slowly, when part of the urea crystallizes out in long colour­less columns, not unlike those of nitrate of potash.

Wohler’s synthetical method for preparative purposes usually assumes the following form. Powdered prussiate of potash (see Prussic Acid) is dehydrated by heating, the anhydrous salt mixed with half its weight of anhydrous binoxide of manganese, and the mixture heated in a flat iron pan until the deflagration, which soon sets in, is completed. The residue now consists of oxides of iron and manganese and of cyanate of potash, NCO. K, formed from the cyanide of potassium of the prussiate by oxidation. The cyanate of potash is extracted by means of the least sufficient quantity of cold water (hot water decomposes the salt, with the formation of ammonia and carbonate of potash), and the solution is mixed at once with the calculated weight of sulphate of ammonia, 1(NH4)2SO4 for 2NCO. K. The two salts decompose each other into sulphate of potash and cyanate of ammonia ; the latter, however, passes spon­taneously and almost instantaneously into urea :—

NCO. NH4=CO(NH2)2.

Cyanate of ammonia. Urea.

The sulphate of potash is eliminated exactly as the nitrate of baryta is in the urine method. That urea is not cyanate of ammonia itself is proved, first by the fact that real cyanate of ammonia (pre­parable by the union of anhydrous cyanic acid with ammonia gas) is a different substance, and secondly by its not yielding any ammonia when dissolved in cold caustic potash ley. Urea behaves to certain strong acids like a feeble basis, uniting (CON2H4 parts) with HNO3 parts of nitric, ½H2SO4 of sulphuric, and ½C2O4H2 of oxalic acid into crystalline salts. As shown by its formula, urea is the amide of carbonic acid : *i.e*., it is CO(OH)2- 2OH + 2NH2, and consequently an anhydride of carbonate of ammonia, CO(O. NH4)2. An aqueous solution of urea, when heated to 200o in a sealed-up tube, breaks up into carbonic acid and ammonia ; and dry car­bonate of ammonia, when kept at a certain temperature, suffers partial conversion into urea and water.

Of the many methods for the quantitative determination of the urea in urine, the simplest is to treat a measured volume with excess of solution of hypobromite of soda (a solution of bromine in caustic soda ley) and to measure the volume of nitrogen evolved. By theory CON2H4 + 3NaBrO = 3NaBr + CO2 + 2H2O (the CO2 is absorbed by the excess of alkali) ; but in practice, according to Dupre, through unknown causes only 91 per cent. of the nitrogen is actually evolved, which must be remembered in the calculation of the result.

URGA, a city of Mongolia and the administrative centre of the Northern and Eastern Khalkha tribes, is situated in 48° 20' N. lat. and 107° 30' E. long., on the Tola river. The Chinese and Mongolian towns which make up Huræ, as the Mongols call Urga, stand on the high road from Peking to Kiachta (Kiakhta), about 700 miles from the Chinese capital and 165 from Kiachta, and are separated from each other by an interval of 2 or 3 miles. The Chinese town is the great trading quarter, and there the wealth of the district is collected. The houses in this part are more substantially built than in the Mongol town, and the streets have a well-to-do appearance. The population is estimated at about 5000, and the law which prohibits Chinamen from bringing their wives and families into the place tends to check increase. The population of the Mongol quarter is reckoned at about 10,000, though on the occasions of the religious festivals the numbers are much larger. Although trade is not altogether excluded, the *raison Tetre* of the town is that it is the residence of the metropolitan of the Khalkha tribes, who ranks third in degree of veneration among the dignitaries of the Lamaist Church. This “ resplendently divine lama” resides in a sacred quarter on the western side of the town, and acts as the spiritual colleague of the Chinese lieutenant-general, who controls all mundane matters at Urga itself, and who is also especially charged with the control of the frontier town of Kiachta and the trade conducted there with the Russians. Until quite lately bricks of tea formed the only circulating medium for the retail trade at Urga, but Chinese brass cash are now beginning to pass current in the markets. The temples in the Mongol quarter are numerous and impos­ing in appearance, and in one is a gilt image of Maitreya Bodhisattva, 33 feet in height and weighing 125 tons. By the Chinese Urga is called K'ulun.

