

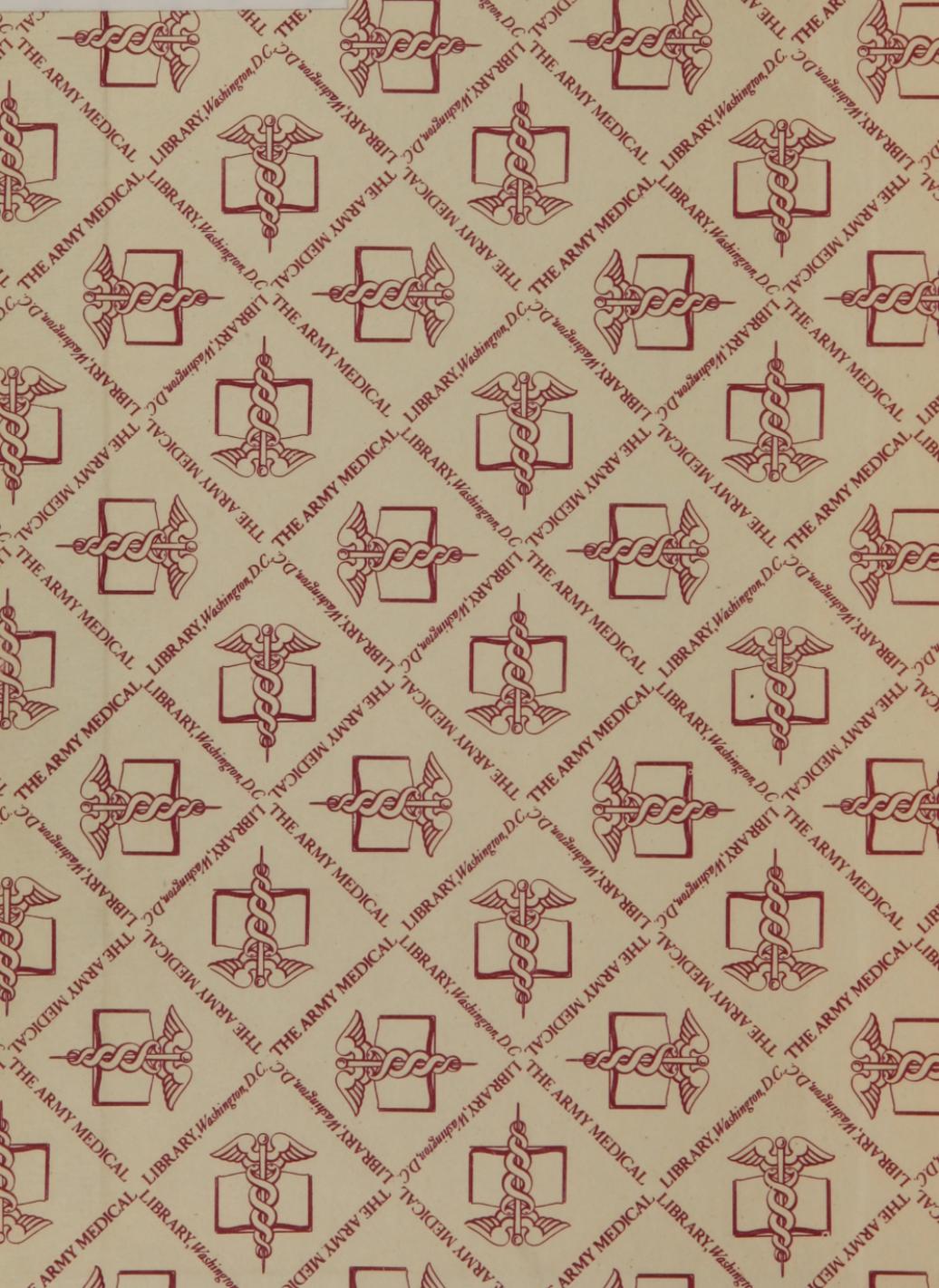
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LEPROSY IN NEW ORLEANS.

By HENRY W. BLANC, M. D., Dermatologist to the Charity Hospital; Lecturer on Dermatology, Tulane University of Louisiana; Instructor in Skin and Venereal Diseases, New Orleans Polyclinic; Dermatologist to the Touro Infirmary.

