

PRIZE ESSAY ON ARDENT SPIRITS.

A Premium of Three Hundred Dollars was awarded to Professor Mussey, for this Essay, by the following Board of Adjudicators :

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PRIZE ESSAY, ETC.

Quest. I. What is the history of the origin of ardent spirit, and of its introduction into medical practice?

Quest. II. What are its effects upon the animal economy?

Quest. III. Is there any condition of the system in health or disease in which its use is indispensable, and for which there is not an adequate substitute?

CHAPTER I.

History.

ARDENT SPIRIT OF ALCOHOL is a thin colorless fluid, lighter than water, somewhat volatile, of a pungent smell and taste, readily inflaming by the application of a lighted taper, and burning with a deep blue or purple flame. It is produced only by the decomposition of vegetable and animal substances,* in a state of fermentation. It is the intoxicating principle of all fermented liquors, as wine, cider, beer, etc. and may be separated from them by distillation and other processes.

Fermented liquors derived from the juices of fruits, and from the farinaceous grains, were used in periods of high antiquity. The first authentic record we have of wine, refers to a period scarcely less remote than that of the deluge. Noah planted a vineyard and drank of the fruit of it; and the hypothesis that he was the inventor of wine, receives countenance from the assertion of Hecataeus, the Milesian historian, that the use of wines was first discovered in Aetolia by Orestes the son of Deucalion. This last personage, it is well known, was the hero of the deluge among those heathen nations whose records and traditions recognise that great event. The early history of alcohol in its uncombined state, or in the form of ardent spirit, is obscure. Had Mahometan fanaticism spared the Alexandrian library, the curiosity of our own times might perhaps have been gratified by a knowledge of the periods of its discovery, as well as with the name and residence of the individual whose researches gave to the world a poison, which, in countries where its use has become general, has caused more human suffering than any other invention of man.

There is indeed some probability that China may claim the discovery of the process of distillation. "In that country," says Morewood, "which has preserved its civil polity for so many thousand years, the art of distillation was known far beyond the date of its authentic records." The same writer, referring to the authority of Du Halde, Martini, Grosier and others, says, that there is abundant proof of the Chinese having been well versed in that branch of alchemy which has for its object a *panacea* or *universal* medicine, long before this fancy engaged the attention of European practitioners. The search after this elixir of life is said to have originated with the disciples of Lao Chiun, who flourished six hundred years before the Christian era. If this statement be authentic, there can remain scarcely a doubt that the Chinese were acquainted with distilled spirit more than two thousand years ago.

With a knowledge of the process of distillation, and impelled by a motive so strong as the hope of finding an elixir, a single draught of which would confer an immunity from disease, decay, and death, the alchemists could hardly have failed early to subject to this process every kind of beverage which was known to exert an exhilarating influence upon the actions of life. The infatuations of alchemy still existed in China in times comparative-modern, for three of her kings, two in the ninth, and one in the sixteenth century, perished from a draught of the elixir of life, prepared by the alchemists, and taken with a view to attain to immortality.

To Arabia, however, Europe appears to have been wholly indebted for the knowledge of the art of distillation. It has been suggested, that, as the Arabians at a very early period for commercial purposes penetrated into China, even as far as to Canton, there might have been an interchange in the scientific discoveries of the two nations.

As the result of their intercourse must probably always remain a matter of conjecture, it is not unreasonable to allow to the

Arabians, what has usually been accorded to them, the credit of having found out the process of distillation, whether they were the only inventor or not. A knowledge of chemistry came with the Saracens into Spain, and to this day, several terms purely Arabic are retained in the nomenclature of European chemistry, as, alcohol, alkali, &c.

Geber, whose period and country are questionable, but who is regarded by many as of Saracen origin, and who is generally supposed to have lived in the seventh century of the Christian era, is so particular in his descriptions as to show, that in his time not only the art of distillation, but the methods of conducting various pharmaceutical processes were well understood. Distillation was certainly known in Spain as early as the ninth century, and there is a high degree of probability that, along with other mechanical arts, it was brought there by the Saracens in the early part of the eighth century.

