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*Nº 3 Worcester*

OBSERVATIONS

ON

PHTHISIS PULMONALIS,

AND THE USE OF THE DIGITALIS PURPUREA IN THE  
TREATMENT OF THAT DISEASE ;

WITH

*PRACTICAL REMARKS ON THE USE OF THE*

TEPID BATH.

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BY *ISAAC RAND*, M. D. A. A. et S. H. SOC.

AND PRESIDENT OF THE MASSACHUSETTS MEDICAL SOCIETY.

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READ AT THE REQUEST OF THE MASSACHUSETTS MEDICAL  
SOCIETY, JUNE 6, 1804.

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AT a Meeting of the MASSACHUSETTS MEDICAL SOCIETY, June 6, 1804.

VOTED—

That Drs. WELSH, BARTLETT and SPOONER, be a committee to wait on the President, and return him the thanks of the Society, for his Discourse, this day read, and request a copy for the Press.

T. DANFORTH, *Recording Sec'y.*

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*Boston, June 7, 1804.*

The Discourse read at the request of the Council of the Massachusetts Medical Society, is respectfully submitted to your disposal.

*Your humble Servant,*

*ISAAC RAND.*

Drs. WELSH, BARTLETT and SPOONER.

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OBSERVATIONS ON

PHTHISIS PULMONALIS, &c.

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NO disease is more frequent or fatal than the Phthisis pulmonalis, the prevention and cure are among the desiderata in our system of medicine.

THE occurrence of it in Cities and Country is obvious to every Physician : nearly one quarter of the bills of mortality is to be attributed to this disease : and it must be acknowledged to be almost invariably fatal under the usual modes of cure.

AND we cannot but deplore its ravages the more, as it destroys those who are in the prime of life, and not often past its meridian.

THIS loss to the publick is elegantly expressed in the funeral oration of Pericles on the Athenian youth who perished in the Samian expedition, that the loss which the Commonwealth suffered by the destruction of the youth was like the loss, which the year would sustain by the destruction of the Spring.

To point out its latent and insidious, as well as the more obvious causes would require a volume.

WHEN we consider the extent of the surface of the lungs, the organ primarily affected in this disease,\* whose surface, the bronchiæ 1635 square inches, the vessicles 20,000 square inches, the whole surface of the lungs, make therefore 21,635 square inches, or 150 square feet; equal to ten times the surface of a man's body, which at a medium, is computed at fifteen square feet.

As the whole blood of the animal incessantly passes through the lungs, by comparing the proportion, which the lungs bear to the whole body, we may make some estimate of the great difference of the velocity of the blood in each.

† It appears, that 4. 34 pounds of blood pass through the heart in a minute, and in 36. 3 minutes, a quantity equal to a middle sized man, or 160 pounds of blood, will pass through the heart: then the same quantity must also pass in the same time through the lungs, since the left auricle and ventricle, are supplied from thence with blood to be circulated through every other part of the system.

FROM whence it follows, that the velocity of the blood must be very much accelerated in the lungs. And when we reflect upon the very delicate structure of this organ, the number of vessels, the importance of its use, and the many accidents to which it is exposed, we shall be less surprized that so many, than that so few persons are the fatal victims of it.

AMONG the remedies lately introduced, the digitalis purpurea is the most prominent. I therefore will give a concise history of it, and its modus operandi, with a case or two subjoined, with cautionary hints.

\* Hale's vegetable staticks, Vol. 1. page 238-39.

† Hale's hæmastaticks Vol. 2. page 63, 4, 5.

THE *digitalis purpurea* of Linæus has been employed in medicine since the sixteenth Century ; and in some cases of phthisis pulmonalis with permanent success ; and has been celebrated as a certain remedy, and condemned as a poison, from that period to the present time.

\* THE first physicians who employed it, in pectoral complaints, are extravagant in their encomiums on it.

FUCHSIUS in his *herbaria plantarum*, to whom we are indebted for its name, was the first that introduced it into medicine ; he speaks highly of its utility in this disease. Gerard and Parkinson, two of the most celebrated older botanists extol it as an expectorant ; and Doctor Withering has given a manuscript note of Saunders, found in a copy of Parkinson's verbal, which mentions consumptions as infallibly cured by a decoction of fox glove leaves in water. Salmon in his family diet, says it is a specific in consumptions.

