

SMITH (L.A.)

REPORT

ON THE

TOPOGRAPHY AND EPIDEMIC DISEASES

OF

NEW JERSEY,

AND THE

TREATMENT THEREOF.

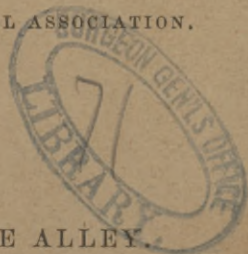
BY

LYNDON A. SMITH, M.D.

(Newark, N.J.)

EXTRACTED FROM THE
TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA:
COLLINS, PRINTER, 705 LODGE ALLEY.
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NEW JERSEY

BY JAMES W. HAYDEN

PHILADELPHIA: J. B. LIPPINCOTT & CO., 1882.

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R E P O R T .

THE undersigned, appointed by this Association, in 1855, to report "On the Medical Topography and Epidemic Diseases of New Jersey, and the Best Method of Treatment," respectfully represents:—

That immediately after his appointment, he addressed a circular letter, through the newspapers and the *Medical Reporter*, to the physicians of New Jersey, stating that such a committee had been appointed, as well as the object in view, and asking from them such information as might enable him to make a full and satisfactory report. He also made application to the New Jersey Medical Society for assistance, but up to the present moment has received no response to his appeals, and is, therefore, dependent upon his own limited observation, and the annual reports of the Standing Committee of the New Jersey Medical Society, as published in the *Medical Reporter*, together with the *Report of the Geological Survey*, under Dr. Kitchell, and also *Gordon's Gazetteer*. To these sources he hereby acknowledges himself indebted for the facts embodied in this report.

TOPOGRAPHY.—The State of New Jersey lies between the parallels of $40^{\circ} 20'$ and $38^{\circ} 55'$ north latitude, and meridians $73^{\circ} 54'$ and $75^{\circ} 34'$ west longitude from Greenwich.

It occupies a position peninsulated, with respect to New York, which bounds it on the north, and from which it is separated by an imaginary line running nearly on the 41st parallel of north latitude to the Delaware River. On the east, the boundary line follows the Hudson River until it empties into the Bay of New York, thence it follows the strait which separates the State from Staten Island. The remainder of the eastern and southeastern boundaries

is formed by the Atlantic Ocean. The Delaware River forms the western and southwestern boundary, separating the State from Pennsylvania and Delaware.

The total area is 7,750 square miles, being 4,960,595 acres, of which only 1,767,991 are improved, leaving entirely uncultivated 3,192,604. And yet there are no deserts, nor dismal swamps, where the labor of man would not receive an adequate reward. The inhabitants of the State are settled principally in valleys, on the rivers and brooks, where the land is rich and easily cultivated. Hence it happens, that the most prevalent diseases are of malarious origin. As the land is drained and cultivated, the country gradually becomes more healthy, so that our bills of mortality compare very favorably with those of any of the United States.

The area of the State is naturally divided into three strongly marked sections. The *first division*, the alluvial, between Delaware Bay and the Ocean, includes the marl region, and is almost a level plane, much of it dense forest, and, where cultivated, is devoted to the raising of the grasses, grains, and fruits, which are produced in great abundance. The climate is so mild near the sea-coast, that cattle often subsist upon the meadows and in the neighboring woods, through the winter, without being sheltered or fed.

The streams, of which there are a great number, have so slight a descent, that in many places they may almost be regarded as a succession of swamps and ponds, forming a striking contrast to other portions of the State. The section comprises the counties of Monmouth, Burlington, Gloucester, Salem, Cumberland, Cape May, and Atlantic, and it has evidently been reclaimed from the Ocean.

