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THE
PHILOSOPHICAL TRANSACTIONS
OF THE
ROYAL SOCIETY OF LONDON,

FROM THEIR COMMENCEMENT, IN 1665, TO THE YEAR 1800;

Abridged,

WITH NOTES AND BIOGRAPHIC ILLUSTRATIONS,

BY

CHARLES HUTTON, LL.D. F.R.S.
GEORGE SHAW, M.D. F.R.S. F.L.S.
RICHARD PEARSON, M.D. F.S.A.

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kept in a cage, does not live often more than a year or two: nor does he sing more than 3 or 4 months; whereas the scholar pitched on may not only be more vivacious, but will continue in song 9 months out of 12.*

XXXII. On the Tokay and other Wines of Hungary. By Sylvester Douglas, † Esq. p. 292.

The town, or rather village, of Tokay, whence this celebrated wine derives its name, stands at the foot, and to the east of a high hill, close by the conflux of the river Bodrog, with the Theis or Tibiscus. In the Norimberg map of Hungary, it is erroneously placed between these rivers, for it is on the west side of both. The inhabitants are chiefly either Hungarians of the protestant religion, or Greeks, who came originally from Turkey, but have been long settled here for the purpose of carrying on the wine trade. The hills on which the wine grows, lie all to the west of the river Bodrog, and beginning close by the town of Tokay, thence extend westward and northward, occupying a space of perhaps 10 English miles square; but they are interrupted and interspersed with a great many extensive plains, and several villages. Near some of these the wine is better than what grows on the hill of Tokay, but it all goes under the same general name. The vineyards extend beyond the 46th degree of northern latitude. The soil, on all the hills where the wine grows, is a yellow clayish earth, extremely deep, and there are interspersed through it large loose stones, which it seems are limestone; but he had not an opportunity of examining them.

As the hills do not run in a regular chain, but are scattered among the intervening plains, all kinds of exposures are met with upon them, and there is wine on them all, except perhaps where they are turned directly towards the south. Yet the general rule is, that the exposures most inclining to the south, the steepest declivities, and the highest part of those declivities, produce the best wine. It is a vulgar error, that the Tokay wine is in so small quantity, as never to be found genuine, unless when given in presents by the court of Vienna. The extent of ground on which it grows is a sufficient proof to the contrary. It is a common dessert wine in all the great families at Vienna, and in Hungary, and is very generally drank in Poland and Russia, being used at table in those countries, like Madeira in this.

Another vulgar error is, that all the Tokay wine is the property of the empress queen. She is not even the most considerable proprietor, nor of the best wine; so that every year she sells off her own, and purchases from the other proprietors, to supply her own table, and the presents she makes of it. The greatest

* The above is only a short sketch of the principal parts of Mr. Barrington's paper. But the whole of it may be consulted in the 3d vol. of Pennant's British Zoology.

† Now Lord Glenbervie.

proprietor is the Prince Trautzon, an old man, at whose death indeed his estate will escheat to the crown; but many others of the German and Hungarian nobility have large vineyards at Tokay; most of the gentlemen in the neighbourhood have part of their estates there; the Jesuits college at Ungwar has a considerable share of the best wine; and besides these, there are many of the peasants who have vineyards, which they hold of the queen, or other lords, by paying a tithe of the annual produce.

There is never any red wine made at Tokay, and, as far as he recollects, the grapes are all white. The vintage is always as late as possible. It commonly begins at the feast of St. Simon and Jude, October 28, sometimes as late as St. Martin's, November 11. This is determined by the season, for they have the grapes on the vines as long as the weather permits; as the frosts, which from the end of August are very keen during the nights, are thought to be of great service to the wine. By this means it happens, that when the vintage begins, a great many of the grapes are shrivelled, and have in some measure the appearance of dried raisins.

There are 4 sorts of wine made from the same grapes, which they distinguish at Tokay by the names of Essence, Auspruch, Masslasch, and the common wine. The process for making them is as follows. The half-dried and shrivelled grapes, being carefully picked out from the others, are put into a perforated vessel, where they remain as long as any juice runs off by the mere pressure of their own weight. This is put into small casks, and is called the Essence. On the grapes from which the essence has run off, is poured the expressed juice of the others from which they had been picked, and then they tread them with their feet. The liquor obtained in this manner stands to ferment during a day or two, after which it is poured into small casks, which are kept in the air for about a month, and afterwards put into the cellars. This is the Auspruch.

