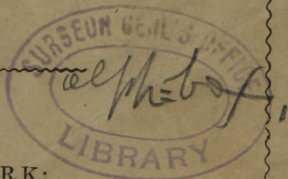


RUSHTON

Second Edition.

RUSHTON'S
TREATISE
ON
COD LIVER OIL,
GIVING ITS
CURATIVE PROPERTIES
AND
USES IN VARIOUS DISEASES.



NEW-YORK:
FREDERICK V. RUSHTON,
[Son of the late Wm. L. Rushton,]
No. 10 Astor House, corner of Barclay-st. and
417 Broadway, corner Canal-st.
1855.

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GOD LIVER OIL

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TO

WILLIAM YOUNG, M. D.

THIS TREATISE

IS DEDICATED

AS A TOKEN OF THE HIGH ESTEEM AND GRATEFUL

REMEMBRANCE IN WHICH HE IS HELD BY

THE AUTHOR.

TREATISE ON
COD LIVER OIL.

COD LIVER OIL, or *Oleum Jecoris Asselli*, as it is technically called, was known as early as 1771 as a valuable remedy in chronic rheumatism.

In 1822 an author by the name of Schenk called the attention of the profession to its use in a special manner, in a report of sixteen cases of chronic rheumatism, successfully treated by its administration. At a subsequent period he published twenty other cases in which its use was equally successful; and afterwards administered it in many other forms of diseases, such as scrofula, rickets, and ca-

ries of the bones; all of which were said to be perfectly cured.

From this time the fame of Cod Liver Oil, as a remedy in consumption, scrofula, and many other diseases, spread with the most wonderful rapidity. Previous to 1840 over fifty standard writers had published reports of a large number of cases of different diseases treated by this remedy, all of which were calculated still further to increase the reputation of Cod Liver Oil as a valuable medicinal agent.

In 1841 a valuable treatise on Cod Liver Oil was published from the pen of John Hughes Bennett, M. D. in London, Edinburg and Dublin.

The favorable opinion of one so high in authority as Bennett, had the effect that might have been expected, to bring it rapidly into use by the profession in Great Britain. Since then a number of volumes have been compiled from standard European authorities, and much additional

written upon the therapeutic properties of this great remedy, and placed before the profession, not only in Europe, but in this country.

Probably no one medicinal agent has ever before been so fully investigated, and occupied the attention of so many distinguished men, as Cod Liver Oil. With few exceptions the standard authorities in Europe have been agreed upon its great utility, not only as a useful remedy, but one which takes a place hitherto unoccupied—a *curative* agent in that most formidable of all maladies, Consumption, and its precursor, Scrofula.

When Cod Liver Oil was first introduced to the profession in this country by the late William L. Rushton, it was found exceedingly difficult to obtain a pure article. The demand in Europe was so great that good Oil was almost entirely exhausted in that market, and therefore foreign customers were often imposed upon

by adulteration, or entirely fictitious articles. This abuse already existed to such an extent on the continent that discrepancies of opinions began to arise as to its utility, depending entirely upon this cause.

Under these circumstances Mr. Rush-ton saw the necessity of having the medicine prepared under his own directions, and therefore proceeded as early as possible to establish a manufactory at Newfoundland. Through his agency the American public has been secured against the evils growing out of foreign importation; and this valuable medicinal agent has been saved from the disrepute which was inevitable without the adoption of such measures.

There are three kinds of Cod Liver Oil in market, viz: the clear pale, the light brown, and the brown. The color is sometimes the result of the method adopted in its manufacture; and when this is the case the light brown, or brown oil may be rich

in medicinal properties; but this is very uncertain. The pale oil, which is the only article worthy of confidence, is that which is first extracted from the livers, and consequently the purest. The lightest brown, is obtained by boiling the livers after the first, or pale oil has been extracted, and the brown oil is the result of pressing the residue. This last is often obtained by boiling all the viscera of the fish with livers that have passed through the previous process, and then subjecting the mass to great pressure.

A very crude method for preparing Cod Liver Oil was formerly practiced, which produced a good article medicinally, but very objectionable, for obvious reasons. The livers were thrown into large tubs from time to time as obtained, and the oil allowed gradually to run off. By thus adding fresh livers to those which had been standing for a long time the color was produced by the decomposition of the first.

The use of brown oil prepared in this way has led some physicians to attach value to the coloring matter, and regard it as the best; but a full understanding of the subject has disproved this idea. Since proper methods for its preparation have been introduced, the good oil is obtained clear and pale, and no more objectionable as an article of use than the substances of the fish prepared in the best possible manner.

From what has been already written, it will be seen that it requires great experience and caution in order to ascertain what oil is good, or what oil is bad, and especially so at the present time, as the demand far exceeds the supply of a pure article. The high price and scarcity of the pale, and best oil, has induced speculators to adopt methods for bleaching the impure kinds in the market, and therefore the color is no longer a test of quality.

