BRITISH & FOREIGN SPIRITS:

THEIR HISTORY, MANUFACTURE,

PROPERTIES, ETC.

BY

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Author of "Wine and Wine Countries;" "Alcohol versus Teetotalism;"

etc., etc.

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INTRODUCTORY.

The kind reception which was given to my first essay, "Wine and Wine Countries," induced me, in compliance with the suggestions of very many friends, to compile a companion book upon "British and Foreign Spirits." And I may, perhaps, claim to be more familiar with my present than with my former subject, as Spirits being a manufacture distilled from fermented materials, partake less of a natural character than Wine.

From a very early age I became acquainted with the process of distillation, and when a boy, I spent many an hour in illicit manufacture, over a very rude still, which, with the aid of a plumber's apprentice, I constructed; the body of the still being part of a tin saucepan, and holding about an imperial quart, whilst the head and the worm were of lead. *

* An early adventure in connection with this still is worth narrating. Hearing my mother complain of a difficulty she found in obtaining what was termed White Wine Vinegar, but which was, in fact, simply Brown Vinegar distilled, I undertook to procure her some, at the same time keeping the secret of its being my own manufacture. I accordingly obtained some common

a
My introduction to business was in the manufacturing department of one of the largest rectifying distilleries, and my occupation was entirely connected with working the stills, with Gin manufacture, Cordial making, keeping stock, and with attending to the sent out. And in these times of early closing and short days of labour, I will just mention that I lived in a dwelling-house adjoining the rectifying house, and it was my duty to be in attendance with the excise officers every morning at about 5 o'clock to unlock the stills for charging, &c., and it was not an unfrequent occurrence for me to be actively engaged in this rectifying house from 5 o'clock in the morning until midnight. When the old stills were in operation the hours of attendance were not so many, but the introduction of St. Marc's stills, and other improvements, made it a long time before the new system became understood, and the working vinegar, which I ran through my still, in fact double distilled it; but a few days subsequently I found the inside of my still-head covered with a white powder, and the worm eaten into holes. The action of the acid upon the lead had coated it with sugar of lead, and the vinegar which I had made had much more of a sweet than a sour taste. I had indeed narrowly escaped introducing a poison that might have resulted in dangerous consequences. This little escapade of my boyhood's days may be useful to a juvenile distiller, and prevent his using lead in any operation where an acid forms the basis of his manufacture.
off was restricted to earlier hours. But the vexation which was the most trying, and entailed the greatest labour and anxiety, was that of the excise regulations and constant surveillance, with incessant notices to lock and unlock, to rack, to mix, to make up Cordials, in fact, you could do nothing without notice; not a cask could be received in and racked without notice being given to the officer, who had to inspect it and see that in quantity and strength it agreed with the permit. All this had to be done before you could draw off the Spirits, even were the cask leaking you dared not "break bulk" until the officer had given permission. Then, the system of drawing require notes for permits involved much inconvenience, trouble, and delay. The permit office was situated about a mile from the rectifying house, and it was necessary to draw out a require note for any and every quantity of Spirit sent out, and despatch it to this office, where a messenger would be probably detained for a considerable time before he could get his permit. Stock taking was another fearful impediment to business. Besides the regular six weeks' stock taking, the supervisor had the power of doubling at uncertain intervals, coming upon you unawares, and thus giving you a half night’s employment in ullaging and working out your stock; for, as a precautionary check upon the officers, it was incumbent that
you should likewise take the stock and compare your result with theirs. Of these treats the present generation know nothing, and, indeed, such practices are "more honoured in the breach than in the observance." There could not have been invented a more harassing system of annoyance to traders, than that which was occasioned by the excise surveillance between thirty and forty years ago. Those who now complain of excise interference cannot form a conception of the system which was pursued at the time of which I have been speaking. It was, however, no bad school in which to be initiated in the practical part of my business, and the caution thus necessarily engendered rendered me particular in matters upon which I might have been otherwise careless, so that my early training became advantageous to me in my later career. But it is not my object to write my own biography, nor will I tire my readers with any further personal reminiscences; but I thought it not out of place to show my credentials for the task I have undertaken, as few have had better opportunities for obtaining a thorough knowledge of everything connected with alcoholic products than myself. I am well aware that in certain quarters, works such as this are likely to meet with little favour. There are powerful organisations in operation endeavour-
ing to put down entirely the use of alcoholic drinks. There are societies for the purpose existing under all sorts of names—Temperance Societies, Total Abstinence* or Teetotal Societies, Bands of Hope, Rechabites, Phoenix Societies, Maine Law Associations, Total Prohibition of the Liquor Traffic Societies, Permissive Bill Law Associations, and many others. I have as earnest a desire as any one to see the odious vice of drunkenness die out, and would deal strongly with the drunkard and with those who give him the means of encouraging his detestable propensity,* and when drunkenness is proved to be a mania too

