

On beer : a statistical sketch / by M. Vogel.

Contributors

Vogel, Max.

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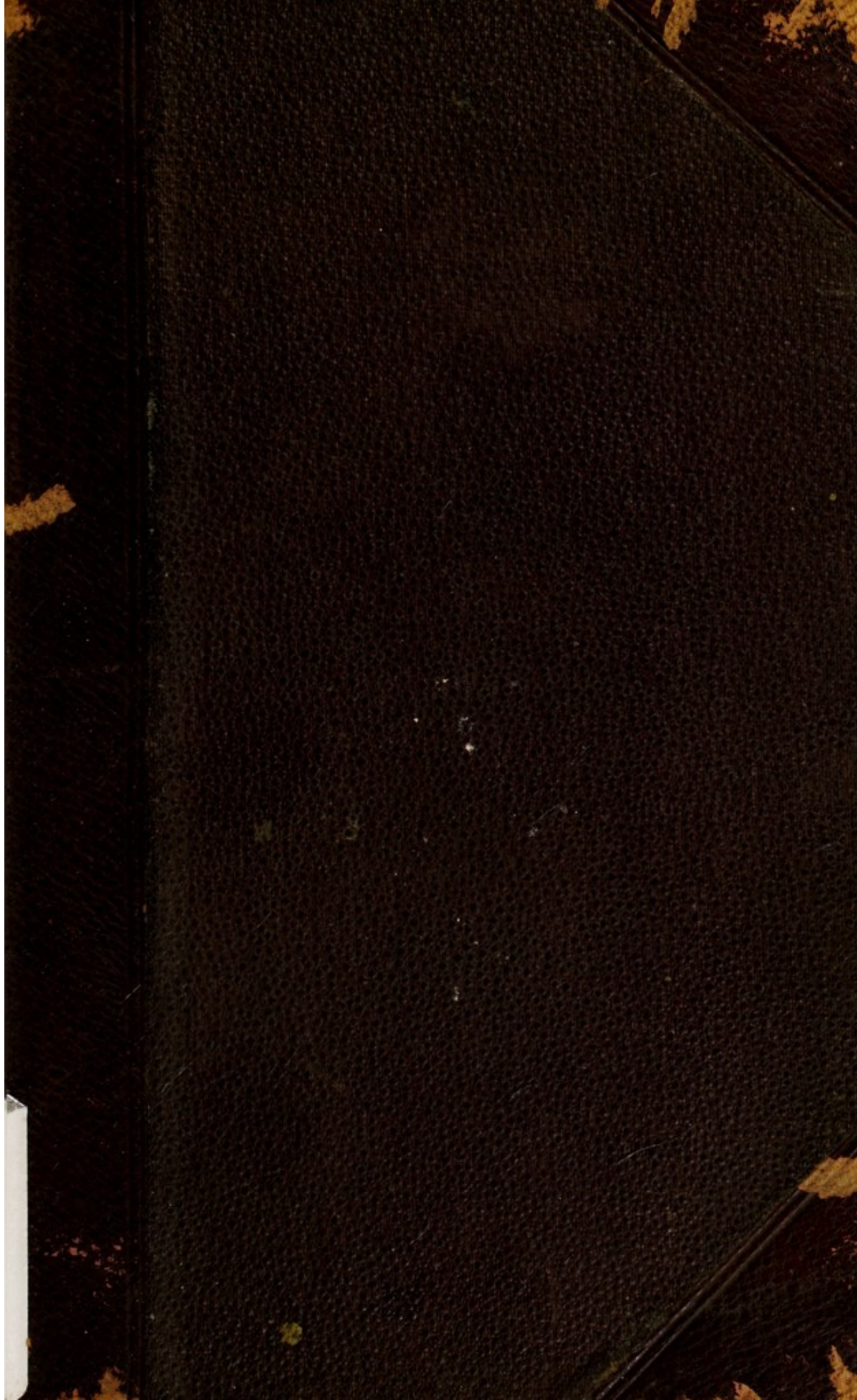
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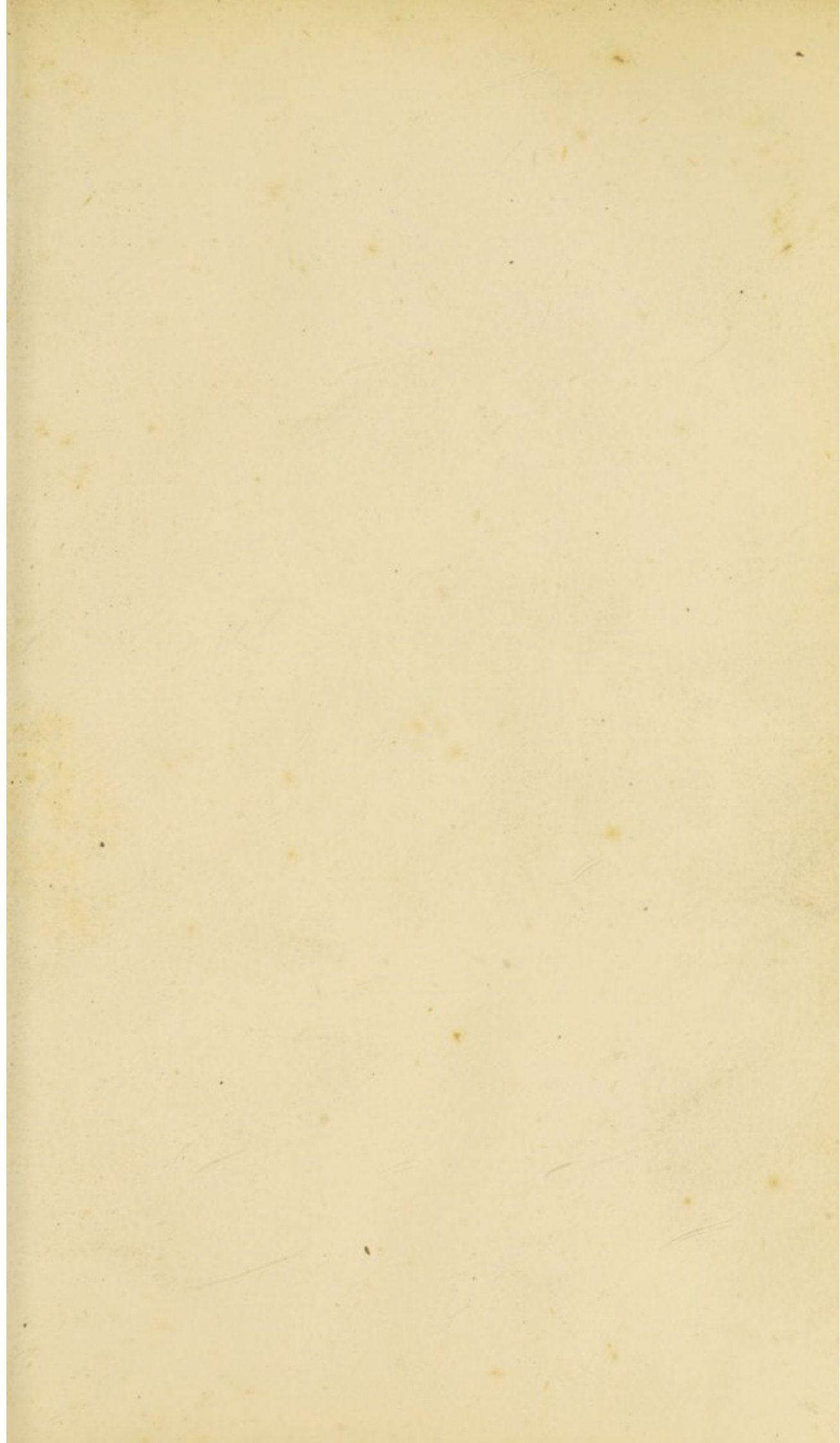
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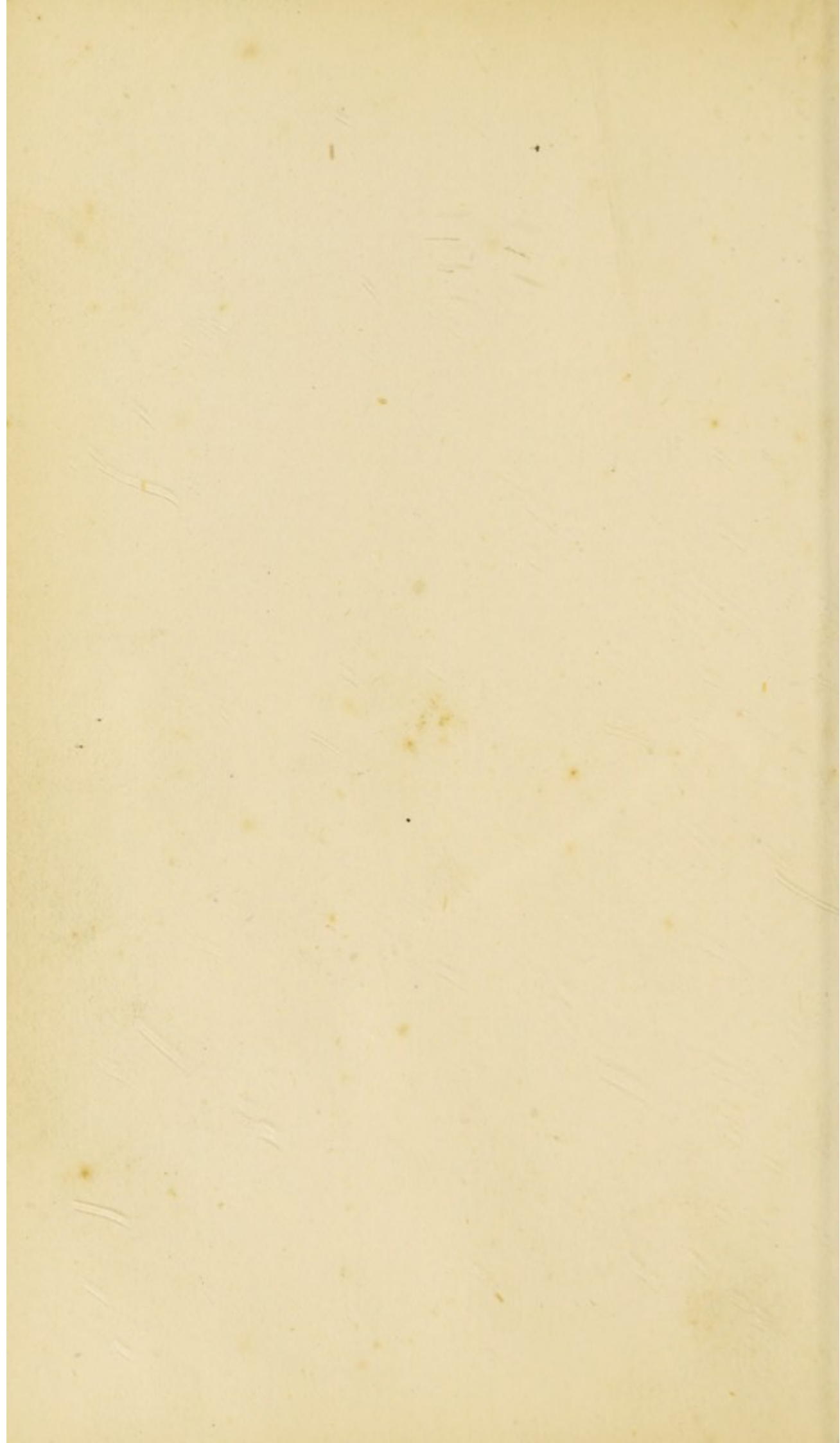




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12

ON BEER.

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ON BEER

A STATISTICAL SKETCH

BY

M. VOGEL

LONDON

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1874

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DEDICATION.

To CHARLES WHITEHEAD, Esq., F.L.S.

SIR,—The manufacture of beer has assumed such wide proportions, its use is so general, that it has undoubtedly become an article of trade highly important in its economical and social as well as fiscal and ethical bearings.

We find it a beverage much patronised by almost all civilised nations and governments, although there are not wanting large sections of the community, especially in England and America—no doubt honest, sincere, and good men—who, animated by the utmost hostility against what are generally known as “intoxicating liquors,” will not hesitate to put beer and spirits under one head, for the sake of cutting it off at one stroke, as Nero wished he could have done with his Roman subjects.

