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AN

ACCOUNT

OF

SOME EXPERIMENTS

MADE WITH

THE VAPOUR OF BOILING TAR,

IN THE

CURE OF PULMONARY CONSUMPTION.

BY

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1817.

TO

MATHEW BAILLIE, M.D. F.R.S.

PHYSICIAN IN ORDINARY TO THE KING,

&c. &c. &c.

My Dear Sir,

On the 2d of February, (Old Style,) I did myself the honour of writing to you on the subject of the following pages. I stated to you, at that time, the success I had met with in the treatment of Tubercular Consumption, by causing the patient to live in an atmosphere charged with the vapour of Boiling Tar; and I promised to communicate to you the result of further trials, as soon as they should be completed.

Several patients, whose lives not only I, but other physicians, entirely despair-

ed of saving, having been cured chiefly by the efficacy of this simple remedy, I deem it right to make these cases public; and I have particular pleasure in addressing them to you, relying as I do on the excellence and impartiality of your judgment in such matters, and knowing that the interests of humanity cannot be confided to more skilful hands.

Believe me to be, with great respect and regard,

My dear Sir,

Yours very sincerely,

ALEX. CRICHTON.

St. Petersburg,
27*th April*, 1817.

THIS Pamphlet was published, in French, at St Petersburg, early in last Summer.

The Manuscript of this English Copy did not reach the Editor, owing to a delay on the part of the Friend to whose care it was entrusted, 'till the 22d current.

Nov. 26, 1817.

AN

ACCOUNT, &c.

An accident having led me last year to a discovery, which promises to be of importance in the cure of some varieties of Pulmonary Consumption, I feel it a duty to communicate the result as soon as possible, without waiting until a greater number of cases be collected, in which the remedy may have been successful; for I should deem it a just reproach, if, from any negligence on my part, or from an interested motive, I were capable of withholding the publication of any means whatever, that might save the life of a single individual, or even, that could diminish the sufferings of a numerous class of unfortunate patients, in favour of whom the medical art offers so few resources.

I wish not, by the present publication, to be understood as laying claim to the discovery of a totally new principle of cure in Phthisis, but to the discovery only of a new remedy in the treatment of that disease.

Mr Mudge,* in the year 1782, in a very ingenious pamphlet, written to recommend the use of a machine for inhaling steam in catarrhal complaints, states his belief also in the benefit to be derived, in Pulmonary disorders, from the inhalation of volatilized balsamic bodies. He mentions having seen a case, where the patient had a violent suppuration in the lungs, and expectorated a quantity of such purulent and fetid matter, that his nearest relations could scarcely approach him. His apartment was fumigated twice a day with the vapour of common resin, and Mr Mudge asserts, that this patient recovered his health; but adds, that as he had been removed into the country to undergo this treat-

* See his Treatise, entitled "A Radical and Expeditious Cure for a recent Catarrhous Cough," by John Mudge, surgeon at Plymouth. London, 1783.

ment, he cannot declare that the change of air had no influence in the cure. He confesses that he never saw any similar good effects produced by the same remedy; but he recommends it on hypothetical reasoning, which I here omit, wishing to confine myself to the mere relation of facts. In the course of his observations, Mr Mudge says, he believes, that much of the benefit which consumptive persons experience from sea-voyages, is derived from the tar vapour constantly present on board a ship.

The injury which was done to consumptive patients by the inhalation of oxigen gas, and the relief which many of them have experienced in flat and marshy countries, where the air is charged with hydro-carbonic gas, are facts sufficiently known to the Faculty. It is also well known, that these circumstances gave birth to the idea of forming, for consumptive patients, artificial airs, which contain less oxigen than the common atmosphere; but whether it be that the effort required to inhale gases contained in bladders, bags, or gazometers, be hurtful, and fatigue the lungs,

or that the application of these means be too temporary, it is certain that they have not hitherto justified the hopes entertained of them.

In the neighbourhood of a country house, which I inhabited last summer, in the vicinity of the Imperial Palace of Kamenoi Ostroff, is a cable manufactory, which I one day went to see, without any other motive than that of taking a walk. In the place where the tar was boiled in large quantity, I found, to my great surprise, that, although the vapour affected the eyes painfully, yet I breathed the air with perfect ease. In a kind of magazine adjoining to this, where the vapour and odour of boiling tar were weaker, yet strong, the eyes were not affected, and it immediately struck me, that this artificial atmosphere might be of use to a consumptive patient who lived in the neighbourhood, and whom I had entirely despaired of curing.

The proprietor of the cable manufactory immediately consented to the trial being made, and the following results ensued from it.

FIRST CASE.

N. 31 years old, of a delicate, lymphatic constitution, and yellowish pale countenance, having the thorax a little flatter than it ought to be, compared with his stature, attributed the origin of his complaint to a cold caught in the month of June 1814. He says, that after having taken a Russian vapour bath, instead of going immediately home, he walked in the garden, and on his retiring to his apartment he fell asleep, the window being open. He continued to sleep soundly till about 5 o'clock the next morning, when he was awakened by a sense of tightness, and oppression in the chest, and a stitch in the side. From this indisposition he was relieved by his physician Dr Kamenetsky. In about six weeks he considered himself cured, but retained a short cough, which contn ued, with little intermission, until December 1815, distressing him more during the night than the day.

