

by the latter method pure pepsin would be precipitated; but such is not the case. The French pepsin is expected to dissolve twelve times its weight of albumen, Scheffer's and the German, about fifty times. A plain arithmetical example gives us the following figures. One ounce of beef contains four hundred and eighty grains: according to the French Codex, forty grains of pepsin, and according to our Pharmacopœia, ten grains, would be necessary to digest this quantity of beef. But, as a healthy person, besides other albuminous aliments, will eat for a meal a quarter of a pound of beefsteak at least, one hundred and sixty grains of the former and forty grains of the latter preparation would be needed for its digestion. How does this coincide with our usual dose of Boudault's or Scheffer's pepsin,—ten grains?

Jensen's crystal pepsin, which has received the name of crystal (not crystallized, as it is often erroneously called) simply from its peculiar glistening, crystal-like appearance, is (without the addition of an acid) perfectly soluble in water, and not precipitated by common salt, therefore a peptone with very great pepsin-effect; "it has proven itself to be the most powerful preparation of pepsin the market offers, one which is capable of dissolving over five hundred times its weight of hard-boiled albumen." Of its manufacture which seems to be thoroughly known only by Jensen, we can presume that it is prepared by maceration of the stomach and its mucous membrane in acidulated water at a temperature of 38° to 40°; the albuminoids are changed into peptones (causing in this way the production and gain of all latent pepsin), and by a peculiar process the syrup-like mass resulting is dried on glass, when the "pepsin" appears in the shape of transparent scales. So carefully is the whole process conducted, and so utterly at variance with all previous methods, that the property belonging to all other preparations of pepsin, of containing chlorides, is totally wanting in Jensen's. If to a solution of any other pepsin nitrate of silver be added, chloride of silver will immediately appear as a thick white deposit, while the same test applied to Jensen's pepsin will either be without any result or (due to a trace of muriatic acid) a faint white cloud will show itself. When we reflect upon the large quantity of pepsin Jensen is able to get from a macerated stomach, the absence of chlorine in his preparation, and certain well-known physiological effects of muriatic acid on digestion, the following theory does not seem to be so very absurd to the writer of these lines.

In consequence of the great popularity Jensen's pepsin naturally enjoys on account of its reliable and powerful effect and its uniform strength, many imitations have been placed on the market, and are dispensed as Jensen's pepsin. The fact just mentioned (the absence of chlorine), its perfectly dry, crystal-like appearance, and its total solubility

in water without the addition of an acid, will serve to distinguish the genuine Jensen's pepsin from all imitations. It has been thoroughly tested by Dr. Tscheppe, of New York, Dr. Wolf, of Philadelphia, and many other competent and impartial chemists, and found to possess the power of dissolving more than five hundred times its weight of hard-boiled albumen. It is therefore ten times stronger than any other preparation. This fact has an important bearing not only on the size of the dose, but also on its cost: the ounce of this pepsin being sold for one dollar and seventy cents, a dose of ten grains would cost only three cents, and, as one grain of it is equivalent to ten grains of the American pepsin, its great cheapness becomes at once apparent. When testing any preparation of pepsin for its strength, the albumen should be finely subdivided, the solution acidulated with 0.5 per cent. of the pure concentrated hydrochloric acid, and the whole kept at a temperature of about 103°, which experience has proved to be the most favorable for the effect of this ferment.

Pepsin alone has very little influence on digestion: its effect increases with the quantity of acid added. Double the dose of pepsin alone will not visibly accelerate the digestion induced by a single dose; but doubling the quantity of the acid (certainly within the physiological limits) will cause the digestion to be finished in less than half the time. As a rule, the most favorable effect of Jensen's pepsin can be obtained when to each grain of the latter about one minim of the diluted hydrochloric acid is added, but with the proviso that on account of its being a ferment the pepsin is to be first dissolved in water, and to it in its diluted state the dose indicated of the acid is added, as follows:

R.—Pepsin. crystal. Jensen, gr. lxxii;
Aquæ floris aurant.,
Glycerin.,
Syrup. limonis, aa fʒi;

Cui adde:

Acidi hydrochlor. dilut., fʒiss.—M.

S.—Dose: one teaspoonful in four ounces of water to be taken at meals.

No alkali should ever be administered at the same time or in combination with any preparation of pepsin, the slightest addition of such making the latter inert. Of all the acids, muriatic acid is the most favorable in its effect; then come, in the order named, phosphoric, nitric, and sulphuric acids; the vegetable acids having no appreciable effect.

WHAT CONSTITUTES A QUACK.—This question, it is expected, will shortly be answered in a court of law. *The Medical Age*, in commenting on the above, says:—"A member of a firm of peripatetic advertising physicians, of large promises, in the