American Druggist
A JOURNAL OF PRACTICAL PHARMACY.

TWENTY-SECOND YEAR.

AMERICAN DRUGGIST PUBLISHING COMPANY,
A. R. ELLIOTT, President and General Manager,
143 CHAMBERS STREET, NEW YORK, N. Y.

SUBSCRIPTION PRICE, per year, $1.00
TO FOREIGN COUNTRIES, per year, $1.50
SINGLE COPIES, 10

Address all communications relating to the AMERICAN DRUGGIST to
AMERICAN DRUGGIST PUBLISHING CO., No. 143 Chambers Street, New York City,
to whose order all postal money orders and checks should be made payable.

The AMERICAN DRUGGIST is issued on the 15th of each month. Changes of
advertisements should be received before the 8th. New advertisements
occasionally be inserted up to the 10th.

A STATEMENT.

As announced in the June issue, there has been a change
in the ownership of the AMERICAN DRUGGIST. It
was purchased on June 1st from Messrs. Wm. Wood &
Co. and transferred to a stock company organized under
the laws of the State of New York, to be known as the
American Druggist Publishing Co., with A. R. Elliott,
President and General Manager; E. N. Root, Secretary
and Treasurer; and Caswell A. Mayo, Editor-in-chief, as-
sisted by a competent staff. The publication office will
be at 143 Chambers street, New York City.

With this issue the AMERICAN DRUGGIST enters upon
its twenty-second year. Thus it is the oldest indepen-
dent pharmaceutical journal in this country, with a sin-
gle exception. That the AMERICAN DRUGGIST has always
stood high in the estimation of the American druggists is
evidenced by its very large, paid, bona-fide subscription
list, which is second to that of no other journal in its line.

In the past this journal has been recognized as the lead-
ing exponent of purely scientific pharmaceutical knowl-
edge, and as keeping its readers accurately informed as
to the very latest advances in pharmacy and the sciences
allied thereto. This feature will be maintained under
the new management, but in addition cognizance will also
be taken of purely trade matters which, while having no
scientific bearing, are nevertheless of vital importance to
the welfare of its constituents. More attention will also
be paid to the practical details connected with pharmacy
as an art. The news columns of the journal will be en-
larged, so that its pages will present a complete but con-
densed history of the doings of the American drug trade
each month. In short, the aim of the new management
will be to make it a progressive JOURNAL OF PRACTICAL
PHARMACY in the best and fullest sense of these words,
and to attain this end everything will be done that can
be accomplished by an earnest endeavor to advance the
best interests of pharmacy, combined with an intelligent
and sympathetic comprehension of the needs of pharma-
cists, and supported by ample capital.

Experience having demonstrated that the drug trade
prefers a monthly to a semi-monthly issue, a return will
be made to the monthly basis, and the subscription price
placed at one dollar per annum if paid strictly in advance.

In the business department of the paper the policy will
be one of liberality based on sound business principles.
To both subscribers and advertisers the AMERICAN DRUG-
GIST will give full value and will expect its bills to be
paid. But reasonable accommodation will be cheerfully
granted, as no hard-and-fast rules can be made which ap-
ply with equal justice to all cases.

The new management expect to receive the support of
American druggists, and will conduct the journal so as
to deserve it.

"THE PRESCRIBING DRUGGIST."

The precise limitations of the legitimate functions of
the pharmacist are difficult to outline in theory, and
even more difficult to adhere to in practice. To sim-
ply say to the pharmacist, "Do not prescribe," shows a
total disregard for the conditions which surround him.

That much harm may come of "counter-prescribing"
is admitted by all fair-minded druggists; while physi-
cians whose views of life are sufficiently broad to embrace
the humanitarian aspects of their calling cannot fail to see
that for pharmacists to universally and peremptorily
refuse to give advice in the trifling ailments of the poorer
classes would be, in many cases, a great hardship, and
instead of driving the patient to the physician, would
turn him into a customer for the first patent medicine
whose cleverly written advertisement chanced to meet
his eye.