He unfortunately caught a fresh cold at this time, which aggravated his cough, and brought back the pain in his side, and oppression in the chest. Some weeks afterwards he began to spit a little blood, which soon became very copious. About the middle of January 1816, he began to be affected with night-sweats; the coughing of blood returned from time to time, and in this situation he applied to Dr Gaiffsky, who relieved, but did not cure him.

It was about the end of May 1816, that N. came for the first time to consult me. He had then all the symptoms of a tubercular Phthisis in a state of rapid progress. He had again been spitting blood, and the matter expectorated had all the characters of pus; he was extremely weakened, and had colliquative sweats, often accompanied by diarrhœa, which had reduced him to a shadow. The medicine he was then taking was a slight infusion of rose leaves, acidulated with sulphuric acid, with a little opium added, to arrest the spitting of blood. I ordered a blister to be applied to his chest, and made him ob-

serve a proper regimen. To ease the cough, and support his strength, I prescribed Iceland moss, with a very slight addition of tincture of opium.

In the month of June, this patient took a lodging near to me in the country. His cough was then frequent, and accompanied by a very copious purulent expectoration; he felt great oppression, which I attributed to the quantity of matter constantly forming in his lungs, and to his extreme weakness. The night sweats consumed him rapidly. His only medicine was the Iceland moss, with tincture of opium, in slight doses. In this state, he was first sent to the cable manufactory above mentioned.

The first day he remained in the tar vapour four hours; and in a very short time after entering the room, he says he experienced a sensation of greater ease on his chest. As the weather was hot, and he had no one there to converse with, he fell asleep, but soon awoke with a headache; still the relief in his breathing was so decided, that he resolved to return to the room on the morrow.

He continued daily to visit it, always falling asleep, and waking with headache. It was not till the expiration of some weeks that the tar vapour ceased to have this effect. During this time, however, the cough and expectoration had gradually diminished, and at the end of a month he had regained his former strength; when, without informing me, he went daily to town, neglected his remedy, and the cough returned. I reproached him for such imprudence, and insisted on his having recourse again to the tar vapour room, which had before been so successful. He returned to it, and continued his daily visits there until the end of our short summer. The beginning of September, the period of quitting the country, he felt perfectly well, and thought his cure complete. I then lost sight of this patient; and it is only to-day, the 27th March, 1817, that I learn, in answer to a letter I addressed to him, that his health has continued good; that he has taken no medicines all the winter; that he has gone out daily on business; but that having very lately a slight return of cough, he has just

begun to cause his bed-room to be fumigated at night with the tar.

SECOND CASE.

Mrs Fitch, 30 years of age, thin, of a livid complexion, rather flat chested, caught a violent cold during the summer of 1815, being then with child for the third time. She had recourse merely to common domestic remedies, and the cough continued throughout her pregnancy; as it was not of a painful or intense nature, it gave her no alarm. She was brought to bed in November of a healthy child; but she says it caught her disorder, and died quite exhausted. Mrs Fitch continued to cough during the whole winter, but the spring seemed to revive her, and to diminish her cough considerably. Some time afterwards, however, the cough became more violent than ever, and assumed a very alarming character. She then came to consult me about the middle of July 1816. She appeared to me in the highest degree consumptive;

already a marasmus had commenced; the cough left her no rest by night or by day; she had a copious expectoration of greenish-yellow matter, of the consistence and other apparent qualities of pus. Colliquative sweats, accompanied by diarrhœa, had reduced her to a skeleton; her pulse was always quick; a high hectic fever came on daily about 12 o'clock, which ended in a copious colliquative sweat at night.

Believing her case incurable, but wishing to ease her, I prescribed a decoction of althœa, with a little tincture of opium, to be taken every two hours; and as her state of extreme debility prevented her from being taken to the cable manufactory, I ordered her room to be fumigated with tar vapour; but I had scarcely any hope of her recovery.

At first, the vapour occasioned headache as in the former case; but as she felt considerable relief in her chest, she persisted in the trial of this remedy. She assured me, that without using any other means of cure than those above stated, she found, at the expi-

ration of a week, that her cough and expectoration were much diminished, but that her great weakness prevented her quitting her bed. Her perspiration was also much lessened; the diarrhœa had ceased since her use of the decoction of althœa with opium.

Her appetite and strength soon returned, while her cough and expectoration became daily less and less. At length she rose from her bed, and sat up several hours in an armed chair. From this period, her convalescence went on rapidly; all the bad symptoms disappeared, and she regained flesh. Her cough totally left her by the time of my returning into town early in September. In a week afterwards, I heard that she had resumed her former occupations, and felt herself perfectly recovered.

From this time, until the 11th January, 1817, I had heard nothing of her. She then came to tell me, that she had continued quite well the four last months of the year; that since September she had neither taken medicine, nor employed the tar fumigation, but that she now thought she had again caught

cold from the dampness of her habitation; that for the last fortnight her former cough and expectoration had returned, and that she already felt much weakened. I prescribed exactly the same treatment as before; and in a month afterwards, I heard with infinite satisfaction from her husband, that she was again recovered.

The successful result of so simple a means of cure, encouraged me to multiply the trials of it; and to this end, I begged permission of Her Imperial Majesty, the Empress Dowager, to pursue these trials in the Hospital for the Poor, which is under Her Imperial Majesty's immediate protection.

This favour was directly granted; and one Ward, containing four or five beds, was devoted to this purpose.