It has, therefore, appeared to me that it might be interesting in many respects to examine the position of

the brewing-trade in the leading brewing countries. I feel, however, that my labour is far from being satisfactory ; for the insufficiency, and sometimes incorrectness, of the statistical information published make it often a matter of serious difficulty to find out the correct positions. Moreover, such a work should also examine the relative positions of the beer and ardent liquor trades. But that is almost an impossibility ; for in the first instance, the exact figures of the manufacture of distilleries are not everywhere easily to be got at ; then there is a large consumption of spirits for trades and manufactures, and even for household employment, that cannot be distinguished from those actually used as beverages.

I have not included the United States in my tables, for the want of official statistics. We know, however, that there the consumption of beer exceeded 8,000,000 barrels in 1872, while in 1864-65 the consumption only amounted to about 3,500,000 barrels, yielding 3,657,000 dollars to the Exchequer,¹ and some of the States composing that confederacy are just those that put most impediments in the way of the spread of beer.

France also I had to omit for want of reliable statistics

¹ Dr. C. Freiherr von Hock. *Finanzen und Finanzgeschichte der Vereinigten Staaten von America* (Stuttgart, 1867), pp. 254, 768.

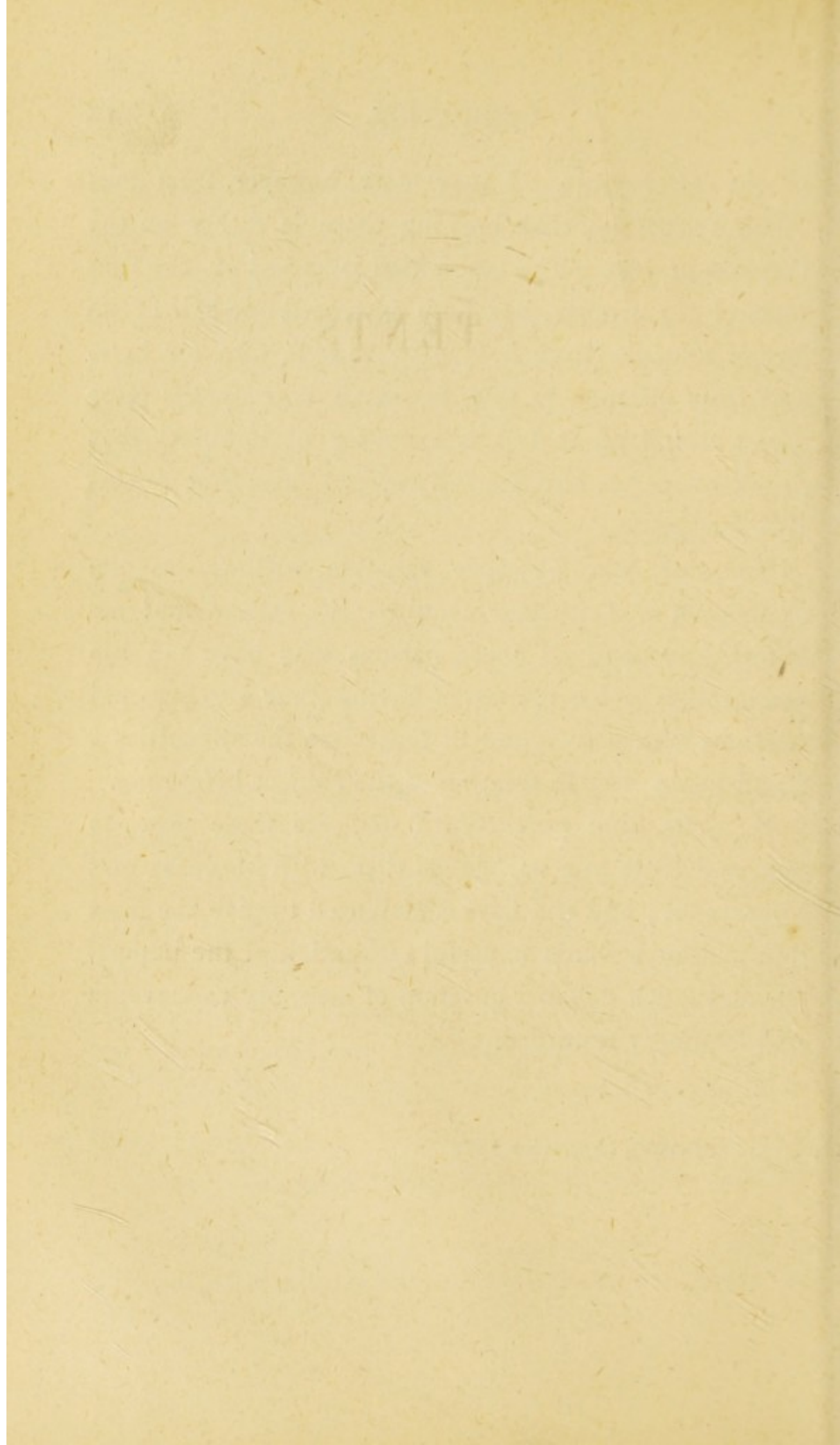
of the latter years. I may state, however, from personal knowledge, that brewing there is rather on the decrease of late. The tax, which is raised on the contents of the coppers, has been increased one-half of its former amount (from fr. 2, 40 c. to fr. 3, 60 c. for beer, and from 60 cmes. to 90 c. for small beer—*petite bière*—per hectolitre) and it is a matter of notoriety that drunkenness has also fearfully spread since that alteration was made.

You, sir, who by your valuable writings on the cultivation of hops have acquired the esteem and acknowledgment of all those persons who have had the gratification and happiness of having come into personal relations with you—you will appreciate the difficulties I found in my way in treating of the subject before me.

By your kind permission I dedicate these pages to you, and trust you will judge them with kindness and forbearance; and if I have contributed to give the least information towards a useful estimation of the important and much debated question of beer, my endeavours will be amply rewarded.

M. VOGEL.

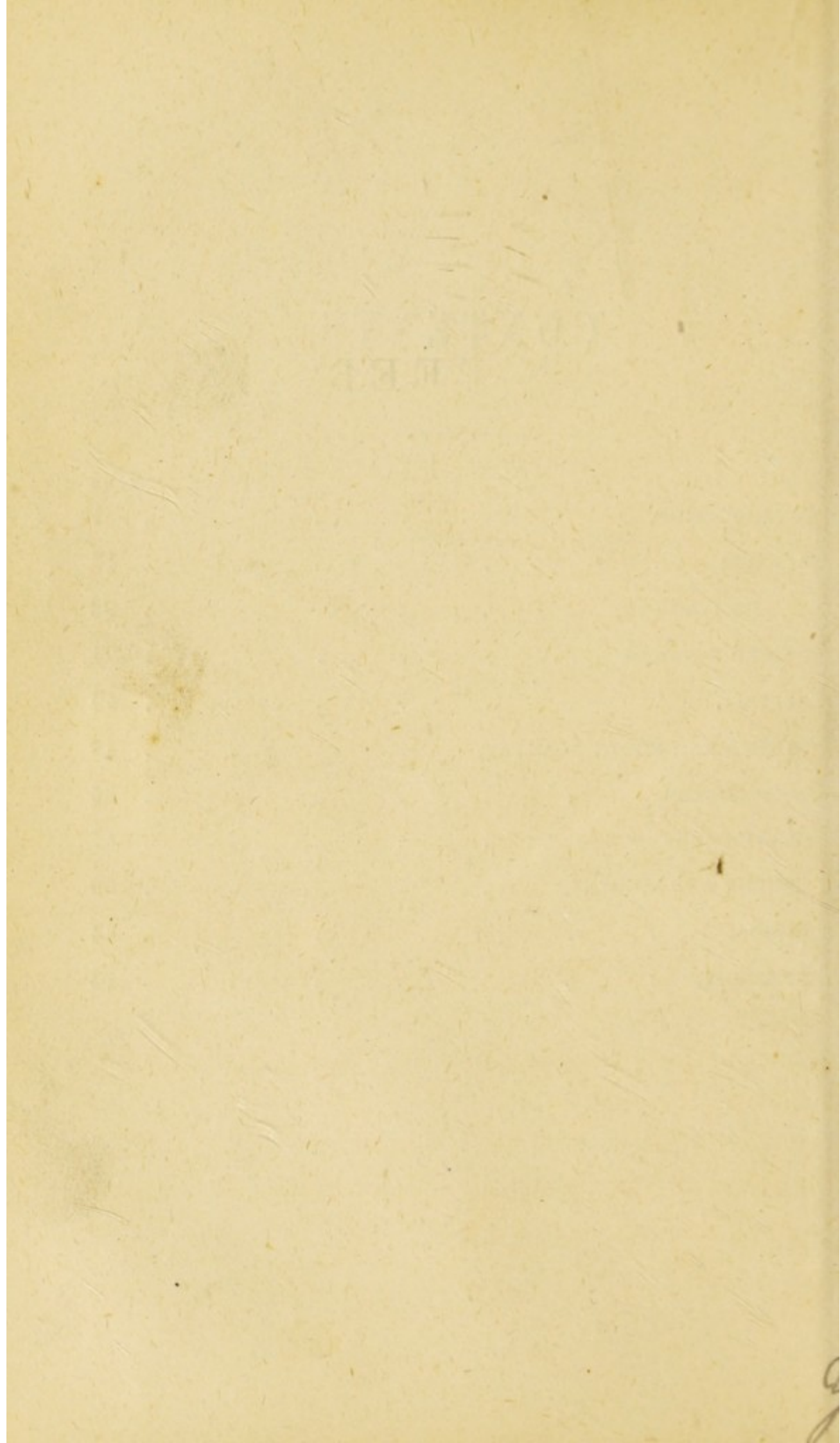
NUREMBERG, *September* 1873.



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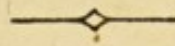


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ON BEER.

A STATISTICAL SKETCH.



INTRODUCTION.

IN the dimmest ages of antiquity we find traces of beer, and the Greek historian, Diodorus of Sicily, informs us that the art of brewing beer was brought to Egypt by her god or king Osiris, who in the year 2017 brewed it first in the city of Pelusium.

The same author speaks of two descriptions of beer brewed by the Egyptians : *Zythos* a strong, and *Curmi* a weaker beer. The art of brewing appears to have continued down to our days in Egypt, and they brew a kind of beer called *Booza* ; but it is bad, says Grässe.¹

According to the same author, the old Spaniards brewed two kinds of beer, one of wheat, and another of honey for the better classes.

¹ Dr J. G. Th. Grässe, *Bierstudien*, Dresden, 1872.

The Arabs inhabiting Egypt during the Middle Ages seem to have kept to the two descriptions of Egyptian beer, and what was called *Zythos* they named *Fokka*, and *Curmi* they called *Mazar*.

The Tartars also made a kind of beer of millet (*Panicum miliaceum*), which they called *Booza*.

The Ethiopians learned the art of brewing from the Egyptians, and they made beer of millet and barley, and it is probable that the Jews also learned it from the same source. They made an intoxicating drink, *Schechar*; and the Talmud mentions dates, figs, mulberries, and barley as the sacchariferous matters employed.¹

The Greeks seem likewise to have acquired their knowledge of brewing from the Egyptians, and they called their beverage *Zythus*, just like the Egyptians, also *Kurmi*, *Bryton* or *Pinos*, and Grasse even supposes that they had a double-beer called *Dizythos*.

¹ Common *Schechar* was made of dates, and appears to have been in little estimation, for there was a proverb that "he who employed *Schechar* in the service of God might be obliged to drink of it all his life long." Another proverb says, "Rather drink water in which flax was steeped, than *Schechar*."—(Ketubot 10, Sabbath 140*b*). For making *Schechar* more drinkable it was repeatedly distilled, always with an addition of new dates; but it seems that it was never so much liked as *Pirsuma* made of barley, *Teenay* made of figs and *Asney*, which was made of mulberries, as explained by the commentator Rashbam. The difference between wine and beer was deemed in proportion to that between wheaten bread and barley bread.—(Sabbath 140*b*).

From Greece the acquaintance with beer seems to have come to Spain, and to the Pacionians and Pannonians, who called it *Parybia* and *Sabaia*.

The Gauls also knew beer and the malt was called *Brace*, which no doubt was the origin of the words *brasser*, *brasseur*, *brasserie*, to brew, brewer, brewery.