Rhazes, who was a most scientific and distinguished Arabian physician, born about the middle of the ninth century, and who resided at the court of Almanzor in Seville, gives minute directions for making a particular pharmaceutical preparation in a glass retort. At what precise period the chemists learned the art of extracting alcohol from fermented liquors it is impossible to determine; but from the fact of their being constantly engaged in the pursuit of the elixir of life, and from other considerations already suggested, there can be but little doubt of its having been known at or before the time of Rhazes. The ardent thirst for discovery, and the guarded secrecy with which chemical processes were at that time conducted, the great facility of disguising alcohol by a multitude of odorous and colored substances, together with the hope that in some shape or combination it would turn out to be the long sought *elixir*, might prevent the mode of its preparation from becoming public for a long period of time, possibly for centuries.

We are not informed when it was first used as a medicine. Its pungent and exhilarating properties would easily give it a place amongst restorative remedies, more especially as it might easily be reinforced or modified by the addition of medicinal agents, from the vegetable and mineral kingdoms.

*The Tartars and Chinese make a kind of wine and ardent spirit from the flesh of sheep.

THE PEARL.

HALIFAX, FRIDAY EVENING, NOVEMBER 29, 1839.

In a late Pearl we noticed some proceedings in Boston, by the congregation to whom the Rev. Mr. Pierpont ministered. We have since met with further reported action on the subject, and as it is of some interest give the substance. The portion of the committee which investigated the case and were unfriendly to the continuance of Mr. Pierpont, published a report by which the charges against the Rev. gentleman were set forth. The other portion of the committee transmitted the report to the individual accused, with an intimation that he would be expected to answer it. He did so, and, as the report had been previously published, the answer also appeared in the newspapers, occupying about five closely printed long columns.

The charges were,—1st that he had not given his undivided attention to his congregation, according to the usual understanding in such matters,—but had employed himself making stoves, screws, and razor straps.—2d. That he entered into exciting topics, such as Imprisonment for Debt, the Militia Law,—Anti-masonry,—Phrenology,—Temperance, and Abolition of Slavery. To these Mr. Pierpont answers, 1st,—that he did not enter into any arrangement whereby he was to give his individual attention to his congregation. Such an arrangement he intimates would be absurd, as a minister's influence and efforts should extend much farther. 2d, Books; he pleads guilty to this charge, warns others against so dangerous a practise, and informs the public where his books may be purchased. 3rd. Stoves. The plea is not guilty, but an admission is made that some ten years ago he perpetrated a *fire place* for burning anthracite, and, as he has no pecuniary interest in the invention, recommends its use, tells where it may be purchased, and refers to one of the accusing committee, as a person who could speak of its merits, having one in use. 3rd. Screws. Guilty, of having assisted his brother, some years before, to perfect a machine for the manufacture of wood screws. 4th, Razor-straps. Guilty in part,—having manufactured *one* razor strap, which was adopted by some artizans in the line. Having gone through the mechanical charges, he makes a clear conscience, and acknowledges some additions seemingly forgotten or unknown to his accusers,—these are 1st, the drawing of a meridian line for the use of a parishioner who was curious in regulating his watch,—2d, the acting as the head of a Committee appointed to devise means for warming the house of Worship, and 3rd, Medical advice to one who was sinking under the cares and confinement of business.

The Rev. defendant then proceeds to the moral charges. The Imprisonment for Debt,—plea guilty, and glorying in it. Next the

Militia law,—guilty also of having preached a discourse eleven years ago on the subject, which was published and is on sale. Next Anti-masonry,—guilty to a degree, but chiefly urged on in his views by one of his accusers.—Then Phrenology, guilty of being a disciple of Spurzheim and George Combe, to whom, the accused says, he feels more indebted for instruction in the philosophy of the mind than to all other men living and dead.—Next Temperance; a triumphant plea of guilty, guilty on Sundays and week days, by daylight and candlelight, in sermon and song, in stage coach and steamer, and at every opportunity.—Last the Abolition of Slavery, guilty in sentiment, and in many expressions, but not in a professional way. After thus meeting his bill of charges, the Rev. gentleman proceeds to gore his opponents with the horns of wit and satire, and ends by leaving them in a sad dilemma.—The discussion has closed in his favour, the vote of a majority has sustained him and the liberty of the pulpit in which he has ministered.