BUT Ray, Boerhaave and Haller, assert its effects as generally deleterious. These discordant opinions may be accounted for, by considering that among the poor, where it was at first chiefly used, its incautious exhibition would naturally lead to this conclusion, that it was a poison ; but that when it was directed and its exhibition under the eye of an intelligent and vigilant physician, its use was attended with the most surprising effects and cures.

DOCTOR Withering, was the first, I believe, who mentions its peculiar property as a diuretic in dropsies ; previous to that period, it was celebrated in epilepsy and scrophula as well as consumption.

\* Medical and Physical Journal, passim, voce *digitalis purpurea*.

WE are indebted to Dr. Darwin and Sir G. Baker for many ingenious and well conducted experiments in pulmonary consumptions, evincive of its singular effects in retarding, and partially suspending the motion of the heart and arteries.

PREVIOUS to a detail of its effects in this disease, I will endeavour to give some idea of its *modus operandi*. Notwithstanding many physicians disdain all pretences to theory in medicine, and aver that they depend solely on facts, yet when they are requested to explain their opinion, they always shew that their practice is founded on some theory previously adopted. To theorise is to think, and that physician who thinks or theorises the most closely, and reasons analogically on diseases, will, *cæteris paribus*, be the best physician. ✕

MANY years since, \* De Haen in his *Ratio medendi*, maintained, that the extremities of the arteries, in consequence of certain diseased actions, secreted pus. This opinion has been supported and proved by that accurate and successful anatomist, John Hunter.

EVERY physician may discover the pus, by examining the discharge from the purulent ophthalmia, psorophthalmia of newborn infants, coryza, and in many cases of the pulmonary influenza, when no ulcers exist. The purulent discharge from either of these diseases, being mixed with distilled water and vitriolic acid, by agitation they will form a homogeneous fluid. Then add caustic alkali to the mixture; the acid having a greater affinity to the alkali than to the pus, the pus will separate and by its greater gravity will subside in the fluid; while the mucus,

\* Dr. De Haen Vol. 1. Chap. 2. de Puris Generatione.

✕ This opinion is borrowed from Darwin although the writer has not given him credit for it.

with which it was blended, will continue to be intimately mixed with the water ; thus the pus will be detected.

It is acknowledged that pus confined in a cyst secluded from the air is ~~innocuous~~innocuous, and, except from its gravity, and pressure, excites no perturbation in the system.

THE motion of the heart and lungs, although not synchronous is commensurate with each other, and an accelerated circulation of the blood is attended with a correspondent increased respiration, and a retardation of the circulations with a slower respiration ; from whence it follows, that the more the circulations are retarded, the less pus is formed, either by the diseased action of the arteries or by ulcers in the bronchiæ ; and the less frequent the respiration, that process is retarded and partially suspended, by which it has been ascertained that the pus is aerated by its attraction of Oxygen. The digitalis, by its action on the vital powers, promotes two important processes ; it promotes the absorption of the pus before it is converted into an ichorous poison by the air, and by lessening the irritability of the heart and arteries, prevents the profuse secretion of pus. Thus these two processes mutually aid each other and prove curative.

THE cautious and continued use of the digitalis will produce these effects, and often render them sufficiently permanent to effect a cure of phthisis pulmonalis.

“THESE changes, sometimes without any previous sickness of the stomach, will be gradually produced, although a nausea is often excited, and by a peculiar sympathy between the stomach and the heart, the pulse is retarded in consequence of nausea ; and as subsequent to the retardation of the action of the heart, absorption frequently oc-

curs. It has been supposed that nausea, a diminution of arterial motion and absorption are mutually and necessarily related to each other."

THE same effects have been attempted to be produced by sailing long sea-voyages, a succession of gentle emeticks and swinging, have in many instances been attended with the happiest effects, as may be seen by consulting Gilchrist on sea-voyages, Reid on the effects of emeticks in phthisis pulmonalis and Carmichael Smith's essay on swinging. Each of these remedies, by inducing nausea, vertigo, has powerfully and sometimes permanently retarded the action of the heart and lungs, promoted absorption and cured the hectic.