The *second division*, the hilly, is included by a line drawn from Hoboken, south, to Trenton, and another drawn from the Ramapo Mountains, curving by the Pompton Mountain to Delaware River, between Alexandria and Milford, and affords a considerable variety of soil and surface, the geological formation being secondary, or chiefly red sandstone. This division includes a large part of Bergen, Hudson, and Passaic counties, all of Essex, part of Morris, Somerset, Hunterdon, and Middlesex. This is the most populous, and probably most wealthy portion of the State. While the soil is not so productive as in the primitive and transition regions, there being less of it waste, and divided as it is into small farms, and more assiduously cultivated under the stimulus of convenient markets, the returns are very abundant. The manufacturing in-

terests in the State are principally confined to this section, and add greatly to its wealth and importance.

The *third*, or *mountainous division*, which is from ten to forty miles in breadth, extends from the northwest boundary of the State, in a southwesterly direction to the Delaware Water Gap; where it passes into Pennsylvania. This district is very interesting and varied in its geological formation, surface, soil, mineral, and vegetable productions. The primitive ridges contain rocks of a pretty uniform character, as quartz, feldspar, &c.

In the transition section, *grauwacke* and *grauwacke slate* are the most common rocks. Extensive beds of magnetic iron ore, and also zinc and copper are found.

The most remarkable mountain range, in this division, is that called the Blue Mountains. This range is from 800 to 1500 feet in height, and from three to six miles in width at the base. Between the western slope and the Delaware River is a valley averaging one mile in width, drained by the Flatkill and its branches. East of the Blue Mountains lies a broad and fertile valley, called the Kittating, and extending, through the counties of Sussex and Warren, forty miles to the Delaware River. It is broken by a succession of rounded hills, which cause the drainage of the northern portion to pass through the Wallkill northerly towards the Hudson, while the southern portion is drained by the Paulins Kill into the Delaware. Both streams are fed by small lakes and ponds, which are so numerous that they often cause the Wallkill to overflow its banks, destroying the fertility of a large tract of country, and rendering it unhealthy.

The next remarkable range in this section is a continuation of the Highlands of New York, which take the same general direction as the Blue Mountains. They are not as continuous as the latter, and as they are made up of parallel ridges, intersected by occasional valleys, have different names in different localities.

Within this range are several large and beautiful lakes, and many small ponds, affording the waters which make up many of our principal rivers, as the Raritan, which runs easterly for seventy-two miles, and empties into the Bay of the same name. The Passaic, which, after running about seventy miles, empties into Newark Bay. The Hackensack, forty miles in length, also empties into Newark Bay. The Pequest, thirty miles in length, empties into the Delaware. This is a bold and rapid stream, affording abundance of water power, and draining a very fine valley.

The Musconetcong is the outlet of Lake Hopatcong, and runs forty miles, in a southerly direction, through a deep and narrow valley, and empties into the Delaware. Lake Hopatcong is five and a half miles in length, and one and a half wide, and is the feeder of the Morris Canal, containing nearly four and a half square miles of water.

There are many other streams draining smaller valleys, between mountain ridges, and forming branches of the Raritan or the Passaic, which time will not allow me to particularize.

The mountains in this section, with some exceptions, are generally in a state of nature, while the valleys, based on limestone, form the most fertile portions of the State, and are generally in a high state of cultivation, and thickly inhabited.

EPIDEMIC DISEASES.—During the three years of the existence of this commission, it will be seen by the following extracts from the Reports of the Standing Committee of the New Jersey Medical Society, that the State has been remarkably healthy. The Committee for the year 1855 say, in their Report to the Society in January, 1856, as published in the *New Jersey Reporter*:—

“No epidemic has prevailed, to any extent, in our State during the past year; such as approached that character were generally limited to small portions of the State. Among these, scarlatina, whooping-cough, measles, diarrhœa, dysentery, mumps, and bilious fever have had a share; also a very troublesome disease of the skin.”

The Committee for the year 1856, say:—

“The general prevalence of health throughout the State, and its immunity from extended epidemics, affords but little material upon which to report in this department of medical research.” The diseases mentioned as prevailing are nearly the same as during the last year.