Leprosy in Louisiana is no new thing, for it has long been a recognized fact that a few stray cases which came years ago with the Acadians from Nova Scotia, or as immigrants from the West Indies, have left a taint in the blood of their offspring which crops out occasionally, without apparent provocation, to maim and afflict the unfortunate victim for a few brief years. In addition to these it is reasonable to infer, particularly in the light of several histories to that effect, that a number of more recent immigrants have brought from Western Europe developed or undeveloped forms of leprosy inherited from parents suffering from the same disease. And last but not least in importance are to be found a few cases with no history of suspicious disease in the family which, after coming into known contact with such persons, have developed the same disease themselves.

These poor creatures, who are usually among the humbler classes, having long sought alleviation without avail, have many of them gradually gathered into this great city, and from time to time applied for advice and treatment at the always opened doors of the Charity Hospital.

Since the department for diseases of the skin was organized under the supervision of the author in the above mentioned institution, these patients have fallen to his care; and, if the total number of cases reported seems large, it is because they constitute a majority of those now existing in the city; but it may here be remarked that, for the reason given above, the cases in New Orleans probably largely outnumber all the rest of those in Louisiana, outside of the parish of Orleans, combined.



F. Woodward (Golden City, Missouri)

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In dotting down the following notes many difficulties have been encountered, for the reticence and ignorance of patients prolong and confuse inquiry, and much time is expended in gaining their entire confidence. The necessity for treating a number in a limited space of time requires that the histories be taken hastily, and occasionally the patients have never returned to complete their story. But oftenest when the facts here reported are incomplete, it is because the patients' information was exhausted.

Such as they are, these notes are given in full as a contribution to the study of leprosy, as it is seen in this city, and with the desire that it may throw some light—dim though it be—upon the much disputed question of the mode of spread of a most repulsive disease. Believing that leprosy is propagated in other ways than by hereditary transmission, it is hoped that this report will bring about—by the bare recital of cases, if for no other stronger reason—an attempt at segregation of lepers by the community for the benefit of both parties concerned. For it should be remembered that we have to deal with a disease which is as implacable as it is slow and insidious, and taints the family while it destroys the individual.

Like another disease—syphilis, which this one sometimes resembles—leprosy has a number of varieties, the principal of which are the tubercular and the anæsthetic; but as erythema and pigmentation prevail in many cases, the designation *macular* has been added or prefixed to these diagnoses in order to better describe the lesions of the skin.

Were it not for the frequent misapplication and misconstruction of terms among members of the profession it would hardly be necessary to say here that by the word *leprosy* is understood, not the *lepra* which a few English writers still persist in applying to certain forms of psoriasis, a much milder disease; nor yet the *elephantiasis Arabum*, which is a local thickening of the skin, usually of the scrotum, or one of the lower extremities, and when on the latter is known as the Barbadoes leg.

What is described here is the elephantiasis of the Greeks



—the leprosy of the Hebrews, the Chinese, the Sandwich Islanders. In other words, *true* leprosy (or lepra), a disease consisting of peculiar round-cell deposits in the tissues, accompanied by a micro-organism known as the *bacillus lepræ*.

Additional notes, which make this article more complete, have been kindly furnished by Dr. J. H. Bemiss, who has studied this disease on the Sandwich Islands, and by Dr. A. M. Beret, who reports several valuable cases.

*CASE I. LEPRA ANÆSTHETICA.—White woman, aged 60 years. Native of Germany. Occupation, cook. Resident of Third District. Applied at my clinic in Charity Hospital November 12th, 1886, and admitted to ward the following year.

Family.—Mother died of consumption. Cause of father's death unknown. Has several sisters and brothers, but none have a disease like hers. Is a widow; husband died 11 years ago. Cause of death unknown. Has had five children—all died young except one, who is in an insane asylum. Lived at present residence 6 years. Disease began a year ago with weakness and numbness of fingers, hands feeling as if she had on gloves. Bowels costive.

Condition on Examination.—Erythema and swelling of face. No tubercles on face, the redness passing gradually into healthy tissues. Features are not deformed and are normal in shape and function. Very nervous expression about the eyes. All rest of body normal except hands, lower part of legs and feet. The hands are red, smooth and swollen. Fingers stiff, and several knuckles covered with scales. Warts on distal phalanges of first two fingers of right hand. Lower half of legs pigmented, scaly and œdematous. Feet red and swollen. Ulcer, deep and indolent, on inner surface left foot, size of silver half-dollar. Has varicose veins on legs and thighs.

Sensation.—Diminished all over face, and absent on malar prominences. Diminished on neck.