MUDGE, in his treatise on the Catarrh, relates the case of a man, who laboured under phthisis pulmonalis, who expectorated such quantities of pus, with fever, night sweats and every concomitant of this disease, that death seemed inevitable, as the disease eluded every method of cure. However, after some time, to his surprise, the expectoration lessened, the cough subsided, his appetite and digestion increased, he acquired flesh, and was restored to his usual health. He died some time after of an acute disease, the small pox. Upon inspecting his thorax he discovered that the phthisis pulmonalis was cured by the absorption of the whole right lobe of his lungs. One side of his chest was deficient of its lobe, and that part of the trachea to which the lobe appended was closed up. In this case, we discover the curative process was conducted and finally accomplished by the absorbents removing the diseased part. The digitalis, had it been employed, might have contributed to their curative exertions.

“IT has been observed, that diseased parts of the body may be removed by depriving them of all supply of blood from the arteries ; and it is now known, that where this cannot with safety be attempted to so full extent, on account of the intimate connection between the parts to be removed, and such as we wished should remain, that the same effect may be produced by diminishing to a certain degree the arterial supply of the part ; at the same time that we leave the action of the absorbents in full force.” This is the process so completely effected by Mr. J. Hunter’s scientifick operation for the cure of the popliteal aneurism, which he suggested from theory, or reasoning a priori.

By the same mode of operation of the absorbents, digitalis removes the tubercles in the lungs. When the digitalis has produced a retardation of the pulse and respiration, adequate to our wishes, and is attended with an intermission of the pulse and nausea, its use must be suspended. Upon the suggestion of Dr. Beddoes, I have experienced a partial succedaneum in a strong infusion of camomile flowers, in keeping the pulse depressed. Beddoes, Withering, Drake and Fowler have been so explicit in their direction in the use of this plant, that I would recommend them to every physician. Davy, a celebrated chymist, and who attends at the pneumatick institution, Dr. Beddoes says, is engaged in the analysis of the digitalis, and should he discover an analagous substance, it would contribute much to the future success in the treatment of consumption, and Dr. Beddoes very justly observes, that we may presume that nothing stands alone in nature. And a substance of similar effects on the

stomach and arterial system may lurk among the articles of the *materia medica*.

THE saturated tincture of *digitalis* is the preparation which I have used with the most success. The powder made into pills I some time since administered, but I now prefer the tincture, as the dose can be increased or diminished by drops. I never have used the infusion. Previous to the use of the *digitalis*, if there is any pain in the chest, or an hæmoptysis: if the pulse is hard and the respiration difficult, and the patient not advanced in life, venesection will be necessary. A blister should be applied to the side, between the shoulders or over the sternum in the course of the mediastinum, and the bowels gently evacuated. The tincture of *digitalis* may be administered three or four times in a day, beginning with 12 drops and increasing each dose one drop, till the number of pulsations of the artery is diminished to 50 or 60, and continued at that number 'till the disease is removed. I have increased them to an 100, four times in a day; at night I have generally, when the cough has prevented sleep, given one grain of opium.

THE *haustus salinus* in the intermediate time, I have experienced beneficial, cooperating with the general intention of the *digitalis*; all the neutral salts retard the circulations and diminish the irritability of the heart, by their action on the stomach.

THE physician should pay the strictest attention to the state of the pulse, the respiration, the state of the stomach and the appetite. Should it have a very sudden effect in depressing the circulations, and inducing an intermission of the pulse, sickness at the stomach with lan-

gour and faintness, we must immediately suspend the use of it, lest sudden death ensue. The physician should see his patient, at least every day, as few persons are so conversant with the state of the pulse and respiration, as to enable them to judge of the propriety of continuing or suspending the medicine.