URI,@@1 one of the Forest Cantons of Switzerland, ranks as fourth in the Confederation. It comprises the upper basin of the Reuss from its source to the Lake of Lucerne, the southern arm of which is also within the canton. Its total area is 415∙4 square miles ; of these 184∙4 are classed as productive, 40∙3 are covered with forests, 44∙3 consist of glaciers, and 7∙7 of the lake. The highest point in the canton is the Galenstock (11,802 feet). The population in 1880 amounted to 23,694 (men having a majority of 3000 over women), showing an increase of 7649, or 39∙4 per cent., since 1870, owing to the St Gotthard Railway. German is the native tongue of 18,024 persons, Italian of 5313. The canton has always been very strongly Roman Catholic (23,149 in 1880). It was included up to 1814 in the diocese of Constance (except the valley of Urseren, which was in that of Chur), and since then has formed part of no diocese, but is provisionally administered by the bishop of Chur. In Uri the limits of the ecclesiastical parishes are the same as those of the civil communes. The capital is Altdorf (2901 inhabitants). Göschenen (2990) and Wasen (2744) have increased since the opening of the St Gotthard Railway (1880), which runs through the greater part of the canton. The inhabitants are occupied in agricultural and pastoral pursuits, and are very saving and industrious. The main valley is fertile, but the side glens are very wild. Education is still very backward and largely in the hands of the priests ; but an improvement was made in 1885. The main characteristics of the people are extreme conservatism and a passionate attachment to their religion.

Uri is first mentioned in history in 732 as the place to which Eto, abbot of Reichenau, was banished. For the early history of the canton, see Switzerland, vol. xxii. pp. 783-787. In 1410 a perpetual alliance was made with the upper valley of Urseren or Val Orsera, the latter being allowed its own headman and assembly, and courts under those of Uri, with which it was not fully incor­porated till 1803. In 1440 Uri alone won the Val Leventina for good, the title being confirmed by a treaty of 1466 with the duke of Milan and by the bloody fight of Giornico (1478). At the Refor­mation, Uri clung to the old faith (see Switzerland, vol. xxii. pp. 790-791). In 1798 on the formation of the Helvetic republic Uri lost all its Italian possessions. In September 1799 Suwaroff and the Russian army, having crossed the St Gotthard to Altdorf, were forced by the French to pass over into Schwyz, instead of sailing down the lake to Lucerne. In 1803 Uri became an independ­ent canton again, with Urseren, but without the Val Leventina. It tried hard to bring back the old state of things in 1814-15, and opposed all attempts at reform, joining the League of Sarnen in 1832 to maintain the pact of 1815, opposing the proposed revision of the pact, and being one of the members of the Sonderbund in 1843. Despite defeat in the war of 1847, Uri voted against the federal constitution of 1848, and by a crushing majority against that of 1874. The existing constitution of Uri is that framed in 1850 and amended in 1851, 1872, 1879, and 1881. The “ landes- gemeinde,” composed of all male citizens of twenty years of age, meets annually on 1st May, and is the supreme legislative assembly. There is a subordinate legislative assembly (landrath), consisting of the landammann or headman and his deputy, 4 of the members of the executive, and 70 elected members (1 for every 300 of the population), which drafts bills and passes laws provisionally in case of necessity. The executive consists of 9 members—the landam­mann, his deputy, and the treasurer, with 6 elected members. By an immemorial custom 7 men of 7 different families, bearing dif­ferent names, can cause an extraordinary meeting of the assembly of their “gemeinde” to be summoned, or call on the landrath to do the same in the case of the “ landesgemeinde. ”

See K. F. Lusser’s *Gesch. des Kantοns Uri* (1862).

URIC ACID, as explained fully in the article Nutri­tion (vol. xvii. p. 683), is one of the penultimate products of the tissue waste in the human body. While the bulk of the nitrogen of the albuminoids passes off through the bladder as Urea *(q.v.),* a small portion of it stops at the uric acid stage. Human urine contains only a fraction of a per cent. of the acid, chiefly as soda salt ; abundance of

@@@1 The name is probably connected with the same obscure root as Urseren and Reuss, and is popularly derived from *Urochs,* “ wild bull,” a bull’s head having been for ages borne on the cantonal shield.