* In New Zealand they settle the matter by applying a kind of Special Maine Liquor Law to meet particular cases. The following from "The Lyttleton Times," of June, 1863, is one amongst many such like advertisements to be met with in the colonial papers:—

PUBLIC NOTICE.—Province of Canterbury, Colony of New Zealand, to wit. Whereas it has this day been proved to us the undersigned, being two of Her Majesty's justices of the peace, acting in and for the colony of New Zealand, in the said province and colony, that one Christina Swanson, now of Christ Church, aforesaid, and lately residing in Lyttleton, in the said province and colony, who is described at the foot of this notice, has become an habitual drunkard, and is injuring her health by excessive drinking. We hereby, under the provisions of the 33rd clause of the Public House Ordinance, 1862, give notice that we prohibit all persons from supplying the said Christina Swanson with any spirituous or fermented liquors whatever, for the space of two years from the date hereof.
strong to be resisted, would treat the offender as a maniac, and coerce him accordingly. Yet I look upon it as monstrous, that, because there are some who abuse the privileges of enjoyment, all the rest of the world should be deprived of it entirely. The attempts of "The Total Suppression of the Liquor Traffic Society," or of "The Permissive Bill Advocates," are too unjust, too one sided, too absurd, to be looked upon as fit objects for serious and general opposition. One can scarcely suppose that the originators of these absurdities have English blood in their veins, or they would know that Englishmen have outgrown the day when

And we also give notice, that any person who shall knowingly supply, or cause to be supplied, to the said Christina Swanson any spirituous or fermented liquors whatever, during the space of two years from the date hereof, is liable to a penalty of £20 sterling, or to be imprisoned with or without hard labour for the term of three calendar months.

Given under our hands, at Christ Church, this 20th day of May, 1863.

John Hall, R.M., and J.P.
R. J. S. Harman, J.P.

Description of the above named Christina Swanson.

Christina Swanson is the wife of Andrew Swanson, now staying at Christ Church, but formerly of Lyttelton, is a needlewoman, thirty-nine years of age, five feet five inches in height, stout build, dark brown hair, swollen eyes, fresh complexion, large bloated features, a native of Aberdeen, and speaks with a Scotch accent.
they could be treated as serfs or as children, from whom certain things were to be locked up, at the dictum of a few brainless, although, perhaps, well intentioned zealots. No! it is not by such absurdities that the moral condition of society will be improved. The reformation will not come from without, it must come from within; it must be formed with the growth of intelligence and education, and with the increasing influence of refinement in elevating the popular tastes. All this is in progress, and the injudicious conduct of those who are agitating the adoption of coercive measures serves only to irritate the people, and make them revolt against such attempts upon their liberties. The good cause which they, the promoters, some in hypocrisy—all in ignorance—profess to serve, will never be attained by coercive measures. Let Prohibition Liquor Traffic Associations take lessons from history. They will in page 56 and continuance of the present work, see the result of a measure similar to that which they are now attempting. As, however, I have gone fully into the subject in a recent publication.* I will only trouble the reader with a few passages from eminent writers, showing the value of alcohol and the necessity for its use; and I take a quotation from one, certainly

not disposed to look favourably upon alcohol, as
his book was written to point out the evil effects
of intemperance. The author is Dr. Macnish, "On
the Anatomy of Drunkenness," and at page 225
will be found the following:—

"Spirits, when used in moderation, cannot be looked
upon as pernicious; nay, in certain cases, even in
health, they are beneficial and necessary. In coun-
tries subject to intermittents, it is very well known
that those who indulge moderately in Spirits are much
less subject to these diseases than the strictly abstinent.
'At Walcheren it was remarked that those officers and
soldiers who took schnaps, alias drams, in the morning,
and smoked, escaped the fever which was so destruc-
tive to the British troops; and the natives generally
insisted upon doing so before going out in the morning.'