The Committee for the year 1857, say:—

“In presenting their annual Report, your Committee feel great gratification in being able to announce that the citizens of our State have, during the past year, enjoyed an unusual exemption from the various ills that flesh is heir to. We have been spared from any of those pestilential epidemics which, at times, have swept over our land, destroying our fellow beings by scores and hundreds, and desolating hearth-stones.

“It is our pleasing duty to report that, while seed-time and harvest have prospered, Hygeia's sway is now, and has been during

the past year, more than usually absolute, and that we are at present in a remarkably happy condition of health and prosperity."

The Committee allude to the remarkable financial epidemic which lately visited our country, as having had a peculiarly debilitating effect upon the medical profession, causing long faces and lank purses.

The diseases mentioned as epidemics, during the year, are the same as those reported for the two preceding years. Erysipelas alone is particularized as having been "wide spread, insidious, and fatal" in our locality, Gloucester County.

The Committee present the following conclusions of Dr. Van Doren, relating to the diseases of Somerset County, and probably equally well applied to some other portions of the State.

"True sthenic inflammation is becoming more rare yearly, and the cases which do occur are of a milder grade."

"The phlegmasia are replaced to a considerable degree by diseases of irritation, viz., neuralgia, nervous gout, and subacute rheumatism."

"Inflammatory action is attended with less symptomatic fever than formerly; thus we often see (latent) pleuritis, pneumonia, &c."

"The cause of these peculiarities is doubtless that our population have their vascular and muscular systems *less*, and their nervous systems *more* developed, than their ancestors, and the cause of this difference is to be found in their habits of life."

"In relation to fevers the following facts appear. Intermittents have been increasing for the past ten years, and are in some localities very annoying."

"At the same time, bilious remittent (also, they say, miasmatic) has dwindled and almost disappeared, and intermittent fevers often ally themselves with and run into typhoid (the enteric fever of Wood)."

"Typhoid fever has become endemic among us, and typhus, *i. e.*, typhus gravior, has almost if not quite disappeared."

"Irritative fever, the febris ephemera of Goode, is often met with in children, and is almost the only form of remittent fever commonly encountered."

"In relation to the treatment of typhoid fever, an expectant practice, with careful control of the local complications, as they arise, has generally proved successful. The turpentine emulsion of Dr. Wood is most efficient in controlling the abdominal symptoms."

SCARLATINA has prevailed more extensively in the State than any other epidemic, in all its forms, from the mildest to the most malignant. Great difference of opinion prevails respecting its treatment in the severer forms, while all agree that in its simplest, little more is required than confinement to the house, and regulation of the diet and bowels.

In the anginose variety of this disease, the best practice seems to be that suited to many cases of continued fever at their commencement, the antiphlogistic. Where there is heat of skin, cold affusion, or at least cold sponging, is very advantageous. When the tonsils become inflamed and swollen, and the cerebral circulation is disturbed, as indicated by delirium, the application of cold to the head, and leeches to the throat, is found to be useful. But great care is necessary not to do *too much*.

In the malignant form of this disease, all agree that every method of treatment too often fails, and that almost the only chance for the patient, is in the use of tonics and stimulants, occasionally penciling the gangrenous ulcerations of the throat with nitrate of silver and detergent gargles.

At the suggestion of Dr. Nebinger, of Philadelphia, in the *New Jersey Med. Reporter* for Dec., 1857, I have recently tried, in several cases of this disease, with pleasing effect, chlorine, prepared after the following formula. Dissolve two drachms of chlorate of potash, in a mixture of two ounces each, of hydrochloric acid and pure water. The water absorbs the chlorine which is generated, and becomes highly charged with it. The mixture must be made in a close-stoppered bottle, and kept from the light. Of this, half a drachm is mixed with four ounces of syrup and water, and a table-spoonful or less, according to age, is given every hour or two, according to the urgency of the symptoms.