THE late Dr. T. Bulfinch related to me the case of Mr. ——— who was afflicted with cough dyspnæa, and anasarca swellings of the extremities; all these complaints were soon removed by the digitalis in pills, which the Doctor gave his patient every day himself; after some time from imprudence, the disease recurred and he again applied to the Doctor and requested, as it was not always in the power of the Doctor to see him and administer the medicine himself, to give him 3 or 4 dozen of the pills, assuring the Doctor that he would punctually follow his directions; the Doctor knowing his precipitancy and imprudence, with reluctance complied with his request.—In a week or ten days his complaints were again removed, but he sent for his physician, and informed him he had some new affections which, if he could remove as speedily and effectually as he had his cough, &c. he should be as well as he ever was in his life. His pulse then was very slow and intermittent, his appetite gone; he had a constant nausea and vast depression of his spirits. The Doctor directed him to omit the pills immediately. He answered he had found them so efficacious, that to accelerate his cure he had taken all of them two days before. The Doctor expostulated with him upon his imprudence in disregarding his advice, and left him with a presentment of his fate. He was found dead in his bed the next morning, his wife by his side unconscious of his fate.

THIS case demonstrates the very sudden and permanent effects of the digitalis on the heart and arteries.

THE diet as soon as the stomach will admit of it, should consist principally of animal food and wine, and as soon as the expectoration is diminished to 2 or 3 ounces in the day, if there is no difficulty in respiration, nor pain in the chest, the bark should be given in decoction, and exercise in a carriage should be used every day.

SOME time since, I attended a young lady, ætatis 20, who had lost by phthisis pulmonalis and hæmoptysis, three brothers and one sister. She had a very distressing cough, with difficult and short respiration, pains in the chest, hectic pulse and feverish paroxysms. She had an indolent tumor of the cervical glands, as large as a pigeon's egg, apparently, though slowly tending to suppuration. I could perceive a fluctuation of matter in it—a variety of medicines had been used without any benefit. I then began with the tincture of digitalis as above mentioned. I applied blisters to the sides, between the scapulæ and to the sternum in constant succession 'till the pulse was retarded to 60 or 65 pulsations in a minute. She took an 100 drops three, some times four times in a day for a fortnight. The cough lessened, the expectoration decreased and her appetite increased. In this lady, the digitalis after it had diminished the frequency of the pulse from 110 to 60 and 65 produced a severe nausea with pukings; during these operations the tumor lessened and finally disappeared, her appetite increased, her strength returned, she retrieved her flesh and has been in good health nearly two years. Her diet was animal food, oysters and Madeira wine.

I WILL only add the case of Mr. R. Crocker, *Æt.* 32 ; by profession a founder and artist in fine brass, constitutionally healthy, but for some years since, has had an orthopnœa, and dry cough. Many months previous to his confinement in February last, he was obliged to relinquish his business. On the 29th of the month I first saw him, he was then afflicted with a severe cough, attended with a copious purulent expectoration, difficult respiration, hectick fever, night sweats, inappetency, nausea, and was emaciated to a skeleton : his legs were œdematous, pulse 100 to 110 in a minute. He supposed his case remediless, and only to gratify his friends, consulted a physician. Under all these accumulated distresses, I thought his opinion correct. With only the hope of smoothing his pillow in death, I prescribed for him. After obviating some difficulties of the bowels, I prescribed the tincture of digitalis, as above directed. The third dose of 15 drops relieved his orthopnœa, and reduced his pulse to 75 in a minute ; three days after, the pulse fell to 60, then to 50 and 55. I continued to increase the drops 'till he had attained to 100 drops four times in a day, when it produced a nausea, and intermittent pulse. I then suspended the use of it for a day or two, and directed a strong infusion of camomile flowers, which obviated the disagreeable effect of the tincture. He soon returned to the use of the medicine, his pulse continued stationary 55 morning, and 60 to 65 evening 'till his recovery. When the stricture of his breast and orthopnœa were removed, to which the perpetual blisters contributed, he began to take the bark in decoction three times in a day, and opium at night. The digitalis rendered his body soluble.