"The following anecdote is equally in point:)"It
took place on the Niagara frontier of Upper Canada,
in the year 1813. A British regiment, from some
accident, was prevented from receiving the usual sup-
ply of Spirits, and in a very short time more than two-
thirds of the men were on the sick list from ague or
dysentery; while the very next year, on the same
ground, and almost in every respect under the same
circumstances, except that the men had their usual
allowance of Spirits, the sickness was extremely trifling.
Every person acquainted with the circumstances
believed that the diminution of the sick, during the
latter period, was attributable to the men having received the quantity of Spirits to which they had been habituated. * Indeed, I am persuaded that, while in the tropics, stimulating liquors are highly prejudicial, and often occasion, while they never prevent, disease, they are frequently of great service in accomplishing the latter object in damp, foggy countries, especially when fatigue, poor diet, agues, dysenteries, and other diseases of debility, are to be contended against. It has been stated, and, I believe, with much truth, that the dysentery which has prevailed so much of late among the poorer classes in this country, has been in many cases occasioned, and in others aggravated, in consequence of the want of Spirits, which, from the depressed state of trade, the working classes are unable to procure; and should this assertion turn out to be correct, it follows, that Temperance Societies, by the rigid abstinence urged upon their members, have contributed to increase the evil. The system is fortified against this disorder, as well as various others, by a proper use of stimuli; while excess in the indulgence of these agents exposes it to the attack of every disease, and invariably aggravates the danger. Water is, unquestionably, the natural drink of man, but in the existing condition of things we are no longer in a state of nature, and cases consequently often occur wherein we must depart from her original principles. There are many persons who find a moderate use of Spirits

* Glasgow Medical Journal, No. XV.
necessary to the enjoyment of health. In these cases it would be idle to abandon them. They ought only to be given up when their use is not required by the system."

The following passage from Archbishop Whately will form an appropriate conclusion to this part of my subject:—

"A person of temperate habits will, usually, when he has taken a moderate quantity of Wine or other such liquor, have no wish for more: and indeed would rather dislike it; even as he would to go on eating after he had taken a sufficient meal. But, on the other hand, those who have been led into intemperate habits, will often be of the opposite constitution to this, and find their craving for strong drink rather increased by even the smallest indulgence. So that they find it harder to abstain from excess after they have taken a small quantity, than to abstain altogether. A person who is thus afflicted with a malady which has been called Dipsomania, will certainly do well to form a resolution of total abstinence, which is in fact taking an easier mode of effecting an important object, instead of the more difficult one of moderation. And again if any one, although himself of temperate habits, finds that some member of his household is prone to commit excess, he will perhaps do well to exclude strong liquors from his house altogether. But it does not follow that any one should feel himself bound, in
duty to his neighbours and to his fellow creatures generally, to pledge himself to total abstinence. Many persons contract imprudent marriages when they have no reasonable prospect of having means to support a wife and family. It is quite right to warn all persons against such rashness; but it does not follow that a person in easy circumstances is bound to make a vow of celibacy. It may fairly be said, that by doing nothing imprudent he is setting an example of prudence. And, in like manner, it may be said that every one who lives temperately is setting an example of temperance. It is sometimes urged, however, that a man's pledging himself to total abstinence, though such a pledge is not needed for himself, may be the only means of inducing others to take such a pledge as for them is needful. But this is, in fact, supposing them to say, although we are aware that intemperance is sinful, and destructive of respectability, health, and comfort, still these motives are not sufficient to induce us to abstain from it, unless you will join us in taking a pledge; we will not perform our own known duty, unless you will impose upon yourself a kind of artificial duty of human invention. Now this surely is anything but reasonable. Some, however, will say that we ought to submit even to what is unreasonable, out of tenderness for weak brethren. But it may be doubted whether this is not urging them to what is right in itself on wrong grounds. It would be better to say to them, I, as well as you, belong already to a temperance society not of
man's forming; and it is also a Veracity society, and an Honesty society, and a Peace society, and a Purity society. Every member of the Christian Church is already pledged to renounce the devil and all his works, and to live soberly, righteously, and godly in this present world. And a person who sets himself to perform his duty, in conformity with the Divine will, is less likely to evade the spirit of a command while observing the letter of it, than one who is submitting himself to some arbitrary regulation of human invention. How prone men are to seek such evasions when acting under a precise rule rather than on a principle, is a matter of common experience. Those whose Church requires them to abstain from flesh meat on certain days, often seek to mitigate the severity of the restriction both by unbounded indulgence on other days, and by dressing a great variety of fish in the most delicate manner on the fast days. And the Mahometans, who are rigidly prohibited the use of fermented liquors, are well known to indemnify themselves for this restriction by the use of opium, intoxicating hemp, and other such drugs; and there is reason to fear that a large proportion of those who have taken the temperance-pledge have addicted themselves to the use of opium; thus exchanging one great evil for a greater. There are some, however, who urge that the example of any man, living in good health without the use of fermented liquors, proves at least that these are not necessary for health. It proves certainly that they are not necessary for his
health; but it does not prove that all constitutions are alike, and that what is unnecessary or noxious to one, may not be salutary to another. There are some, for instance, who are not at all liable to catching cold, and can expose themselves to a wetting with impunity; but this does not prove that all others can safely do so. So that the alleged example is after all inconclusive as an example. As for those who endeavour to enlist Scripture on their side, by maintaining that the wine mentioned in Scripture was not an intoxicating liquor, they must either be themselves very ignorant and silly if they really believe it, or must be fostering a pious fraud in the hope of deluding the simple into what is right, under false pretences. And pious frauds almost always do more harm than good to the cause for which they are employed. On the whole, then, it is best that all men should be exhorted to perform each his own duty, in the mode which is most suitable for each, in consideration of his own peculiar circumstances, without requiring others, whose situation may be different, to combine with him in a self-formed community, whose rules may be suitable for him and not for them."