The same process is again repeated, by the addition of more of the common juice to the grapes which have already undergone the two former pressures, only they are now also wrung with the hands, and this gives the Masslasch. The 4th kind is made by taking all the grapes together at first, and submitting them to the greatest pressure. It is chiefly prepared by the peasants, who have not a sufficient quantity of grapes, and cannot afford the time and apparatus necessary for making the different sorts. It is entirely consumed in the country, and forms the common *vin du pays*.

The Essence is thick, and never perfectly clear, very sweet and luscious. It is chiefly used to mix with the other kinds, and when joined to the Masslasch, forms a wine equally good with the Auspruch, and often sold for it. The Auspruch is the wine commonly exported, and what is known in foreign countries under the name of Tokay. The following are the best rules for judging of it;

though in this and all similar cases, it requires experience to be able to put such rules in practice. 1. The colour should neither be reddish, which it often is, nor very pale, but a light silver. 2. In trying it, you should not swallow it immediately, but only wet your palate and the tip of the tongue. If it discover any acrimony to the tongue, or bite it, it is not good. The taste ought to be soft and mild. 3. It should, when poured out, form globules in the glass, and have an oily appearance. 4. When genuine, the strongest is always of the best quality. 5. When swallowed, it should have an earthy astringent taste in the mouth, which they call the taste of the root. The Poles particularly are fond of this astringency and austerity in their Tokay. There is so great a difference between the Tokay used in Poland and what Mr. D. drank both at Tokay and Vienna, which, he was sure, was of the best and most genuine kind, that he thinks their wine is composed of the Masslasch, which, by the severe pressure it suffers, must carry with it much of the astringent quality which, in all grapes, resides in the skin, and a smaller proportion than usual of the essence. But this is mere conjecture.

Besides the qualities already mentioned, all Tokay wine has an aromatic taste; so peculiar, that nobody who has ever drank it genuine can confound it with any other species of wine. The only species that bears a resemblance to it grows, in a very small quantity, in the Venetian Friule, and is only to be met with in private families at Venice, where, in the dialect of the place, it is called *vin piccolit*. The Tokay wine, both the *Essence* and *Auspruch*, keeps to any age, and improves by time. Mr. D. has drank of the latter at Vienna, which had been in the same cellar since the year 1686. It is never good till it is about 3 years old. All the sorts are generally kept in small casks, called *antheils*, which legally hold 80 Hungarian *mediæ*, a measure containing about two-thirds of an English quart. When you buy it of the gentlemen who are proprietors, you have commonly more than the legal quantity in the *antheil*; if from the Greek merchants, always less.

The particular year, or vintage, and the age, vary the price of this, as of all other wines. The medium price of the *antheil* of *Essence* is between 60 and 70 ducats. It is sometimes sold on the spot for more than 100. Prince Radzivil paid 300 ducats for 2 *antheils* about 4 years before. When the price is 60 ducats, and the *antheil* large measure, that is, about 90 *mediæ*, it is exactly a ducat the English quart. The price of the *Auspruch* is from 26 to about 30 ducats the *antheil*. This is at the rate of two florins, or near a crown the English quart. The variety in the prices of the *Essence* and *Auspruch*, accounts for the opposite accounts of people, who say sometimes that it costs half a guinea, sometimes 5 shillings, on the spot.

There are people who come every year from Poland, about the time of the

vintage, to choose their own wine on the ground, and see it carefully managed. But it is a false opinion of many, that they contract for the wine of several years forwards: no such thing has ever been practised. For these last 20 years the court of Petersburg has had an agent, who resides constantly at Tokay, for the purpose of buying wine. He commonly purchases every year from 40 to 60 antheils of Auspruch, but never of any other sort.

It is much the best way to transport it in casks; for when it is on the seas, it ferments 3 times every season, and refines itself by these repeated fermentations. When in bottles, there must be an empty space left between the wine and the cork, otherwise it would burst the bottle. They put a little oil on the surface, and tie a piece of bladder on the cork. The bottles are always laid on their sides in sand.