* All of these cases have been observed during the past five years.

Right Upper Extremity.—Diminished all over, and entirely absent on fingers, back of hands, and a band 2 inches wide about wrist.

Left Upper Extremity.—Diminished everywhere, particularly on forearm, and entirely absent on fingers (with exception of second), back of hand and over lower portion of ulna.

Trunk.—Slightly diminished everywhere,

Left Lower Extremity.—Nearly normal on thigh, but diminishes downward from just below the knee. A circle of anæsthesia, 2 inches in diameter, surrounds the ulcer on this foot. A pin or knife stuck into this patch draws dark blood, but there is no sensation.

Right Lower Extremity.—Same as left, except that anæsthesia is not complete on foot.

Says that bed-bugs frequently sting her, but she never knows it unless it be upon the face.

This patient was given chaulmoogra oil with benefit. Iodoform salve caused ulcer to heal, and in two months a vast improvement of general health was noticed. She stopped the oil and immediately got worse; resumed it and improved. Is now in the hospital (August, 1888) for the third time, and is kept there, as she always stops the medicine when she goes out. A year ago she had an ulceration of left little toe, and lost a piece of bone. She now has no ulcers, has gained flesh, and looks well. Erythema of face has faded away. The chaulmoogra regulates the bowels. Dose: Thirty-five drops in milk three times a day.

CASE 2. LEPRA TUBERCULOSA.—White boy, aged 16 years, native of New Orleans, resident of Third District.

An out-door patient of Charity Hospital (service of Dr. Parham) since February, 1886. Seen first by me November, 1886, when these notes were begun. Taking now (November, 1886) fifteen drops of chaulmoogra oil three times a day, and declares that he has greatly improved under treatment, as feet were formerly very sore, "face

had more bumps," and right ear had scabs upon it. The knee was sore and is now well.

Previous History.—No history of disease in family. Is accompanied by a younger brother who has a strumous look.

In May, 1884, patient first noticed small tubercles on or about nose, and two months after the ears became thickened and nodulated. These symptoms were increasing up to February, 1886, when he applied at the hospital with the favorable results already noted.

Condition on Examination.—Skin naturally dark—thickened on face. Nose slightly enlarged at alæ. Lobes of ears enlarged and nodulated. Ears large and prominent. Trunk has mottled appearance. No tubercles. Skin of forearms and hands thickened, and tubercular nodes on back of forearms. Finger-nails normal.

Here and there on legs are a few brownish patches. Toes are smooth, red and shiny. Minute ulcer on left great toe at root of nail.

Sensation.—Partial anæsthesia over tubercles of forearms and back of hands.

Sensation diminished everywhere on hands and feet, but most marked on fingers and toes; though analgesia is not complete anywhere except on little finger of left hand.

Chaulmoogra oil was continued, and patient made steady progress. A note made in October, 1887, declared that sensation was present everywhere and that no more ulcers remained on the toes.

CASE 3. LEPRO MACULO-ANÆSTHETICA.—White woman aged 35. Native of Germany, but a resident of New Orleans since childhood. Occupation, cook. Resident of Sixth District.

Appeared for treatment in my service at the Charity Hospital, Nov. 6, 1886.

No history of family disease. Father died of alcoholism. Patient is a widow, her husband having recently died in this hospital of spinal sclerosis. Resided in Houma, La.,

for a year and a half, and left there in 1881. While at this place she lived principally on salt meat, and contracted dysentery, which lasted off and on for six months. While in Houma she noticed a white spot on the inner surface of the lower third of left leg. This gradually increased in size, but gave no trouble. Has been subject to neuralgia of the right side of the face, but the attacks have ceased for the past four years. About six months ago spots appeared on the left arm, and the face began to swell. Thinks the burning sensation of the face due to standing too near the stove, though she has noticed that the face flushes very easily when she walks or otherwise exerts herself.

Present Condition.—Has a numb feeling along the distribution of the right ulnar nerve, particularly in the little finger, “as if it were asleep.” Complains of a chilly sensation nearly every evening, after which she occasionally perspires from the hairy scalp, and nowhere else, the hair becoming very damp. Has not menstruated in nearly two months. Is of blonde complexion.

Head.—Face is flushed and swollen, and itches constantly, “as if ants were walking over it.” There are no circumscribed tubercles, but skin is thickened over the eyes and prominent. Nose enlarged. Throat normal, and all of the senses except that of touch are good.