It is not difficult, then, to show that Teetotalism, or Total Abstinence, is, in principle, religiously, morally, and physiologically wrong. And now let us look at another phase of the same question, and ascertain how far the revenue of the country would be affected should those who advocate the total prohibition of the liquor traffic succeed in
their object. Mr. Gladstone, in his speech upon the Budget, on the 7th of April, of the present year, stated that "from the single article of what is called ardent spirits, we raise nearly one-fifth of the entire revenue." If we adopt his figures, the revenue derived from Spirits in 1863-4 was £12,638,100. To this add the malt duties, £6,091,000; duty upon Wines, licences for distillers, rectifiers, wholesale and retail Wine and Spirit dealers, publicans, beer houses, licences for refreshment rooms, &c.*

Now let the president of the society for Total Prohibition of the Liquor Traffic put all these items together, and when he has the sum total, inform Her Majesty's government what taxes he is prepared to levy in the place of those which will be no longer available when Total Prohibition is made absolute.† He will be a wonderful man,

* I regret that I cannot furnish these several items with the gross amounts for the past year. I made every endeavour to get them, even parliamentary influence failed me. That which could be made up in a merchant's office in 24 hours, would take 24 weeks to procure in a government department, besides which there are fees to be paid, with, after all, no certainty of correct results.

† It is presumed that the total prohibitionists, have made provision for indemnifying those engaged in the "liquor traffic." They will, of course, if only to destroy, purchase all the stocks of alcoholic drinks in the country, indemnify free-
this president of the society with a long name, if he can satisfactorily arrange for this deficiency, and he will be still more wonderful if, having procured the revenue, he satisfies the bulk of the people, making them more moral, happy, healthy, and contented, than they were before the despotic rule of total prohibitionists. But enough of this subject. I have shown in the following work the injurious results to the Spirit trade, and to the country, from the effect of a high rate of duty, and I would call the reader's attention especially to the able letter addressed to Mr. Disraeli by a Scotch distiller.*

Few will be inclined to dispute the great services which Mr. Gladstone has rendered to his country, and to his ability and his integrity all will testify, but that he made a mistake in raising the duty upon Spirits to its present height is evident to those whose judgment and experience upon this particular subject is greater than his own, and, however ingeniously he may arrange his figures, he is compelled to admit that, since the additional holders, leaseholders, of warehouses, distilleries, spirit shops, public houses, &c., and compensate the traders for their loss of income. It is to be hoped they will be just and temperate in their dealings—they have a precedent in the compensation given to slave holders, when the Abolition Bill was passed.

* See page 80 and continuance.
duty added in 1860, of 1s. 11d. per gallon, the revenue derived from Spirits has continued to decline. He says, "indeed it is true that in Ireland at this moment there is an increase in smuggling as compared with the three preceding years," but he adds "it is not true that there is an increase in smuggling as compared with what it was when the duty was 8s." There is some contradiction and confusion in this statement, and with due submission he is altogether at fault.

It is not in Ireland alone that there is an increase in smuggling, or rather in illicit manufacture. There are greater facilities now offered than were ever known for the carrying on of illicit distillation. The practice is wholly different from that of which so many interesting incidents are recorded in the following chapters. The romantic associations of caverns, ravines, and sides of mountains, must all be dispelled. The contraband operator now labours more successfully, and with little chance of detection, in dwellings in large cities, and may practise his secret work even in model lodging houses. Wherever he has gas and water, and a flue to take off any vapours that may arise, he is pretty safe. Gas and water companies have given good aid to the free distiller. A rude still, sufficient for the purpose, costs but a few shillings. Two or three gas jets will produce
sufficient heat, and there is plenty of water laid on for refrigerating purposes. A small shopkeeper can manage all this in the room at the back of his shop, he deals perhaps in groceries, and treacle is part of his stock in trade. Say that the produce is but two gallons per day, here is 20s. gain on the duty alone, a sufficient inducement (unhappily for many poor struggling tradesmen,) to risk the consequences of detection, especially when they have little to lose. The abolition of the former rigid excise survey gives great opportunity for the disposal of such manufacture, and it is in large cities that such a trade can be carried on. The purchasers are publicans in low neighbourhoods, and beer-house keepers. The Spirit is new, coarse, and fearfully intoxicating. To properly manufactured Spirit age is allowed, and it is thus matured. The illicit Spirit is disposed of at once, and those who partake of it soon become drunk, and exhibit themselves helpless and half paralysed. In a late visit to Glasgow I had an opportunity of tasting some of this illicit product, and witnessed its effects, not, certainly, upon myself, but upon some poor victims. Instead of the alcohol producing the general boisterous demonstrations, making its imbibers "happy and glorious," they became helpless as children, declining into a maudlin state of insensibility, with the appearance of being under the
influence of some drugged poison. This Spirit is sold in the shebeen shops in Glasgow. Many people are under the same impression as was Mr. Whiteside, who, in criticising Mr. Gladstone’s budget, stated—

