τepeated fermentations about two-thirds of the nicotine is destroyed, the acidity of the snuff disappears, and the mass becomes distinctly alkaline, notwithstanding that acetic acid is continuously evolved. The destruction of malic and citric acids continues, and the bases thereby set free saturate the acetic acid formed, leaving free ammonia in the snuff. The properties of snuff are dependent on the presence of free nicotine, free ammonia, and the peculiar aromatic principle developed in the fermentation.

The reduction of tobacco-leaf to a snuff powder is a task of con­siderable difficulty, owing to the gummy nature of the substance, which tends to coat and clog grinding surfaces. In early times the duly sauced and fermented leaves were made up into “ carottes,” —tightly tied up spindle-formed bundles, from the end of which the snuffer, by means of a “ snuff rasp,” rasped off his own supply, and hence the name “râpé,” which we have still as “ rappee, to indicate a particular class of snuff. The practice of tying up the leaves in the form of carottes is still followed by makers of fine snuff, as the very slow fermentation which goes on within the bundles is favourable to the development of a rich aroma. For pulverization, the leaves are first cut to shreds with a revolving knife, and then powdered either by a kind of mortar and pestle mill, or by falling stampers supplied with knife cutting edges, or more commonly they are treated in a conical mill, in which both the re­volving cone and the sides have sharp cutting edges, so that the material undergoes a cutting rather than a grinding action. The snuff from the mill is sifted, and that which remains on the sieve is returned to the mill, the remainder being passed on as râpé sec for further treatment as described above.

In nearly all civilized countries the cιdtivation of tobacco and its manufacture are conducted under state supervision, and form an important source of public revenue. In France, Austria-Hungary, Italy, and Spain the cultivation is a state monopoly, and in other countries the crop is subject to heavy excise duties. Since the time of Charles II. the growth of tobacco in England has been practically prohibited, the original legislative exactment to that effect having been passed with the view of encouraging trade with the young colony of Virginia. When that motive ceased to have force the supposed difficulties of collecting the internal taxation still influenced the legislature to continue their prohibition, and consequently a penalty or prohibitive tax equal to sixteen hundred pounds per acre is exigible on the cultivation of tobacco in the United Kingdom. In Ireland the duty on the cultivation of tobacco was abandoned between 1822 and 1830, and in that interval the cultivation grew till about a thousand acres were under the crop. In 1886 the Government permitted the experimental cultivation of tobacco in England, under certain precautions and restrictions for the security of the revenue. Several proprietors in Kent, Norfolk, and other counties grew experimental patches with such success as to warrant the continuance of the experiment and to prove the entire practicability of cultivating tobacco as an English agricultural crop. The climate is, however, so variable that, were all restric­tions removed, and tobacco grown subject only to excise supervision for collecting an equitable tax, it is more than doubtful whether its growth would be a safe and profitable undertaking.

The influence of tobacco on health and morals has, ever since its introduction into Europe, been a fruitful subject of controversy. On all grounds, except as a medicine, it met the most uncom­promising opposition when it first became known ; but it was precisely the expectations entertained regardiug its medicinal virtues which were completely disappointed. Burton, in the Anatomy of Melancholy, gives strong expression to the two views : “ Tobacco, divine, rare, superexcellent tobacco, which goes far beyond all the panaceas, potable gold, and philosopher’s stones, is a sovereign remedy in all diseases. A good vomit, I confess, a vir­tuous herb if it be well qualified, opportunely taken, and medi­cinally used ; but, as it is commonly abused by most men, which take it as tinkers do ale, 'tis a plague, a mischief, a violent purge of goods, lands, health,—hellish, devilish, and damned tobacco, the ruin and overthrow of body and soul.” Burton’s meaning— that tobacco in moderation is a good thing, while its excessive use causes many physical and other evils—has many sympathizers ; but the difficulty is to define moderation and excess. Among modern authorities, Dr Jonathan Pereira says, “I am not acquainted with any well-ascertained ill effects resulting from the habitual practice of smoking.” Similarly Sir Robert Christison concludes, “ In many individuals who use it habitually, the smoke has an extra­ordinary power in removing exhaustion, listlessness, and restless­ness, especially when brought on by bodily or mental fatigue, and this property is the basis of its general use as an article of luxury.” Dr E. A. Parkes sums up his observations thus : “I confess myself quite uncertain. I can find nothing like good evidence in books ; too often a foregone conclusion, without any evidence to back it, is given. I think we must decidedly admit injury from excess ; from moderate use I can see no harm, except it may be in youth.” On the other hand, it is asserted by the opponents of tobacco, and by the anti-tobacco societies, that the habitual use of this narcotic leads, especially in the young, to decrease of bodily and mental

vigour, and specially produces symptoms of anæmia, palpitation, intermittent pulse, and other affections of the heart and circula­tion. It is an admitted fact that a disease of the vision—tobacco amblyopia—is contracted by smokers, and is not uncommon among those using strong heavy preparations, such as black twist. Allowing that such incidental evils may arise from even compara­tively moderate indulgence in tobacco, they are after all as nothing compared to the vast aggregate of gentle exhilaration, soothing, and social comfort, extracted from the Virginian weed.