The great difficulty experienced in Europe in obtaining a reliable article has led some members of the profession to take extraordinary measures in order to procure it. Dr. de Jongh, the author of a valuable treatise on the medicinal properties and uses of Cod Liver Oil, devoted two years to the investigation of the causes of its uncertainty. He visited the fisheries where it was prepared, and by chemical analysis and other means, proved beyond a doubt that it was in consequence of its being frequently adulterated.

In a matter of so much importance to the dealer, as well as to the patient, who in taking it, relies upon it as his only hope of life, my father—the late Wm. L. Rushton—obtained from every possible source all the information that could be had upon the subject of its manufacture and chemical qualities, in order to establish for it in this country the great reputation it had attained in Europe. Finding that it was

next to impossible to procure a good article from any of the sources from which it was supplied, he incurred the expense of engaging in its manufacture at the fisheries in New-Foundland. The great success which attended this experiment was no doubt due to his careful supervision of its preparation, by which means he was enabled to furnish his customers with a pure oil which he could warrant, and which has been used with the greatest success.

From my experience in the business, and being familiar with the investigations of my father in obtaining a reliable article of Cod Liver Oil, I am able to offer to the profession and to the public the same security in the quality of the oil I keep for sale, that he possessed; and it will ever be my pride and interest to maintain its high character by offering none but the purest and the best.

Were it necessary, a vast amount of

proof might be collected from the very best professional authorities in favor of this remedy, and of its vast superiority over all others in the treatment of consumption. It is but a few years since this disease was deemed incurable, while now, it is admitted very generally that many cases do recover. How far this desirable result has been attainable from the use of this medicinal oil it would not become me to say, but I do know, from the best sources, that a great number of consumptive patients recover under its use.

On the other hand, when it apparently fails in removing the disease, the result may readily be explained on the ground of some one or more of the errors so frequently embraced in its administration. If an impure, or spurious article is taken, of course the patient fails to derive any benefit from it. This is probably one of the most common sources of disparagement, but one which I have been scrupu-

lously careful to protect myself against, and one from which I have heard little complaint.

Many patients suffering from consumption do not avail themselves of the benefit to be derived from this remedy until the disease has so far advanced that their case is hopeless. Its use is no doubt in many instances deferred from the over sanguine belief which so commonly prevails with the consumptive, that recovery is sure without taking anything. Another very common source of fallacy consists in discontinuing the remedy before it has had time to effect any perceptible change in the condition of health. It is unfortunate for the reputation of Cod Liver Oil that its utility is confined to those diseases which are chronic in their character—diseases which make their progress in the system almost imperceptibly at first, and consequently slow to be eradicated. It is a very common error which prevails, that

remedies suited to chronic diseases should be as prompt in their action as those administered in diseases more rapid in their progress.

Acute diseases usually arise from functional derangements, and their symptoms are often distressing and active. In these cases a judiciously applied remedy often affords immediate relief, and recovery soon follows. Consumption, and the various forms of scrofula and rickits, are diseases which involve structural changes of the system; and consequently only such remedies as are calculated to remove the evil, and repair the diseased structure are found curative. This process must necessarily be slow, however sure it may be.

In giving some account of the early use of Cod Liver Oil in the first part of this treatise, it will be observed that the great mass of testimony is in reference to it as a remedy in chronic rheumatism. At that time its most general application was

not so well understood, and the profession were very cautious in announcing it as a remedy in consumption. This disease had been so long regarded as incurable, that it required the most positive proof of its efficacy to awaken a hope in its favor. It was used to a great extent, it is very true, and with success, but opinions were much less frequently ventured, lest it should not sustain its promised reputation as a curative agent.

The universal opinion as to the incurability of consumption very naturally led to this result, and therefore its progress in popular favor and confidence was somewhat slow, for it had to be built upon an imperishable basis of experience and testimony. This end has been attained in a very great measure, and were it not for the causes already referred to, leading to disappointment in its use, it would stand before the world in the character of a specific for consumption, or as nearly so as it is possible

for any remedy to be in any form of disease, while life is from necessity uncertain, and liable to terminate in any form of disease in spite of human power or art.

In order to give a definite idea of the *modus operandi* of Cod Liver Oil in consumption, it becomes necessary to explain in some degree the nature and character of this disease.

Consumption is now generally regarded as a disease arising from defective nutrition. Whether the first cause exists in imperfect digestion, and consequently unhealthy blood; or in imperfect aeration of the blood in the lungs, is by no means definitely settled.

It is a fact however, well demonstrated, that in the consumptive patient the albumen, which exists largely in the nutritious principles secreted from the food in the last process of digestion,—and conveyed by the locteals and thoracic duct to replenish the blood,—does not undergo the

necessary change into fibrin. Albumen does not add to the nutrient principles of the blood, and therefore when it passes into the circulation unchanged, it exists as a foreign substance, and the efforts of nature are called into action to throw it out, and this is precisely what we find upon examination of the lungs affected with this disease.

