECT OF STARVATION ON THE BLOOD.

Further observations upon the gradual improvements of Dr. Tanner's blood have made it necessary to modify the statements made at the close of the article on this subject in the last number of the *Scientific American* (see page 128). It was noticed that the quality of the blood varied greatly in different specimens obtained from day to day, and even in specimens drawn the same evening. It was at last found that if the blood was drawn from a very small puncture, from which it had to be pressed out forcibly, it was found to be in a much worse condition than if drawn from a deeper puncture from which it flowed freely. It is evident that in the first case it was drawn only from the capillaries, and in the second case from the larger vessels, in which a regular circulation takes place. This appears to prove that the abnormal corpuscles linger in the capillaries, and that it takes time to remove them therefrom, while in the larger vessels, in which free circulation takes place, restoration may already have been accomplished to a considerable extent. Close observation appeared to show that this restoration was taking place in two ways, by a cleaning and healing process of the affected corpuscles, and by the formation of new ones. The first was proved by the observation of corpuscles in all stages of the healing process from the most abnormal to the perfect smooth ones. Some of those which had become free of fungoid spores appeared, however, to have suffered considerably, some were partially destroyed, some were only half or parts of perfect corpuscles, and no doubt such will be either eliminated from the system or the defective parts healed up. Which of these takes place is a question. The second process of restoration was proved by the appearance of fresh and small corpuscles, looking very smooth and perfect, and bearing the stamp of youthfulness upon their appearance—we would almost say countenance—a freshness which became more striking the higher the magnifying powers were by which they were observed, in comparison with the affected corpuscles, in which the higher powers showed the imperfections more strongly.

This corroborates what other microscopists have observed in regard to the formation of new young blood corpuscles. It has, however, been denied by others who failed to observe it; but this is merely negative testimony, of which there appears to be a great deal in the medical profession; it proceeds from a kind of conservatism, which lies at the basis of all the medical intolerance manifested by the so-called regular school against all supposed innovations, even among their own brotherhood.

A striking illustration was offered in this regard by the discovery of Prof. Cohnheim, of Kiel, who found that pus globules could originate from the white blood corpuscles, but whose observations were most strenuously opposed at first by the majority of the profession, who could not see it. It may be mentioned here, as it has some relation to Dr. Tanner's fast, by which fast the number of his white blood corpuscles was more than quadrupled. It is well known that persons subject to privation of food have a strong tendency to pus formation and running sores, and if starvation increases the number of white corpuscles, these combined facts appear to support Cohnheim's theory. The opposition against it was, however, set at rest by Dr. Bastian, in London, and Surgeon Woodward, U. S. Army in Washington, who verified Cohnheim's observation, and by Huxley, who adopted it in his great lecture on protoplasm.

The number of white corpuscles did rapidly diminish after the fast in Dr. Tanner's blood, and was soon reduced to the normal proportion; but the interesting change in the red corpuscles and their very gradual restoration during a length of time, is a contribution to science which Dr. Tanner has given after the end of his fast, and this should be acknowledged.

WHAT CONSTITUTES AN ILLEGAL STRIKE.

Judge Cady, of St. Louis, has just given a decision of considerable importance in respect of the rights and duties of striking workmen. The case was that of the Vulcan Steel Works of St. Louis against eight of its workmen in the converting department, who stopped work and demanded advanced wages at a moment when two charges were melted and partly melted in the cupola, a charge of metal in the scale ladle, and the pit filled with ingots in the moulds. The evident intent of the strikers was to take advantage of this condition to force the works to yield to their demands. The counsel for the defendants claimed that they were guilty of no crime, either under statute or common law, and moved to quash the indictment. The Judge held otherwise and held them for trial. The important part of the decision is, that while it may be no crime to conspire or agree to stop work unless higher wages are paid, it is a crime to thus conspire

or agree under circumstances which menaces the employer with serious loss. The tendency of the decisions of our courts on labor questions that have been brought before them lately, is all in this direction, and a body of decisions that will be valuable as defining the rights and limitation of unions and strikers is being accumulated. These decisions take the ground that unions and strikes are not unlawful in themselves, but that the acts of unions and the circumstances under which strikes occur may be criminal, and thus the union itself or the strike may be clearly illegal, and make those who are members or who take part in it liable, both in civil and criminal suits. This was the position taken by the Judge in the Zinesville (Ohio) case. He held that certain of the rules of the Glass Blowers' Union were so clearly against public policy, and so evidently constituted a conspiracy against those not members, that he immediately threw the union out of court, and stated most decidedly that its members were liable to prosecution. In the St. Louis case a rule will probably be laid down showing some circumstances under which a strike may not take place without subjecting the strikers to criminal prosecution. It is evident that some rule must be adopted that will prevent employees from quitting work without notice, and this is true on principles of justice without reference to the justice of the strikers' cause. A demand for an advance in wages may be of itself the highest justice, but attempts to enforce that demand may be in themselves the grossest injustice. The end does not justify the means in this, any more than in other conditions of life. No act of the Brotherhood of Locomotive Engineers caused so much adverse criticism, or occasioned the loss of the good will of the public, as the desertion of their trains at midnight by the engineers of the New Jersey Central Railroad in 1876. It was an indefensible act, and one that some of the officers of the brotherhood regret. It will be well for both parties to possible future labor struggles, that their rights and duties should be as well defined in this country as they are in England.

THE NEW GERMAN PRESERVING FLUID.

A new fluid, to be used for preserving dead bodies, has recently been devised, the patent for which the German Government has purchased, and given to its people for their free benefit. Several criticisms upon the formula for its manufacture have appeared in foreign journals. Mr. Martenson, of St. Petersburg, says: Alum forms one of the constituents of the liquid; probably potassic alum is meant, and in place of potassa probably the carbonate. But under the circumstances, all the alumina of the alum is precipitated, so that the liquid does not retain any in solution. On preparing large quantities of the solution, the labor of straining or filtering from the deposited alumina is very onerous. It is much better to omit the alum, and to substitute at once that substance which was produced by it in the original liquid, namely potassium sulphate. A portion of the alum may be replaced by borax, so that the constituents will be the following:

	Parts.
Water	620
Borax	10
Sulphate of potassa	4
Salt	5
Nitrate of soda	3
Carbonate of potassa	9
Arsenious acid	2
Glycerine	30
Alcohol	50

The arsenious acid and carbonate of potassium are dissolved together by the aid of heat, and added to the solution of the other ingredients.

TABLE SALT AN APERIENT.—Physicians have for a long time known that common table salt is an efficient aperient in ordinary cases of constipation. In a lecture on a case of nervous affection, Dr. Weir Mitchell, of Philadelphia, said that he had recommended the patient to take each morning on rising a tumblerful of water—cold, to prevent nauseaing—in which was dissolved a teaspoonful of table salt. "This simple aperient," the doctor adds, "I frequently employ in cases of constipation, and generally find it efficient. There is great advantage in starting the bowels and in keeping them in a soluble condition, particularly in cases of nervous disorder in woman, as it sometimes clears up obscure points in the case, and at all events eliminates one source of error."

SAND is worked with cement to keep the latter from cracking, to harden it and to lessen the cost of the mass.