The old Spaniards called beer *Ceria*, probably from Ceres the Goddess of Grains, or *Calia*; from *calor*, warmth. The Latin name *Cerevisia* seems to have reference to that expression, and is explained by some from *Cereris vis*, power of Ceres; whilst others attempt a derivation from *Cerebibia*, namely from *ceres* grains, and *bibere* to drink.¹

Since the beginning of the Middle Ages the consumption of beer appears to have acquired greater extension, and Jonas, the Scottish biographer of St Columban,² mentions Gaul, England, Scotland, Ireland, and Germany, where it had become the common beverage.

It was then that originated the mythical story of a fabulous king (the seventh) of the Tuisks, the consort of Isis,³ by name Gambrinus or Gambrivius, pretended

¹ Grässe, p. 5.

² Vitæ S. Columban, c. 16.

³ Coler in his "Oeconomia ruralis," vol. ii. p. 24, says Osiris and his sister Isis had invented the beer, and the latter had brought it into Suabia at the time of Hercules Alemannus.—(Note by Grässe, p. 8.)

son of the German king Marsus and founder of the cities of Cambray and Hambro' (called *Gambrivium* in Latin), otherwise also called *Kempfer* or *Cimber* (from whence the name *Cimbri*), who, according to Aventinus,¹ lived about 1730 before our era, as the inventor of brewing.

Gambrinus passed also as King of Flanders and Brabant, and his picture may be seen in thousands of beer-houses in Germany, Holland, Belgium, France, &c. He is generally represented as a knight with a royal or ducal crown on his head, and a goblet or glass of foaming beer in his hand.

It is impossible to determine the origin of the legend of Gambrinus. The learned Coremans,² a Belgian scholar, who examined the question, could find no explanation of it, but noticed some resemblance in the features of Gambrinus to those of Duke John I. of Brabant, as represented on his tomb at Bruxelles, and many beer-houses in Belgium carry to this day the sign "Au Duc Jean de Brabant." It is likely that a Duke of Brabant was once a friend and protector of the Belgian brewers, although Coremans could discover nothing with regard to John I., and only found that John II. granted a privilege to the brewers'

¹ "Annales Bojorum," by Aventinus.

² Notes concernant la tradition de Gambrivius, roi mythique de Flandre et de Brabant; compte-rendu des séances de la com. roy. d'Histoi. Bruxelles, 1842, tome v. p. 378, &c.

guild in Louvain in the form of a monopoly that they alone might brew beer within the circumference of a league from the city.

There are many sayings, especially in South Germany, about Gambrinus ; but it is likely, as Grässe supposes, that a Duke of Burgundy may have been the prototype of Gambrinus.

Grässe tells us that the learned historian T. Chifflet, in his “ *Lilium Francium* ” (Antv. 1658, in fol.)—a kind of glorification of the fleur-de-lis (p. 80)—copies a drawing of an order of Burgundy, the *Ordo lupuli*, or order of the hop, and says that it owed its establishment to *Jean Sans-peur*, Duke of Burgundy, when by inheritance he became first Count of Flanders. It is probable that the order originated in 1406 when the Duke courted the good opinion of his Flemish subjects, to whom the cultivation of hops was a source of great benefit, and that it ended with the death of its founder.

The name of Beer seems to have puzzled for a long time the ingenuity of scholars who attempted many etymological explanations, more or less probable. There is now no doubt that it is derived from the old Saxon word *bere*, which meant barley ; and it was called *Pior* in old German, *Baer* and *Alod* in Anglo-Saxon, *Oel* in Danish, *Hell* in Scottish, and *Ollo* in Slavonish. The Poles and Bohemians named it *Zyto*, also *Pivo* : in

Wales it was called *Kwvw*, and in Belgium *Kuyt*. The French word *Bière* appears to have originated from the German *Bier*, the older French expression being *cervoise*, from the Latin *cerevisia*.¹

It will not be necessary to repeat all the descriptions of the supposed compositions of beer in olden times; it will be sufficient to state that many matters were employed for their sacchariferous, and many others for their aromatic qualities, and that beer was chiefly made by women, and making good beer appears to have been one of the household virtues of a good spouse.

It would seem, however, that hops were not employed at that time, and Grässe² supposes that during the reign of Charlemagne, who had beer brewed on his estates, no hops entered into those brewings, although hop-gardens (*humlonaria*) had been already mentioned in a letter of permission given by his father, Pepin, in the year 768.

In an instrument of the year 822, however, the Abbot of the Convent of Corvey in liberating the millers in his jurisdiction from working in hop-grounds, distinctly mentions *brace* malt, and uses the word *humulare*, working in hop-grounds.

The first mention of *humela* is made in a document of St Hildegardis, Abbess of Ruppertsberg, who died in

¹ Grässe, p. 13.

² Ibid., p. 14.

1079. She says of it that it makes people melancholy and dries up their bowels, but that its bitterness preserves the beverage to which it is added.¹

From that time and for that reason hopped beer became more general. Hops were frequently cultivated in Bavaria and the country round Magdeburg in the year 1070 ; but it was only in 1240 that beer became an article of export.

For malting the old Germans used barley, and later, wheat, oats, and spelt. The city of Nuremberg in 1290 prohibited the use of oats, rye, spelt, and wheat for brewing purposes, and only allowed the use of barley ;² whilst the city of Augsburg ordered, in 1433, that beer should be made only of oats, and that regulation was not abolished before 1550.³

In the fourteenth century the cultivation of hops had generally extended in Bavaria, Bohemia, and the North of Germany. From the Altmark it was introduced into Pomerania, and from Bohemia into Saxony. A Bavarian forest-law of 1568 orders carefulness in cutting hop-poles, that the woods may not be too much stripped. A similar law existed in Saxony, and in Brandenburg hops were a remunerative article of exportation in the sixteenth and seventeenth centuries.

¹ Grasse, p. 14.

² Raumer Hohenshaufen, vol. v. p. 331.

³ Stetten (Augsburg, 1788), vol. ii. p. 132.

The Netherlands also produced hops at a very early date ; but they must have been sold adulterated with other ingredients, for the States-General published (on the 1st April 1620) a severe law on the subject, which was afterwards frequently renewed.

It appears, however, to have made but little impression on the brewers, as may be inferred from the nickname *Ratten kruydt* (rats' weed) which the populace gave to malt, and undoubtedly refers to noxious admixtures in beer. One of these was the *Dolmackende nachtschaye* (*Cocculus Indicus*).¹

The old Anglo-Saxons drank unhopped beer, as is gathered from its being mentioned in the laws of Ina, King of Essex. Mention is likewise made of beer in the description of a feast given by Edward the Confessor, and at the time of the Normans it was so cheap that two gallons cost only one penny. Afterwards hops were also cultivated in England, and must have been known at an early period, for otherwise Henry IV. (1400) and Henry VI. (1450) could not have prohibited their cultivation.

Henry VIII., in the year 1530, threatened with severe penalties the use of hops and sulphur in ale, which he called a falsification. Hop-grounds are, however, mentioned again in legal ordinances of the year 1552, during the reign of Edward VI. ; but the

¹ Grässe, p. 16.

cultivation cannot have been of great importance, otherwise James I. would not have prohibited in 1603 the importation of bad foreign hops. From 1650 yeast was also used in London breweries.¹

The old Goths had a beverage called *Buska*, that probably was like our beer,² but real beer appears betimes in Scandinavia. Laws on the sale of beer are also mentioned at an early period there. King Erich Magnusson of Norway in 1282 granted the right of selling beer (*biorsala*) to the owners of houses, and such others who possessed tapping utensils (*ölgögn*). The cost of a mug of beer (*bolli*) was fixed at one örtug (fivepence), a bottle of afterbeer (*munngat*, as it is called to this day in Iceland and Norway) at fifteen weighed pence.

King Hakon Magnusson fixed (1380-1390) the price of a tun of beer at three marcs, and of a ship-pound of hops at fifteen marcs. In accordance with a law of 9th February 1302 beer could only be sold in gauged vessels. There was also a duty on the right of tapping which amounted in Kopenhagen, in accordance with a city privilege, to two *oere* a year, besides an impost on malt due to the Bishop.

In the oldest times malt for brewing was brought to Scandinavia as return freight by seafarers, for the grain cultivated there scarcely sufficed for the

¹ Grässe, p. 19.

² Olaus Magn. xiii. c. 26.

necessary bread. The necessary hops were likewise imported. In Iceland millfoil (*achillea millefolium*) was used in their stead, which was therefore called field-hops (*valhumall*); and that substitute was also used in Sweden, where it was partly employed even in the past century. In former times beer was often drunk here warmed.

At a later period the Swedes became acquainted with the hop plant. In the year 1440 every cultivator had to plant 40 poles of hops, and incurred a penalty for neglecting it. As late as the year 1525, the Swedes paid for the foreign hops they employed with 1200 ship-pounds of iron—the ninth part of their total exportation. During the reign of Queen Christina many hops were still imported from Germany, but a good many were produced in the country itself; and during the reign of Charles XI. (1660–1697), the quantity grown in Sweden nearly supplied its requirements for consumption.

In turning to England it should be mentioned that Diodor of Sicily ascribed a love of drinking to its inhabitants, and a passage in Ossian¹ seems to confirm it. But it is not certain what they drank. In the translation of the Anglo-Saxon Bible, there is one passage in St Luke (ii. 15)—“And ha ne drincid voin ne beer;” (He drinks neither wine nor beer). The

¹ Ossian, vi. p. 74.

inhabitants of Wales drank mostly hydromel (mead), up to the year 1049 ; but also beer, of which there were two descriptions, *common ale* and *spiced ale*, and the law fixed the price of the latter at twice the value of the former.¹

Beer-drinking remained a family custom in England, with high and low, up to the fourteenth century ; but about the year 1307 beer had become dearer, and its price according to quality was two, three, or four pence a gallon. Accordingly, a regulation of the Corporation of the city of London determined that a gallon of best beer should only cost three half-pence and common beer one penny.

In Holinshed's time ² (about 1570) different descriptions of beer were brewed in England. The best was called March beer, because it was brewed in March, and it was commonly drunk after being one month old, but at the tables of distinguished people, one and two years old. From that time, wine, which was imported in many qualities, superseded beer-drinking.

At the time of Henry VIII. wines from Gascony formed the chief beverage. Beer likewise remained in use, but the taste was for new beer very little hopped ;

¹ Leges Wallicæ, p. 174—"If a farmer hath no mead, he shall pay two casks of spiced ale, or four casks of common ale, for one cask of mead."

² Holinshed Descr. Brit. p. 94.

and at the royal table no beer older than five days was allowed to be offered.¹

There existed also some police inspection of breweries in the sixteenth century: the officers were called *ale conners*. It is also recorded how the English brewed their beer. They made a kind of extract of malt which they called *Graut*, which was very thick, and a kind of common hopped beer called *Ale*, which was very intoxicating, according to a description of the well-known Doctor Cardanus, who drank of it in England, and mentions it in his book "*De Sanit Tuenda*," iii. 88, as mentioned by Grässe. Celebrated was the beer of Hertford called *Kamna* in the Middle Ages, the old British *Koorow* in the county of Derby, and especially the Yorkshire ale.

There was also spiced beer, called *Braket*, made of ale, pepper, and honey, and much in favour with the common people. Another description was made of sugar, beer, spices, and bread; this was called *Ale-berry*.

In Italy beer, as Grässe says, seems to have been little in favour, although the Italians received it from Germany; and Arnoldus of Villanova speaks even of hopped beer from Einbeck; but one celebrated man² says they hated it so much that a heavy penalty banished it from the vaults of the wine-houses.

¹ Strutt. tome iii. pp. 72, 108.

² The jurist Jacob Menochi (1607), according to Grässe.

France also had her beer *Cerevisia*, and *brace* meant malt. The word *brasser*, as said before, is derived from the latter expression, and the former remained for a long time as *Cervoise*. Athenæmus speaks of two descriptions of beer used by the old Gauls, one with an admixture of honey and another without honey for the common people, called *Corma*, evidently the *Curmi* of the Egyptians. But it is impossible now to determine whether that name *Cerevisia* answers to either description.

The well-known edict of the Emperor Domitian, ordering the destruction of vines (92 aft. Chr.), necessarily gave a stimulus to beer-drinking in Gaul, and although that edict was abolished in 282 by the Emperor Probus, who gave permission to the Gauls to replant vines, they did not leave off brewing, and beer appears to have maintained its ground with wine. Thus, for instance, Charlmair in his "Capitulare de villis" gives order not to employ people who did not know how to make beer.