I charged two of the Physicians of the Hospital, Messrs BLUHM and ROOS, with the treatment and observation of the consumptive patients sent to this Ward. Their report is as follows—

LETTER from Messrs Bluhm and Roos.

"Sir,

"The undersigned have the honour of laying before you the result of the trials made with tar vapour in the hospital for the poor, according to the directions we received from you.

We have found the easiest and best way of making the tar fumigation, (pix liquida,) is to put the tar in any earthen vessel over a lamp or heated iron, to cause a slow volatilization, until the air of the ward be sufficiently impregnated with it. This process is repeated three or four times a-day. Here follows an account of the cases which have come under our inspection.

FIRST CASE.

Lukeria Niketena, a widow, aged twenty-eight years, of a delicate make and feeble

constitution; mother of two children; had ceased to be regularly menstruated for ten months past. She was taken into the hospital the 16th September, 1816, for a chronic cough, accompanied by vague pains in her chest; her expectoration was rather abundant, and had quite the character of pus; it was sometimes granular; at others, in large masses: She had a constant hectic fever. She relates, that shortly after the commencement of her disease, she caught cold, and was seized with a violent pain in her side, for which she was blooded three times. The pain then left her, but the cough and expectoration remained.

Since she has been in the hospital, every symptom of tubercular phthisis has appeared, particularly a frequent cough with a purulent expectoration, pains in the side, short and difficult respiration, and fever more or less violent. These symptoms have often seemed diminished by proper remedies; but violent night-sweats soon occurred, which weakened her to such a degree that she became quite cachetic. In this state, she was submitted

to the tar fumigation on the 18th January, 1817.

24th.—A sensible diminution of the cough and expectoration has taken place. She says she feels a remarkable relief in her chest: She has slept well, and is more cheerful; but she complains of weakness and of headache.

29th, the 12th day.—The improvement in her health is striking; a progressively greater diminution of the cough and expectoration: The night-sweats moderate; her appetite is good, and she feels stronger. She says she finds herself very "comfortable, or very much at ease," in the fumigated room; but that whenever she quits it, or passes into a colder air, she experiences an oppression and irritation of her lungs, which excite coughing.

8th Feb. 21st day.—The night-sweats have disappeared, and she becomes daily stronger; but on every change of weather she still feels uneasiness in the chest.

22d Feb.—The cough and expectoration have been always diminishing; but she again

complains of weakness, and we have ordered her the following medicine--

℞. Lichen Islandic. ..... ℥ β.
Cort. cinchonæ pallid. ..... ʒ ij.
Coque in aquâ purâ ad. ... ℥ viij.
Et adde succ. Glycirrhiz, ʒ β.
Signetr.—Capeat cochl. duo larga quater de die.

24th Feb.—She has had an accession of fever without any evident cause, after which she complained of sharp pains in her legs; these soon yielded to spirituous frictions, and the fever has not returned.

27th.—Her situation the same: The state of her chest seems good; she coughs very little; and she has often asked for her dismission, saying, she feels herself well, and strong enough to return home; but we have detained her for the sake of farther observation.

SECOND CASE.

Anna Woladkowtschina, a widow, aged 40, mother of six children; had ceased

to have her courses for two years. She was taken into the hospital for a hœmoptoë, of which she had had three attacks, and each considerable. In the last attack, she lost about ten ounces of blood, as far as one can judge in such cases. After this, she remained motionless; her respiration rattled; her pulse was small; her whole body cold as ice. No hopes were entertained of her living even twenty-four hours.

This state of weakness arrested the hemorrhage, and, by the application of suitable remedies, she regained by degrees a little strength. This situation was soon followed by a dry cough, which ere long was accompanied with a yellowish-green purulent expectoration, mixed with mucus. Fever and colliquative sweats came on, which must soon have destroyed her, had not the following means of cure been applied.

23d Jan. 1817.—She was sent to the room fumigated with tar, and one of the following powders was given her three times a-day.

℞. Digital. purp. ..... gr. vi.
Rad. Ipecac. ..... gr. iij.
Rad. Glycirrhiz.... ʒ j.
Divide in partes equales. No. vi.

25th Jan. 3d day.—The cough is already much diminished, as also the expectoration.

26th Jan.—Her amendment continues.

27th & 28th.—She experiences greater ease in her chest.

29th Jan. 7th day.—Her cough and expectoration are now extremely slight. The sweats come seldomer, and irregularly. The appetite is improved: She makes the same remark as her companions in disease, of the influence which the changes of weather have on her breast, and of her feeling much easier in the tar vapour than in the other rooms.

1st Feb. 10th day.—The influence of the weather on this patient has been very evident. During two days of very dry weather, and from 10 to 12 degrees of frost, according to the thermometer of Reaumur, she has experienced an oppression or weight on her chest, and a palpitation of the heart and an increased pulse: these symptoms have

hitherto been the precursors of hemorrhage. A foot-bath was ordered for her; and the weather at the same time becoming cloudy and damp, she found herself relieved in a remarkable degree.

8th Feb. 17th day.—She has continued in a state of amendment; her appetite and sleep increase; the night-sweats have disappeared; and the palpitation of the heart is almost imperceptible.

9th Feb. 18th day.—Some expectoration, with streaks of blood.

10th Feb. 19th day.—Her pulse is rather stronger; but she has neither palpitations nor heat.

11th Feb.—She is in a perfectly calm state.

22d Feb. 31st day.—She has had a distressing pain in her left side, but this has been removed by a sinapism.