"The increase in the rate of duty had produced the reverse of a good effect. It had caused an increase in adulteration. He understood from an eminent distiller that, though pure Spirits were sent out by the distillers, a great deal of it was adulterated before being sold, in consequence of the high duties. In the first place it was watered, then treacle was added, and it was strengthened by vitriol. This dangerous and unpleasant compound was called 'Gladstone’s Cordial.' In the course of further remarks upon the ill effects of the increase of the duty upon Spirits, the hon. member said he believed there never was a time when the illicit distillation of Spirits was so rife in Ireland as at the present time; and it was a remarkable fact that wherever there was an illicit still there was ribbonism. He thought that the right hon. gentleman should act up to his policy, and restore the duties to what they were in 1838."

The hon. gentleman is correct in some particulars. Most of the vendors are licensed to retail Spirits, and they are compelled to procure from the distiller or dealer a certain quantity of pure Spirit
with a proper permit, which acts as a cover for the introduction of the illicit produce. The pure Spirit is, no doubt, mixed off with the former, but the treacle and vitriol used, as described by Mr. Whiteside, is an absurdity. The treacle is fermented and converted into Spirit in the manner described at page xx.

With these remarks, by way of preliminary, I resign my book to the reader, who, if he is a business man, will grant me every indulgence, for he will be aware that it is not easy for one who has been actively engaged all day in the harassing details of business, to command in the leisure hours, at evening, the power of expressing his ideas with either the force or the facility of a professional writer. But I confess to a yearning towards literary avocation; books have ever been my solace, my joy, and delight. And it has often occurred to me that it is in the power of very many, by the simple narration of their own experience in the business of life, whether as merchants, manufacturers, or traders, to add much to the general store of knowledge. It needs no great amount of erudition to make useful statements in plain perspicuous English. But the literary aspirant must not suppose that his work is done when he has written his book. Its compilation is about the happiest time he will have, and as it progresses towards comple-
tion it will be "his hope by day and his dream by night." His ambition is fed by the delusion that leads him to think that he is about to astonish the world, and that not only for his generation, but for all ages, his "magnum opus" will be of great renown.

It is an excellent practical lesson for an aspirant to literary fame, to wander forth in search of a publisher. I have undergone this trial, and am free to own that the ordeal is anything but inspiring; and I cannot help observing that if certain publishers were to extend a little more gracious encouragement to writers yet unknown to fame, they would save themselves from a large amount of obliquity and reproach.

But there is, after all, compensation to the writer if his book is well received by the Press, and I take this opportunity of acknowledging (as I do with true and grateful feeling) the very kind manner in which my work "Wine and Wine Countries," was noticed in the metropolitan as well as in the provincial journals. I should not be truthful did I deny that the criticisms upon my book were looked forward to with much natural anxiety, and the more especially so, as more than one publisher had given me much discouragement, and led me to anticipate anything but a gracious or kindly reception from the reviewers. My thanks
then, my very hearty thanks, are due to those who so favourably countenanced my efforts and passed over my shortcomings; they no doubt made a charitable allowance for the circumstances under which I wrote, and I trust that in this effort they will find their encouragement has led to an improvement.

The numerous quotations which I have made from various authors will show how much I have been indebted to adventitious aid in the compilation of my work, and I have to thank many friends for their assistance, especially for the statistical information, which I could not otherwise have procured.

The cost of the book is necessarily much increased by the tabular form of the statistical returns, and likewise by the numerous tables for reducing Spirits and showing their relative value. These were not compiled without much labour, and they will, it is to be hoped, be found very serviceable, as they are arranged in a familiar manner. The coloured map of Cognac will point out the position of the different vineyards producing the finest Brandies.

2, Royal York Crescent, Clifton,
May, 1864.
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ERRATA.

Page 165, line three from top, for acid-like, read acid like.
Pages 175, and 176, for Kamtschatdaë, read Kamtschatdale.
Page 206, line five from bottom, for effect, read affect.
Page 231, for verbatim et literatum, read verbatim et literatim.
BRITISH AND FOREIGN SPIRITS.