The average medical editor always feels that when no
other subject presents itself he can safely fall back upon
"the prescribing druggist" as a theme of which he can
write glibly and with absolute certainty of touching a re-
sponsive chord in the breasts of his constituency. Current
medical literature is seldom entirely free from some dis-
paraging reference to the much-hated "prescribing drug-
acid (Kolb); (x.) sulphuric acid (Lunge and Isler); (xi.) specific gravity and actual contents of ammonia solutions, (xii.) for potassium solutions, (xiii.) for soda solutions; (xiv.) specific gravity of mixtures in varying proportions of alcohol and water, with the corresponding volumetric contents of absolute alcohol; (xv.) table for the preparation of dilute alcohol by weight (Masino); (xvi.) specific gravity of glycerin and water, according to Lunge and Strohmer; (xvii.) fineness of powdered substances; (xix. A.) reagents, seventy-five in number; (xix. B) volumetric solutions; (xx.) C) estimation of acetic acid, saponification, and ester numbers; (xx.) D) estimation of the iodine numbers; (xx.) list of necessary apparatus; (xxi.) table of maximal doses for grown persons; (xxii.) list of articles designated in the text with a star and which must be kept in every pharmacy; (xxiii.) list of the articles to be preserved under lock and key.

Following these tables is a list of medicines for household use in places where no pharmacy is convenient. This list contains altogether 55 articles. The quantity of each of the medicines to be kept is defined by law, and the law is specified as poisoned and to be kept in a separate division of the medicine closet. Then follows a list of 55 articles which can be sold only in certain definite quantities and under certain restrictions of the poison law; next a list of 198 articles which can be sold without restriction; and then, lastly, three indexes, the first of which gives the Latin names.—After the Pharmacographische Post.

Sterilized Milk.

Dr. Albert M. Leeds and Prof. H. W. Conn last year submitted an important report on "The Preservation of Milk" to the Dairy Commission of the State of New Jersey. From this we take the following important facts relating to sterilized milk:

It is becoming somewhat doubtful whether the hygienic effects of sterilized milk are all that could be desired or have been claimed. It must not be supposed that the use of sterilized milk has been so widely recommended by physicians without some adequate reason. At first there seemed to be not a little evidence pointing in the direction of a marked hygienic value of sterilized milk. From beginning it was recognized that the sterilization of milk by high heat changed its chemical nature to a certain extent, but the change was thought to be slight and in the direction of improving its food value than otherwise. Munk, for instance (Deutsch. med. Wochen., 1881), found that rennet would act differently upon sterilized milk from what it would on raw milk. In the latter it precipitates the casein in masses, while in the sterilized milk the casein is precipitated in fine flakes, and this method of casein-curdling was said to be much more like that of the action of rennet on human milk. Munk, therefore, thought that sterilizing actually rendered cow's milk more like human milk, and hence its increased value. These conclusions were deduced from experiments in artificial digestion, and also from digestion of such milk by dogs. Similar results were obtained by others, some experiments actually claiming that sterilized milk was more easily digested and more readily absorbed by the body.

In our cities to-day one of the first directions given to nurses of infants suffering from intestinal complaints is to stop the milk. The general consensus of opinion seems to be that these troubles yield most readily to the new diet. In Europe there is probably even more of a tendency in this direction than in this country. There seems to be a very general opinion among those interested in the matter in Germany that sterilized milk has a very decided value in hygiene. In some places this opinion is so firmly fixed that plants have been established for the sterilization of milk on a large scale for supplying a city.

It is, in short, so general a belief that sterilization is a desirable process that it requires considerable courage to venture to suggest that perhaps we may be on the wrong track in trying to solve the milk problem in this way. Nevertheless, it is becoming very evident that the matter requires more study. For infant feeding, as we have seen, it is especially desirable that the bacteria in milk should be destroyed, since the child's digestive organs are more sensitive to such disturbing influences than are the digestive organs in adults. For this purpose sterilization is very widely recommended for infants, though not regarded as so necessary for adults. But it is plain that for the very same reason the milk given to infants should be as nearly like the natural condition as possible. For the same reason that we do not want the milk of the infants, we do not want the chemical nature of that milk very much different from that of natural milk. Now, we are beginning to learn that the chemical changes which occur in milk as the result of sterilization are much more profound than was at first supposed. Sterilization by heat, under pressure, of a temperature above 100° C. certainly so changes the character of the milk that it can no longer be regarded as the same product which was furnished by Nature. The chief changes which are now known to occur may be comprised under the following heads:

1. Destruction of the Germicidal Power. — It has been discovered recently that fresh milk has some considerable power as a germicide. This is certainly a remarkable discovery, but it appears to be unquestionable. Careful experiments have shown that several of the pathogenic bacteria are actually destroyed by the effect of fresh milk. If a known number of cholera germs be put in fresh milk there will be found to be a smaller number present after three hours than at first. We do not know that this germicidal action in milk is great, and it is almost too early to speculate upon its value. It would seem that it may be one of the safeguards supplied by Nature against disease. If we can look upon it as such, we may regard anything that destroys this action as injurious to the milk. Now, heating the milk rapidly destroys its germicidal power. To be sure, that germicidal power disappears of itself after a few hours, and it is not safe, therefore, to insist too strongly upon any injury in this direction which may result from sterilization. But the sterilization of fresh milk certainly will destroy this property, and this, so far as it goes, must be regarded as undesirable.