The lungs are traversed in every direction by the air passages. The *trachea*, or wind pipe, divides into two branches, which pass one to the right, and the other to the left lung. These divide and subdivide like the branches of a tree, each one terminating in a minute cell. The number of these cells are estimated by *Weber* at six hundred millions in the healthy lung; and each branch and cell is accompanied by a blood vessel carrying the blood to and from it. The design of this arrangement is to enable the blood to discharge, through the extremely delicate

membrane which separates it from the air in the cells, the effete particles taken up in the system, and replenish the blood with oxygen from the air in the cells. The principal product thrown out of the system, in its healthy state, is carbonic acid, which is taken up by the blood throughout the system. The importance of this function cannot be illustrated in a better manner than by stating that the amount of air inhaled in twenty-four hours by a healthy man amounts to the enormous quantity of *fifty-seven hogsheads*; and the whole blood in the system (twenty-four pints) passes through the lungs *five hundred and forty times* in twenty-four hours, or at the rate of a hogshead an hour.

From these Facts it will readily be seen that any morbid condition which shall exist, calculated to interfere with this important function of respiration, must necessarily be detrimental to health.

Now by recurring to what has been al-

ready stated in reference to the imperfect change of the albumen in its passage from the digestive system, to be discharged into the blood; it will readily be seen from whence the morbid product which is known as tubercular matter is derived. In the effort which nature makes to throw this unchanged albumen out of the system, where it is of no use in the economy, it lodges in minute particles in the delicate tissue intervening between the minute blood-vessels and air cells, and thus forms a nucleus which gradually receives additions, until it has attained a size varying from a mustard seed to that of a pea, when it is denominated a *tubercle*, filling up, and obliterating the air cells.

Fortunately for the duration of the patient's life, the deposition of tubercular matter, or albumen, is usually confined to a limited portion of the lungs at first, and sometimes in one only, and from thence proceeds gradually, until the function of

respiration is so far obstructed that life can be no longer sustained. Sometimes that portion of the lung which is first affected, is in a measure restored to health by the softening and expectoration of the tubercular matter, before deposition takes place in a new region. In such cases the patient usually consoles himself with the supposition that the nature of his disease has been misunderstood, and with improved health, he flatters himself that he has passed the period of danger. When this opinion becomes so firmly established as to lead to the discontinuance of further restorative measures, the patient's case may be justly regarded as hopeless; for if tubercular disease has once existed, it will almost inevitably return again, sooner or later, and to a more serious extent. There is no disease which requires more skill and tact in its management than consumption, for its symptoms are often so deceptive as not only to de-

ceive the patient, but often the acuteness of the most able physician.

The action of Cod Liver Oil in consumption presents one of the most beautiful examples of the curative operation of a medicinal agent that we have on record. It cures by promoting in the fullest sense a restorative process in the system. It acts in the first place by improving the digestive functions, and supplying the necessary ingredients for nutrition, which is the basis of health. Under its use the *chyle*, which is the nutritious product of digestion, and taken up from the alimentary canal by the lacteals, becomes of a healthy quality, so as readily to be changed into fibrine; and thus, not only contributing to the amount of nutriment for the uses of the system, but cuts off the supply of this unchanged albumen, which acts as a morbid product when it reaches the blood, to be deposited in the lungs as tubercular matter.

The operation of Cod Liver Oil in promoting these changes is referable in a great measure to two principles, one of which is nutritive, and the other strictly medicinal. It is the only remedy which possesses to any extent this valuable qualification.

The nutrient principle is the fat, which constitutes its main substance; and known among chemists as Oleic acid, Margarinic acid, and some other ingredients in small quantities.

The medicinal substances are quite numerous, and of a very important character; consisting of such as have enjoyed in their separate state great repute in the treatment of diseases for which Cod Liver Oil has been found most useful. Of these probably *Iodine* is the most valuable. The others are chlorine, bromine, phosphorus, lime, magnesia, soda, iron, and some others of less sensible properties. These medicinal substances contained in a natu-

ral state must of necessity render it highly effective when taken into the system.

Iodine it is well known is obtained for commerce from the ashes of burned sea weed, and naturally enough is found in the product from a fish that inhabits the element where this marine plant grows. Iodine is one of the most effectual remedies in a great number of diseases we have, and especially so in the various forms of scrofula, cutaneous eruptions and rheumatism. In consumption it is believed to possess great power in arresting the progress of the disease; and has been used by inhalation to a considerable extent, and in many instances with very satisfactory results. At the present time it is being used extensively, and so indiscriminately as to warrant the opinion that its utility by this mode of administration will soon fall into disrepute. As an internal remedy, it possesses great controll over the growth of morbid products, seeming to find its

way in the system directly to the seat of the disease. Given however in its uncombined state, it often fails to answer the expectations which have been raised by those who have used it in its natural combination with other medicinal agents.

However good a remedy may be, there is no instance but what it may be improved by combination with others of analogous properties, and its virtues greatly enhanced. This has ever been deemed one of the greatest arts in pharmaceutical science; and it is equally true, that a natural combination is far more effective than one prepared by art. A very striking example of this fact is exhibited in the natural mineral waters of this and other countries.

The chemist finds it easy to analyze them, and state to a fraction the medicinal products, but finds his art powerless when he attempts to produce the same medicinal properties by artificial combination. Nature in her great laboratory ac-

compleishes results which human art can never approximate.

