

**PRESENCE OF SUGAR AND TARTARIC ACID IN VINE LEAVES.**—In a note presented to the French Academy in 1869, M. Petit stated that vine-leaves contained 20 to 30 grams per kilogram of glucose, and a quantity of acid varying from 13 to 16 grams. In further investigating the subject M. Petit has found (*Rép. de Pharmacie*, new series, i., 632) that about one-third of this acid is tartaric acid, which exists in the state of cream of tartar. He has also found that much sugar is present as cane sugar, and in taking special precautions to prevent the conversion of the cane sugar into glucose, he obtained from a kilogram of vine leaves—cane sugar, 15.80 grams; glucose, 17.49 grams. The leaves of the cherry and the peach also contain a mixture of cane sugar and glucose, and from a kilogram of peach leaves he obtained—cane sugar, 33 grams; glucose, 12 grams.—*Phar. Jour. & Trans.*

**CHEMICAL GASES AND HEALTH.**—Dr. Angus Smith has been studying the gaseous effluvia of chemical works in relation to public health. There have been many opinions as to the distances which gases will travel. He thinks we may be sure that sulphuric acid does not remain any perceptible time as a gas when it comes into the open air. Muriatic acid will go several miles; and sulphurous acid, he believes, goes further, but is diluted more rapidly, and therefore, is less perceived. Chlorine will go four miles and be quite distinct to the smell, if the ground be smooth; but if it be roughened by trees or vegetation, the trees obstruct the motion of the air and gases, and the absorbable portion is removed, but not without damage to vegetation. Dr. Smith reports that chemical works generally are greatly on the increase, and the power to repress escapes of gas does not increase with them. He thinks that when new manufactories are proposed the air might be examined, and if the atmosphere be injured to a certain extent, no more of the same manufactories should be allowed at the same place.—*Phila. Med. & Surg. Reporter.*

**ANALYSIS OF JUNIPER BERRIES.**—E. Donath gives the following (*Ding. Polyt. Journ.*, ccviii., 300) as the result of an investigation of the constituents of the berries of *Juniperus communis* :—

Water.....	29.44
Essential Oil (obtained by distilling the berries with steam) .....	0.91
Formic Acid .....	1.86
Acetic Acid .....	0.94
Malic Acid (combined with a base) .....	0.21
Fat resembling wax .....	0.64
Green Resin .....	8.46
Hard Brown Resin.....	1.29
Juniperin (found not to contain nitrogen).....	0.37
Pectin (extracted from dried berries by water, and precipitated with alcohol).....	0.73
Protein Substances.....	4.45
Sugar .....	29.65
Cellulose .....	15.83
Mineral Constituents .....	2.33

The wax was extracted with ether, and purified by successive treatments with water and boiling alcohol. From this alcohol, after the wax had deposited, was obtained, upon evaporation, the "green" resin, which had acid properties and resembled fir resin. The "brown" resin was obtained from the berries after being treated with ether by means of alcohol and was soluble in alkalis.—*Ibid.*