2. A second effect of sterilization is the coagulation of the albumen of the milk. This albumen, called lactalbumen, is a very close ally of serum albumin of the blood. By heat it is in part coagulated, and the milk becomes more watery and more viscous. This way a salvable albumen is rendered insoluble and seemingly more difficult of digestion. It would appear probable, also, that it is the coagulation of the albumen which is the cause of the taste appearing in boiled milk.

3. A third effect of the heat is the destruction of the starch-fermenting power possessed by raw milk. The saliva of the adult possesses a ferment which converts starch into sugar, but this active element is absent from the saliva of the infant. It is a striking fact to find, therefore, that fresh milk possesses somewhat similar ferment. It has been called galactosezyme, and is of a permanent nature, easily destroyed by heat. There can be little doubt that the presence of this starch-liquefying ferment is an important factor in the value of milk as a food for the infant, whatever may be said of its value to the adult. Now, it has been found by one of the authors of this paper (Amer. Jour. Med. Sci., 1891) that a heat of 75° C. (167° F.) destroys this ferment entirely. Sterilized milk, therefore, will be, with certainty, deprived of this natural starch-liquefying ferment. Sterilized milk, therefore, will be, with certainty, deprived of this natural starch-liquefying ferment. Sterilized milk, therefore, will be, with certainty, deprived of this natural starch-liquefying ferment. Sterilized milk, therefore, will be, with certainty, deprived of this natural starch-liquefying ferment.
than on the milk sugar. But at all events it is certain that a high heat will destroy the sugar.

Upon the fat of milk the sterilization has also a marked effect. Fat exists in the milk in a state of finely divided particles, and upon sterilization it coagulates and appears to be little destroyed. In raw milk the fat is not coagulated, and the digestive organs are relieved from their share of their duty. It can hardly be questioned that the destruction of the milk fat renders the digestion of the milk more difficult or its absorption less complete.

Lastly, the sterilization has some effect upon the casein. We are unable at present to determine what this effect is, but as a result we find that it is less easily and less completely utilized by the body. According to Sabin the casein requires a larger amount of rennet and a higher temperature to precipitate the casein of sterilized milk. According to Sabin the casein can only be precipitated from boiled milk after the addition of calcium salts. According to the authors the casein of such milk is less readily precipitated at a low and a high temperature, and the precipitation is less complete. Moreover, when the casein of sterilized milk by steam is in any marked respect superior to its sterilization under pressure.

It is certain that these chemical changes are very great and such as must be relied upon. It is believed that the sterilized milk was first recommended and first used. Such milk is certainly not a natural product any longer. It is not the food which Nature has supplied, but an artificial product of human invention. It is no longer dangerous from its bacterial contents, but it is not milk. Is such a product desirable as a food? Upon the answer to this question must depend the future of the process of milk sterilization.

SOME COMMERCIAL VANILLAS.*

BY GEORGE M. BERINGER, PH.G.

With the view of ascertaining the character and quantity of vanilla consumed in the United States, a circular letter was addressed to all the known importers and the larger wholesale dealers, requesting samples and such information as they were willing to impart. Replies were received from a number, and I am indebted to Thurston & Braidich for a sample of prime Mexican vanilla, and to Dodge & Olcott and Leo Bernard & Co., of New York, and Mr. Charles E. Hires, of Philadelphia, each for specimen of a number of varieties. I am also particularly indebted to Mr. Hires for obtaining for me the official statistics of imports in the United States.