With the almost universal prevalence of the use of tobacco, it must be obvious that the amount consumed yearly is very great.

In the United Kingdom, which is much less a tobacco-consuming country than the United States or many European countries, the consumption per head has steadily increased, as is shown in the accompanying table.

The customs duty derived from imports of tobacco amounted in 1886 to £9,298,990, and there cer­

|  |  |  |
| --- | --- | --- |
|  | Total Consumption. | Per Head. |
|  | lb. | oz. |
| 1821 | 15,598,152 | 11⋅71 |
| 1831 | 19,533,841 | 12∙80 |
| 1841 | 22,309,360 | 13∙21 |
| 1851 | 28,062,978 | 16∙87 |
| 1871 | 42,775,334 | 21⋅49 |
| 1881 | 49,820,493 | 22⋅60 |

tainly is a considerable quantity of manufactured tobacco smuggled into the kingdom which comes into no official record. In the United States the production of tobacco was in 1840 219,163,319 lb, in 1850 199,752,655 lb, in 1860 434,209,461 lb, in 1870 262,735,341 lb, and in 1880 472,661,157 lb. During the ten years ending 1881 the average annual production was 472,000,000 lb, cultivated on from 600,000 to 700,000 acres, the value of the crops ranging from §40,000,000 to §45,000,000. In the same ten years 2,540,818,001 lb of leaf were exported, 1,897,606,249 lb were manufactured for home consumption, and the quantity consumed by growers was estimated to be equal to 280,000,000 lb.

For Tobacco Pipe, see Pipe.

The literature of tobacco is very extensive. The late Mr william Bragge of Birmingham published in 1880 a revised bibliography of the subject, *Bibliotheca Nicotiana,* extending to 248 quarto pages. From such a mass of authorities it would be vain here to make selections, but mention may be made of Fairholt’s capital gossiping work, *Tobacco, its History and Associations* (2d ed., 1876). As modern standard works there may also be quoted Tiedemann’s *Geschichte des Tabaks* (1856) and Wagner's *Tabakcultur, Tabak-und Cigarren-Fabrication* (1884). In the Tenth Census Reports of the United States (1883), vol. iii., there are a series of elaborate papers on the cultivation, manufacture, and statistics of American tobacco. (J. PA.-W. D.)

TOBAGO, the most southerly of the Windward group of British West Indian Islands (11° 9' N. lat., 60° 12' W. long.), 20 miles north-east from Trinidad, is 26 miles in length and 7½ at its greatest breadth, with an area of 114 square miles (73,313 acres). Its formation is volcanic, and the physical aspect irregular and picturesque, with conical hills and ridges ; the main ridge is 1800 feet high and 18 miles long. There are several excellent har­bours. The products are sugar, rum, molasses, and fruits of various kinds, only the low ground being cultivated; production is not increasing. In 1885 the revenue was £10,826 and the expenditure £12,031, while the imports were £30,758 and the exports £26,414. The population in 1885 was 19,363 (9368 males and 9995 females), princi­pally of African race, the whites being very few. Tobago has a small legislative council and an administrator under the Government of the Windward Islands. Its capital is Scarborough (1200 inhabitants), on the south-east coast.

Tobago was discovered by Columbus in 1498, and the British flag was first planted in 1580, the island being then occupied by Caribs. It has subsequently been held by the Dutch and the French, but ultimately was ceded to the British crown in 1814.

TOBIT, The Book of, one of the Old Testament apocrypha, relates with many marvellous circumstances the virtues, trials, and final deliverance of Tobit, a pious Israelite who was carried to Nineveh in the captivity of the ten tribes, and, after rising into favour and wealth as a trader at the royal court, was reduced to poverty because he habitually buried those of his nation whom the tyrant slew and ordered to be cast forth unburied. Besides this he lost his eyesight through an accident. Reduced almost to despair, like Job, and taunted like Job by his wife (" where are thy alms and righteous deeds ?”), he yet puts his faith in God and prepares to die, but first resolves to send his son Tobias to Rhagæ (Rai), in Media, to reclaim an old loan. Now his prayers are heard and his righteous-