CHAPTER I.

DISTILLATION.

"Upon my secure bower thy uncle stole
With juice of cursed hebanon in a viol,
And in the porches of mine ear did pour
The leperous distillment."

Shakespeare. Hamlet, act 1 sc. 1.

"Upon his hoary beard his breath did freeze,
And the dull drops from his empurpled bill
As from a limbeck did adown distill."

Spenser. Of Mutabilitie, c. 7.

"All hope is fled! our families are undone!
Provisions are all conveyed up to London;
Our copulous granaries distillers thin,
Who raise our bread,—but do not cheapen gin."

Warton. The Oxford Newman's Verses for 1767.

Derivation — Process described — Earliest Introduction —
Alembic—Compared to the Human Body—Arnoldus de Villa Nova—Raymond Lully—First Introduction to France—Aqua Vitæ—A Working Distillery described—Mashing—Brewing—
Distilling—The Excise—Their Restrictions—Regulations—Inquisitorial System—Ordinary Stills—Low Wines—Faints—
Fusel Oil—Former Duties, how levied—Scotch Distiller—Outwitting the Excise—Committee on Duties, 1799—Consequent
Alteration—Rapid Distillation—French Improvements in Stills—
Adams—Salimani—Isaac Barard—M. Baglioni—Blumenthal—
Derosne—St. Marc—Joseph Corty—D. T. Shears—Coffee—
Still at Inverkeithing—Produce of Spirit from Malt—Dr. Ure’s
Experiments—Duties, how levied—British Plain Spirits—Symmetrical Letters—Use of the Saccharometer—Hydrometer—Rule
for calculating Strength—Tables of Specific Gravity—High
Duties—Illicit Manufacture—Frauds upon the Revenue—How
affected—Honesty the best policy—Distilleries in Caverns, on
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Rude Apparatus—Preference given to the Illegal Produce, and
consequent Encouragement to its Manufacture—Number of Illicit Distilleries destroyed by the Revenue and Military—Measures adopted by Government to Suppress the Evil—Fines upon the Town Lands—Revenue Police—Illicit Distillation Decreased in Proportion to the Reduction of Duties—Narrative—Abduction of an Officer—Smuggling on the English Coast—Rev. R. H. Barham’s (Thomas Ingolsby) Experience—Mr. G. P. R. James—The Kent and Sussex Coast, and its facilities for Smuggling Operations—The Proceedings connived at and encouraged by the People of the Country—Tables of Return of Distillers and Consumption from 1822 to 1863, in Appendix.

“Distil, v. Fr., d’estiller; Sp., distilar; Lat., distillare (di and stillare, to drop, or drip, to fall in drops). To separate drop by drop; to fall, descend from in small particles, portions, or quantities, by slow degrees, gradually, gently.”—Richardson’s Dictionary.

THE process of Distillation may be easily described. Certain fluid substances are placed in covered vessels of a peculiar form; a well-regulated heat is applied in order to separate the more volatile constituents, which pass over in vapour, and are condensed by cold into a liquid state by passing through what is technically called the worm, which is simply a spiral tube surrounded by cold water. The ordinary apparatus consists of the still or boiler, its head or receiver, with the worm and worm tube, or refrigerator.

From the Arabians in the remotest ages we appear to have derived the knowledge of Distillation. They practised the art of extracting the aromatic essences of plants and flowers in the form
of distilled waters to supply the luxuries of oriental baths, and are supposed to have been the first to extract from wine a colourless intoxicating spirit by distillation. From certain passages in Pliny and Galen, there can be no doubt that the Greeks and Romans were well acquainted with the distillation of aromatic waters; indeed, Nicander, a Greek poet and physician, who lived one hundred and forty years before the Christian era, employs the term αμβίς, ambix, and speaks of Distillation in describing the preparation of rose water. From ambix, which signifies a pot, the Arabic name alambic, or alembic, is derived. The words pot and poteen are used in the same way by the modern Irish to designate a still and its spirituous product.

Distillation must have been a familiar process to the countrymen of Avicennce, since, in his treatise of Catarrh, he compares the human body to an alembic; he regards the belly as the cucurbit or body, and the head as its capital, through which the humours distil, passing off by the nostrils as its beak.