The nutrient or fatty principle of this oil possesses one advantage over all other substances of the kind, in being readily digested. It is highly probable that one cause of the accumulation of tubercular matter in the lungs, is referrable to an impaired condition of the digestive organs, in which the ordinary fats used for culinary purposes, and on the table, are not digested. Such being the case, the system suffers from the loss of one of its principal constituents; hence the emaciation which so commonly exists with the consumptive; for it is the fat, or *adipose tissue*, more than anything else which is deposited beneath the skin, and between the muscles, which gives the full plump figure to the body. In the animal structure, as well as in the plant, the various constituents must exist, in an exact or definite proportion, in order to promote a healthy state. Now, if the

fatty principles are lost from defective digestion, the other constituents must exist in a proportionate excess, and hence it is that albumen accumulates in the economy faster than it can be appropriated to the uses of the system, and therefore reaching the most delicate structure in the body—the lungs—it is deposited. That this theory will answer the criticism of physiologists I cannot say, for it is difficult to communicate to the popular understanding so difficult a subject in language and terms strictly scientific.

It is a fact which does much towards corroborating this theory, that emaciation usually exists to a greater or less extent before any other sign of disease is manifested; and it is not less true, that tubercles are deposited in the lungs often long before the usual symptoms of consumption appear.

The causes of consumption then must be three-fold. First, defective digestion. Second, the imperfect nutrition as a result

of the first. Third, the accumulation of a morbid product in the lungs, as a consequence of the second; and this in turn serves to impair the function of respiration, and, finally, acting as any other foreign substance, irritation and inflammation are induced, which give rise to the various concomitant symptoms which follow, in turn, the progress of the disease. The fatal termination of consumption when it is not arrested, is hastened by interfering with the function of respiration, which is so important that life cannot exist but a moment when from any cause it is entirely obstructed. The proper aeration of the blood in the lungs is more immediately essential to life than digestion, and therefore consumption is one of the most complicated and fatal diseases afflicting the human family.

With this limited view of this most fatal malady, the application of Cod Liver Oil, as a therapeutical agent for its cure, will readily be understood.

When digestion is impaired, this oil will generally be borne when no other fatty substances will; thus supplying a want in the system, which without it, must necessarily lead to disease. In this respect it partakes of the character of nutriment, and an important one, not only in arresting emaciation, but fortifying the system against the encroachments of disease. While the reparative process is thus going on, the medicinal properties, and especially the Iodine, promotes the absorption, and removal from the system, of the tubercular matter which may have accumulated in the lungs or other parts of the organism. Thus we have in Cod Liver Oil a remedy which fulfils two important indications at the same time, the value of which no one can fail to appreciate as necessary in this most formidable of all diseases, Consumption.

Before proceeding to the consideration of Scrofula, and other diseases in which

this oil has been found most servicable, I propose to bring forward the testimony of several German physicians, as found in a translation of their writings by Edward Carey, M. D. with other authorities.

“Lest it should not have been made sufficiently evident from what has been mentioned in how far the operation of the Cod Liver Oil has been successful in tubercular phthisis, I considered it worth my while to collect the opinions of some of the most celebrated physicians of our country, as well as the results of their observations; this appeared so much the more important, as the tubercular phthisis was so frequent in our neighborhood; on this account I applied to Suermann, Schröder van der Kolk, Loucq, and Alexander, in Utrecht; Pruyss van der Hoeven, in Leyden; Sebastiani, in Gröningen; and Suringar, in Amsterdam; and have correctly reported what the four first of them mentioned to me; of what the three latter wrote

I have given briefly only that which particularly relates to the present question."

Suermann:—"The Cod Liver Oil has proved most serviceable in phthisis pulmonalis when the patient was of scrofulous parents, or was himself scrofulous. It was sometimes evident that the further development of the tubercles by these means was checked. Therefore, I consider that the Cod Liver Oil is the very best means by which we can restore those who unfortunately suffer from tubercular phthisis, at that age when it is most dangerous to them. Even when the disease is more developed, and has made greater progress, this remedy has proved itself very efficacious. Sometimes I have prescribed the oil for patients who came to me from the country, and whose recovery did not appear possible, and it afforded them at least a rational means of palliation, even when it could not be attended with complete success. Of these, there were many, when

they came to me again after some time, had become so improved that I scarcely knew them."

Schröder van der Kolk.—“Of the value of the Cod Liver Oil in the tubercular phthisis, I may mention the following cases:—

“1. A young man, 24 years of age, of delicate constitution and phthisical frame, suffered for a long time from a dry cough, besides symptoms which showed the existence of crude tubercles in the lungs. I recommended him the Cod Liver Oil, and advised him to be careful of the state of his general health; he persevered in it nearly half-a-year without discontinuing it. After he had taken it for some time, the dry cough not only disappeared, but his color became florid and his figure more robust. After one year's perseverance in its use, the state of his bodily health was so much improved that in this case there was every reason to hope that the disposi-

tion itself to phthisis was altogether removed.