Mr. D. is persuaded an English merchant, or company of merchants, would find their account in establishing a correspondence with one of the principal proprietors in the country, or in sending an agent to reside at Tokay, who might watch the opportunity of the good vintages, choose the best exposures, and bargain with the proprietors themselves. They should have cellars there to keep the wine to a proper age, and an agent at Warsaw, and another at Dantzic, to receive it. This is the road it must take.

There is not, Mr. D. believes, in Europe any country which produces a greater variety of wines than Hungary. They count as many as 100 different sorts. The most valuable white wines, after the Tokay, are, 1. *The St. George wine*, which grows near a village of that name, about 2 German miles north of Presburg, and in the same latitude with Vienna. This wine approaches the nearest of any Hungarian wine to Tokay. Formerly they used to make Auspruch at St. George; but this was prohibited by the court about 16 years ago, it being supposed that it might hurt the traffic of the Tokay wine. 2. *The Edenburg wine*, resembling the St. George, but inferior in quality and value. Edenburg is a town situate about 9 German miles north-west of Presburg. 3. *The Carlowitz wine*, something like that of the Cote rotie on the banks of the Rhone. Carlowitz is the seat of the metropolitan of the Greek church in Hungary. It stands on the banks of the Danube, between 45 and 46 degrees of latitude.

The best red wines are, 1. *The Buda wine*, which grows in the neighbourhood of the ancient capital of the kingdom. This wine is like, and perhaps equal to, Burgundy, and is often sold for it in Germany. A German author of the last century says, that a great quantity of this wine used to be sent to England in the reign of James I., over land by Breslaw and Hamburg, and that it was the favourite wine both at court and all over England. 2. *The Sexard wine*, a strong deep-coloured wine, not unlike the strong wine of Languedoc, which is said to be sold at Bourdeaux for claret. The Sexard wine on the spot costs about

5 creuzers, or 2½ d. a bottle. It belongs to the Abbot of Constance, and is chiefly consumed in Germany. Sexard is on the Danube, between Buda and Esseh. 3. *The Erlaw wine*, which is reckoned at Vienna almost equal to that of Buda. Erlaw is in Upper Hungary, south-west of Tokay, between 47 and 48 degrees of latitude. 4. *The Gros Wardein wine*, a strong bodied wine, and very cheap. It belongs chiefly to the Duke of Modena, whose ancestor got a large estate in this country, in grant from the Emperor Leopold, as a reward for his services in the Hungarian wars. Gros Wardein is an old fortress near the confines of Transylvania, between 46 and 47 degrees of latitude.

XXXIII. On the Figure and Composition of the Red Particles of the Blood, commonly called the Red Globules. By Mr. Wm. Hewson, F.R.S. p. 303.

This paper is reprinted in Mr. Hewson's collected works.

XXXIV. On the Effects of a Thunder-storm, March 15th, 1773, on the House of Lord Tylney at Naples. In a Letter from the Hon. Sir Wm. Hamilton, F.R.S. Dated Naples, March 20, 1773. p. 324.

This accident was on his lordship's assembly night; so that most of the nobility of this country, many of the foreign ministers, foreigners of distinction, particularly English, were present at the time of the explosion; there were not less than 250 in the apartments; and including servants, the whole number under Lord Tylney's roof could not be less than 500. The lightning passed through 9 rooms, 7 of which were crowded with parties at cards, or conversing; it was visible in every one, notwithstanding the quantity of candles, and has left in all evident marks of its passage. Many of the company were sensible of a smart stroke, like that of electricity, and some complained for several days after of a pain they felt from that stroke, but no one received any essential hurt; a servant indeed of the French ambassador's house has a black mark on his shoulder and thigh, from a stroke he received on the staircase; and another servant, who was asleep on the same staircase, his head reclining against the wall, had the hair entirely singed from it on that side.

The confusion at the moment was very great: the report, which seems to have been equally heard in every room, was certainly as loud as that of a pistol; and every one flying the room they were in, thinking the danger there, met of course in the door-ways, and stopped all passage. A Polish prince, who was playing at cards, hearing the report, as he thought of a pistol, and feeling himself struck, jumped up, and clapping his hand to his sword, put himself in a posture of defence. Sir Wm. H. was sitting on a card-table, and conversing with M. de Saussure, Professor of Natural History at Geneva; they happened to be looking different ways, and each thought that the bright light and report was immedi-