Beer even figured on the royal table, for else there would have been no reason for King Richard of England to present his father-in-law, King Charles VI. of France, with a silver beer-jug (*vaisseau à boire cervoise*).

Meanwhile wine-drinking increased so much in France, and beer-drinking so much diminished, that it probably became a beverage of luxury for the rich.

The brewers' guild, however, continued to exist in Paris in the thirteenth century, which may be concluded from a new charter given to it by Gilles Boileau in the year 1264.

Afterwards the consumption of beer seems to have increased again, for it appears from the *Journal de Paris*, edited under Charles VI. and VII., that (about 1428) the impost on beer produced two-thirds more than that on wine.

Something similar happened in 1689 in France, as the brewers appear to have used 80,000 measures of barley, besides wheat employed in brewing white beer.

In years of dearth the Government prohibited brewing altogether, and such was the case in 1415, 1482, 1693, 1709, and 1740. The statutes of the Parisian brewers, as contained in the "Livre des Metiers" of Etienne Boileau, are short, and treat chiefly of adulterations and the sale of beer. They were renewed in 1489, 1515, and 1630, confirmed in 1686, and received some additions in 1714.

In the year 1750 there were 40 breweries in Paris, with a yearly production of about 75,000 casks ; in 1782 they had receded to 23 in number, with a production of 26,000 casks. At the abolition of the guild, during the French Revolution, there were in Paris, and principally in the suburb St Marceaux, 78 brewers.

For becoming a master-brewer it had been obligatory to be apprenticed for five years, and for three years a companion, and to make a master proof afterwards. But the right of mastership and the liberty of brewing cost 2600 livres.¹

The material for making beer in France seems to have not been barley at all times. There is a charter of Charles the Bald, by which he allowed to the monks of St Denis ninety scheffel of spelt a year, *pour faire de la cervoise*. It appears also that beer was made of oats, and the statutes of 1264 determine explicitly that beer may only be made of barley, mixed grain (half rye, half wheat), and from the mixture used for feeding horses (dragees, vetches, lentils, &c., &c.)

In the sixteenth and seventeenth centuries the brewers of Picardy made their beer of half barley, half rye, and the Parisian brewers of three parts of barley and one part of oats. About the year 1600 they employed either pure barley or oats and rye, and to the latter they added either hops or the farina of hops. The beer, however, except the February and March brewings, would not keep even six months; they made small beer (*petite bière*) and strong or double beer, this latter being named *Queute double* in Picardy. To give the beer strength and flavour, they mixed it with pepper, resin, and berries; the Flanders brewers especially added

¹ Grässe, p. 24.

laurel, gentian, sageleaves, sageflowers, and lavender ; yet the beer of Cambray was celebrated for its superiority in the thirteenth century.

In the sixteenth century they also added ambergris, raspberries, &c., and as late as 1782 the brewers of Paris mixed one pound of coriander with a tun of twenty-five casks of beer. But that was no new proceeding, for the Germans drank no other than spiced beer during the first half of the Middle Ages, and the Councils of Worms (868) and of Treves (895) enjoined that such beer could not be allowed to penitents, except on Sundays.

BAVARIA.

BAVARIA had breweries as far back as the ninth century, and in 816 mention is made of a waggon-load of beer given in the place of a tax by the Church of Vochring.¹ The beer thus made was brown or red beer, and was brewed from barley, or, in more barren situations, from oats, and being brewed at high or warm fermentations, was an insipid beverage, and very apt to turn sour.

Of the year 1146 we have a statute of Otto, Bishop of Freising, giving "brewing rights" to the Abbey of Weihenstephan.²

The consumption of beer, notwithstanding its quality, seems to have attained considerable proportions; for the year 1293 having been one of scarcity, the Dukes Ludwig and Otto prohibited beer-brewing for one year.

There are also documents relating to a brewing-privilege given in 1286 by Duke Ludwig (the Rigorous) to the Hospital of the Holy Spirit.³

¹ Grässe, p. 77.

² Moshaum, p. 29; and after him May (Erlangen, 1870: Palm and Euke), p. 3.

³ Schlichthörle (München, 1844), vol. i. p. 79.

In the year 1370 Munich had three breweries, and among them one that in 1325 had become regal domain under the Emperor Ludwig.¹ Nuremberg also had breweries in the thirteenth century, and there existed a beer-tax in the city of the year 1299.²

The increase of the number of breweries and the enlarged consumption, necessitated certain police regulations, and we have one of the year 1363, instituting a commission of twelve citizens for supervising the brew-houses. The commissioners, or beer-conners, proceeded, however, in a peculiar way in fulfilling their office. They did not confine themselves to tasting the beer, or examining it as to its ingredients; they had to come to the brew-house in buckskin breeches, and a wooden bench was presented them, over which they spilled several measures of beer. They had then, with an hour-glass before them, to sit on the form for one full hour without moving. After sitting and tipping the hour prescribed, they rose simultaneously, and if the form stuck to their breeches so that they could not rise without lifting it the beer was found good, and of proper quality, while if the contrary took place, it was found too thin, and the brewer was mulcted in a penalty.

In these times the *beer-bell* was also instituted, which

¹ Moshaum (Ingolstadt, 1791), p. 28.

² Ibid., p. 28.

played a great part, for on its being tolled everybody had to leave the public-houses; it announced the closing hour as fixed by the police.

There exist various police regulations concerning breweries of the sixteenth century; and one of the year 1516 particularly orders that beer shall henceforth be brewed only and exclusively of barley, hops, and water;¹ and although those regulations remained for a long time, and in many instances a dead letter, those materials must to this day be used exclusively for brown beer in Bavaria, no others being legally admitted.

In the sixteenth century, when white beer was brewed from wheat in Bohemia, many people found it so much to their taste, that the Munich brewers also began brewing it; but the city authorities interfered, because they were of opinion that it was less healthy than brown beer, and furthermore, because they feared an increase in the price of bread, owing to so large a consumption of wheat. After many difficulties the authorities claimed the right of brewing white beer for the sovereign, and forthwith there arose a ducal white-beer brewhouse that exists to this day as the celebrated "Hofbrauhaus," and that brewery yielded such good profits, that in 1589 Duke Wilhelm V. erected also a brown-beer brewhouse.

¹ Moshaum, pp. 130, 131, 140.

The price of beer fixed by Government in consequence of a law of 1516, was settled from 1753 by the Privy Council, after a trial brewing in the ducal brewhouse, and calculated upon the average prices of barley, hops, and fuel in and for the entire country.¹

In the seventeenth century Bavarian beer was exported, but in the sixteenth century foreign beer was brought to Munich, as it is shown by a document in the Royal Record Office that authority was given to one Cornelius Gotwalt, on the 2nd March 1553, to send beer from Einbeck for the table of Duke Albrecht V., and such beer is also mentioned in an account of Court expenses of 1574.

That beer of Einbeck appears to have been imitated by the Munich brewers, and gave rise to the Munich "Bock," that was brewed exclusively by the state breweries, and sold at higher prices than all other descriptions of beer. "Bock," before 1793, was sold on Corpus Christi Day; afterwards alternately on Ascension Day and Whitsunday; and later, and to this day, on the 1st May.

The "Bock-cellar" at Munich is generally well known. There is an escutcheon on the wall, representing a buck (goat) upsetting a glass with his powerful horns; other bucks are drawn in charcoal on the walls. "Bock" is drunk out of "Bock-glasses" (with

¹ Deuringer, pp. 10, 11.

a buck on them), and there is often a little fighting for place. Some sit in the yard on empty barrels, and itinerant musicians play the "Bock-waltz." In former times a savage, froward buck, his grand horns adorned with garlands and ribbons, was led about Munich, to the honour of "the holy Bock," by some exhilarated student, who collected money for the saint's noble namesake. The "Bock-servant" had to make panegyrics and "Bock" speeches until he could do so no more; then another student took his place.

A similar, but somewhat milder, beer than "Bock" is being sold in the Jesuits' brewery, and from its milder character is called "Geiss" (she-goat). But another description of beer, quite as celebrated as "Bock," is the "Salvator" beer, which figures as a kind of forerunner to "Bock," and is sold during the first fortnight of April. It is brewed by the "Zacherl" brewery, and is also called "Zacherl-oil," or "godfather-beer." It was first brewed by the Paulinian monks in the reign of the Elector Maximilian I.; and at the beginning of this century, when the convent was abolished, the brewery was bought by Herr Zacherl, and is now the property of the brothers Schmederer.

The first glass of "Salvator" is drunk by the Burgo-master of Munich, who, according to old usage, should be on horseback. At certain hours the tap is closed, and no one can get another drop for that day. But

the good people of the Bavarian capital, who are *au courant* with the house regulations, provide themselves with a number of glasses beforehand ; so that long after the sale is closed they sit and drink, and listen and sing to the well-known melody of the "Salvator-waltz."

EXCISE-DUTY.

It is difficult to determine which of the German States first introduced Excise-taxes. It is certain, however, that there existed in the fourteenth century in Germany taxes on articles of consumption, such as beer, wine, spirits, &c., and from one authority it would seem that they were first introduced by the Elector of Brandenburg, Frederick II., in the year 1467, and that in 1472 such a tax was actually raised by the Elector Albrecht Achilles.

There is no doubt that such taxes were raised in Italy in the twelfth century by Frederic Barbarossa ; and in the year 1440 mention is made of a tax on drinkables in Saxony, whilst in Bavaria we find even in the fourteenth century imposts on liquor.¹

These taxes appear originally to have had no other purpose than to supply the personal needs of the sovereign, and were not granted by the "States" as a

¹ E. Pfeiffer "Die Staatseinnahmen" (Stuttgart and Leipzig, 1866), v. ii. p. 342.

legitimate obligation, but rather as a mark of goodwill towards the ruler. Sometimes they were refused or were acceded to after a good deal of bargaining; but they became a source of income which flowed so copiously, that the Bavarian dukes made unceasing addition to them, until they became by and by regular imposts on trade and industry, and, ever increasing, they never again disappeared from the Statute Book.

The phases the malt-tax has run through in Bavaria, and the bickerings to which it very frequently gave rise between the dukes and the "Estates," have been various and multitudinous. The year 1543, however, may be considered as the native year of the Bavarian malt-tax, when, in consequence of a transaction between the Dukes William and Ludwig with the "Estates," the latter undertook to raise the malt-duty themselves for the exchequer of the country; and from that year down to our days the tax on beer, in one form or another, has never again disappeared from the Statute Book, and has formed a rich addition to the sources of the Exchequer.

The first mode of raising revenue from beer, from 1572-1605, was on the quantity produced. In 1605 an experiment was tried with the compounding system, but first only with the nobility and clergy. After seven years, in 1612, a new system was introduced, which left it optional and not obligatory to pay the tax

on the quantity of malt as measured at the mill. This system again did not satisfy, and therefore in 1620 the compounding system was tried in towns and cities, but in such a way that the brewers' guild paid the entire composition, and divided it among the different brewers. That system also was put aside in 1635, and the tax on the actually produced quantities reintroduced, which lasted up to the year 1751, when again it was decided that the income should be raised on the quantity of malt at the mill.

The year 1753 brought another change in the law, which left to the choice of the brewers to pay either on the quantity of beer produced, or to compound with the Government.

In consequence of this law almost all the brewers made use of the right of compounding, and appear to have done very well by it. Not so the Exchequer. The revenue went on diminishing, and if a brewery increased its production it very rarely increased its "composition," whilst, with many, decreasing compositions became the order of the day. There appears also to have been a good deal of remissness in the management of this tax, and thus the disproportion between production and revenue became still greater, so that it was therefore deemed indispensable to find a remedy, and it was the law of 1806 that brought it for Bavaria.

By that law, and subsequent amendments to it, malt

made of wheat, rye, barley, and oats paid the tax by quantity and measurement as brought to the mill ; and no malt was excluded, whether it was used for brewing beer, distilling, or for the manufacture of vinegar or barm. The tax was five florins (8/4) a scheffel (100 scheffel = 76,469 imp. qts.) of sprinkled malt, and five florins fifty kreutzers (9/9) a scheffel of dry malt.

That law continued until 1868, when the tax was uniformly fixed for malt of every description, whether dry or sprinkled, at five florins twelve kreutzers (8s. 8d.) a scheffel ; and the law of 1868 gives, moreover, permission to persons using malt to crush it in their own localities under supervision of Government—which they could only do before in mills specially licensed and controlled for that purpose—and to use self-acting counters authorised by the Excise, and kept under Government seal.