His diet consisted of animal food, oysters and Madeira wine, a bottle was his daily quantity, and notwithstanding his residence was in a dirty alley, and the weather from February to the middle of May, unfriendly to his complaint, that he could not take fresh air 'till the last of April; the expectoration gradually lessened and assumed a better colour 'till the cough and expectoration ceased the beginning of May. He has recovered his flesh and strength, and thinks himself in better health than he has enjoyed for many years. He desisted from medicine the beginning of May, his pulse is now (June 1, 1804) regular, and at 75 or 80 in a minute.

It has been observed by European physicians, and corresponds with my experience, that the small particles of stone, wood, and metals, and other hard substances inspired by the workmen, have produced this disease in the artist who work in these substances. The fine particles are often inspired into the vessicles. The absorbents not being able to remove them, they produce the nucleus of tubercles, which if medicine, or the strength of the constitution do not remove, suppurate and terminate in phthisis pulmonalis. The process is illustrated by an experiment by \*Dr. Haighton, upon an animal of a class particularly exempt from consumption. He threw two drachms of quick-silver into the veins of a dog. In two days a feverishness ensued, as was apparent from the hardness and quickness of the pulse, difficulty of breathing, a cough soon succeeded. These symptoms increased 'till the death of the animal. On dissection tubercles were found in the lungs; many of these tubercles were full of purulent matter; and on cut-

\* Saunders on the Liver.

ting open those that were still firm, a globule of mercury was discovered in the centre of each, forming the nucleus to the circumscribed inflammation or tubercle. Here it is evident, that the mercury having been delivered by the veins to the heart, and by the heart to the arteries, was by them effused into the cellular substance of the lungs, and probably into the whole body. The absorbents not being able to remove the particles from the lungs, the arteries were stimulated to secrete the matter of which tubercles consist.

THE most decisive good effects have been experienced from the use of digitalis in Hæmoptysis, Epistaxes and active hæmorrhages from the uterus. In very urgent cases, I have given twenty five drops every hour till the discharge is suppressed. In one instance of hæmoptysis in a very athlectick young man, where the discharge eluded the force of every other medicine, it reduced the pulse in eight hours, from one hundred in a minute, to fifty pulsations, and stopped the hæmorrhage.

WHILE this medicine is employed in active hæmorrhages, a total abstinence should be enjoined as well from fluids as solids, the most bland, and least irritating fluids in large quantities may, by the distention of the arterial system protract the hæmorrhage. I have given it with complete success in a case of insanity and mental derangement.

I WILL conclude my observations upon digitalis purpurea, with remarking that although I do not think with Dr. Beddoes, that it is as infallible a remedy in consumption as mercury in lues venerea, and bark in intermittents, I must acknowledge and with pleasure assert that I have cured more by this medicine than by all and every other medicine conjoined.

I SHALL add a few hints on clothing, and some observations on the warm bath. The statistical histories of Sir J. Sinclair, to the most cursory observer, furnish many interesting facts, respecting situation, temperature, clothing and diet, on the human constitution.

THE effects of thin and warm clothing are very obvious by comparing the health of the English and Dutch. Doctor Coggan, a physician of eminence in Holland, \* observes that the Dutch and the English, who have resided some time in Holland, are forcibly struck with the coughs whether catarrhial or consumptive, so universally prevalent in England, in almost every season of the year. At church and at the theatre, devotion and pleasure are always interrupted, and sometimes totally destroyed by incessant coughs and expectorations; whilst in the largest assemblies in Holland, instances of a similar kind are scarcely known. This very great difference must be ascribed to the contrast observable between the two countries in the construction of their houses and peculiarities of dress. The majority of the houses in Holland even at the present day are the reverse of what we should esteem comfortable. The rooms are large and lofty, the separation betwixt the upper and lower apartments is by painted boards only, which if they were not covered by mats or carpets, would transmit the light as well as air. A gentleman who had resided many years in Canada observed that Coughs, catarrhs and consumptions were rare diseases in that climate, and that he was surprized at the incessant coughing in our Churches. He observed the air of Can-

\* Beddoes on Consumption.

ada was colder than ours, and he was astonished at the thin dress of the Ladies here, so very ill adapted to ward off the inclemencies of the weather, in the Winter and Spring ; and rejoined, that the houses of the opulent and most of those in easy circumstances were lofty and well aired. The inhabitants, as soon as the leaves of the trees changed their colour in autumn, enveloped their bodies, next to their skins, in Welsh flannel ; and when they took an airing, were wrapped in furs, so that any exercise produced an agreeable glow over the whole surface of the body ; perpetual action continued and promoted Health. The ancients observed that the Gods sell all good things for Labour and Exercise.