Brown pigmentation on left side of neck. Trunk slightly pigmented, otherwise normal.

Upper Extremities.—Skin of arms covered with tan-colored plaques, circular in shape, and pale in centre. These are from one to four inches in diameter. Skin of hands thickened. Occasionally has a tingling sensation in right arm as on the face.

Lower Extremities.—Legs are pigmented from just above knees, and on lower third of left leg is a patch of pure white skin. This nearly encircles the limb, and is very clear-cut, and well defined, forming a marked contrast with the bronze, ichthyosis-like pigmentation surrounding it. The size of this leucodermic spot is about five by seven inches.

Sensation.—Face, neck and trunk normal. Diminished on pigmented plaques of upper extremities, and about little finger, but experiences pain here if pierced with a pin.

On the lower extremities the anæsthesia is more marked, being confined on the left leg to the white spot, where analgesia is almost complete. On greater part of the surface patient cannot distinguish points two inches apart.

Chaulmoogra oil was given at the start, but as progress was not notable, Unna's ichthyol treatment was resorted to. Applied as a 50 per cent. salve, it caused the face to peel, and simply aggravated the disease. The salve was used again in three trials of four weeks each, the percentage being gradually diminished to four per cent., with no visible results. In the meantime pills were given—a grain and a half three times a day. It should be stated that an interval was allowed after each application had done its work, and the tissues permitted to take on a more natural aspect.

Chaulmoogra oil disagrees with her, but whenever taken it seems to prove beneficial.

CASE 4. LEPRA TUBERCULOSA.—Patient sent to me by Dr. Castellanos. White man, aged 29 years. Resident of the Second District. Has been a cigar-maker for the past ten years.

Father died in 1871 of "liver disease," and had no affection of the skin. Mother still living; is 54 years old, and perfectly healthy.

Knew one of his grandfathers, who had no skin disease, and a grandmother, now 89 years old, enjoys pretty good health. Has one sister and seven brothers living, who have no disease that he is aware of. A sister and brother died in early childhood—one of them having had lock-jaw; the other died at the age of three months. Patient is married to a healthy woman, and is the father of three healthy children, the eldest being seven and the youngest two years old. He has lost one child, coming next to the one seven years old, which died of pleurisy—making four

children in all. Wife never had any miscarriages. Patient was born on Washington avenue, in the Third District, and has never left the city but twice in his life. In 1879 he spent a short time in Pensacola, and was in Chicago for a while in 1884. The disease began (was noticed) three months after his return from Chicago.

Has never had any venereal disease, and never knew any one with a disease like his. Seldom eats pork, but eats salt meat occasionally. Had chills and fever fifteen years ago, and has had dengue and some other fever since present disease began.

The first appearance of the disease was in the form of reddish rings, "like ringworm," on the right forearm, followed by swelling of the hand. Then came swelling of both hands, followed by anæsthesia, with swelling of the face and pigmentation of the body. Says that when he would scratch the plaques his sensation was very much benumbed.

Notices numbness of fingers when he rolls cigars. Hands are often very cold in summer as well as in winter.

Has taken chaulmoogra oil for a short time, in five-drop doses.

Condition on Examination.—General health moderately good. Complexion naturally quite dark. Face covered with tubercles of a dirty red color, particularly about the eye-brows (which are very scanty), the ears and the mouth. The ears are studded with small tubercles over a much thickened skin, and are distorted from their normal shape. The roughness of the forehead ceases abruptly in an arch of smooth skin, half an inch in diameter, on the edge of the scalp. Nose is thickened, but presents no special tubercular deposit. Tongue normal, but uvula is short, thick and red. The pillars of the fauces are abnormally red.

The trunk is much discolored with irregular, dark blotches, which extend on to the arms; while the fore-arms are covered with tubercles of a dark, red color. The skin of the hands is slightly thickened, and is smooth, but not anæsthetic.

The lower extremities present no abnormality of shape, but a pigmented and rough skin, resembling xeroderma, is marked just below the knee.

Tested with a pointed instrument, no anæsthesia could be detected anywhere except about the inner edges of the palms in the distribution of the ulnar nerve.

CASE 5. LEPRA TUBERCULOSA.—White woman, aged 25 years, native of St. Louis, Mo.; but has lived in New Orleans since childhood. Applied for treatment in my service at the Charity Hospital, July 21, 1887. Father is healthy; mother died of consumption. All her sisters and brothers died young—cause unknown. No living relatives except husband and two children. Information comes from another source that the husband of patient has suffered severely with syphilis, and that he gave this disease (syphilis) to his wife.