These dispositions have given general satisfaction to the public, because brewers, distillers, &c., are not molested by supervision, as they have only to keep daily accounts of the quantities crushed as indicated by the counter ; and to the Government, because the supervision has become a much more simple operation, and cheaper, for the number of officers required by the Excise is less than heretofore. Moreover, the revenue has kept on steadily increasing, and is likely to do so still, as beer-drinking is on the increase in Bavaria, and beer

exportation by no means diminishing, notwithstanding the many new brewing-establishments lately sprung up almost everywhere on the Continent.

The following figures will show the state and result of Bavarian brewing from 1859-60 to the end of 1872 :—

YEAR.	QUANTITY OF MALT EMPLOYED.	QUANTITY OF BEER MADE.	REVENUE IN FLORINS (=1/8)
1859-60	1,539,577 scheffel	10,043,415 eimer	7,636,464 3
1860-61	1,376,296 „	7,934,157 „	6,846,180 21 3
1861-62	1,622,907 „	10,672,578 „	8,086,555 43
1862-63	1,803,517 „	11,878,698 „	9,089,430 51
1863-64	1,897,734 „	12,494,133 „	9,450,295 29 2
1864-65	1,986,915 „	12,935,230 „	9,905,265 3 1
1865-66	2,082,910 „	13,667,744 „	10,493,493 53

The population of Bavaria (the Rhenish palatinate, paying a composition-duty not included) was, according to the census of 3d December 1867, 4,198,355 souls.

The highest production up to this period is that of the year 1865-66, with 13,667,744 eimer ; or, computed at 60 maas an eimer, making 820,064,640 maas. This may be taken as the average consumption ; for the quantities produced are computed only at $6\frac{1}{2}$ eimer a scheffel all round, whilst there is in reality often more beer made per scheffel.

The exportation during the five years 1861-66, as shown by the sums paid as drawback, amounted to 1,528,659 eimer 10 maas, making an average quantity

of 305,771 eimer, or 18,046,260 maas a year, and leaving a clear consumption for 1865-66 of 802,018,380 maas.

This shows a consumption of 191 maas per year and per head in Bavaria, and fixes her rank among the foremost of beer-drinking nations.

The year 1871 shows a decline against 1865-66. Quantity of malt used, 1,934,448 scheffel; beer made, 13,457,326 eimer; revenue, 9,617,126 12 1 florins; population (exclusive of the Rhenish palatinate), 4,248,415 souls according to the census of 1st December 1871, which, assuming the export as in the years 1861-66, gives 186 maas beer consumed per head.¹

The year 1872, which is also the year of the introduction of the decimal system in Bavaria (as well as in the whole German Empire), shows an increase over the preceding year, inasmuch as the quantity of malt taxed was 4,448,555 hectolitres (222,357 hectol. = 100 Bavarian scheffel = 76,469 imp. qrs.) or 2,000,636 scheffel.

Quantity produced 10,901,659 hectol. beer (64,1418 hectol. = 100 eimer = 1411,734 imp. gallons), or 16,996,175 eimer.

¹ 1 eimer = 60 mass.
 100 „ = 64·1418 hectolitres.
 = 1411·734 imp. gallons.

Gross Revenue,	10,182,003 florins
Drawback on Beer exported } and Equalisation duty, ¹ }	390,767 „
leaves	<hr/> 9,791,239 florins

It will be seen, however, that although the consumption has from various reasons considerably increased, the beer was not brewed so strong as in former years, for the quantity consumed per head in 1872 was nearly 231 maas, or about 20% increase over 1865-66; and in calculating the quantity brewed in 1872 with the quantity brewed in 1865-66 of 2,082,910 scheffel, the quantity produced in 1872 should not have been more than 13,127,870 eimer. But the actual quantity brewed being 16,996,175 eimer, and deducting the proportional quantity for 390,047 florins, for bonifications 652,278 eimer, leaves 16,343,897 eimer, which shows a decrease in strength of 24.50%.

¹ *Equalisation duty*—the tax on beer raised by one German state on beer sent across the frontier from another, when the two states have no community of Excise taxation.

UNITED KINGDOM.

BEER must have been known for a long time in England, for we find in its history various ale-festivals, ascending to very remote periods, and we read notably of bride-ales, clerk-ales, give-ales, lamb-ales, leet-ales, midsummer-ales, Scot-ales, Whitsun-ales, &c.

The most remarkable appear to have been Whitsun-ale in Oxfordshire, and further, Lamb-ale and Church-ale.¹

For the celebration of *Whitsun-ale* it was necessary to elect a lord and lady of the ale, who dressed as fantastically as possible for their office.

The locality for celebrating the festivity was generally a large, empty barn, where seats were arranged for the company. Then arrived the lads and lasses of the village for feasting and dancing, and the young men offered ribbons and other finery to their sweethearts. Then came the beer-lord and beer-lady, accompanied by their grand chamberlain, sword-bearer, purse-bearer, and train-bearer, every one wearing the insignia of his office. Generally there was also a page bearing the train of the beer-lady, and a clown in particoloured

¹ Grässe, p. 132.

dress, who enlivened the company by gambolling and punning. The music, consisting of a fife and drum, played dance-tunes. This feast originated with the Norman kings, and was then called *drink-lean*.

The *Lamb-ale* was a feast celebrated at Kidlington in Oxfordshire. On Monday after Whitsuntide a fat lamb was let loose, and the girls of the village, their hands tied together, had to run after it, and she who caught it with her teeth was named *Lady of the lamb*. Then the lamb, being killed, was carried entire on a pole by the *lady* and her companions to the village green, where two morris-dances were performed, one by males and one by females, and the rest of the day was spent in eating, drinking, and dancing. The next day the lamb was served on the festive board presided over by the Lady of the lamb and her companions, and then and there was consumed, with musical accompaniments.¹

Church-ale was so called from being used at the feasts celebrated in commemoration of the consecration of a church. The congregation elected two heralds, who had to go round and make collections in the village. With the amount thus received they bought pastry and drinkables, which were consumed at Whitsuntide.

At some places they bought malt from parish funds

¹ Brand. Pop. Antiquities (London, 1841), tome i. p. 157.

and voluntary contributions, and made a quantity of strong beer of it, that was sold partly in the church and partly at other places for the benefit of the church.¹

Some similar festival was held at Eastbourne in Sussex, on the 22nd of May every year, and was called *Tops and Ale*.²

From all this it results that beer must have been known for many centuries in England, and it must also have been a very popular beverage, for else it could not have become matter for a comic poem³ by an anonymous poet in the first part of the last century, nor would the Oxford students have made a poem in its praise,⁴ and would not have expressed the idea of intoxication by the word "*alecie*." It would appear, however, that ale, which certainly was the *ale* of the ancient Britons, was not brewed with hops until about the year 1730, and from about the same period dates also the invention of porter.⁵

It was invented by a brewer named Harwood, and being mostly consumed by porters, obtained therefrom the name of porter. It was made of two kinds, single

¹ Brand, *Pop. Antiquities*, tome i. p. 159, and Grässe, p. 134.

² Hone, *Every-day Book* (London, 1866), tome ii. p. 347.

³ *The Beeriad, or Progress of Drink* (Gosport, 1736).

⁴ *The Oxford Sausage ; or, Select poetical pieces written by the most celebrated wits of Oxford* (Oxford, 1772), pp. 55, 59.

⁵ Grässe, p. 97.

and double porter (brown stout), the latter containing of course more malt than the former.

There are other beers mentioned that appear to have been in some reputation ; such are, ginger-beer,¹ elder-berry-beer, a stomachical beer of wormwood called *Purl*, a kind of white porter called *Old Hock*, from its similarity in appearance with such wine, made from amber-coloured malt, cane-sugar and hops, and very often employed for freshening up weak and stale porter.

Then there were the tawny-beer and amber-beer, the latter of a pale-yellow amber colour, and not very strong ; the table-beer, containing Spanish juice, and the pale Reading-beer made of pale barley-malt, with additions of aromatic herbs.

In modern times England has taken the foremost place among all beer-producing and beer-exporting countries, and down to a very recent period no Continental brewer could make beer that stood exportation so well to all climes and all countries as English brewers have succeeded in doing.

It is a well-known fact that the breweries of almost the entire civilised world are now working upon two systems of brewing—the English and the Bavarian. The former, with its high or upper fermentation, pro-

¹ Ginger-beer is largely consumed now, and is made of ginger, sugar, and water, with a little fixed air to make it fizz.

ducing fine-flavoured, full-bodied, vinous beers ; while the beers produced by the latter, with its inner or low fermentation, are milder, and, as a rule, thicker. Whatever may be the merits or demerits of either the one or the other of these systems, it must in justice be said the Bavarian mode of brewing, and its Austrian and Scandinavian progeny, have not hitherto produced many beers that will stand the vicissitudes of clime and time, in bottles or in casks, such as are daily sent out to every part of the world by the great British brewers, to the satisfaction of people in distant regions, whose climates in many cases will not admit of brewing being carried on there, and who would otherwise have to forego the use and benefit of nourishing and refreshing beer.

The revenue raised in England is by a tax on malt, and amounts to £1, 1s. 8d. a quarter.¹ The mode of raising it is by the volume of the steeped grains, making allowance for the increase of bulk.

The grains have to remain under water in the steeping-cisterns for at least forty hours, and the water being drained off, the Excise officers have to gauge the volume of the swelled grains. The quantity thus found is then, if it be barley, multiplied by 0·815, and the result is the quantity liable to taxation.

¹ Brewers also pay a licence-charge of threepence for every barrel of beer made, as a compensation for the hop-duty formerly raised.

Supposing, therefore, the volume thus gauged shows a quantity of 100 quarters, the tax raised would not be of 100 quarters, but of 100×0.815 , and the result is $= 81\frac{1}{2}$ quarters. The principle of this calculation is the assumption that 100 particles of dry barley of average quality increase by steeping to 122.69, and on the same principle the reduction on rye is 30 %.

This system of taxation is certainly a rational and just one, and no doubt offers many advantages; but its disadvantages are also manifest, for it necessitates severe and harassing supervision, and requires a numerous and expensive staff of officials. It is true, the supervision is somewhat simplified and facilitated, and less onerous to brewers, because the malt-houses are separate establishments. The brewing establishments are not, however, beyond severe control for preventing frauds in the use of malt that may not have paid the tax, and for preventing the employment of substitutes for malt other than colonial sugar.

I find the number of barrels of beer brewed in the United Kingdom, calculated according to the charge for licence-duty from 1856 to 1869, ending with the 31st of March in each year,¹ to have been—

¹ Return of the Inland Revenue, as reported in *Brewers' Journal* for 1870, p. 105.

In 1857	...	17,984,773 barrels	
„ 1858	...	18,166,635	„
„ 1859	...	19,152,564	„
„ 1860	...	20,340,096	„
„ 1861	...	19,534,460	„
„ 1862	...	19,939,313	„
„ 1863	...	20,081,408	„
„ 1864	...	21,360,461	„
„ 1865	...	22,546,889	„
„ 1866	...	25,388,604	„
„ 1867	...	25,206,665	„
„ 1868	...	24,302,841	„
„ 1869	...	24,542,664	„

Increase in thirteen years, 36·46%.

The number of barrels of beer actually exported from the United Kingdom upon drawback in each year, ending with March 31st, from 1856 to 1869, was—

In 1857	...	423,180 barrels	
„ 1858	...	475,146	„
„ 1859	...	562,793	„
„ 1860	...	631,363	„
„ 1861	...	509,030	„
„ 1862	...	429,323	„
„ 1863	...	485,597	„
„ 1864	...	537,121	„
„ 1865	...	530,305	„
„ 1866	...	610,670	„

In 1867	...	588,296	barrels	
„ 1868	...	557,566	„	
„ 1869	...	521,272	„	

The average exportation during thirteen years was 527,820 barrels, showing an increase in 1869 against 1857 of 23·18 %, although there is a considerable falling off against the years 1859, 1860, 1864, and 1866-68.