\* Two Englishmen, and Brothers, resided in Holland ; one continued the dress and manners of the English, disdaining to wear a flannel waistcoat, and braving the elements with an open breast ; he fell an early victim to his predilection for English fashions at 30. The other conformed to the Dutch mode of dress ; wore flannel waistcoat and drawers, by which he encountered the inclemency of the weather with impunity. He fished and hunted in the worst of weather, and was a stranger to colds and coughs, and enjoyed uninterrupted health till 57, when by accident he lost his life.

THE warm bath is well adapted to relieve many of the effects of colds and by invigorating the whole system to ward off the catarrhs to which the valetudinarian and those disposed to consumptions are most incident.

THE practice of bathing was universally adopted among the Greeks and Romans. The institution was originally

\* Beddoes.

the preservation of health, but as riches and luxury increased in those nations, edifices of the most superb, sumptuous and elegant nature were erected. In the baths of the Romans, there were five apartments. The tepidarium, calidarium or laconicum, the solium, the baptisterium or Piscina, and the frigidarium. The time will only admit of a few observations on the tepidarium and solium.

It has been much agitated among the learned, whether, and how far, the writings of the ancient physicians contribute to our knowledge in the cure of diseases. Their usefulness may be inferred from this single consideration. That the mechanism of the human body, always the same, a faithful history of diseases must necessarily be one of the surest guides to the proper application of remedies. And if the diagnosticks and prognosticks be of the greatest consequence in Physick, and are only to be collected from long and accurate observation, then the histories of diseases by Hippocrates and others, who were so assiduous in their observations, so clear and exact in their descriptions, must be allowed to contain a valuable treasure of medical knowledge. They have been verified by subsequent Physicians and quoted as authorities. *Opinionum commenta delet dies, naturæ judicia confirmat. Cicero.*

Celsus is the only Roman Physician, whose work *de Re medica*, survived the destruction of the barbarous ages. He lived in the first Century of the Chr. Æra in the reign of Augustus. It has been disputed whether Celsus was a practitioner of Physick, or only to complete a liberal education, acquired all that was then known in Physick and Surgery. We must suppose from his very particular directions, in most cases, that he was a regular Practitioner of Physick and Surgery. His Surgery is preferable to his Physick.

AMONG the ancients, to whom the individual, was of so much importance to the publick, bathing was as frequent as washing among us ; every person in easy circumstances bathed once every day ; many in affluent circumstances, 5 or 6 times in a day.

The prohibition of Bathing was among the severe mortifications to which certain priests in Greece, were bound by the rigid rules of their order.—

THE use of the bath came from the East into Greece, and thence into Italy, and the north of Europe. The baths were esteemed of so much importance to the health of the people ; that Princes and magistrates procured them for the use of the publick. In the life of Augustus, it is mentioned, that Mæcenas was the first that established the warm bath at Rome. The Roman Emperours erected superb publick baths, assigned revenues to support them, appointed Slaves, *Servi balnearii*, who heated the baths ; others kept the clothes of those who bathed, a third rubbed them with oil : and all were under the inspection of certain officers, who had the charge of the baths. In many of the reigns there was no sort of constraint on account of rank or quality, all sorts of persons and sexes were admitted gratis to the baths, which the Emperours maintained at their own expense ; a largess which they gave the people on occasion of any publick rejoicing, called *balneum gratuitum*.