28th Feb.—She sleeps and eats well; is cheerful; and has no remaining symptom of disease.

THIRD CASE.

Anna Gourtschinskaia, a widow, aged 40, was received into the hospital the 26th December 1816. She had long had a cough, attended with a difficult expectoration, which, after some time, had become yellow and puriform.

From the time of her admission, until 18th January, 1817, her disease had augmented. An increase of cough at night; the nature of the expectoration; alternations of cold and heat; irregular, partial, and frequent sweats; slow fever,—all announced the presence of pulmonary phthisis. Her legs soon became highly œdematous. Notwithstanding her hopeless situation, we placed her in the fumigated ward, and ordered her the following medicines:

℞. Decoct. rad. alth. off. ℥ viij.
Tinct. opii ..... gr. xl.
Signr.—Capeat cochl. iij. magna tertiâ quâque hora.

℞ Digitalis purp. ..... gr. iss.
Rad. scillæ sicci. ..... gr. i.
Pulv. rad. glycirrhiz gr. x.
Fiant tales pulveres, No. xii.
Signr.—Capeat j. mané et vespere quotidie.

The tar vapour, during the first five days, very decidedly relieved the oppression in the chest, the cough, and the expectoration.

25th Jan. 8th day.—We observe a great increase in the quantity of urine. She says she feels quite free from pain in her chest, although the cough and expectoration continue in a lessened degree.

27th Jan.—The cough and expectoration are increased, but she does not complain of pain.

The œdema has become real anasarca, and her strength fails rapidly; we have no hope of her receiving any benefit from the tar vapour, and have sent her back to her former ward; the dropsy and expectoration are much increased.

FOURTH CASE.

Mavra Romanova, a widow, aged 29 years, of a short stature and weakly constitution, had been five years married, and had become the mother of three children. She was attacked four months ago by a pain in her chest, a cough, and difficult expectoration, accompanied with slight shiverings succeeded by heat. She came to the hospital as an out-patient, and received some relief from the medicines prescribed; but after a little time, having a relapse, she was received into the hospital the 4th December 1816. She complained of acute pain in her chest, and of fever. We applied leeches to the chest, and ordered her an emulsion with nitrate of potash, and muriate of ammonia; but as she felt little relief, we, in a few days afterwards, gave her calomel, and applied a blister, which removed the inflammatory symptoms. The cough, however, continued; the expectoration became purulent; night-sweats came

on; in short, she had every symptom of Pulmonary Phthisis. She was placed in the fumigated ward on the 23d January 1817. On the second day, she already found herself considerably eased; the cough was less frequent, and her sleep was more refreshing.

29th Jan. 6th day.—Her voice, which was quite hoarse, is become clear and natural; she no longer complains of any pain in her chest, and the night-sweats are much diminished. Since her being placed in this ward, she has used no other medicine than a decoction of althæ, with a slight addition of syrup of poppies, two table-spoons-full of which have been given to her four or five times a day.

2d Feb.—We have remarked that the cough, expectoration, and sweats, have greatly varied in force, according to the changes of the weather. The following emulsion has been prescribed; a table-spoonfull to be taken every two hours:—

℞. Emulsionis sem. cannab. sativ. lib. i.
Ext. Hyosciami ..... gr. xii.

18*th Feb.*—During the last sixteen days, the symptoms have been very variable; there is every appearance, however, of her having so far conquered her malady, as to enable us to pronounce her in a state of convalescence.

27*th Feb.*—She has complained of pains in the thorax, which appeared to her more external than internal. They have entirely yielded to the application of another blister.

FIFTH CASE.

25*th Nov.* 1816.—A soldier's widow, named MARTHA IVANOVA, aged 40, was taken into the hospital for a chronic cough. She is tall, brown complexioned, of a dry constitution. She has had six children, all of whom are dead. She says she never had any illness before this attack of cough. Her courses have ceased these three years past. A month before her entry into the hospital, she began to feel pains in the lateral region of the chest; these became stronger, and were accompanied by fever. We received her in this state.

She was soon relieved from pain and fever by medicine; but the cough became so frequent that she could get no rest night nor day. The expectoration, which was small, compared with the force of the cough, had already the character of pus. The oppression on the chest continued to be considerable, notwithstanding the diminution of the pain.

In this situation she was sent to the fumigated ward, and she immediately began to feel relief. She slept the first night far better than she had done for a long time past. The following nights also she slept well; the pains in her chest totally left her. She complained of a slight tickling in her throat sometimes, arising she thought from the tar vapour. Her sleep and other functions went on as well as those of a person in health. We continued to administer the same medicines as before her admission into the tar-ward. These were,

℞. Rad. poligal. amar ..... ʒ ij.
Lichen Island. ..... ʒ iij.
Aq. pur. ℔. ℥. coque ad saturat. et liquoris colati ..... ℥ vi. adde

Oximel scillæ ..... ℥ β.
Ext. hyosciami ..... gr. viij.
Two table-spoonsfull to be taken every two hours.

On her amendment, we prescribed in addition, the following medicine :

℞. Decoct. Lichen Island. saturati, lib. iii.
Ext. hyosciami ..... gr. x.
Signr.—Three table-spoonsfull four times a day.

10*th Feb.*—The cough is less frequent; she spits up, without difficulty, a quantity of greenish matter. The fever and sweats have entirely ceased, and her general health seems better.

16*th Feb.*—She feels not quite so well, although she coughs less.