Has two healthy children, and has lost one with measles. Patient enjoyed good health until the birth of first child, when a “bruised” eruption appeared on face accompanied by “lumps” on the arms. This was seven years ago, and the patient had been living in the same house in the Second District for four years. She has just moved from this house, after a residence there for eleven years. Lives at home and takes care of her children. There are seven persons on the same lot. General health is good. Never has chills, but formerly suffered from fever. Eats fish very seldom, and ate salt meat a great deal about the time she was taken sick. Nurses her own children. Says that skin was very sensitive about two years ago.

Condition on Examination.—Voice hoarse, eyebrows almost entirely gone, eyelashes scanty. Complains of a sensation of a film being constantly over the eyes. Thickening of skin of face everywhere, particularly in region of eyebrows. A few small tubercles on the lobes of the ears; one tubercle, size of a pea, on edge of upper lip. Chin somewhat puckered, eyelids heavy and waxy, and upper lip thick and prominent. The integument is darkened

over the whole body, and, in places, of a dirty, mottled hue. Tubercles have been more numerous, but a few are still seen upon the trunk and forearms. The hands and fingers are thickened, more especially near the nails, which are normal in appearance. Feet are swollen, toes thickened and of bluish-red color. Toe-nails normal in shape.

Sensation.—Not entirely absent anywhere. Natural on the face, slightly diminished on hands about ulnar nerve distribution (where she has occasional pains), and most diminished about lower part of legs and outer surfaces of feet.

Icthyol pills were ordered (gr. jss), but it is uncertain whether she ever took the medicine.

CASE 6. LEPRA MACULO-TUBERCULOSA.—The following history is drawn from the records made at the hospital, where the patient applied in my service, July 12th, 1887, and from notes furnished me by Dr. Bemiss, which were taken in August, 1884.

White woman, aged (1887), 26 years; native of New Orleans, and resident of First District; occupation, housemaid; unmarried.

Family History.—Parents both born in Ireland. Both dead—mother about 18 years, father about 20 years. The latter died of a fever. Has one sister and two brothers, who are all healthy. No disease of the kind ever existed in family. Has an aunt, who is married and has healthy children. Never saw anybody with this disease.

Habits.—Eats very little meat and vegetables. Appetite, poor. Likes coffee and tea, and is fond of salt meat. Never eats fish. Has recently been employed in a family of six persons in First District, where everything is clean and in good sanitary condition. No one in this family has the disease. Her own residence in the First District is in bad condition. The walls are damp and gutters filled with refuse matter, but the drinking water is good. Has occasional attacks of chills and fever, which are never followed by the sweating stage.

Was in House of Good Shepherd nearly seven years ago, and while there took pills for fever. Was removed to Charity Hospital, where the doctor said the pills had upset her.

While in the House of Good Shepherd there was no appearance of the trouble, but her sister noticed that her face was affected ten days after admission into hospital. The disease appeared in the form of little red "pimples" on the face and hands, and then extended to the upper part of the chest. Hearing and eyesight have always been good. Gives very muddy history. Hair is falling out.

Present Condition (July, 1887). — Height about five feet; weight, 93 pounds; hair, brown; eyes, brown; skin, copper-colored; ears redder than rest of skin. Skin of whole face hypertrophied and infiltrated, especially that of brow, nose, malar region, lips, chin, cheeks and ears. Discoloration gradually fades towards neck. Skin of trunk covered with brownish macules. Skin of hands discolored, thin and shiny, displaying many dilated capillaries. Nails thin and friable.

Large elevated brown patches over whole of back part of arms which, in places, extend over the joint. Outline of these patches is irregular, and the skin thickly infiltrated. The patches on the left forearm are much thicker than on the right. A desquamating tubercle covers the third phalanx of middle finger of right hand. On the right ankle two tubercles have broken down and left small ulcers. Patient says she is better now than at any time in the past two years. Has been treated at the hospital from time to time since beginning of disease, and always found relief in chaulmoogra oil. The eruption never produces itching.

**SENSATION*—*Hand*.—Dorsum of right, ulnar side, $\frac{3}{8}$; radial, $\frac{3}{8}$. Dorsum of left, ulnar, $1\frac{3}{16}$; radial, $1\frac{3}{16}$.