After clearing the primæ viæ, this remedy, with the use of detergent gargles and nitrate of silver to the tonsils, has done in my hands better than any other, and I would respectfully urge the profession to give it a fair trial.

Diphtheritic croup is very frequently an attendant on this disease, and is generally fatal. When otherwise, the favorable issue is generally owing to the free use of nitrate of silver topically applied, according to the plan of Dr. Green, and the internal administration of calomel.

INTERMITTENT, REMITTENT, and TYPHOID FEVERS have prevailed to some extent in many localities as epidemics, and have greatly taxed the patience of both physician and subject. I am not aware that anything new has been discovered in the treatment of these diseases, or that the confidence of the faculty in the old methods is at all abated.

Many physicians prefer quinoidine to quinine, in the treatment of intermittents, as being more permanent in its effects. My own practice is to combine carbonate of iron with quinine, and it seldom disappoints my expectations in making a radical cure.

Some speak in high terms of the *veratrum viride* in those febrile affections characterized by excessive action of the heart and arteries. The method of using this article is to commence with six drops of Norwood's tincture, for an adult, and increase one drop each dose, every three hours, till a decided effect is produced upon the system, evinced by diminution in the frequency of the pulse, or by nausea and vomiting, when the dose is reduced to six drops, and continued as before.

I have prescribed this remedy with pleasing effects, and do not hesitate to recommend it as preferable to those usually resorted to for the same general purpose.

I will here add, that Dr. Johnson, of Hunterdon County, who has had considerable experience in the use of *veratrum*, says: "In all cases of exalted arterial action, and when the circulation needs bridling, we have in the *veratrum viride* a resource which puts the lancet, tartar emetic, and *digitalis* far in the background."

Dr. Gibbon, of Salem County, also speaks in commendation of the article, and says: "I am inclined to think that, in some instances at least, it may be used as an efficient substitute for the lancet."

DYSENTERY has not prevailed very extensively as an epidemic in the State, during the past three years, but has occurred in some localities with greater or less severity.

Dr. Coleman, of Burlington County, says, "that the cases of this disease in that region last year, were marked by early prostration and rapid tendency to dissolution." He does not mention the particular method of treatment.

Dr. Johnson, of Hunterdon, says "that, during the months of July and August, this disease prevailed so extensively in that county as to be an epidemic. The attacks were severe but amena-

ble to medicine." He commenced the treatment with castor oil, of which he seldom found it necessary to give more than one or two doses. "The great principle kept in view in the treatment, was to maintain the bowels as much as possible at rest."

He used Dover's powder in the usual doses, and, in many cases, added to each, say every three or four hours, a teaspoonful of the solution of plumb. acetatis, four grs. to the ounce of water.

The opium suppository, two grs. for an adult, was used at bedtime, in cases of tenesmus. Poultices of mush, and bread and milk, to the abdomen, had a pleasing effect, as had also the sinapism occasionally. The diet was liquid, consisting of soups, and sweet milk and bread. This treatment, he says, subdued the disease in a brief period.

Dysentery has prevailed also in this city and vicinity with some severity, but has been manageable under a treatment similar to the above.

MEASLES has made its appearance in some portions of the State.

Dr. J. C. Johnson, of Warren County, says, in his report to the Standing Committee, "that this disease prevailed over a very large district of that county, in the winter and spring of 1856, and affected the greater portions of those who were unprotected by previous attacks. Their type was sthenic, devoid of malignancy, yet in most cases attended with bronchial and pulmonary complications."

Dr. Johnson found "that mild treatment, by demulcent drinks, rubefacients, and small doses of ipecac, removed all these difficulties, without recourse to the lancet, blisters, or antimony."

Dr. Phillips, of Trenton, speaks of the disease as having prevailed there in Jan., 1857, and that it required strict antiphlogistic treatment.

