Press Illustrating Service

Muleteer taking a cargo of fruit to Bayonne

Peasants arriving at the market with the fruit

The Cherry Crop of France

New Methods and Uses That Would Prevent Losses

ONE of the largest fruit crops in France, that of cherries, has hitherto been chiefly used in the fresh state or for making preserves, though in a few provinces the fruit has been either distilled or preserved in brandy or maraschino. The difficulties caused by the war with regard to transportation and manual labor, however, have resulted in a heavy loss, great quantities of the cherries drying on the trees or rotting on the ground. It is possible to remedy these losses by instructing orchard-owners in simple methods of producing sugar, wine, and alcohol from cherries.

The large black saccharine varieties are gathered when dead ripe and heaped in wooden vessels where they are allowed to stand for 24 hours before being put through a crusher, seeds and all. The vat containing the crushed mass is then put in a cool place for three or four days, the contents being stirred at intervals with a wooden fork or paddle. The juice is then filtered off through several thicknesses of cloth and the residue put through a press. This is then either distilled, or treated with water to obtain a second yield of juice, which is added to the first, the whole being then boiled down to about half the quantity. During the boiling it must be constantly stirred to prevent its sticking to the bottom and being caramelized.

The reduced juice is strained through a thick cloth into casks, preferably those which have held red wine and which have been previously thoroughly treated with sulphur fumes. These are then sealed and left in a cool place for a year. At the end of this time the clarified cherry juice is ready for consumption; it is sweet, sometimes even quite saccharine, and agreeably aromatic, and furnishes a much appreciated delicacy, capable of providing a substitute for table wines at small expense.

Cherry juice can also be utilized to make an alcoholic drink offering nearly all the advantages of wine, if we can believe German gastronomists. To prepare this 500 grammes of bitter almonds are first pounded in a mortar and the resulting paste diluted with a liter of water in which 300 grammes of dried cherries have been previously boiled.

Into this are then poured 1.0 liters of cherry juice and 1.5 liters of good brandy, or in default of this, 2.0 liters of good white wine; an aromatic quality is given by the addition of 40 grammes of cinnamon, 25 grammes of cloves, and 10 grammes of cardamom; finally, 2 kilogrammes of sugar are dissolved in the liquor, which is, by the way, too large an amount for this cherry-wine (Kirschenwein) to keep very long. It is stirred 5 or 6 times during the course of the next 24 hours and then stored in well sulphured casks, to be drunk during the first warm days of spring.

Finally, cherries are the raw material of kirsch, that specially flavored brandy which the peasants of the Black Forest produce in important quantities. Nothing is simpler than its manufacture. The cherries are gathered very ripe and those which are damaged, rotten, or imperfect carefully sorted out; they are then crushed in a vat, a suitable quantity of the crushed seeds being added to increase the aroma, together with sugar, if necessary, and allowed to ferment for 12 to 15 days. When carbon dioxide ceases to be evolved the pulp is carried to the still, where it is constantly stirred until it begins to boil.

While it must be admitted that our cherry brandies are inferior to those made in the Black Forest with fruit of the Herz and Weichsel varieties, which have been highly improved by cultivation, yet French producers can, if they will, easily obtain a very satisfactory kirsch from native varieties—and one infinitely better from the hygienic point of view, than the "kirsch fantaisies" of commerce, which are nothing but frightful mixtures of industrial alcohol and a complex chemical product.

As shown in our pictures, taken at Hoxou (Lower Pyrenees) the Basques also gather large quantities of cherries which they send to various concentration centers (Bordeaux, Marseilles, Toulouse, Paris, etc.).

There is an evident economic advantage in seeking various methods of preserving this fruit, which in good years is produced in abundance too great to be absorbed by the city markets. According to statistics

Press Illustrating Service

Most of the cherry picking is done by the women

more than 20 million kilogrammes of cherries are annually lost in France and this year, when the means of transportation remaining at the service of the public are not sufficient to permit the rapid moving of a heavy yield, 45 to 50 millions loss is to be computed. Such a source of revenue should not be neglected in war times.

Eccentricities of Spelling*

By F. Horace Teall

ORTHOGRAPHY is strictly our name for correct spelling; but, as correctness differs so much according to various standards, orthography is used to name spelling in general. Thus it is only a relative correctness that can

*The Inland Printer.

be asserted for any so-called system. The various systems are known by the names of dictionaries, or as those of dictionary authors or editors.

We find, if we indulge in research, that spelling was supposed to be regulated (at least for his time) by Dr. Samuel Johnson in his dictionary, and that work became the authority of highest resort. Johnson, however, had not made a record that could long stand as the best, because it was replete with eccentric inconsistencies that found temporary support only because they were his. Yet, while this is positive fact, though told here regretfully without detail, Johnson certainly was a great literary scholar, and it has been said that "he first brought order out of the chaos of the language."