Fingers.—Palmar surface right index, $\frac{1}{8}$; same surface of left, $\frac{1}{8}$. Radial surface right ring finger, $\frac{1}{8}$; same surface of left, $\frac{1}{8}$. Ulnar surface right ring finger, $\frac{2}{8}$;

* Figures represent shortest distance in inches at which two points on surface can be distinguished.

same surface of left, $\frac{3}{8}$. Radial surface of right little finger, $\frac{1}{8}$; same surface of left, $\frac{3}{16}$.

Forearm.—Right. Radial side, $\frac{1}{2}$; ulnar side, $\frac{5}{8}$. Left. Radial side, $\frac{6}{8}$; ulnar side, $\frac{6}{8}$.

Face.—Right brow, $\frac{2}{8}$; left brow, $\frac{2}{3}$. Right malar region, $\frac{3}{16}$ (?); left malar region, $\frac{2}{3}$.

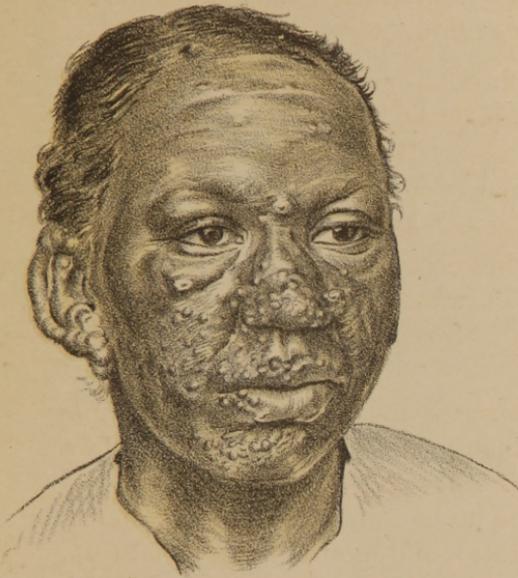
CASE 7. LEPRA TUBERCULOSA.—Mulatto woman, aged 26 years. Native of St. Charles parish, Louisiana. Applied in my service at Charity Hospital, April 30th, 1887. Occupation, washerwoman. Resides in Sixth District.

Previous History.—Never has been vaccinated. Never had small-pox nor any other contagious or epidemic disease, except measles. Eats fish and salt meats. General health was formerly very good. Moved to New Orleans long before disease began.

Family.—Has been married for five years, and has not “worked out” since then. Husband is healthy. Two children—one four years old, one twenty months old—inspected by me, and found to be stout and well. Patient’s father was an Italian (white), and mother was a mulattress, native of Plaquemines parish. No family disease. Never had any miscarriages. Menses regular for last two months, but before this went four months without seeing anything. Disease began three years ago on left thigh as a red (painless) spot which resembled a bruise. Was sick last January with an attack beginning with a chill, followed by a fever which lasted two weeks. Swelling and disease of face came four months after birth of baby (i. e. 16 months ago). The eruption remained red, but the swelling was not permanent. There was no burning pain. Has been subject recently to aches in the back and side of the head. Throat has been sore five months—the nose about fourteen months.

Condition on Examination.—Face thickened and reddened with infiltration and prominent tubercles.* Eyebrows and lashes have fallen out, only a few of the latter

*See lithograph.



CASE 7.—LEPRA TUBERCULOSA.

being left. Eyelids swollen and waxy. Conjunctivæ yellow. Well-defined and prominent tubercles cover the thickened tissues of the face, and average the size of a pea, but many are larger. They are most abundant about the nose (which is flat and misshapen), the cheeks, chin and lips, extending on to the vermilion of the latter, which are decidedly enlarged. The ears, particularly the right, are distorted out of shape by tubercular thickening, most marked, however, at the lobes, which are greatly elongated. Most of the raised tubercles appeared about ten months ago.

A deposit of pigment discolors the face and extends half way down the neck. The mucous membrane of the nose is ulcerated. Voice harsh. Tubercular deposit on hard and soft palate. Tonsils, uvula and pharynx subacutely inflamed. Gums swollen on both borders, and project out from sides of teeth as if the latter had been set in a flat surface. Skin of arms, forearms and hands thickened and sprinkled with flat tubercles. These are least numerous on the arms, where the disease is manifested in raised tubercular or oval patches, paler in center than at periphery, and of a coppery hue. Several exceptions are found on left arm, where two or three circular patches have raised dark centers.