It also has prevailed to some extent in Essex County, existing in many instances in families where the scarlet fever was at the same time prevalent. It was not particularly fatal, generally giving way to the usual plan of treatment.

ERYSIPELAS is one of the epidemics of the past three years. It prevailed extensively in Mercer County in 1857. In the report of the Standing Committee to the Medical Society, it is stated "that the constitutional symptoms were very severe and distressing, and the disease attacked every age, sex, and condition. Many

deaths occurred among parturient females, the disease associating itself very insidiously with puerperal peritonitis, and proving extremely unmanageable." The treatment consisted in the internal use of tonics (generally some preparation of Peruvian bark), and the external use of nitrate of silver and tincture of iodine.

Dr. Graham, of Gloucester, says: "The disease prevailed throughout that county, and many a memory will often, and with sadness, recall its ravages during the winter of 1856-7."

"Accompanying this epidemic, was an obscure form of inflammation, as to the exact character of which different opinions obtained among our most experienced practitioners."

"This disease was so similar to erysipelas as either to be the same, or, at least, its cousin-german." Dr. G. asks, "whether there is such a thing as internal erysipelas? Is it or not a disease diagnosed by cutaneous inflammation, and from which mucous tissues are exempt?"

Dr. Newkirk, of Cumberland, reports to the Medical Society, 1856, that an anomalous CUTANEOUS AFFECTION had prevailed in that county, which was attended with intense itching and smarting, and when irritated by scratching, running into ulcerations, having been at first vesicular. It resembled scabies, and yielded at last, after running a long time, to remedies appropriate to that disease. It was seldom noticed on or between the fingers, but sometimes appeared on the forehead and face. It went through whole families often, but not always. Some thought it contagious, others not. Sarsaparilla, iodide of potash, and Fowler's solution, were all used internally with benefit; externally, all the usual ointments and the laurel bath.

Dr. Bateman, of Cedarville, mentions, in the *N. J. Medical Reporter*, that the same disease has prevailed in his vicinity for several years. He thinks it evidently contagious, and says no grade or class of society, from the highest to the lowest, is exempt from its attacks.

His description of the disease is similar to Dr. Newkirk's, and he adds, that it often returns after the patient has seemed to be cured. Dr. B. says: "After an experience of three years in the treatment of this disease, I find that the prescription which has been most efficacious, has been the internal use of the liquor potassæ arsenitis, one to eight drops, three times a day, according to the age of the patient; and the external use of a wash of bichloride

of mercury ʒj; crude sal-ammoniac ʒij; water Ojss; dissolved, and applied morning and evening."

The same disease has prevailed in Essex County extensively, also in Warren, Sussex, and Somerset counties, and gave way under the use of Fowler's solution, and the external application of a solution of sulphate of zinc, citron ointment, and a solution of the sulphuret of potash.

WHOOPING-COUGH has been epidemic in several sections of the State, but nothing new or interesting respecting the pathology or treatment of the disease has come to my knowledge. The same remark is applicable to the MUMPS, RHEUMATISM, DIARRHŒA, CHOLERA INFANTUM, and INFLUENZA, which have all visited some portions of the State, though not extensively.

SMALLPOX has been more than usually prevalent in many portions of the State, especially in Essex County, but the faith of the profession in the efficacy of vaccination, as a preventive, is in no sense weakened, but most of them believe that a *perfect* vaccination is a *perfect protection*. In my own experience this perfection is not always attained by one trial, but sometimes requires two or more; and my practice is to revaccinate, in all cases, so long as a vaccinoid effect can be produced.

That vaccination never wears out is my belief, as in my own case it has stood the test of forty-eight years, during which time I have repeatedly revaccinated myself without any other effect than a slight inflammatory action, and have very often been exposed to the most virulent forms of smallpox with impunity.