“2. A woman, 30 years of age, evidently suffering from tubercular phthisis, with a vomica in the right lung. When I was consulted, in February 1839, the symptoms were emaciation, circumscribed redness of the cheeks, hectic fever, night-sweats, constant cough, decided purulent expectoration, in which the tuberculous matter could be recognized. She took for a long time the lactuca virosa with ipecacuanha, which means I had often found the best palliative in these affections; it improved the symptoms, softened the severity of the cough, notwithstanding neither this, the night-sweats, or the perulent expectoration, could be kept under. In these desperate circumstances I prescribed the Cod Liver Oil, and in the space of two months after the commencement, the state of the patient was so much improved, that, although a perfect cure could not be

effected, still, life was prolonged. The emaciation was arrested, nor was there left a trace of the night-sweats or the hectic fever. The cough ceased almost entirely, a slight occasional cough alone remained, which showed that the disposition to it still existed, but which diminished daily; the expectoration not only decreased, but its nature was so changed that only a little mucus was occasionally brought up, without any effort. The vomica which was before observed in the right side, could still be recognized by the stethoscope. After some weeks the brown oil, on account of its nauseous taste, was changed for the white, which the patient used with the best results. She persevered in the use of the oil, under these favorable circumstances, the whole of the summer and part of the autumn: however, by the change of weather and perhaps from other circumstances, the cough again recurred, which was again benefitted by increased

doses of oil and the *lactuca virosa*. The state of the patient was little improved since the last summer; still I hoped to overcome this,—but in November of the same year, a violent hemorrhage from the lungs suddenly occurred, in which the patient was suffocated, as is often the case where a decided *vomica* exists, in which the inflammation is reduced or is almost entirely subdued.

“3. This case is very similar to the former. A girl 10 years of age, of a family in which many had already died of tubercular phthisis, suffered from hectic fever, with circumscribed redness of the cheeks, night-sweats, cough, expectoration of tuberculous matter, with daily increasing emaciation, on which account I mentioned to the friends that her death was fast approaching. As I already knew the virtues of the Cod Liver Oil in these affections, I had recourse to it, hoping hoping that it might at least relieve the symptoms. I

recommended the use of the white oil, and it proved itself not less powerful than in the previous case; indeed, it effected more than could have been expected or even hoped for. Not only did the emaciation disappear, but the figure became stouter and the complexion clearer, as the nourishment was again taken up, whilst the cough and the remaining symptoms altogether disappeared. The patient enjoyed this improved state of health for a long period; but the last time she was able to leave the house she exposed herself in various ways, and even ventured to leave off the oil. The cough and respiration suddenly returned, and, after a short time, the patient died, with all the symptoms of phthisis, in its severest form, accompanied by inflammation of the peritoneum."

"From these three cases the virtue of the Cod Liver Oil is evidently proved, and experience shows that this remedy, given at the proper moment and persevered in, at

the same time avoiding all exciting causes, has not only the power of entirely subduing all disposition to phthisis, but also apparently arresting the development of tubercles, whilst it is the best palliative means of allaying the urgent symptoms in the last stage of tubercular phthisis."

Pruys van der Hoeven:—"In answer to the question as to what is my knowledge of the Cod Liver Oil in tubercular phthisis, I can say that it has been successful in retarding the progress of this disease. I have prescribed it in different stages and under various circumstances.

"First,—I have given it to boys, whose form of chest, delicate skin, and disposition to catarrh, showed a phthisical habit; and it has, in conjunction with dietetic and gymnastic rules, not only improved that delicate appearance, but has removed the obstinate cough.

"Further,—I have given it to young men who grew tall exceedingly quickly,

by which, in scrofulous constitutions, phthisis very often gradually declares itself, by the accession of symptoms of general fever. Under these circumstances the Cod Liver Oil is the most powerful restorative. But also where the phthisis is fully developed in the stage of softened tubercles, it appeared to me to improve the general health so much that the patient who kept his bed and was worn out with night sweats and hectic fever, in a short time was enabled to get up, and life was prolonged for many months.

“ Besides these, I treated a young man who suffered from hectic fever, with every symptom of advanced phthisis. After a perseverance of one month in the use of the Cod Liver Oil, the fever disappeared, the powers of assimilation were restored, and with it the strength returned. As often, however, as the weather changed, the earlier symptoms were again remarked, particularly in those cases in which the

oil was discontinued. I will not venture to decide whether the Cod Liver Oil is efficacious in the cure of phthisis or not, because I never afterwards saw the patients whom I successfully treated for it; still there is no doubt that it is a very powerful remedy."

Sebastiani:—"The Cod Liver Oil is a useful medicine in tubercular phthisis, when there exists neither hectic fever or diarrhœa; it is of no avail in the last stage, though it may be in the first and second. Furthermore, it should not be prescribed in phthisis florida, and is altogether contra-indicated when phthisis is accompanied by bloody expectoration.