Arnoldus de Villa Nova, a chemical physician of the thirteenth century, is the first author who speaks explicitly of an intoxicating spirit obtained by the distillation of wine, and he describes it as a recent discovery. He considers it to be the universal panacea so long sought after in vain.
His disciple, Raymond Lully, of Majorca, declares this admirable essence of wine to be an emanation of the divinity, an element newly revealed to man, but hid from antiquity because the human race were then too young to need this beverage, destined to revive the energies of modern decrepitude. He further imagined that the discovery of this *aqua vitae*, as it was called, indicated the approaching consummation of all things,—the end of the world. From a passage in his "*Testamentum Novissimum*" it would appear that the production of Alcohol from Wine was familiar to his contemporaries (p. 2, ed. August, 1571.) In his "Chemical Theatre," written towards the conclusion of the thirteenth century, Raymond Lully describes the distillation of Ardent Spirits thus:—

"Limpid and well flavoured Red or White Wine is to be digested twenty days in a close vessel by the heat of fermenting horse-dung, and then to be distilled in a sand bath with a very gentle fire. The true water of life will come over in precious drops, which, being rectified by three or four successive distillations, will afford the wonderful quintessence of Wine."

The practice does not appear to have been introduced into France till 1313.

Dr. Henderson says:—

"When first introduced into France, Brandy, or

* History of Wines, p. 24."
Burnt Wine (vinum adustum,) appears to have been used principally as an antiseptic and restorative medicine; and the most extravagant panegyrics were bestowed on its virtues. It was described as a sovereign remedy in almost all the disorders of the human frame: it was recommended for its efficacy in comforting the memory, and strengthening the reasoning powers: it was extolled, in short, as the elixir of life, and an infallible preservative of youth and beauty."

All the old writers imagined that aqua vitæ imbibed from the fire its inflammable, heating, and exhilarating qualities; so in order to increase these qualities to the utmost, they prescribed tedious and repeated warm digestions of the wine before it was put into the alembic, and an exceedingly slow distillation, that each drop might come over instinct with fire.

Some authorities state that there is no evidence of the ancients being acquainted with Alcohol or Ardent Spirits, that there is every reason to believe the contrary, and that Distillation was quite unknown to them; that neither the poets, historians, naturalists, nor medical men make the slightest allusion to Ardent Spirits, which could not have been the case had their liquids been applied to even a hundredth part of the uses made of them by the moderns,
After this brief review of the history of Distillation, some description of the various stills, and the operations of a distillery, as carried on in this country, may be interesting as well as necessary.

Those who have never visited one of our large distilleries in full operation can have but little notion of the busy, active scene therein displayed. The noise from machinery in all parts of the premises, the rushing of steam, the pumps in action everywhere, the whirring of wheels, the heavy drone with a sort of metallic, crackling accompaniment, produced when the stills are what is called "coming through," that is, when boiling has commenced; the clashing of furnace doors, the heat and glare from the fires, the hurried scamper of men, up one ladder and down another, keep the visitor in a state of perpetual alarm. He thinks something has gone wrong, and mistakes the earnestness of men in their vocation, and their hurried movements, for the excitement of danger. He knows that above, below, and all around, he is encompassed by inflammable material, the exhalations from which permeate into his very system, but fail to keep his courage up; in vain does his intelligent guide explain to him the operations going on; he is bewildered with pipes lateral and perpendicular, large and small, everywhere in mysterious conjunction. Reservoirs, vats of mam-
moth size and ponderous dimensions, above and below ground, increase his terror. As he proceeds on his way he is perhaps startled by finding himself within a step of falling into an open Spirit "back," the cover of which had been removed for some temporary purpose. All to him is chaos, and he does not recover his self-possession until he is some distance from the premises. Now he is quietly at home we will endeavour to explain the ordinary process.

The operations of a distillery relate to the extraction of Alcohol from various sorts of grain. Spirits are manufactured in this country from Barley, Rye, Wheat, Oats, Buck Wheat, and Maize. The extract produced from grain is converted into a kind of Beer called Wash, before it comes to the still. The grain is first passed to the granary, and is coarsely ground; it is next taken to the brewhouse, is put into the mash tun with a proper proportion of hot water, and the mixture is subjected to agitation by a revolving apparatus. After two or three hours agitation the whole is left to repose for a short time, then the Worts are drawn off to about five-sixths of the water employed. The remainder is again supplied with water at a higher temperature, and the mashing motion is renewed for nearly half an hour. A second period of infusion or repose ensues, after which these
second Worts are drawn off, and the like process is repeated a third time. After the third drawing off, the residue, called the grains, is disposed off, and is much sought after to feed pigs or cattle. The several Worts are conveyed into coolers and amalgamated. The coolers generally occupy the upper portion of a building adjacent to the brewhouse; they are shallow cells or trays, about six inches in depth, and in these the hot Wort is rapidly cooled.* From the coolers the liquor is let down into the fermenting vats, and here comes the most important process, demanding the utmost skill and attention. So changeable in its nature is fermentation, and so little governed by known laws, that the most experienced are frequently puzzled and their object defeated. To induce and expedite fermentation, a proportion, now usually about from one to two per cent., of yeast is added. The time occupied by the fermentation varies, extending over a period of between three days and a week. The course of the fermentation is much regulated by thermal influence. Distillers do not take yeast from the fermenting tuns, they are