Many scholars had preceded Johnson in desiderating a more consistent spelling, and many more have followed him. Just now we are interested in their eccentricities only, not in the vast amount of their true consistency and system. We have always had much of eccentricity, and always shall have. It is apparently impossible to avoid it. Johnson was the most famous lexicographer because of his literary plan rather than his orthographic accomplishment. It was rather in spite of his bad spelling that his work secured vogue. And it would not be hard to prove that each spelling system—as Webster, Worcester, Century, Standard—contains forms that enter it as personal choice, therefore eccentric as judged by other orthographic arbiters.

British authorities are exempted from our inquiries because they practically all agree on the words most open to differences. It is universally known that when British spelling is to be used we are to spell words like travelled, worshipping, etc., with the double consonant, cyclopædia, mediæval, etc., with æ and not the single letter e, and some other settled differences. What little there is additional to these fixed differences must be specially ordered. And that is little only by comparison to the whole, for the British have many practically arbitrary preferences.

Our first American lexicographer was Noah Webster, who recognized the great worth of Johnson's stated plan of definition, but subverted his scheme of spelling. Webster's original work in this line was strikingly similar to the present effort for so-called simplified spelling, being the first authoritative record that gave traveled, worshiped, etc., with only one consonant, and many other changes that have become permanent, but also many that made no headway at all.

Very soon after Webster's death his dictionary was remade by his son-in-law, Chauncey A. Goodrich, who restored many older spellings. Another new remaking, issued in 1864, was edited by Noah Porter, and this became the widely accepted Webster Unabridged, probably more recognized even now than either of its two successors as the record that is meant when we speak of "Webster spelling." Still another edition was made with Noah Porter as editor, first appearing in 1890. This was called "Webster's International." It made more changes in its spelling. Then in 1909 came another remaking, the "Webster's New International," with many startling reversions to older spellings, especially the restoration of the ligatured æ and œ instead of plain e, particularly in medical words. This was largely decided by the general editor, Mr. F. Sturges Allen.

Press Illustrating Service

A specimen of French cherry blossoms

Press Illustrating Service

Filling paniers with cherries for shipment

All of this by way of leading to the fact that "Webster spelling" now means something very different from what the name long denoted, and even what it is still commonly thought to denote.

Joseph E. Worcester made his dictionary while the scholarly world was venting its disgust at Webster's innovations, and he acted in accordance with the common opposition to Webster. His work found much favor, though it contained many eccentricities of form. Worcester is still the authority for many American writers, though his dictionary is practically dead.

The Century Dictionary might well have been called "Whitney's Dictionary," for its chief editor was William Dwight Whitney, and he determined the spelling for it. All of its spelling peculiarities are his.

The Standard Dictionary has more peculiarities and oddities than the Century. One editor practically dictated all of them. He was Francis A. March, known as consulting editor. Herein are some of the oddest possible of spellings, so odd that the one-man choice stamps them plainly.

Each dictionary here named contains some spelling preferences peculiar to itself and not preferred in any other; and each one shows the personal choice of some one man. It is impossible for any one to select one of the choosing editors as actually a better authority than any other one. Such selection must remain also a matter of mere personal preference.

Only one method of truly satisfactory agreement is open for printers. It is the selection of one dictionary as the authority to follow when not directed to spell according to some other. And the only way to assure compliance with such rules is to provide copies of the dictionaries for reference. This, of course, is not to apply, except in the case of accidental error in copy, when a customer's order is strictly that copy be followed.

As fair evidence of the strength with which personal convictions are adhered to, even by supposedly broad-minded scholars, we quote the following from the preface to "English Spelling and Spelling Reform," by Thomas R. Lounsbury:

"There is no one subject upon which men, whether presumably or really intelligent, are in a state of more hopeless, helpless ignorance than upon that of the nature and history of English orthography. No serious student of it can read the articles which appear in newspapers, the communications sent to them, or the elaborate essays found in periodicals, without being struck by the more than Egyptian darkness which prevails. In nearly every one of them mistakes of fact not merely exist, but abound. Most of the assertions made lack even that decent degree of probability which belongs to respectable fiction. Even in the very few cases where the facts are correct the inferences drawn from them are utterly erroneous and misleading."

Professor Lounsbury does not stand alone in thus condemning the common understanding of orthography, although his is one of the most virile public expressions of such opinion. We can not ignore the fact, however, that the tremendous weight of almost universal usage is still opposed to innovation, and must be so at least until some more promising method of simplification is devised than any yet proposed.