The quantity of malt and sugar employed in brewing in the financial year ending 31st March 1872, as is shown by a return presented to Parliament,¹ was—

Malt made from barley 2s. 7d. per bushel,		
and 5 %/, 52,015,622 bushels.		
„ bere or bigg, 2s.		
per bushel, and 5 %/.	45,388	„
Sugar, 260,610 cwt. @		
7s. 6d., in addition		
to Customs-duty		97,728 14 3
Sugar, 260,610 cwt.		
210 lbs. = 1 quarter		
of malt	1,111,936	„
	<hr/>	<hr/>
Bushels, 53,172,946		£7,157,112 13 9½

The exportations, as collected from the same source were—

In 1871 April	59,661	barrels,	valued at	£221,329
May	43,311	„	„	171,731
June	32,885	„	„	130,345
July	29,303	„	„	110,220

¹ Return of the Inland Revenue, as reported in *Brewers' Journal* for 1872, p. 308.

In 1871	August	27,148 barrels, valued at	£111,787
	September	27,255 „ „	118,799
	October	24,651 „ „	109,889
	November	37,962 „ „	156,569
	December	60,032 „ „	218,160
In 1872	January	57,817 „ „	204,967
	February	64,514 „ „	228,609
	March	57,202 „ „	214,404
Total, 521,741 barrels			£1,996,809

which leaves exportation about what it was in 1869.

Mr Leone Levi states that the following sums were received by the Revenue for malt used in the United Kingdom¹—

In 1861	...	£5,065,823
„ 1862	...	6,176,683
„ 1863	...	5,567,847
„ 1864	...	6,499,104
„ 1865	...	6,581,603
„ 1866	...	6,801,731
„ 1867	...	6,904,209
„ 1868	...	6,575,263
„ 1869	...	6,724,256
„ 1870	...	6,483,612

and in comparing these figures with the amount raised for malt and sugar in 1872, viz., £7,157,112, we find

¹ “The Liquor Trades,” by Leone Levi (London : William Ridgway, 1871), p. 22.

an increase in 1872 over 1861 of 41·28 %, and an increase over 1867 of 3·66 %.

Amount of barrels produced in the year ending September 30th, 1872, computed from a return of licence-duty received ¹—£425,811, 0s. 6d. at 3d. per barrel = 34,064,882 barrels.

The quantity of barrels exported, as per monthly returns was ²—

In 1871	October	24,651 barrels
	November	37,962 „
	December	60,032 „
In 1872	January	57,817 „
	February	64,514 „
	March	57,202 „
	April	46,204 „
	May	58,478 „
	June	30,637 „
	July	28,642 „
	August	25,086 „
	September	26,849 „

Total, 518,074 barrels.

Amount of barrels produced in the year, as per

computation above . . .	34,064,882
Yearly export deducted . . .	518,074

Leaves 33,546,808 barrels.

¹ Report in the *Brewers' Journal*, 1873, p. 141.

² Ibid., Monthly Custom-house Returns.

The population of the United Kingdom, as taken at the last census, was 31,817,108 souls, and this makes the consumption 37,957 gallons, or 172·45 litres per head.

Comparing the relative quantities produced, Bavaria from her 4,448,555 hectolitres of malt (100 hectol. = 34,390 imperial quarters = 1,529,858 quarters), would have produced, according to the present system holding in England, 7,840,731 barrels = 66·45 gallons, or 301·90 litres per head. This shows the average gravity of worts in Bavaria to be 22·25 % higher than in the United Kingdom.

AUSTRIA.

BEER was known for many centuries in the Austrian Empire, but does not appear to have reached a large consumption, owing probably to its indifferent quality.

Wheat (white) beer was certainly made in Bohemia in the sixteenth century, and many people, especially of the higher classes, relished it much; and it was in imitation of the Bohemian brewers that the Munich brewers made wheat beer then.¹

The Vienna beer cannot have been in any very great favour in that city, for we find the importation in that city to amount

In 1785 to 376,000 eimer

„ 1802 „ 460,000 „

„ 1840 „ 600,000 „

(100 eimer = 1323·729 imperial gallons.)²

The beer imported was to a large extent from Bavarian breweries; but since 1840 a great revolution in Austrian brewing has been brought about, chiefly by the celebrated Anton Dreher, from the date of whose appearance a new era began for Austrian beers.

¹ May, p. 6.

² Grässe, p. 91.

Dreher took possession of the brewery at Klein-Schwechat on the 1st May 1836 ; the brewery had been in operation since 1832, but with very limited production.

In the first year Dreher produced there

			26,560	eimer of beer
In 1860	296,300	„ „
„ 1866	480,670	„ „
„ 1871	680,190	„ „

The increase in all Austria has been important during the last fifteen years, and the following statistical figures, taken from a very useful publication by Mr Gustav Noback, will show its extent in the different countries composing the Empire.¹

BOHEMIA

had in 1860, 1040 breweries ; production, 4,424,744 eimer.

„ 1869, 988 „ „ 5,650,085 „

Increase 28 %.

LOWER AUSTRIA

had in 1860, 138 breweries ; production, 2,561,491 eimer.

„ 1869, 121 „ „ 3,435,953 „

Increase 34 %.

¹ Die Bierbrauereien in Oesterreich-Ungarn (Prag, 1871, Calve'sche Universitäts-Buchhandlung).

UPPER AUSTRIA

had in 1860, 282 breweries ; production, 1,309,917 eimer.
 „ 1869, 283 „ „ 949,366 „

SALZBURG

had in 1860, 75 breweries ; production, 316,621 eimer.
 „ 1869, 70 „ „ 320,176 „

MORAVIA

had in 1860, 301 breweries ; production, 1,043,476 eimer.
 „ 1869, 257 „ „ 1,463,310 „
 Increase 40·22 %.

SILESIA

had in 1860, 84 breweries ; production, 229,946 eimer.
 „ 1869, 67 „ „ 351,483 „
 Increase 53 %.

GALLICIA

had in 1860, 315 breweries ; production, 752,546 eimer.
 „ 1869, 260 „ „ 796,152 „

BUKOWINA

had in 1860, 20 breweries ; production, 48,132 eimer.
 „ 1869, 16 „ „ 50,994 „

STIRIA

had in 1860, 137 breweries ; production, 530,076 eimer.
 „ 1869, 87 „ „ 552,311 „

AUSTRIA.

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CARINTHIA

had in 1860, 223 breweries ; production, 210,112 eimer.

„ 1869, 163 „ „ 143,278 „

Decrease 31·80 %.

CARNIOLA

had in 1860, 28 breweries ; production, 41,577 eimer.

„ 1869, 17 „ „ 57,123 „

Increase 37·38 %.

COAST COUNTRY

had in 1860, 5 breweries ; production, 5,815 eimer.

„ 1869, 3 „ „ 2,692 „

TIROL AND VORARLBERG

had in 1860, 146 breweries ; production, 291,270 eimer.

„ 1869, 139 „ „ 211,209 „

HUNGARY

had in 1860, 368 breweries ; production, 889,119 eimer.

„ 1869, 208 „ „ 861,084 „

SIEBENBURGEN

had in 1860, 90 breweries ; production, 88,228 eimer.

„ 1869, 83 „ „ 95,675 „

CROATIA AND SCLAVONIA

had in 1860, 26 breweries ; production, 67,239 eimer.

„ 1869, 27 „ „ 32,773 „

MILITARY FRONTIERS OF SERVIA AND BANAT

had in 1860, 16 breweries ; production, 9,039 eimer.

„ 1869, 15 „ „ 39,613 „

CROATISH-SCLAVONISH MILITARY FRONTIERS

had in 1860, 21 breweries ; production, 14,749 eimer.

„ 1869, 16 „ „ 11,541 „

The quantity produced proportionately to the number of population in 1869 was as follows :—

In Salzburg	2090 eimer per head	
„ Lower Austria	1726	„
„ Upper Austria	1288	„
„ Bohemia	1130	„
„ Moravia	0725	„
„ Silesia	0684	„
„ Stiria	0485	„
„ Carinthia	0424	„
„ Tirol and Vorarlberg .	0238	„
„ Gallicia	0146	„
„ Carniola	0122	„
„ Bukowina	0099	„
„ Military Frontiers of } Servia and Banat }	0089	„
„ Hungary and Siebenburgen	0071	„
„ Croatia and Slavonia .	0032	„
„ Croatian and Slavonish } Military Frontiers }	0015	„
„ Coast Country	0004	„

The total quantities of production in 1860, 1869,

and in 1872, as officially published, that is to say, always from the 1st of September of the foregoing year to the end of August of the year named (thus the year 1860 commences on the 1st September 1859, the year 1869 on the 1st September 1868, and the year 1872 from the 1st September 1871) are :—

	1860.	1869.	1872.
Lower Austria . .	2,561,491	3,435,953	4,736,653
Upper Austria . .	1,039,917	949,366	1,382,567
Salzburg	316,621	320,176	389,532
Bohemia	4,424,744	5,650,085	7,815,816
Moravia	1,043,476	1,463,310	1,848,434
Silesia	229,946	351,483	453,122
Gallicia	752,546	796,152	861,273
Bukowina	48,132	50,994	72,773
Stiria	530,076	552,311	943,288
Carinthia	210,112	143,278	185,759
Carniola	41,577	57,123	88,440
Coast Country . .	5,815	2,692	2,780
Tirol and Vorarl- berg	291,270	211,209	263,329
Hungary and Sie- benburgen	977,341	956,759	1,136,306
Croatia and Scla- vonia	67,239	32,773	47,290
Military Frontiers, Servian Banat	47,352	39,613	
Croatish-Scla- vonish Military Frontiers	14,749	11,541	
	12,602,404	15,024,818	20,227,362
Increase		19·22 %	34·63 %

Total increase from 1860 53·85 %.

The taxes are paid by the quantity, and the saccharometric strength of the worts, in accordance with the law of 25th April 1869. That law determines that every eimer of $42\frac{1}{2}$ maas

100 eimer = 1245·863 imp. gallons,

100 „ = 56·6 hectolitres,

and at the temperature of 14 degrees Reaumur shall pay for every degree of sugar extract as indicated by the saccharometer, 10 neukreuzer (1 florin = 100 neukreuzers) with an additional charge for the city of Vienna of fl. $1\frac{8}{10}$ neukreuzer per eimer, and for the cities of Prag, Brünn, Linz, Graz, Laibach, Lemberg, and Cracow, of $4\frac{2}{10}$ neukreuzer for every saccharometric degree.

The exportation of beer amounted in 1869 to 403,550 centners, valued at 2,028,810 florins.¹ The entire importation for 1869 is only valued at fl. 56,278. The exportation in 1870-71 is 394,750 centners, valued at fl. 2,001,340. The exportation in 1871-72 is 328,513 centners, valued at fl. 1,738,345.

The exportation is consequently diminishing. The importation in 1870-71 is 6,036 centners, valued at

¹ These centner are zollcentner at 100 lbs., and one eimer of $42\frac{1}{2}$ Austrian maas is assumed to weigh 120 lbs. Austrian, or 134·4 lbs. zollpounds. (100 zoll lbs. = 110,231 lbs. Avoirdupois.

fl. 48,572. The importation in 1871-72 is 7,239 centners, valued at fl. 55,412. The population of the Empire, according to the last census, is 35,644,858 inhabitants, which shows a consumption of 24·2 maas = 34·25 litres per head.

PRUSSIA AND NORTH GERMANY.

IN these countries, as indeed all over Northern Europe, beer has been in common use since the beginning of the Middle Ages ; but it would appear that it was to a great extent *white* beer that was the favourite beverage.

The first German book on beer extant is by Heinrich Knaust, Imperial poet-laureate and doctor *utriusque juris*. It was published in 1575,¹ and contains a very instructive description of the different kinds of beer which he tasted during many years of travel. He appears to have been both amateur and connoisseur of beer, and so far the relation of his experience is of great interest.

The white beer of Hambro' in the 16th century he declares as the queen of wheat beers. It tasted sweet, with a vinous after-taste. It was for that reason the Cardinal Raimundus of Rome, being at Hambro' as papal legate, and having tasted their beer, exclaimed : "*O quam libenter esses vinum !*" He mentions about fifty descriptions of white beer, of which he had opportunities to drink in different towns, and gives the char-

¹ Erfurt Georgium Bawman, in 12mo.

acteristics of every one of them. He thus mentions English white beer, much drunk in the Netherlands, Denmark, Sweden, and Prussia, which he drank at Dantzic; he seems to have liked it, and says he then recovered his health by it.