"I have found the Cod Liver Oil to be most serviceable in cases of hereditary phthisis, where the parents or other relations (uncles, aunts, brothers, or sisters) were scrofulous, had had gout, had died from phthisis, or were suffering from it. When patients from such families are la-

boring under a susceptibility of the organs of respiration, and consequently subject to frequent attacks of cough or angina pectoris; when the breathing is hurried on the ascent of stairs, or by running quickly, sometimes combined with palpitation of the heart; when, particularly in the morning or evening, a dry cough comes on, although all the other catarrhal symptoms are absent; when in females who suffer from this disease there is a disposition to leucorrhœa, sometimes pain in the back, or spasm in the bowels, where also the powers of assimilation is defective—the Cod Liver Oil has proved itself an excellent remedy. On the other hand, its use must be abstained from when the catarrh is acute, or much congestion of the lungs exists with fever; when, however, these symptoms are relieved, the Cod Liver Oil should again be recurred to.

“In these cases, when patients have followed my advice, and have allowed

themselves to be directed in the path which I have pointed out to them (not only in respect to the taking the oil, but also in their mode of living,) I have never once known the disease to make any progress, or the patient to be laid up. I have patients under treatment who have used the Cod Liver Oil two or three years, others who have taken it for nearly four or five years. In all these cases I have seen the cough lessen and at last disappear, and the susceptibility of the respiratory organs diminish; whilst at the same time the appetite improves, the nutrition better, the strength increases, and a favorable change takes place in the general appearance."

"Bennett relates a series of cases of Ozann, Wolf, and Schonlein. Schenk, Taufflied, Kopp, and others, all speak of it in the most favorable terms. All these remarks tend to prove the virtue of Cod Liver Oil in the commencement of the dis-

ease. Haas also is of the same opinion, that decided cures are effected only when the tubercles are not as yet softened. Klenke cured a female with confirmed tubercles and hectic fever, by the usual treatment with the oil, and the inhalation of air impregnated with the steam of oil, in the space of four months. Haas has remarked that the symptoms of the second stage have been arrested only in those cases where the digestion was unimpaired, and the mucous membrane was still unaffected. In the metastasis to the mucous membrane of the bronchia, the Cod Liver Oil may sometimes be serviceable. In tubercles of the mucous membrane of the intestines (diarrhœa of phthisical patients) and disposition to congestion, the Cod Liver Oil is always contra-indicated. Haas, as well as Puchelt, has known hæmoptysis to be arrested by Cod Liver Oil.—*German Trans.*

“The derangements in the functions of

the mucous membranes must be considered more as a symptom of the scrofulous diathesis than as a peculiar form of scrofula, for it is usually found to exist more or less in all patients, and it sometimes either appears before the other symptoms, or in so unusual a situation, that it deserves, if not exclusive, at least the special attention of the patient, as well as that of the physician. To it is owing the discharge from the ears, in which the secretion from the mucous membrane of the external ear takes on a specific purulent character; again, the peculiar diseased secretion of the mucous membrane of the intestines which generates worms; lastly, the vitiated secretion from the mucous membrane in the female organ of generation, (fluor albus,) as well as irregularity of the menstruation. Since, then, as we have shown, that the disposition to scrofula is subdued by the use of the Cod Liver Oil, it naturally follows that this derangement in the

secretion of the mucous membranes, when it depends upon this diathesis, will be as certainly benefited as the scrofulous diathesis itself.

“ This is confirmed by the observations of Brefeld, Calama, Kopp, Schenk, as well as by my own. Brefeld also asserts that he has witnessed the anthelmintic power of the Cod Liver Oil in children who suffered from rachitis. Calama confirms this in his sixteenth, seventeenth, and twenty-fifth cases.

“ On looking over the various treatises which have been published on this subject, and on weighing the opinions and statements which have been expressed in them, it is indeed abundantly evident that Cod Liver Oil is an agent of no inconsiderable power. It is also evident that its action is chiefly in one direction, and is exerted almost entirely in modifying, restoring, and improving the several processes partly of

primary, but chiefly of secondary assimilation, the derangement of which constitutes the basis, as it were, and origin of certain symptoms which we are accustomed to treat, under various names, as special diseases.

“Cod Liver Oil has also been found useful in cases in which tonics are indicated; as in convalescence, after influenza, bronchitis, pneumonia, pleurisy, and other cases, in which the disease having been partially or entirely removed, the constitution requires to have cautiously supplied to it both materials from which its impaired tissue may derive new force, and tone by which those materials may be effectively assimilated.”

Professor Bennett of Edinburgh, says: —“Since I introduced this substance to the notice of the profession as a remedy for phthisis, in 1841, I have continually prescribed it in hospital, dispensary, and private practise. I need not, perhaps, say,

that I have given it in a very large number of cases, and have observed its effects in all the stages of the disease, and under almost every circumstance of age, sex and condition. I have had the most extensive opportunities of examining the bodies of those who have died after taking it in considerable quantities, and am still observing the cases of many persons who may be said to have owed their lives to its employment.