From the 21st to the 28th February, she has been sometimes better, and sometimes less well. The cough and expectoration continue, but are greatly lessened.

SIXTH CASE.

8th Feb. 1817.—CATHERINE CONRADI, aged 27 years, was taken into the hospital. She is of a middling stature; of a delicate constitution; of a pale and yellowish complexion.

She coughs and expectorates much both by night and day. She has fever, succeeded by sweats, stitches in the side, which are increased by the cough. She can keep scarcely any food on her stomach. In answer to the questions we have proposed to her, we find that she was always healthy before this illness, which commenced six months ago in the following manner.

During the time of her courses she was completely wetted in a violent shower of rain. She did not change her clothes, but went down in this state into a kind of cellar, where she had the misfortune to run her head so violently against a beam, that a quantity of blood issued from her mouth; imme-

diately a cough came on, which has never ceased since. After three days she spit no more blood. In a short time she felt a sharp pain under her left breast, extending to the shoulder on the same side. This pain left her by degrees; but the cough, and other symptoms above mentioned, became so distressing, that she had recourse to the hospital.

From the day of her entry, 8th February to the 23d, she was kept in the common wards, without receiving any visible benefit.

24th Feb.—She was placed in the fumigated ward. The next day she said she already felt better, and had passed a better night than she had done since the commencement of her illness, and particularly that she felt much refreshed; the cough was less violent, and the expectoration less abundant. In a few hours after entering this ward, she perceived a general perspiration over her whole body.

28th Feb.—A greater diminution of the cough, expectoration, and also of the perspiration. She sleeps extremely well; she has

vomited only once, and this seems to have proceeded from some improper food, which she had procured in a secret manner. She feels herself so well, that she begs for her dismission.

The result of our observations is, that the tar fumigation produces a very quick and salutary effect on the cough, expectoration, and respiration; that the sleep becomes more tranquil, continued, and restorative, and that the patient regains strength.

We have remarked, that at the beginning of this treatment the sweats are generally more profuse, but that these sensibly decrease in the course of a few days. Patients, who, before entering the tar vapour, kept their beds constantly, soon regained sufficient strength to rise from them, and walk about the ward the whole day. All those submitted to the tar fumigation have become convalescent; but it is too early yet to affirm that any are completely cured.

From all we have hitherto seen of the tar fumigation, we must attest, that it appears to us the most efficacious means of relieving pulmonary patients; but we think, that after they are advanced in a state of convalescence, great care should be taken that they pass from the tarr'd atmosphere into a good and mild atmospheric air, which, in our opinion, can only be secured to them by the return of the fine season of the year."

(Signed) HERMAN BLUHM, M.D.
and Consulting Physician of the Hospital.

HENRY VON ROOS, M.D.
Knight and Physician in Ordinary of the Hospital.

SECOND REPORT

OF

MESSRS BLUHM AND ROOS,

Relative to the preceding Cases.

"ABOUT the end of February, we discovered that the tar fumigation had been ill conducted. In the first place, a bad kind of tar had been employed; and in the second, that it had been boiled in a cracked vessel; by which means the tar, instead of being volatilized, was burnt and decomposed by coming in contact with the iron heater, which produced very bad effects on the patients—they coughed more, and complained of oppression on the chest.

This improper mode of fumigation being corrected, and having employed, according to

your Excellency's order, the pix liquida only, such as is employed in the cordage of ships, with the addition of half an ounce of *sub-carbonate of potash to each pound of tar, our patients are going on as well as they did at first.

FIRST CASE—Continued.

Lukeria Niketena, attacked with tubercular phthisis, the bad symptoms of which had so quickly yielded at first to the tar fumigation, found herself much worse; for the burnt tar vapour, it caused oppression on her chest, augmentation of her cough, and loss of appetite. By your Excellency's advice, we applied to her chest a plaister with tartar emetic, and gave her a quarter of a grain of calomel, the same of kermes, and one grain of

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* I ordered the sub-carbonate of potash to be added, in order to destroy the pyro-ligneous acid, which is generally found mixed with the tar, and which excites coughing.

the extract of hyosciamus three times a-day: The oppression and tension on her chest, the cough and fever soon diminished. We were obliged to discontinue the pills, as they disagreed with her stomach.

Towards the 19th of March, her pulse had regained its natural state, and she felt quite as well as before this relapse.

At the end of this month, the glands of her neck were affected with scrophulous swellings; but these were resolved by the internal use of hemlock and sulphur, and by applying volatile liniment, with a little mercurial ointment, to the swellings.

10*th April.*—She is so improved in health, as even to be gaining flesh. She has totally got the better of her cachetic state, and is quite free from cough. She might be dismissed from the hospital, but we still keep her in it for the sake of observation."

5*th June.*—By a Third Report from Messrs Bluhm and Roos, I learn that Lukeria Niketena was dismissed from the hospital the 30th of May, perfectly cured. She had been

affected with opthalmia, which she thought had been caused by the tar vapour. This complaint was cured by a blister and spirituous frictions around the eyes.

SECOND CASE—Continued.

Anna Walodkowtschina, who had been attacked with phthisis in consequence of hemoptoës, after experiencing considerable relief from the tar vapour, was seized the beginning of March with a frequent cough, and palpitation of the heart, followed by a considerable hemoptoë, but the expectoration was no longer purulent; it became whiter, and had the character of mucus. Although she had become much thinner since this relapse, yet all her functions, the catamenia excepted, returned to a natural state. We prescribed the following mixture for her:—

℞. Decoct. rad. altheæ, ... ℥viij.
Ext. opii aquos, ... gr. ij.
Sacchari saturni ..... gr. iβ.