On thighs and legs are pigmented, circular and irregularly shaped patches, which have pale centers surrounded by dark rings that are not raised above normal skin.

Sensation.—Normal on face, arms, both thighs and right leg. At middle third of left leg external to tibial spine is a spot of anæsthesia 2 x 3, and another spot same size on internal malleolus. Toes are all normal. There is an anæsthetic spot on left knee, the cicatrix of a sore produced four months ago in scrubbing.

Patient's general health and appetite were good and she was ordered ichthyol internally and externally. This was continued for a month when she ceased to use it, and passed out of sight.

But last June she reappeared, this time in my clinic at

the Touro Infirmary, bearing in her arms a newly born hydrocephalic child. Patient's nose was now more ulcerated than ever, the tubercles larger, and every symptom aggravated. Chaulmoogra oil was ordered, but it is doubtful whether she has taken the medicine. The child died a few days afterward.

CASE 8. LEPRA MACULO-TUBERCULOSA.—White woman, aged 75. Native of Louisiana. Resident of the Second District of this city. Charity Hospital case. Applied for treatment May 14th, 1887. Father died of old age (84). Mother died of consumption. No history of family disease. Patient stopped menstruating at age of 29 years, and has never borne children nor had any pain since then. Had four children, two boys and two girls. A six-year-old girl died of "sore throat;" a twenty-nine-year-old son died of consumption. Other two have no similar trouble. Five years ago the patient was a large, stout woman, weighing 250 pounds; now she weighs about 140 pounds, or less. Thinks she was perfectly well up to two years ago, when the disease appeared which is now to be described.

Condition on Examination.—Skin of face thickened about cheeks, nose and eyebrows, and, while red on cheeks, is considerably darkened elsewhere. Lobes of ears thickened and tuberculated. There are many wrinkles on the face which are the result of old age. The hard palate is covered with whitish, irregularly shaped patches, extending forwards over the median line to the teeth, and backwards to the uvula and tonsils. On the body the skin is slightly pigmented in places, resembling xeroderma. The hands are swollen, and a few small tubercles cover the fingers. The skin is ulcerated about the nails of the second and third fingers of the right hand and the third finger of the left.

Sensation.—Good everywhere, except on feet, on the inner surfaces of which it is slightly diminished.

Chaulmoogra oil was ordered, but when last seen she was taking it very irregularly, as it produced diarrhœa.

CASE 9. LEPRA MACULO-ANÆSTHETICA.—Reported by Dr. Bemiss. White man, aged 48 years. Native of Wurtemberg, Germany. Came to America in 1854. First to New York, then to Buffalo, Canada, Detroit, Cleveland, Cincinnati and New Orleans, arriving here in 1857. After coming to New Orleans made one visit to St. Louis, Mo. In Confederate army until fleet came in. Resides in Fourth District.

Family.—Parents dead. Mother died of phthisis—father of old age. Two sisters living in Germany. Both healthy. One step-brother, whom he has never seen. No history of disease in family. Occupation, laborer. Smokes. Chews to excess. Diet, ordinary. General health usually hearty. Hemorrhoids when young. Chills and fever in 1853-54. Frost-bitten when 13 years of age. Had dysentery in 1864-5. In 1870 or '71 had severe pneumonia. Has had tape-worm. Married in 1863. Has three children living—four dead. Wife sickly—bronchitis.

History of Disease.—In summer time had heat; washed with soap. On his leg had some small red pimples, which disappeared in winter. Four or five months ago had patches of congested skin upon trunk. A month ago had an attack resembling erysipelas, involving right eye and right side of face. Lead-wash was applied to this, resulting in deposit of albuminate of lead on cornea.

Present Condition.—Height, five feet seven inches. Weight, 129—now 119 pounds. Hair and beard brown, eyes light. Face and neck, from brow to clavicles, of characteristic copper tint. Skin thickened over same regions, but especially on brows and malar prominences. Lost right eye by sloughing of cornea. No tubercles on face or neck. Tongue and mucous membrane of mouth pale, with enlarged capillaries here and there. Papillæ of tongue large and prominent. Pharynx congested.

Trunk.—Copper color of neck gradually fades to uniform, large copper-colored blotches, general on back. Skin loose and thick.

Arms.—Mottled in same manner, but blotches are

smaller, passing into general dark but not characteristic color of hand, except palmar surface of tips of fingers, which are tense and of dark pink color. No tubercles. Several tortuous venules on chest.