“ Further, I have carefully watched the progress it has made in the good opinion of the professional public, and perused all that has been published regarding it in the literature of this and other countries. It were certainly easy for me, therefore, to write at great length on this subject; but I do not see that anything of utility could be added to what I have already published. The following is a summary of my views regarding Cod Liver Oil as a remedy for phthisis :

“1. Cod Liver Oil is, as M. Taufflied pointed out, an *ana leptic*, and is indicated in all cases of abnormal nutrition dependent on want of assimilation of fatty matter.

“2. It is readily digestible under circumstances where no other kind of animal food can be taken in sufficient quantity to furnish the tissues with a proper amount of fatty material.

“3. It operates by combining with the excess of albuminous constituents of the chyme, and forming in the villi and terminal lacteals those elementary molecules of which the chyle is originally composed.

“4. Its effects in phthisis are to nourish the body, which increases in bulk and in vigor; to check fresh exudations of tubercular matter, and to diminish the cough, expectoration, and perspiration.

“5. The common dose for an adult is a table-spoonful three times a-day, which may often be increased to four, or even six,

with advantage. When the stomach is irritable, however, the dose to commence with should be a tea or desert spoonful.

“6. I have never observed its employment to induce pneumonia, or fatty disease of the liver or kidney, however long continued, although such complications of phthisis are also exceedingly frequent.

“Whilst I consider such to be the general pathology and treatment required for phthisis, which should never be lost sight of, you will be greatly mistaken if you suppose that the indications stated can always be carried out. In practice, the great difficulties to be overcome are the numerous complications of phthisis, but, above all, that excessive derangement of the alimentary canal which is alike the cause of the disease and the obstacle to cure.”

Dr. J. C. B. Williams speaks of this remedy as “assuredly the most efficacious of all medical agents in the treatment of

cacoplastic and aplastic deposits ; and one which, after two years' constant experience in its use, is still frequently surprising me by the wonders that it occasionally works, even in aggravated and advanced cases of scrofula, mesenteric disease, pulmonary consumption, chronic pneumonia and pleurisy, and chronic rheumatism."

Perhaps one of the most important communications which have yet appeared on the subject, is the paper by the last-named physician, in the *London Journal of Medicine*, No. 1. A number of interesting cases are there recorded, in which the remedy proved efficacious in retarding the progress of *consumption*, ameliorating the condition and prolonging the life of the patient. In a large proportion of cases, in the second stage of the disease, he observed, that " in a few days the cough was mitigated, expectoration diminished in quantity and opacity, the night-sweats, ceased, the pulse became slower and of

better volume, and the appetite, flesh, and strength gradually improved." Striking instances of the beneficial operation of the remedy were also observed in the third stage of the disease. Having prescribed the oil in 400 cases of consumption, of 234 of which he preserved notes, Dr. Williams concludes by stating, as the results of extensive experience, confirmed by a rational consideration of its mode of action, that the pure fresh oil from the liver of the cod is more beneficial in the treatment of pulmonary consumption than any agent—medicinal, diatetic or regimenal—that has yet been employed. But he elsewhere observes, that the "good effects of the oil are not permanent, unless its use be persevered in long after apparent recovery." "Unlike other oils and fats, it rarely disorders the stomach and bowels, or disturbs the functions of the liver. On the contrary, it generally improves all the chylopoetic functions, and distinctly promotes the ac-

tion of the liver, so that the appetite and power of digestion are restored, and patients are enabled to take an amount and variety of food beyond what they were accustomed to even in health." Dr. W. has used the oil in some cases of functional and structural diseases of the liver with satisfactory results, "especially in one of habitual formation of gall-stones, which had resisted all kinds of treatment, and was rapidly destroying health."

SCROFULA.

Scrofula is more nearly allied to consumption than any other disease. Formerly it was regarded as a distinct malady, but now it is almost invariably considered as a precursor or antecedent stage of tubercular disease of the lungs.

The reason it has been so generally regarded as a distinct disease, arose from the fact that it was found to exist mostly in childhood, and occupies as its seat various

organs of the system. Modern research has demonstrated that it arises from the same cause as consumption, viz: imperfect assimilation. The blood abounds in albumen, and is deficient in fibrine.

Why the effect of this imperfect condition in the restorative functions of the system should fall upon other organs more frequently than the lungs in childhood, is a question by no means well settled.

It is rational to suppose, however, that the more perfect development of the lungs than other organs in early life, offers them increased powers of resistance. While on the other hand, the other structures for the most part are exceedingly susceptible to disease, from their rapid growth. The solid tissues of the system gain firmness with age, in proportion to the degree of vigor; but it is not so with the lungs. These organs are more delicate in their structure than any others in the body, and being more exposed in the important functions

of respiration,—from which they have no rest,—they become more and more susceptible to the inroads of disease. This is a reasonable explanation at least, and has more facts to sustain it than any other.

Scrofula usually exhibits itself in scattered swellings in the glands which lie immediately beneath the skin. Those about the neck are more frequently affected. It is by no means unusual to see a child with these swellings on the side of the neck, often disfiguring it very much, and when they are not removed by proper treatment, they finally terminate in open ulcers, from which is discharged unhealthy matter identical with that of softened tubercles raised from the lungs in consumptive patients. This form of scrofula is seldom fatal while seated in the neck. These sores ultimately heal up, leaving unseemly scars, but this is not the termination of the disease. Sooner or later it will almost invariably appear in some other

part of the system, and most likely in the lungs, when the disease is well known as consumption.