Often the masters of the World bathed indiscriminately with their Subjects. Titus admitted the common peoplet to bath with him in the thermæ he had built ; and Spartian relates that the Emperor Adrian, bathing in a crowd of people, discovered an old Soldier, rubbing his back a-

gainst the Wall. Adrian who knew him, by having seen him in the service, asked him the reason of it. It is, replied the old man, because I have no servant. The Emperour immediately gave him Slaves, and a revenue sufficient to support them. Seneca, in his 86th Epistle, shews us of how great importance the Romans esteemed the tepid baths, in the time of the republick, where he observes, “ what pleasure there would be in going into the baths, which a person knew to be tempered by the hand of Cato in his Edileship, or Fabius Maximus or one of the Corneli, for this function, the most noble Ediles performed, of inspecting those places, frequented by the people, and requiring cleanliness, and a salutary temperature: not such as has lately been brought into use, in which the heat is so violent, that one would imagine a Slave convicted of some crime, were condemned to that punishment.”

That the warm bath was considered both, by the Greeks as well as Romans, as corroborant, is evinced by a dialogue from Aristophanes in which one of the Characters says “ I think none of the sons of the Gods ever exceeded Hercules in bodily and mental force” upon which the other asks “ where didst thou ever see a cold bath dedicated to Hercules?” It is impossible to ascribe such an absurdity to the ingenious and consistent people of antiquity, as to make them consecrate to the God of strength, what they held to be so very debilitating as we do. They therefore must have esteemed the warm bath invigorating to the system, and from their constant use of it, must have been competent judges of it. They did not consider its frequent use as tending to enervate the body; they meant it in a moral, not a physical sense. Celsus, as I mentioned, must have considered the tepid bath invigo-

rating, it is evident from this passage. The valeludinarian imbecillis homo ; iturus in balneum, vitare debet, ne ante frigus aliquod experiatur, ubi in balneum venit, paulisper resistere, experique num tempora adstringuntur, et an sudor aliquis oriatur : illud si incidit, hoc non secutum est, inutile eo die balneum est : perungendus est is leniter, et referendus ; vitandumque omnimodo frigus, et abstinentia utendum. At si temporibus integris, primum ibi, deinde alibi, sudor incipit, fovendum os aqua calida, tum in *solio* desidendum est : atque ibi quoque videndum, num sub primo contactu aquæ calidæ summa cutis inhorrescat, quod vix tamen fieri potest, si priora recte accesserunt : certum autem id signum inutile balneum est. The ancients spent some hours in the tepid bath, they were therefore accommodated with a seat, *Solium* ; therefore Celsus says, tum in Solio desidendum est, he is to sit in the bath at his ease. And Suetonius, in the life of Augustus, mentions the Epigrams which that Prince composed in the tepid baths. The elder Pliny, while in the bath, had his Secretary at hand, to make extracts of what appeared worthy of remark.

\* THE English antiquarians adduce many instances, in history, of the great predilection of their ancestors to bathing ; many of their nobility had warm baths in their own houses ; and there were publick baths, to which those who could not afford these means of health, repaired. That a custom so congenial with the increasing disposition to luxury and refinement should have fallen into disuse, would afford matter of great surprise, if the cessation of Leprosy, and the introduction of Lues venerea, at these periods, did not solve it. The moderns as well as the

\* Strutt, quoted by Beddoes.

ancients bathed, promiscuously, in one large bath, and in the same fluid. The dread of receiving the lues venerea, by absorption, deterred many from its use; and the decrease of Leprosy finally extinguished the desire of that indulgence. The modern separate baths and clean water for each person obviate these objections. I know of no place except in Russia where they now promiscuously bathe.\*

WITH the revival of learning in the 15th century, the Sovereign called in the aid of the priest, and converted bathing into a religious rite, and persuaded the people they could wash away their sins, and obtain absolution. Such baths were denominated baths for the soul, *balnea animaria, et refrigeria animæ*. I might add, that the use of Shoes and Stockings and linen Shirts, has rendered that of the bath much less necessary to cleanliness among us, than among the ancients, who knew nothing of the pleasures of clean linen, which we now esteem essential to comfort and convenience. Linen was such a luxury among the ancients, that the master of the feast furnished no napkins to his guests, and each brought his own: this custom which cannot but shock us, continued after the reign of Augustus. Martial says Hermogenes, who frequented the best company, used to filch the guests' napkins, and when for fear of his Hawk's talons, they brought none to the feast, Hermogenes contrived to purloin the table cloth. Martial, in a couplet, transmits him to immortal infamy.