While the home of the vanilla is Mexico and South America, its cultivation, originally greatly encouraged by the French Government, has been extended by individual enterprise, until now the plant is cultivated in numerous and widely distributed countries, as for instance, the West Indies and some of the islands of the Indian and Pacific Oceans, the essential being a mean temperature of 75° to 80° and sufficient moisture, at least during certain seasons of growth. In a circular, issued in October, 1890, by Mr. C. E. Hires, the plant is described, stating that "it takes its life and sustenance from the Mexican red cedar, which abounds in that country. This error is being repeated, and, singularly, such an authority as the "Encyclopedia Britannica" states "the plant has a long, fishy smell, and attaches itself by its numerous roots to the red cedar upon the soil for its nourishment." While epiphyte in its character, clinging to forest trees for support, it is not parasitic, obtaining its support principally through its aerial roots, which is absorbed from the ground, and in many of the cultivations in the islands of the Indian Ocean the plants are supported for a considerable length upon rude trellises.

The products of the Java vanilla cultivations are exported to Holland, and do not reach this country: the varieties entering our markets being the Mexican, Bourbon, Seychelles, Mauritius, Tahiti, South American, and Vanillons, with occasionally a few pounds of unknown origin, brought in by trading vessels. The products of Mauritius and Seychelles are usually shipped to London, while those from the French possessions, Réunion, Tahiti, Mayotte, etc., go to France.

United States Consul Horace G. Knowles, of Bordeaux, reports (see United States Consular Reports, September, 1891, 127 as follows: Paris, London, and New York are the markets of the world for vanilla. The greater portion imported into France comes from either Guadeloupe, Madagascar (Sainte-Marie), Mayotte, Réunion, and Tahiti. Just what the products have been may be judged from the following table:

<table>
<thead>
<tr>
<th>Réunion</th>
<th>Guadeloupe</th>
<th>Mayotte</th>
<th>Sáo Tomé and Principe</th>
<th>Tahiti</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880</td>
<td>164,299</td>
<td>23.75</td>
<td>2,640</td>
<td>8,900</td>
</tr>
<tr>
<td>1885</td>
<td>155,348</td>
<td>9,567</td>
<td>12,190</td>
<td>16,500</td>
</tr>
<tr>
<td>1890</td>
<td>36,201</td>
<td>4,690</td>
<td>12,200</td>
<td>16,500</td>
</tr>
<tr>
<td>1891</td>
<td>417,230</td>
<td>6,820</td>
<td>2,906</td>
<td>6,900</td>
</tr>
<tr>
<td>1896</td>
<td>422,965</td>
<td>9,044</td>
<td>19,195</td>
<td>19,195</td>
</tr>
<tr>
<td>1897</td>
<td>596,493</td>
<td>7,016</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mexican Vanilla.—The finest vanilla is still produced in Mexico, where it has been cultivated for nearly a century. Mr. C. E. Hires (loc. cit.) states that the pods are collected in the fall, November or early December, when nearly mature; the processes of cutting, sorting, and packing requiring from four to five months, the crop of this year reaches the market in the spring and summer of next. The erroneous belief that the United States Dispensary directs that the fruit is collected in the spring. This is the time of flowering, but according to all authorities it will require nearly six months for the fruit to be perfected. Since the extensive cultivation of vanilla in Réunion and other French provinces, the exportation of the Mexican to France has rapidly declined. At the present time the United States affords the principal market for this product. The crop of 1890-1891 was the largest ever grown. The receipts for recent years were as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
<th>Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1895</td>
<td>1,086</td>
<td>105,567</td>
</tr>
<tr>
<td>1896</td>
<td>1,086</td>
<td>105,567</td>
</tr>
<tr>
<td>1897</td>
<td>1,086</td>
<td>105,567</td>
</tr>
<tr>
<td>1898</td>
<td>1,086</td>
<td>105,567</td>
</tr>
<tr>
<td>1899</td>
<td>1,086</td>
<td>105,567</td>
</tr>
</tbody>
</table>

Prime Mexican vanilla is from 8 to 10 inches long, flattened, and about 4 inch in diameter at the broadest part. Its upper end, or end of attachment, tapers gradually for about one-quarter of the length of the pod, and is usually curved and slightly twisted toward the point. The lower end is but very slightly attenuated. The color is a dark-brown, and the odor is pleasant, aromatic, and characteristic. The surface is ridged longitudinally, the ridges being interspersed with finer striations and warty excrescences. The pod feels firmly plump, and while fresh the surface is somewhat viscid, but nevertheless there is a roughness to the touch, which becomes more pronounced as it gets older and drier. Accicular crystals commence

* Read before the Philadelphia College of Pharmacy, and reproduced through the courtesy of the American Journal of Pharmacy.