It is not uncommon for scrofulous swellings in the neck to be developed during the progress of tubercular disease of the lungs, but they most frequently precede the more fatal malady. The healing of the ulcers in the neck, which is regarded as most favorable to the casual observer, is often the index to the physician's eye of the setting in of consumption.

There is another form of scrofulous disease very prevalent among young children and known technically by the name of *tuberculosis mesenterica*, and sometimes it is called abdominal consumption. In this disease the glands of the mesentery become filled with scrofulous matter, giving the abdomen of the child a hard and unusual appearance.

The glands of the mesentery are scattered over the course of the lacteal vessels,

which convey the nutrient principles of the digested food into the thoracic duct.

The swelling of these glands obstructs the chyle in its passage to the veins, and thus cuts off the connection between the digestive system and circulation, and consequently the patient dies from inanition or starvation. The blood being no longer replenished by nutrition, it soon becomes deficient in nutrient principles, and life is sustained principally by absorption from the fatty tissues of the body, and hence the emaciation which is always attendant upon the last stage of this complaint.

Were these glands all to become involved at the same time, the fatal termination of the disease would be very rapid, but fortunately this is seldom the case, and therefore some patients live on for years, and sometimes under favorable circumstances, though rarely, recover.

From these observations it will readily be seen that scrofula is a disease in which

the tissues of the body do not grow in a healthy manner, in consequence of defective nutrition; while consumption is a malady in which depositions take place in the lungs from the same cause. The first occurs in early life most frequently, and the glandular system takes on the disease; while the second seldom occurs until maturity, when the structure of the system has become firm with age, and consequently the lungs offer the most susceptible seat for the development of the morbid product.

There is little doubt but that consumption is a disease the seeds of which are sown at a much earlier period than is generally supposed. Scrofula is its first development, and when this is but imperfectly eradicated from the system, it will almost certainly at a future day take a deeper root in the lungs, where its progress is with much greater difficulty arrested.

When we consult the testimony of me-

dical men, which is the most reliable evidence we have of the utility of any medicinal agent, we are forced to the conclusion that there is no remedy in use which is in any degree equal to Cod Liver Oil as a medicine for this disease. If it will arrest the progress of tubercles in the lungs and promote their absorption, it will most certainly remedy the precursory disease, which is much more simple in its character, and easier controlled.

Occupying the position, as I do, of an interested party, I would not willingly claim any thing for Cod Liver Oil further than is sustained by testimony and experience, lest it should be said that I seek to mislead the public for private gain. Were it possible to over estimate the value of Cod Liver Oil, it certainly cannot be regarded as so doing to assert that its free and long continued use by children of strumus or scrofulous habits, would serve in a great measure to eradicate from the human con-

stitution the predisposition to that most fatal malady, consumption.

The only way by which this end could be accomplished, is that of removing from the system a predisposition to this disease before the evil can be transmitted to the next generation.

The great majority of those who die of consumption refer directly to one or both of their parents, or some one or more of their ancestors for its cause. I would not be understood to say that consumption is necessarily hereditary. It is so far as the child inherits the peculiarities of temperament and constitution which predispose it to the disease, and no further. Children whose parents are healthy will sometimes be marked with the physical infirmities of their grand parents; on the other hand, children, of unhealthy parents will sometimes be blessed with the constitutional vigor of their immediate ancestors; but this improvement in health upon the parent is very rare.

However beneficial the use of Cod Liver Oil may be in confirmed consumption, it seems to be very evident that its greatest utility is to be sought in its administration in the precursory diseases, and especially in scrofula. In the scrofulous patient it answers the two fold purpose of preventing consumption, and the liability to its further transmission, which is the only possible way to eradicate the disease from the human race.

There are a number of other forms in which scrofulous diseases manifest themselves, but it is unnecessary to dwell much upon them, as Cod Liver Oil is equally well adapted to every variety, and its use requires no deviation in principle. Among those I will merely mention white-swelling, hip-joint disease, rickets, and a number of the different forms of cutaneous eruptions.

The development of scrofula in so many varieties depends oftentimes upon some pe-

culiar exciting cause, as for instance, an injury either to the hip or knee will cause the disease to become thus located. The character of the disease however is dependent upon the predisposition in the system. Rickets is more peculiar in its character, it consisting in imperfect development of the bones, and exhibits itself in enlarged joints and bent ancles and legs from the soft state of the bones. In this last complaint Cod Liver Oil is regarded by some authorities as a specific, in supplying the system with the earthy matters which make up the solid structures of these organs.

In conclusion, I would repeat what has been already stated, that with the mass of evidence in favor of the curative properties of Cod Liver Oil, it must be a remedy of great utility; and whatever experience has seemingly been opposed to this view of it, has no doubt arisen from the use of an inferior article.

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