*Attulerat mappam nemo dum furta timentur,  
Mantile e mensa surripit Hermogenes.*

Perhaps the disuse of the bath may, in some measure, be attributed to the fashions of medicine. We have all

\* Cox's travels in Russia.

of us been witnesses to the various changes that have been introduced into the practice of physick, depending not so much upon reason as Hypothesis, which is another word for fashion. Medical hypothesis and false analogies from the writings of Physicians, have caused that to be avoided upon principle, although a false one, the use of which might not in every case be so necessary as it anciently was ; and because the promiscuous use of it had sometimes been injurious. We shall be less surprised that the people in general, have neglected the bath, however salutary in its effects : when Physicians themselves are but just emerging from the false analogies of their predecessors, and some of them reverting to unbiassed observation. Physicians and Philosophers reasoning from false analogies have been induced to think, that the warm bath almost universally debilitates, and that the cold bath strengthens, in the same proportion that it recedes from warm. They have reasoned from the effects of heat upon inanimate substances, and have drawn conclusions from substances that have no affinity with each other ; and because cold contracts and hardens inanimate bodies, and heat dilates, elongates and weakens them, therefore heat and cold must operate in a similar manner upon animals. The mechanical Physician, being so absorbed in considering man, as an hydraulick machine, subject to the same laws, that he forgets the animating principle ; and in his reasoning upon the animal functions, does not introduce the vital and sensitive cause. Professor Cullen asserts, and justly, that cold below  $62^{\circ}$  is sedative and debilitating. However, those who from speculation never use the tepid bath from an apprehension of its debilitating effects, will, when uniform experience convinces them of its corroborating power, I hope, change their opinion. Tissot, in his Essay on diseases of literary and sedentary people,

and diseases of people of fashion, says, "That, to persons afflicted with nervous debilitating diseases, the warm or tepid bath, used fasting, is of the greatest utility," and adds, "I have seen three patients, of this class, in a confirmed hectick, whose situation seemed desperate, yet were perfectly cured by this remedy."

WOULD time admit, I should adduce a cloud of evidence, in support of the corroborating effects of the warm bath, from the writings of Beddoes, Darwin, Marchard and Franks, who directed the warm bath to weakly, nervous persons, such as, instead of recovering their health, as they actually did, ought to be dissolved all together, if the warmth given to the waters had a relaxing effect.

THE Author of *Zoonomia* says, the use of the warm bath, from  $96^{\circ}$  to  $98^{\circ}$  for half an hour, daily, for three or four months, he has known of great service to weak people, and is perhaps the least noxious of all unnatural Stimuli. And when Dr. Franklin was in England, many years since, he recommended to him the use of the tepid bath, twice a week, to prevent the too rapid access of old age, of which he then thought he felt the approach. We know the Dr. continued the use of it till his death, which would have been preserved many years, had not the cruel disease, the stone, destroyed him. Nothing can more forcibly impress the mind with the invigorating powers of the tepid bath, than its effects on persons labouring under the disease Pelagra, which is exceedingly frequent among the peasantry of Lombardy. This debility cannot be more certainly removed by any means than by the use of the tepid bath. The debility is so

great, that many patients are obliged to be carried, although the bath is not above forty paces from the Ward. Many who can walk are yet so weak, that they cannot get into the bath without help. The appearance of these people, in going in and coming out, is truly miserable. If they were not supported by the attendants, they would stagger like drunken persons. In the space of four, or at most, six weeks, which is the usual course of bathing, they are commonly so much restored, by the use of the warm bath, as to return to their friends and ordinary employments.\* In fine, the warm bath from  $94^{\circ}$  to  $98^{\circ}$  by diffusing the circulations, and removing partial pressure, prevents spasms, relieves the chronick Rheumatism, and most erratick pains: and by cleansing the pores, and determining the circulations to the surface of the body, promotes the secretion of that fine fluid, that gives delicate softness and smoothness to the skin, which heighten the charms of youth and beauty; and by its invigorating effects retards the rigidity of the fibres, and the coalescence of the capillary vessels, the harbingers of old age.

\* Marcard's med. and chirurg. Journal.

FINIS.