He also speaks in high terms of the Polish wheat beers, and says they have a pleasant vinous taste, and are well adapted for quenching the thirst. He likewise mentions the beer of Prague as agreeable to drink, and others of very curious names and peculiarities.

The queen of red or brown beer he declares that of Dantzic, of which he makes a high eulogium. It was a strong beer, thick as syrup, and was also largely consumed in Yorkshire in England, and especially at Leeds and Sheffield, where it was known as spruce beer or black beer.

He then gives a list of more than fifty descriptions of brown beers, which he tasted in different towns, which generally bore most eccentric names, and to which he ascribes corresponding properties.

From all this it results that in the learned doctor's times the use of beer had largely spread in North Germany, as well as in the South. Of the beer of Einbeck, it is notoriously well known that it was much liked by Dr Martin Luther, who was an amateur of beer. It was for that reason, that the Duke of Bruns-

wick (Erich), himself a Papist, made him an offer of a bottle of such beer, because he had so well stood the trial at the Diet at Worms.

In the first quarter of the 18th century we find the King of Prussia, Frederic William I., a great amateur of beer, and in his palaces at Berlin, Potsdam, and Wusterhausen, he gave evening parties, which became celebrated as "tobacco colleges."

"At these assemblages," says Grässe, "no one had permission to appear without invitation from the king ; they consisted of not more than four to eight persons. The king himself smoked, and every one of the guests had a right to do the same. For that purpose a pipe was put before every one, and the narcotic weed stood on the table in small plaited baskets. Some copper basins, with glimmering turf for lighting the pipes, were also on the table. Then a white jug of beer and a glass were put before every one of the guests, and the servants had to leave the room, and durst not come in again until the king called for them. The company remained generally for three or four hours together, and the conversation turned in a great measure on historical narrations and philosophical considerations of the political conjunctures of the time ; it was generally serious and instructive. Jestings, if it did occur, was more the exception than the rule. One consequence of those evening gatherings was, however, that it reintro-

duced beer-drinking in high society, which had fallen into disuse by reason of wine-drinking."

From that time downwards beer-drinking has made steady but moderate progress in Prussia, and in the year 1858 we find there 7967 public breweries and 2444 breweries for private use. The taxes they paid together were 1,290,241 thalers (1 thaler = 2s. 11d.)

It appears that the use of ardent liquor was so general among the people, that its displacement by beer was slow; but in the budgets for 1862-66 the tax computed amounted already to 1,830,000 thaler.¹

The amount of the tax is certainly not a high one, for it is only 20 silbergroschen (two-thirds of a thaler) for every 100 lbs. of crushed malt as it is put into the mash-tun, or about 70 % lower than in Bavaria.

The year 1869 showed an increase in brewing, for the quantity mashed, as furnished by the official tables, was 3,657,076 centners (1 centner = 100 lbs., or 110,231 lbs. Avoirdupois), and the taxes raised amounted to 2,438,051 thalers. But this included the newly acquired provinces, which separately employed the following quantities:—

¹ Dr Ludwig v. Rönne (Leipzig, 1863), v. ii. p. 856, Eduard Pfeiffer, Stuttgart and Leipzig, 1866, p. 417.

Hessen-Nassau, malt	268,468 centners;	tax	190,979 thal.
Hanover	„ 166,614 „	„	111,076 „
Schleswig-Holstein	100,315 „	„	66,877 „
	<hr/>		<hr/>

Together, malt 553,397 centners; tax 368,932 thal.

Gross amnt., malt	3,657,076 cent.	;	tax	2,438,051 thal.
New provinces } deducted	553,397 „	„	368,932 „	
	<hr/>		<hr/>	

Leaving, malt 3,103,679 cent. ; tax 2,069,119 thal.

There is consequently an increase over 1862-66 of 13·06 %. The consumption per head in the entire monarchy amounts to 22·81 quarts (100 imperial gallons = 396·798 Prussian quarts).

The year 1871 brought 3,851,446 thalers for taxes on beer into the Prussian Exchequer, and the year 1872, 4,509,701 thalers. But the increase of 1872 over 1871 must be reduced by about 180,000 thalers, as Hohenzollern and the entire Grand-Duchy of Hessen are included in 1872, while only Upper Hessen is included in 1871, and the rest of the Grand-Duchy and the Principality of Hohenzollern were omitted. The increase of 1872 over 1871 will thus be about 459,000 thalers, and represents 688,500 centners of malt, or 103,000,000 quarts of beer, which proves an increase of consumption of over 3 quarts a head, or 13·15 % over 1869.

The amount of tax per head in 1871 makes 3 sgr. 11 pf.

„ „ „ 1872 „ 4 „ 5 „

(1 thaler = 30 silbergroschen,

1 silbergroschen = 12 pfennige),

and this latter amount represents a computed consumption of 33 quarts for every inhabitant. There is consequently an increase of consumption over 1869 of 10·19 quarts, and altogether over 1862-66 of 23·25 %.

The drawback for beer exported in 1872 amounted to 20,686 thalers (against 18,346 thalers in 1871), and the Equalisation-duty of beer imported (chiefly from Bavaria) amounted to 228,848 thalers. That duty amounts to $\frac{1}{4}$ thaler per centner on beer from South Germany, and to $\frac{2}{3}$ thaler on foreign beer.

The duty levied in Prussia and the former North German Confederation, including also the entire Grand-Duchy of Hessen-Darmstadt, and the Principality of Hohenzollern, as fixed by the law of 1872, is—

For every centner (1 centner = 100 lbs.) of grains,
rice, and green starch, containing at least 30 %
water, $\frac{2}{3}$ thaler

For every centner of starch, . . . 1 „

„ „ sugar of every description $1\frac{1}{3}$ „

„ „ syrup „ „ 1 „

(And for succedaneum not specified,

every centner $1\frac{1}{3}$ „

with authority to the Council to modify the amount of this last tax in the case of the lower brewing equivalent, according to a corresponding scale regulated by the materials employed.

Brewing in common cauldrons for house consumption was allowed under the old law in North Germany, and that permission has not been suppressed by the new one, probably owing to the reason that such practice is generally prevalent in low and marshy parts of the country where the water is bad and unhealthy. Brewing is consequently allowed for house use for every family not exceeding ten persons over fourteen years of age.

In the year 1870 the number of permits for house-brewing issued were—

Schleswig-Holstein	10,777 permits for	53,750 persons
East Prussia	4,434 „	27,447 „
Mecklenburg	6,061 „	24,492 „
Pomerania	3,280 „	15,992 „
Hanover	1,192 „	7,677 „

WÜRTEMBERG.

THIS is one of those countries where, notwithstanding a large wine-crop, the consumption of beer has made much progress.

The tax is raised on crushed malt, and amounts since 1st July 1871 to 2 florins 5 kreutzers (1 fl. = 60 kr., or 1s. 8d.) a centner (1 centner = 110,231 lbs. Avoirdupois) ; in Prussia and North Germany it is fl. 1, 10 kr. a centner, and in Bavaria it is computed at fl. 2, 55 kr. for the same weight.

The tax raised in the financial year ending the 1st July 1872 amounted to fl. 2,917,035·52 kreutzers.

Equalisation-duty on beer	}	21,306·43	„
imported			

fl. 2,938,342·35 kreutzers.

Less drawback on beer	}	64,611·59	„
exported			

Net income fl. 2,873,730·36 kreutzers.

Quantity produced, 1,121,036 eimer, computed at 5 simri per eimer all round (1 simri = 22·1533 litres ; 1 eimer = 64·6924 litres and $\frac{11}{10}$ ths.), making the consumption 164·71 litres per head.

The computation of former periods is as follows :—

1845–52, average production, 416,531 eimer; consumption per head, 70·56 litres.

1852–58, average production, 427,718 eimer; consumption per head, 73·50 litres.

1858–65, average production, 647,512 eimer; consumption per head, 101·72 litres.

1865–71, average production, 908,129 eimer; consumption per head, 149·94 litres.

There is consequently an increase of consumption amounting to 133 % in 28 years.

Population, according to the last census, 1,818,541 souls.

GRAND-DUCHY OF BADEN.

THIS is likewise a large wine-producing country, and beer-drinking has but slowly crept into the habits of the population. It has, notwithstanding, made very remarkable progress.

The tax is raised on the contents of the coppers, and amounts to $11\frac{2}{3}$ florins (1 fl. = 1s. 8d.) for every 100 maas, or 150 litres, gauged in the coppers. Or, as it amounts to the same thing, 100 maas, or 150 litres, of beer, when completed, pay fl. 18, 13 kr., for 100 maas of water leave 64 maas of beer at fl. 11, 40 kr.

The amount thus raised in Baden was :—

In the year 1862	fl. 480,721 43 kr.	395,937·83 hectol.
„ 1863	„ 496,904	408,852·61 „
„ 1864	„ 543,064 49 „	446,833·73 „
„ 1865	„ 616,720 54 „	507,437·96 „
„ 1866	„ 661,048 42 „	543,910·87 „
„ 1867	„ 570,622 30 „	469,508·19 „
„ 1868	„ 739,346	608,333·89 „
„ 1869	„ 822,687 36 „	676,907·36 „
„ 1870	„ 893,448	735,129·01 „
„ 1871	„ 990,391 7 „	814,893·80 „

Consequently the consumption has increased 106 % in

ten years ; and it is understood that the revenue for the year 1872, of which the tables are not completed, will considerably exceed a million of florins.

The number of inhabitants, according to the last census, being 1,461,428 souls, the results show a consumption of close upon 56 litres per head.

SWEDEN AND NORWAY.

It would be of immense interest to have correct official data of the breweries in these countries ; for the consumption of beer has not only increased there lately, but even its exportation, especially from Norway, is beginning to tell, and there is reason to suppose that much of the so-called Bavarian beer which we see from time to time more or less favourably commented upon in reports coming to England from abroad, is no other than of Scandinavian production.

There are no official records published, however, and it is almost astonishing with how much reticence the public is kept out of what no doubt is considered the secrets of the brewing "mystery."

Months ago we were promised an official statement of the Swedish brewing-trade through the medium of a private friend ; and although we have been repeatedly led to expect its arrival up to this time, we must state it with regret, that up to the moment of penning these lines, that promise has not been fulfilled.

We shall therefore quote from Grässe what little information he could get by private means regarding the

Norway breweries, and must premise by stating that exact figures are the more difficult to get at, as brewing for private use in Norway is entirely free from any tax.

It appears then,¹ that there is much private brewing carried on at the farmyards in the "Chapter" of Bergen (especially in Hardanger, Sogn, and the countries of Vors or Worsgeleien), in Nordland and the inner mountain-dales, likewise in several parts of the "Chapter" of Drontheim, as well as in those countries that lie at some distance from the common roads and water-ways.

The brewings usually take place at Christmas-time, at weddings and funerals, and of weak beer for hay-making and harvest-time when the cattle are far away on the Alps, and there is no sweet milk to be had in the lowlands.

There are besides professional breweries in Norway, which brew beer after the Bavarian fashion of low fermentations. "They put it on a par," says Grässe's informant, "with the best Bavarian beer, but wrongly so; it tastes too much of the pitch of the tun (cask), has a disagreeable after-taste and too much alcohol, so that it readily causes congestions, and it is very strong."

There were in 1870-71, 42 working malting establishments in connection with 40 trade breweries. What quantity of beer they produced remains unknown, as the brewers keep this a secret.

¹ Grässe, p. 102.

During that period the entire quantity of malt made by those (so-called Bavarian) breweries amounted to 125,566 tons of barley (100 tons = 47,844 imperial quarters and 1 ton of 190 lbs. = 147 lbs. of malt; 100 lbs. = 110,231 English lbs. Avoirdupois).

The assumption is, that 1 lb. of malt gives 2 to $2\frac{3}{4}$ bottles, or 2 potter (1 pott = .096,529 litres—plur. potter) (Norway maas); consequently 1 ton of barley, or 147 lbs. of malt, gives 300 to 333 bottles of beer. The total production was 36,469,800 bottles (at $\frac{3}{4}$ maas per bottle).

There is also a good deal of after-beer, or “small beer,” made, and it is calculated that 1 ton of malt gives 300 maas Bavarian beer, and 375 maas of after-beer.