Two table-spoonsfull to be taken every two hours.

The spitting of blood ceased, and the cough daily became less violent. She complained of pain in her bowels, wherefore we discontinued the above mixture, and ordered instead of it her former powders of ipecacuanha and digitalis.

She has twice spit blood, but the consumptive symptoms have disappeared: Her expectoration is not purulent; her cough is not frequent; and she has no longer any fever or perspirations.

10*th April.*—She is in a convalescent state.

5*th June.*—Messrs Bluhm and Roos, in their Third Report, informed me, that soon after the suspension of the fumigations,* this patient had a fresh attack of hemoptoë, as considerable as any of the former; but they

* On the 14th of May, Doctors Bluhm and Roos were obliged to suspend the tar fumigation, as the ward destined for these trials was then filled with other patients, on account of the repairs which the hospital is undergoing this summer.

add, that this hemorrhage was not followed by suppuration, as the cough she still has excites only a mucous expectoration of a good quality, and is her only remaining symptom of disease.

THIRD CASE—Continued.

Anna Gourtschinskaia, who had quitted the tar ward on the 2d February, without a hope of her recovery, from a complication of dropsy with consumption, died the 28th February.

FOURTH CASE—Continued.

Mavra Romanova, who had become consumptive after peripneumony, and had by the 27th February attained to a convalescent state, became ill again the beginning of March. The cough and oppression returned in considerable force; she had stitches in her side, but they appeared to her exter-

nal; indeed, these pains had much the character of rheumatism. According to your Excellency's order, a third blister was applied, and a plaister composed with tartar emetic. The following powder also was administered:—

℞. Calomel.
Kerm. mineral ... $\overline{aa}$ gr. β.
Ext. hyosciami ..... gr. i.
Pulv. Rad glycirrhiz gr. x.
One to be taken night and morning.

The plaister occasioned much irruption; the powders agreed with her stomach; the cough, fever, and pain in the side, gradually lessened, as did the sweats also, which had been less copious, than they were in the month of January. All these symptoms disappeared, and on the 18th March she was convalescent; her appetite, strength, and flesh returned.

5th June.—The Third Report from Drs Bluhm and Roos has informed me, that this patient has sunk under a third relapse,

which took place early in May; the progress of disease became rapid only on the cessation of the fumigation.* Messrs Bluhm and Roos say the symptoms of Phthisis then returned in great force; the cough became frequent, the expectoration abundant, and soon having the character of pus. Hectic fever and colliquative sweats consumed her, and announced her approaching death, which ensued the 20th May.

FIFTH CASE—Continued.

Martha Ivanova.—Although this patient felt herself greatly better the beginning of March, and then no longer complained of her chest, she was soon after attacked with a diarrhœa of aqueous and slimy matter; the pulse became quick, hard, and the skin dry. The diarrhœa was often stopped by medicine,

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* This patient quitted the tar ward for the reason stated in the preceding note.

but returned in greater force, alternating with the cough and expectoration, which also increased in intensity; so that when the diarrhœa came on, the other symptoms diminished, and *vice versa*. The fumigation ceased to give relief, she grew daily worse, and died exhausted the 24th March.

SIXTH CASE—Continued.

Catharine Conradi, on the contrary, became daily less disposed to spitting of blood. The expectoration, which at first had every character of pus, became gradually better in quality, and less abundant. The sweats, cough, and vomiting, also ceased by degrees, and her catamenia returned. Feeling herself well, she incessantly urged us to dismiss her; she was sent out of the Hospital the 6th March, perfectly cured. We have seen her since that time working as before her illness, and continuing in perfect health.

(Signed) Herman Bluhm, M.D. &c. &c.
Henry Von Roos, M.D. &c. &c.

I had also given directions to Dr Wochler, one of the physicians of the Aboukoff, or City Hospital, to make as many trials of the tar fumigation, in consumptive cases, as the state of the Hospital would admit. This establishment being generally over-crowded with sick, it was not possible to obtain for this purpose more than one small narrow room, where scarcely three beds could be placed. The air of this room, consequently, became quickly corrupted; notwithstanding so unfavourable a circumstance, however, one most decidedly consumptive patient has been completely cured by this treatment of tar vapour. I here subjoin Dr Wochler's report.

Letter from Dr Wochler.

"I have the honour to send your Excellency an account of the trials I was ordered to make of tar fumigation in pulmonary consumption. The ward devoted to these

experiments was very ill calculated to ensure their success, but it was the only one then to be found in the Aboukoff Hospital."

FIRST CASE.

ALEXANDER MINAEFF, aged 21, of a scrophulous habit, and having hereditary disposition to consumption, was taken into the Hospital 24th November, 1816, in the last stage of pulmonary phthisis. He had long been subject to frequent attacks of hemoptoë, which he thought had been originally brought on by long and fatiguing journies in cold climates. Some weeks previously to his admittance into the Hospital, he had a typhus fever, attended with some disorder in the chest. His pulmonary symptoms not yielding to medical treatment at home, he was brought to the Hospital apparently in a state quite hopeless of cure.