Steel Chimneys and Their Protection

CHIMNEYS built up of steel plates require protection, both inside and outside, if they are to have reasonably long life, and perform their work properly. The outside of a chimney is exposed to the action of sun, wind,

and rain, and the approved method of protecting it from rust is to give it a coat of good paint, which should be renewed whenever and wherever it shows signs of peeling off and exposing the metal to the influence of the elements. On the inside the chimney is exposed to the action of the gaseous products of combustion, which may have a temperature of several hundred degrees. Any form of paint would, therefore, be quite useless. Besides, it must be remembered that the gases which flow up the chimney are derived from the combustion of fuels containing carbon, hydrogen, and sulfur, and, therefore, contain carbon dioxide, steam and sulphur dioxide. The steam in the chimney gases will condense if cooling takes place to any great extent, and the moisture will combine with the dioxides of carbon and sulfur to form carbonic acid and sulfurous acid. Both of these acids are corrosive in their action on iron, and they are particularly active in the presence of heat. Therefore, the inside of the chimney needs to be well protected.

Press Illustrating Service

Large trees are quickly stripped of their fruit

The usual method of protecting the interior of a steel chimney is to line it with brick, which is laid up against the wall of the chimney. It is advisable to fill the interstices between the lining with a grout made of cement, as this will not only give support to the brickwork, but will at the same time prevent the corrosive acids from reaching the shell. Such a lining should extend to the top of the chimney to be effective. If it is carried up only half-way or even to two-thirds of the full height of the chimney the corrosion is localized at the part of the structure that it is most difficult to reach. The formation of moisture, due to condensation of vapor in the flue gases, will occur in the upper part of the chimney rather than in the lower, because the gases grow colder as they ascend, due to radiation from the shell of the chimney. It is, therefore, very advisable to carry the lining all the way up to the top. It will be

found upon observing steel chimneys that are in service that the signs of discoloration and corrosion on the outside are largely confined to the upper half of the structure. The rings or sections composing the chimney are put together in such a way that each overlaps on the outside of the ring below it, so that the edges of the circumferential seams face downward outside. This construction prevents rain and snow from collecting on the edges of the plates outside. On the inside, however, the edges face upwards, and if moisture is formed it will lodge on these edges, find its way through the joint and run down outside, streaking and discoloring the chimney. A continuous lining from the top to the bottom will lessen the radiation loss, reduce, and, perhaps, eliminate condensation, and in any case eliminate the troubles arising from the moisture from the edge of the plates.

—*The Practical Engineer.*

Ropiness in Bread

SINCE the Government regulations in regard to the milling of wheat and the addition of other materials to wheat flour came into force, complaints of the inferior quality of the bread have been rife. That bread made with flour of the type now used should be particularly susceptible to ropiness is what might have been anticipated from consideration of the known facts in regard to this disease. The production of ropiness in bread was thoroughly investigated by E. J. Watkins some years ago, and the results of the investigation were communicated to the London Section of the Society (see *Jour. Soc. Chem. Ind.* 1906, 350). In view of the Government regulation that bread must not be exposed for sale until it is at least 12 hours old, it is important to note that the disease usually becomes evident only after from 12 to 48 hours from the time the bread has left the oven. It appears to develop at the center of the loaf and progress gradually outwards. The bread acquires, at first, a faint sickly odor, and brownish spots appear in the crumb and gradually extend, the central portion of the loaf ultimately becoming moist and sticky, so that it can be drawn into long gummy threads. Under specially favorable conditions the disease develops to such a degree that the whole of the crumb is converted into a slimy brownish mass, having a strong valerian-like odor. Bread made from flour containing bran is much more liable to the disease than that made entirely from white flour. Watkins succeeded in isolating the micro-organism responsible for the disease and identified it as *Bacillus mesentericus fuscus* (Flügge), which is frequently found in soil and on vegetables, etc. It was shown conclusively that the bacillus is introduced into the bread by the flour, probably on the bran coating. The bacillus is a prolific spore-former, and the spores are capable of resisting relatively high temperatures for prolonged periods, and hence cannot be destroyed by baking the loaves for a longer time than usual. Increasing the time of baking, however, produces a drier bread, and is advantageous in this respect, since dryness tends to inhibit the development of the spores. Watkins found that development could be prevented completely by adding a small quantity of acetic acid to the dough, but it is doubtful whether such a method would prove acceptable. He also recommended that when the flour was found to be contaminated it should be used under conditions most unfavorable to the development of the bacillus, *i.e.*, the dough being made slightly acid and the bread quickly cooled and kept at a low temperature and as dry as possible during storage.—*Journal of the Society of Chemical Industry.*