The exportation amounted in 1870 to 960,476 potter—1 pott of water = $1\frac{1}{4}$ bottles, or 1 kilogramme; 1 litre = 1.036 Norw. potter—and of these there went—

To Sweden	1,688
„ Denmark	1,945
„ Iceland, and the Faroe Isles	2,520
„ Schleswig-Holstein	12,363
„ Hambro' (for China)	486,947
„ Holland	3,562
„ Ireland	186,607
„ Spain	2,318
„ Italy	150

To Africa	1,350
„ Australia	4,680
„ La Plata	92,356
„ the Brazils	88,191
„ the West Indies	5,380

The importation in 1870 amounted in Norway to 32,894 potter, mostly porter and ale.

Assuming the entire production in 1870 to have been about 36,000,000 of potter (or 72,000,000 of bottles), of which 1,000,000 was shipped abroad, there remain 35,000,000 for interior consumption, making, for a population of 1,701,478 souls, about 20 potter per head (= 19·322 litres).

While writing the foregoing pages, another statistical work by Noback¹ was sent to me, from which I extract the following figures. He gives the entire yearly production of Sweden at 20,000,000 kannen of common beer, and about 500,000 kannen of ale and porter. One kanne being = 2,617 litres, the total production of Sweden would consequently be 523,400 hectolitres.

The importation and exportation he states as follows—

	1861.	1866.	1870.
Importation of Porter	29,245	29,721	19,126

¹ Die Bier Production, G. Noback (Vienna, 1873, Carl Fromme).

	1861.	1866.	1870.
Importation of Beer	22,368	42,340	23,971
Exportation „	1,129	24	43,898

Of Norway he gives the number of breweries in 1870 as 34, with a total production of 25,000,000 litres.

This would give a total consumption—for Sweden of 52,340,000 litres, with 4,158,757 inhabitants, at $12\frac{1}{2}$ litres per head ; for Norway of 25,000,000 litres, with 1,701,478 inhabitants at $14\frac{1}{2}$ litres per head.

RUSSIA.

THE mode of taxation in the European part of this country is by gauging and assessing the contents of the coppers and mash-tuns together, and the tax raised is 6 kopeks (100 kopeks = 34 pence sterling) for 1 vedro, or 12,299 litres, and according to Noback, this would result in about 12 to 14 kopeks for taxes on the contents.

The beer produced in St Petersburg he states to have amounted

In 1865 to	1,714,800	vedro
„ 1866 „	2,407,400	„
„ 1868 „	2,512,900	„
„ 1869 „	2,675,400	„
„ 1870 „	2,884,600	„
„ 1871 „	2,932,600	„

Increase 70 %.

The beer produced in all European Russia except St Petersburg he states to have amounted

In 1863-64 to	5,858,991	vedro
„ 1867-68 „	6,128,416	„
„ 1869-70 „	6,884,520	„
„ 1870-71 „	7,122,384	„

Increase 27.43 %.

The relative positions of the increase of production of beer and the decrease of that of spirits are as follows :—

YEAR.	PRODUCTION OF BEER IN VEDRO.	PRODUCTION OF SPIRITS IN VEDRO.
1863-64	7,697,745	24,239,000
1867-68	8,640,000	22,854,419
1869-70	9,740,000	22,347,202

On the European continent Russia has the greatest importation of English ale and porter, notwithstanding her own porter and ale breweries, that have now been extant since 1860.

The following quantities of ale and porter have been produced :—

In 1860	...	14,720	vedro
„ 1865	...	32,880	„
„ 1869	...	77,540	„
„ 1870	...	98,614	„

But these scarcely diminished the quantities imported from England, which are stated to be :—

In 1853	...	4866	barrels,	valued	at	£15,902
„ 1863	...	3359	„	„		12,075
„ 1864	...	3403	„	„		12,914
„ 1865	...	3238	„	„		11,777
„ 1871	...	4253	„	„		16,131
						E

The total production of Russia is stated as being 9,740,000 vedro, and the number of inhabitants 63,658,934 souls ; the consumption would, therefore, be 1·72 litres per head per annum.

In recapitulating the results of the foregoing tables, we find the consumption per year and per head of population to be, in

Bavaria . . .	246·95	lit.
The United Kingdom	172·45	„
North Germany .	37·785	„
Württemberg .	164·71	„
Baden . . .	56·	„
Austria-Hungary .	34·50	„ (as stated by Noback.)
Norway . . .	19·322	„
Sweden . . .	12·50	„ (according to Noback.)
Russia . . .	1·72	„ (according to the same.)

Of these countries Bavaria, the United Kingdom, and part of Austria (Bohemia) are those where beer has been for a long period a national beverage, and may be considered, not only as an article of general consumption, but even as one of the first necessities of life. As a proof of this may be mentioned the beer-riots recorded in English and Bavarian history, which in Bavaria have taken place in our days, at various times, and in different localities.

The reasons for those riots in Bavaria were twofold :

first, that the retail price of beer was found too high ; and secondly, that the quality was disapproved of by the populace.

The riots in our days chiefly turned upon the price, and happily so ; for should the people become as irritable with regard to quality as they have been with regard to price, there would be no lack of occasions to give vent to their temper. There can indeed be no doubt that the standard of quality for common beers has been considerably lowered in Bavaria, notwithstanding the high perfection to which her leading brewers have brought fancy and export beers.

The reasons that have brought about this change are obvious ; for barley and hops, the only materials allowed to be employed in Bavaria, have of late attained considerably high prices, labour is much dearer, and fuel and brewing utensils have equally increased in price. In consideration of these facts, an increase in the price of beer would have been the most natural and rational way of allowing brewers to keep up their quality, and thus to recoup themselves for heavier outlay in every direction. But popular opinion, or rather the majority of the populace, disapproves of higher prices ; and as no one feels inclined to face physical pressure, the consequence is, that the prices hitherto paid are maintained at the expense of quality.

There is, however, another reason for the falling off

in the quality of common Bavarian beers, and it may be thus explained.

It will be seen how greatly the consumption has increased, and, it may be added, is still increasing ; but the ordinary breweries have no arrangements for such increased production, and are therefore obliged to shift as they can. It should, moreover, be borne in mind, that down to a recent period brewing in Bavaria has been entirely carried on in an empirical and traditional fashion, and scientific brewing is still in its teens. The consequence is, that there are very experienced brewers without sufficient scientific information, and a good many young brewers with great scientific attainments who lack practical experience.

The Bavarian brewing-trade may therefore be considered as being at present in a state of transition ; but there is no doubt that it will get over this stage satisfactorily, as it has undoubtedly the command of capital, first-class materials, well-established brewing academies, and a large custom, both within and beyond the frontiers.

The increase of wages, which has so much contributed to increased consumption, will in time, it is to be hoped, bring about a better price for good beer ; and altogether, it may be presumed that the Bavarian brewers will conquer the difficulties temporarily in their way, and

that matters will take such a shape that it may be said that Bavarian brewing is "itself again."

In Austria, where brewing is of more recent introduction, where there is such an immense production of all descriptions of wines, from the most generous Tokay to the cheap land-wines so largely drunk by the populace generally, we find a consumption of $34\frac{1}{2}$ litres of beer all round per head per annum, and there is no doubt that a considerable expansion of the beer-trade is continually taking place, which is sufficiently proved by the statistical tables of the first and second quarters of 1873.

The same observations apply to Baden and Würtemberg, where, notwithstanding the large returns of wine, and the comparatively recent introduction of beer, the first of these countries shows a consumption of 56 litres and the latter of 164·71 litres per head, while the consumption in those countries is also steadily and considerably increasing.

North Germany, with 37·785 litres per head, is equally increasing her production, so that it appears likely to tell on the barley and hop prices ; and the same observations will hold good in the same ratio as regards Sweden, Norway, and Russia.

It should be borne in mind that these countries were, and to a large extent are still, spirits-consuming countries ; and the improvements in the habits and morals of the

people in consequence of the increased consumption of beer and the diminished use of ardent liquors, are such that the attention of the Governments is not only favourably drawn to the brewing-trade, but they are inclined to give it every possible encouragement, and in every way to facilitate its spread and development.

I alluded to the changes recently made in the legislation of North Germany, and the question is now agitated as to the introduction of a self-counting weighing machine, on a somewhat similar principle to that of the self-counting measuring-apparatus in Bavaria.

Moreover, the Governments are, in a fiscal point of view, no losers by favouring the development of brewing establishments, for the examples adduced prove sufficiently that this source of revenue flows copiously and steadily if the brewer has free vent for exercising his profession.

The effect, in an economical point of view, is also most important, beyond calculation. The agricultural interest reaps large benefits from the cultivation of barley and hops, and the greater care it bestows in producing the finest qualities the greater will be its tangible rewards. Great, therefore, is the encouragement bestowed by the brewing-trade on the agricultural interest.

The manufacturers of machinery and utensils used in brew and malt houses profit also to a large extent by

those establishments ; and finally, the labour-market receives its rich share of the benefits accruing from breweries and the trade dependent upon them.

In turning to the United Kingdom the evidence must strike us that the breweries there are carried on with a high degree of ability and perfection. The comparatively large quantity of beer and porter exported and used at home is made of worts of high degrees of gravity ; and yet we find the average gravity of worts of the total brewings to be not less than 22·25 % below that of Bavaria. This proves superior skill in every single operation, from the moment the barley is put into the steeping-cistern, until the beer is sent out for consumption ; it proves besides, that the materials employed must be well chosen and of good quality.

The increase of consumption is about what we find it in most beer-drinking countries, to take the average, although it remains below the increase in some of those countries. But what strikes us as a curious fact is, that it is just in countries with the most cultivated, highly-instructed people, that the greatest relative quantities of beer are consumed. This proves that science and intelligence patronise the use and spread of that liquor as much as the Governments of those countries ; and no Government, and no man of good feeling and sound intelligence, would ever favour a beverage if it was not found conducive to the health

and well-being of the people. Governments, as well as the intelligent classes of the population, are in favour of beer, and this must confirm the opinion that its use and good qualities as a beverage, in a physical as well as in a moral point of view, are generally and favourably appreciated, and explains the encouragement which it meets with from every quarter.

In Bavaria, where it has been in general use for so many centuries, it is an entirely national beverage, and it is found on the table of the king as well as on that of the lowest menial.

There can be no doubt that beer is and will remain the national beverage of the English people, and the foregoing statistical figures prove that they fully appreciate the superior brewings which their great brewers are offering to them.

In considering the encouragement afforded on all sides to the spread of breweries on the Continent, especially in those countries where it is so strikingly proved that the use of ardent spirits, with their concomitant demoralisation, has been, and is still continually being, superseded by the use of beer, it is somewhat surprising to notice the opposition, not to say the animosity, the brewing interest is encountering from some, as it seems, influential quarters in Great Britain. It is true, brewing is in no way decreasing, in spite of every opposition ; and even those new coun-

tries with English populations which we did not include in our considerations, such as Canada, America, Australia, &c., show a continually increasing consumption of beer. This proves that where the use of malt liquor has been once implanted into the habits of the people, do what you will, it cannot be any more eradicated. The opposition to malt beverages is almost inconceivable, for the quantities used of those fine and well-made brewings, as they are turned out by English brewers, are not likely to produce the deleterious effects ascribed to them, when with all other nations we find just the contrary result. Besides, the English people are on an average better nourished than people in many parts of the Continent, and it is a well-known fact that well-fed people can digest more drink than people who are only poorly nourished.

It might, therefore, be interesting to examine what causes may have contributed thus to accumulate reproaches on, and the direst opposition to, the devoted brewing interest; it might especially be of interest to examine the position of the trade in ardent liquors; it might probably be very interesting to examine the position of the retail trade of the entire liquor traffic. At all events, if fault is to be found with any beverage, it should not be laid to the charge of malt liquors.



APPENDIX.

SINCE the foregoing pages were written, the statistical tables for the first six months of the year 1873 of the beer and brewing trade in *North Germany* have been published, and they show that the receipt for taxes during the six months ending the 30th June amounted to 2,706,423 thalers, against 2,314,053 thalers for the same period in 1872, which is an increase of 392,370 thalers, or nearly 17 %.

The drawback on beer exported rose to 8760 thalers, against 6168 thalers in 1872; the importation of beer from South Germany, as shown by the Equalisation-duty received for the six months, yielding an income of 143,000 thalers, against 106,057 thalers the year before, which is an increase of 37,043 thalers, or 34·3 %

The *Grand-Duchy of Baden* received in 1872 for taxes on beer (including 159,348 florins for beer imported into the Grand-Duchy), the sum of 1,292,344½ florins, which shows an increase of receipts over 1871 of about 30·50 %.