* There are several appliances for assisting this operation. Some coolers contain a worm through which passes a continuous flow of cold water. In a distillery the writer lately visited at Monastereven, the hot Wort passes under the roadway into a large pool supplied from a spring; here it soon becomes cool, and is then forced back to the fermenting vats.
under the impression that abstraction would lessen the proportion of spirit, and they consider the fermentation rendered more complete by incorporating the yeast. The mashing and fermentation are jointly called brewing, and the period in which they are carried on is by law kept quite distinct from the distilling period, brewing and distilling being usually carried on in alternate weeks. Excise officers, as agents for government, are nearly always present at every distillery day and night. These succeed each other one or more at a time, as may be necessary, after intervals of eight hours; the periods being from six in the morning till two, thence to ten at night, and thence to six o'clock the following morning. In fact, the distiller cannot move without the government officials, to whom notice must be given of every intended operation. The number of stills, charges, &c., continues subject to certain restrictions; and the exact routine is given as to the mode in which the liquid shall run from one vessel to another in the process of distillation. The openings in the principal vessels are expressly stated; and the most scrupulous care is taken that nothing shall pass from one vessel to another without traversing a pipe having a lock or valve for the satisfaction of the officer who has charge of the key; and any fraudulent tampering with this regulation, or non-compliance with the
requirements, would subject the offender to a penalty of two hundred pounds. The Exciseman keeps the keys to lock up the furnace doors and stills; in fact, he has a perfect control over every operation and process; and it is to facilitate his superintendence that the Excise Laws prevent the brewing and distilling from going on at the same time, a regulation which causes great loss and inconvenience to the distiller, increasing his working expenses, and frequently endangering the quality and quantity of the produce.*

To specify the numerous Excise regulations would fill a volume; they are doubtless necessary to prevent frauds upon the Revenue. The greatest sagacity from the officers is required where the cupidity and avarice of the unfair trader has set his wits to work in order to defraud the Excise of the proper amount of duties chargeable. Schemes of the most crafty description, to some of which we may hereafter allude, have been successfully carried on for years, until by some chance they have been discovered, and the "concern" mulcted by Exchequer process in heavy penalties. Hence the necessity for careful supervision; and in order that the intentions of the law, which prohibits brewing

* There has been latterly some modification of these regulations, and a manifest disposition upon the part of the authorities to modify some unnecessary restrictions.
and distilling at the same period, may be fully carried out, the buildings are detached, and the pipes, a large number of which are visible, are of various colors. The regulations require that the conduit pipes shall be painted black; those for the conveyance of Wash, red; those for the first distillation, blue; and those for the finished spirit, white. This is done in order that the officer may trace the routine of the processes. Further, ladders and all other conveniences must be furnished for the easy access of the Supervisor to all the vessels in the establishment. Dr. Ure says:

"The inquisitorial system imposed by law upon our distillers might lead a stranger to imagine that our legislators were desirous of repressing, by every species of annoyance, the fabrication of the fiery liquid which infuriates and demoralizes the lower population of these islands. But, alas! credit can be given them for no such moral or philanthropic motive. The necessity of the Exchequer to raise a great revenue, created by the wasteful expenditure of the State on the one hand, and the efforts of fraudulent ingenuity on the other, to evade the payment of the high duties imposed, are the true origin of that system."

In former days, when the writer was connected with a distillery, two stills were used, a large and a small one: the large was called the wash still,
and received the fermented Worts, which, being run over, were converted into a weak crude spirit called Low Wines; the smaller still received these Low Wines, and distilled them until the spirit began to acquire a disagreeable taste and smell, and then the remaining distillate would be run into another receiver, and called Faints, which owe their peculiar character to an essential oil held in solution; these Faints are, in the next distillation, united with the Low Wines from the succeeding wash-back and worked together, the produce going partly into the spirit-back and partly into the faints-back. To about eight hundred gallons of Wash, eight pounds of soap are used;* alkalies, wood ashes, charcoal, caustic potassa, grey and white salts, are used both by the distiller and rectifier to cleanse the Spirit from the obnoxious Faints which contain an oil known as Fusel Oil, and it is to the presence of this oil that the milkiness of the last runnings of the still, and sometimes of the first, owe their opalescence and unpleasant odour. When the milky fluid is re-distilled, alcohol and water pass over with very little oil, provided the caustic salts or soda be used in due proportion. The alkali combines with the oil and forms a soap, which remains

*Soap is used to prevent the flushing or boiling over of the still; it is not always used, but in stills of a peculiar construction it is necessary.