SCIENCE.—It has been stated to the Academy of Sciences, by Mr. Pamour, that on the 3d of August last he travelled on the Great Western Railway at the rate of 54 and a half miles an hour, and that he believed a greater speed might have been obtained.

A steamer propelled by the Archimedes screw, has been exhibited on the Thames. The trial was favourable, she went at about seven or eight miles an hour against wind and tide, and twelve miles under more favourable circumstances. The moving power is at the stern. She makes no swell, and her working is not affected by the swell of the sea.

Commerce, assisted by science, is only said to be commencing some of its most important exertions, in Africa, tracts of the American continent, and the shores of East India.

Late writers have strongly urged the study of Agriculture scientifically. For this, Chemistry, Geology, and Mechanics, seem to form the natural basis. There is, no doubt, vast difference between mere practical acquaintance with a subject, and scientific knowledge of it; as there is between the capabilities of the Stoker, who merely attends the engine, and knows how it works,—and the Engineer who could erect such a machine, and is thoroughly conversant with all its peculiarities, and the principles by which it is controlled.—Science gives pleasure, power, dignity of mind, and great capability in manipulating or directing manipulations.

Experiments have been made in Russia, on Electro Magnetic Navigation. The difficulty connected with the manipulation of the Battery, is said to exist no longer. M. H. Jacobi has made valuable improvements. He tested these in a ten oar shallop, propelled by an electro-magnetic machine, on the Neva, in 1838 and 1839, and has since overcome obstacles then met with. For one horse power, it is expected that ten square feet of platina will be sufficient. By next midsummer, M. Jacobi hopes to have in operation an electro-magnetic vessel of about 50 horse power.

Mr. Brunel, engineer of the Thames Tunnel, says he has discovered a means of obtaining railway speed, equal to 200 miles an hour. If matters progress this way, to start in a locomotive, and to be shot from a piece of ordnance, will be about one and the same thing.

LITERATURE.—The volume of Sermons, by Rev. Mr. Cogswell, some time ago announced as being ready for publication, has appeared from the London press. It is a large beautifully printed book, attesting the piety, zeal and industry of the Rev. gentleman whose name it bears, and who, at comparatively an early period of life, has given so strong an evidence of his usefulness.—The Christian Lady's Magazine has the following notice of this work:

"It has pleased God to place a faithful minister in that distant church, the cathedral we may call it, of our valuable Nova Scotian colony—a branch of our transatlantic empire, the value of which is now negatively known, as being wholly uninfluenced by the demon of rebellion: and of which the tried loyalty will become more conspicuously apparent as the crisis advances. We, of course, opened with great avidity this volume, and we again closed it after shedding tears of thankfulness over its many pages of sound doctrine, of warm, fervent, affectionate, heart-stirring exhortation, in which the author has been pleading with his beloved flock. Mr. Cogswell is ever mindful of what one of our elder divines has left on record—that Jesus Christ should always be the diamond breast-pin in the bosom of every sermon. He is truly so in these discourses; not a page but Christ is there in the fulness of his redemption, in all the gracious and glorious offices wherein God has made him unto us wisdom and righteousness, and sanctification and redemption. The style is particularly animated and energetic; the doctrines scripturally strong, and most carefully guarded from abuse. Under any circumstances, we should have placed this book among our treasures: coming, as it does, from a native Nova Scotian, holding the sacred office of Christ's ambassador to his own brethren after the flesh, it is doubly valuable. May it be made doubly useful, by assisting to nourish Christ's flock in this country, and by exciting a more affectionate interest for their brethren in that distant land."

A new poem, by Moore, named Alciphron, is announced.

The success of Dickens in his monthly publications, has, as a matter of course, induced imitation. Mrs. Trollope sends out her *Factory Boy*, in the same manner, Captain Marryat is to issue the