He had a continued hectic fever, accompanied by a frequent cough, which was sometimes dry, at others followed by expectora-

tion. The glands of his neck were swelled; he was reduced almost to a skeleton; his legs and feet were œdematous; his nails were curved inwards, and the first joints of his fingers were swelled. Towards night, his fever, cough, and difficulty of breathing increased and terminated in the night, by profuse clammy and offensive perspiration. He could scarcely lie down a minute during the night from the violence of the cough, but was obliged almost constantly to sit upright. Towards morning, after a slight remission of fever, and a copious expectoration of purulent fœtid matter, the patient fell into a kind of sleep, which lasted scarcely an hour and a half, and then awoke with cough, and complaining both of hunger and thirst. He was subject also to vomiting and diarrhœa.

He continued much in the same situation until the 27th January, when he was taken to the ward fumigated with tar. He had been but a very short time in the vapour, when he said, that his sensations were easier; and towards ten o'clock of the first night, his cough began to diminish, and he fell asleep.

According to the nurse's account, he did not wake till nine o'clock the next morning. When I visited him, he was still asleep, and in a profuse perspiration. On his awaking, he said he felt better. His pulse was frequent as before. He complained of pain in his head, and began to cough, with considerable expectoration. I ordered him a decoction of salep, and a milk diet. The fumigation was made three times a-day.

During this day he coughed often, and always with expectoration. He had two stools. The headache continued, but did not increase towards night.

29th Jan. According to his own, and the nurse's account, he has passed a good night; but his sleep was sometimes interrupted by the cough, and he again perspired profusely. The headache is diminished. On waking he has had a fit of coughing, with an increased expectoration. His pulse is the same as before, as are also the other circumstances of his case.

The treatment is not to be changed.

30th Jan.—He has slept much, and per-

spired less. His headache has entirely ceased. The cough continues frequent, particularly during the day. He has had three evacuations, with symptoms of indigestion; and as they have occurred after eating of some milk diet, a meat soup with grits has been ordered for him, and also the following medicine:—

℞. Decoct. rad. Altheœ..... ℥ vi.
Aquæ menth. pip. ..... ʒ iij.
Ext. opii aq. ..... gr. iv. β.
Sacchari albi..... ʒ ii.
A table-spoonfull to be taken every two hours.

31*st Jan.*—No change, except that he has had less diarrhœa.

1*st Feb.*—He feels better; but the cough is still accompanied with great expectoration. The tumours in the neck are smaller. The pulse is still quick. The preceding mixture has been suspended, and a slight decoction of Iceland moss has been ordered for his common beverage.

5*th Feb.*—Since the 1st February, the patient has been gradually getting better, and has slept well. The night-sweats, and the

expectoration, are sensibly diminished. The œdema of the legs and feet has nearly disappeared. His appetite and strength are improved, and he can now quit his bed for several hours. The quickness of pulse continues the same.

9*th Feb.*—He continues better. The night perspirations, the cough and expectoration, are much lessened; but the activity of the arterial system is augmented, wherefore the following medicine has been prescribed :—

℞. Decoct. rad. Altheœ..... ℥vi.
Tinc. digitalis purp..... ʒi.
Sacchari albi..... ʒii.
A table-spoonfull to be taken every two hours.

12*th Feb.*—He has continued to get better, and has passed good nights. The perspiration and cough are less, and the pulse rather slower.

13*th Feb.*—His sleep has been diminished, and less refreshing; his appetite not so good. He has had frequent nausea and vomiting, and two evacuations during the night. The

pulse is slower. The last mixture is given up for the following one :—

℞. Tinct. opii guttas, xx.
Aq. menth. pip.
Mucilag. gum. arab. ana. ℥iij.
A table-spoonfull to be taken every two hours.

15*th Feb.*—The nausea and vomiting have ceased, and the patient is again better. His usual drink is a slight decoction of Iceland moss; and the tar fumigation is repeated even eight or ten times a-day.

20*th Feb.*—Since the 15th, he has been daily improving in health. The œdematous swellings have totally left him, and his pulse is slower. The cough is less, as is also the expectoration, which has lost its bad smell, and has now the character of mucus. The same medicine and diet, as before, continue to be given. The evaporation of boiling tar is kept up almost without intermission.

25*th Feb.*—Since yesterday he has complained of oppression and headache. His pulse has become quicker; but the cough

has not increased, and the perspirations have entirely ceased. I have ordered the following medicine for him :—

℞. Decoct. Altheæ ..... ℥iv.
Tinct. digitalis purp. ʒβ.
Ext. hyosciami ..... gr. x.
Sacchari albi ..... ʒij.

A table-spoonfull to be taken every two hours, with a cupfull of *Infusum herbæ millefolii.*

28th February.—The patient finds himself better these three last days; besides continuing the above medicine, he has had a slight decoction of Iceland moss. I have allowed him some animal and farinaceous food.

Having observed, that the iron-heater on which the tar was boiled, gave out a bad smell, I have substituted a hot brick in its place. I thought that the headache and heaviness he complained of, might arise from a portion of carbonic gas which the heated iron might emit.

10th March.—His health is much improved; the hectic fever, the cough, expec-

toration and perspirations, have quite left him.

15*th March.*—The patient being so much better, I indulged him in his wish to be allowed to eat rye-bread, but it caused indigestion, and the nurse says he vomited several times. The next day, the 16th, he felt no further inconvenience: He continued the use of the infusum millefolii.