The Board of Education in this city have adopted a resolution, that no child shall be admitted into our public schools, who has not been successfully vaccinated; and arrangements are made by the city for vaccinating the poor gratuitously. Were the same plan adopted throughout the State, smallpox would soon cease to exist in all our borders.

From an experience of thirty-seven years, during which time I have been a very careful observer, the following opinions are advanced with great confidence. They were originally published in the *New Jersey Medical Reporter*, vol. x., and are here reproduced.

1st. That a *perfect* vaccination affords a *perfect* protection from smallpox during life, and that, if this is done in all instances soon

after birth, smallpox may, as Dr. Jenner supposed it would, be eradicated.

2d. That in some subjects *one* vaccination is sufficient to destroy the susceptibility to smallpox, while in others *two*, and sometimes *more*, are required, and, therefore, it is important to revaccinate as long as an impression can be made.

3d. That vaccination will protect the life, and greatly mitigate the distress of a patient, who has already taken the smallpox, if done in time to allow the first disease to pervade the system.

4th. That the common idea, that the *sorer* the arm from vaccination the better the protection, is a mistake, and that a very small pustule, which goes through the regular stages and produces a constitutional effect about the ninth day, is more generally *perfect* than one that produces great inflammation, pain, and swelling, and affects the glands. Indeed, I am always suspicious of a case when this has occurred, and take an early opportunity to revaccinate, and have often had my suspicions verified by a good pustule.

5th. That the virus should always be taken before the areola forms, if taken from the pustule, and with great caution, lest it interfere with its progress. My own practice is, to save the scab and insert it in a pulverized form by means of Faucher's vaccinator, which is a very simple and convenient instrument, and saves much time, and never produces unnecessary inflammation.

6th. That the virus should never be taken from any but a healthy infant of healthy parents, and then there is little or no danger of propagating any other disease, as many think may be and often is done.

7th. That eruptions often occur after the most careful vaccination, and are owing to some peculiar idiosyncrasy, although the friends of the patient attribute it to the virus. Hence the importance of the last observation, which may save the physician from blame.

8th. That a small scar with pits, or indentations around its border, is a much better evidence of the perfectness of vaccination than a large, smooth, and glossy one, though many think that the bigger the scar the better the vaccination.

9th. In vaccinating a patient who has a good scar, if the virus produce redness and itching for a few days, and then dries up, I infer that the first vaccination was *perfect*. If it produce no other effect than is common to a slight puncture of the skin, I infer that

the virus is not good, and immediately make another attempt with a new supply.

In conclusion, I will allude to only one other epidemic which has visited us, and this is mentioned by Dr. Butler, of Burlington, in his report to the Standing Committee for 1856, and will, in some measure, excuse the meagreness of the paper I here present, as it shows that New Jersey has been blessed with a great share of immunity from disease for the past few years.

Dr. Butler says, in January, 1857: "So far as I am aware, the only general *epidemic* that has prevailed in this county the past year, was confined to the medical profession. This disease, which has of late been made the subject of study by certain enthusiastic Southern pathologists, is known by the name of DRAPETOMANIA, a disposition *to run away from home*. I shall not at this time go into a lengthened disquisition on the causes, nature, results, pathology, course, and treatment of this disease, but will refer you for further facts, in regard to it, to elaborate essays to be found in the pages of some of our Southern journals. Suffice it to say, that the epidemic prevailed here throughout the entire season, and was characterized by its ordinary *symptom*, a strong desire to leave home. The cause of the disease was, in this instance, a uniform one, viz: *Little or nothing to do at home*. The *treatment* was emphatically 'expectant,' and the *termination* 'favorable,' for when allowed 'to run its course' it left the patient where it found him, *at home*. The most serious 'result' of this epidemic, and of the cause which has given rise to it, is the emptiness of a certain sack or pouch, in the right inguinal region. This result, however, it is hoped may be obviated by time."

Respectfully submitted,

LYNDON A. SMITH, M. D.

NEWARK, N. J., April 10, 1858.