25*th March.*—As he seems quite well, and has regained his natural colour, he is allowed to quit the fumigated ward, but is desired to remain some time longer in the hospital.

10*th April.*—This patient is dismissed from the hospital to-day, perfectly cured.

SECOND CASE.

Our second consumptive patient, JOSEPH TIMOFEEF, has hitherto been in so fluctuating a state, that I find it scarcely possible to give a clear and satisfactory account of his

illness; but as soon as it is terminated, I will hasten to send your Excellency the details of his case."

(Signed) Dr F. Wochler,
Physician of the Aboukoff Hospital.

REMARKS

ON THE

PRECEDING CASES.

It must be evident from the preceding cases, that the tar fumigation, though completely successful in some of them, did not produce the same good in all; but, on the other hand, the very great relief which every patient experienced at first from it, particularly in the diminution of cough, expectoration, and hectic fever, is a fact which ought to encourage us to multiply the trials of this remedy as far as possible.

There is an evident cause for its want of complete success in the hospital, and which demonstrates the necessity of having a build-

ing constructed purposely for the treatment of consumptive patients, I mean the want of room, obliging us to place several of these patients together in one ward. Thus the malady is kept up by the infection of their breaths, this cause constantly acting on their lungs as a real contagion. Every physician knows the power which the breath of a consumptive person has in producing this disease in others, even in such as have no apparent disposition to consumption.

Having but one small ward for these trials, and the necessity being great of guarding such patients from the cold air of this severe climate, it was impossible to ventilate the ward,—had the window, or even the door, of the corridor been opened, the patients would have been liable to catch cold; consequently the air of the ward was bad, and tended to keep up the disease.

Each consumptive patient ought to have two apartments, one for the day, the other for the night; a thing impossible in civil hospitals, which are almost always too crowded.

With two rooms for each patient, a complete change of air can be obtained; and care should be taken to make the temperature of the empty room equal to that of the other before the patient enters it.

The patients who have derived the greatest benefit from the tar vapour, are those who were attacked with true scrophulous, or tubercular phthisis. I confess this is quite contrary to what I expected. This kind of phthisis is the most common in Russia, as in all northern climates.

The tar vapour seems to have healed the ulcers, and removed the inflammation of the tubercles in the greater number of such cases, but I do not believe it produces the absorption of the tubercles themselves. My first patient, N., although well enough to attend to his business out of doors, and although he has regained his strength, has still some symptoms, which, to the eye of an observing physician, announce the presence of these tumours in his lungs, but so long as they remain inactive, that is to say, without inflammation or ulceration, life may be prolonged;

and if circumstances allowed this patient to reside in a better climate, there is every probability that he might live long.

In cases of phthisis derived from a large abscess or vomica, particularly in young persons of sanguineous constitutions, where suppuration goes on rapidly, and is generally accompanied by fever, the tar vapour does little good. The immense quantity of purulent matter constantly present in the cavities of these large abscesses, prevents the vapour from acting upon their surface, and consequently it loses its effect. In two cases of this kind, a very temporary relief only took place from the fumigation. Indeed it must be in vain to expect any great success from this, or from any other remedy, in cases of violent and neglected inflammation of the lungs, terminating in large abscesses, the disorganization of the lungs in these cases being too widely extended to admit of cure.

Nearly the same thing may be said of cases of suppuration succeeding active hemorrhages in young persons, especially when accompanied with fever.

In one case, however, of this kind, I succeeded in removing the consumptive symptoms by the tar fumigation, and the use of acetate of lead, combined with the aqueous extract of opium, which the patient continued to take during a whole month, without experiencing cholic, or any other inconvenience.

At that period, when the cough, expectoration, and hectic fever are greatly subdued by the influence of the tar fumigation, it seems to me often injudicious to continue it longer, or at least in so strong a degree as before; it then appears to dry the lungs too much, and ends in exciting a spasmodic kind of cough. The patient also, when in a state to breathe the common air, becomes weakened by the want of it. In a remarkable case of tubercular phthisis, where the tar vapour had produced extraordinary benefit, I was obliged to suspend, every now and then, the use of it, particularly when the expectoration was very slight. During these suspensions, however, which never exceeded two or three days, I always found the expectoration, and other bad symptoms, increase.

Notwithstanding the great power of this means of cure, I never employed it quite alone, but have at the same time prescribed internal remedies, such as the nature and urgency of the symptoms seemed to require; but these have been the same as every practical physician has recourse to in similar cases.

The happy effects of the tar vapour in many cases gave me the idea of trying the effect of other liquid resinous bodies in fumigation, such as the balsam of Peru, of Copaibi, of Tolu, the balsam of Mecca, &c.; but having neither a sufficient number of consumptive patients, nor a place suited for pursuing these experiments, I cannot give any positive opinion as to the efficacy of other resins, compared with that of the unmixed tar; but I can affirm, that I have found a considerable difference in the efficacy of the various tars which have been employed. That used for the cordage of ships, seems infinitely the best adapted to the treatment here recommended.

The simplest and best manner of filling a room with the vapour, is to place the vessel containing the tar over a spirit lamp, taking

care that it should boil slowly, and not burn. The vessel should be well cleaned every day, and the fumigation repeated every three hours.

The want of wards in the civil hospitals of this city, prevents my extending these trials as I could wish; but I trust that the present publication will engage other medical men to pursue them, in the hope of relieving a class of patients, whose sufferings and destiny must affect every practitioner of the least sensibility.

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