Legs.—Blotching on chest extends to knees, but is less conspicuous below. Skin for most part of tawny hue. Slight tendency to stagnation of blood in toes. No tubercles.

SENSATION.—Hand.—Dorsum of right, 2; of left, 3. Palmar surface right index finger, $\frac{1}{4}$; left, $\frac{1}{8}$. Outer surface right ring finger, $\frac{1}{4}$; inner surface, $\frac{1}{4}$. Outer surface left ring finger, $\frac{1}{4}$; inner surface $\frac{1}{4}$. Palmar surface right little finger, $\frac{3}{16}$; left, $\frac{3}{16}$.

Forearm.—Radial side, right, 7; ulnar side, 9. Radial side, left, $4\frac{1}{2}$; ulnar side, $6\frac{1}{4}$.

Face.—Brow (supraorbital region), 2. Malar region, right, $1\frac{1}{2}$; left, $\frac{5}{8}$. Upper lip, right side, $\frac{1}{4}$; left side, $\frac{1}{8}$. Neck and lower jaw, right side, $\frac{3}{4}$; left side, $\frac{3}{4}$.

Legs.—Dorsum of right foot, $3\frac{3}{4}$; left foot, $3\frac{3}{4}$. Outer side right leg, $6\frac{1}{2}$; inner side, 6. Outer side left leg, 3; inner side, $3\frac{1}{4}$. *Patella.*—Left, $1\frac{1}{2}$; right, $1\frac{1}{2}$. Great toe inner side, right, $1\frac{1}{2}$; left, $1\frac{1}{2}$.

CASE 10. LEPRA TUBERCULO-ANÆSTHETICA.—Reported by Dr. Bemiss. White man, aged 35 years, born in Baden Baden, Germany. Came to this city when $2\frac{1}{2}$ years old, and has lived here ever since. Father living, healthy. Mother died about 26 years ago of cholera. While patient was still a small child father married again. This wife bore the father of the patient two boys, who, when about 7 and 5 years of age respectively, acquired this disease and died of it at the ages of 14 and 15. About two years after the disease made its appearance in the boys, their mother was taken with it, and died of it about three years ago.

Patient says that there is no history of disease in his own family, and that he has two children (boy and girl) who are perfectly healthy. They were born before he was

afflicted with the malady. Patient has never left the city save for brief intervals. Occupation was that of a boiler-maker; now only does odd, light laboring jobs. There is no one at the shops afflicted with this disease. Does not smoke now. Chews. Never was a drinking man. No venereal diseases. Ordinary simple diet. Seldom eats fish. Was always healthy until 14 years ago, when he had chills and fever for 18 months in spite of medicine. Nose then bled freely at slightest touch. Never subject to epistaxis before. About four years afterward had first indications of this disease.

Present History of Disease.—Broke out with large yellow spots (some claret-colored) scattered well over body, appearing first on back, then chest, then generally over rest of body. Were oval in shape, and size of finger nail. (He thought they were hives.) Consulted a physician. These spots turned into lumps in substance of skin, but did not become confluent. Disappeared under cuticura, leaving no marks. Face was same as body as to lumps, which left, but skin became thicker.

Was one time afflicted with neuralgic pains all over body. At this time exposure to sun caused skin of face to swell and burn. Was then in a much worse state than now. Does not know when eyebrows fell out. About four years ago large water blisters formed on hands. He broke them, leaving deep ulcers very slow in healing. Lost nails at same time. They became thin, wrinkled and split off. About four years ago feet became affected in same way as hands. *Résumé:* Ten years ago spots on body. In same year "they went into lumps." Face affected at same time. Hands and feet about four years ago. Voice became husky about four years ago.

Present Condition.—Height, 5 feet, 10 inches. Weighs 145 pounds. Large, broad-shouldered; was once very strong. Hair, brown; beard, light; eyes, blue.

Skin of face and neck has characteristic copper tint. That of whole face hypertrophied, especially so over brow, malar processes, lip and ears. Nose is flat and broad; very

large folds (bags) under eyes. Has completely lost eyebrows and lashes, and beard is very thin and straggling.

Whole of hard palate thickened and studded with tubercles. Pharynx in same state. Uvula gone; pillars of fauces distorted; tonsils reduced to scar tissue. Breath offensive. Ears large and infiltrated. Hearing impaired.

Body.—Skin thickened and discolored as far down as umbilicus, slanting both anteriorly and posteriorly from shoulders to waist. If skin is rubbed between fingers there is a corded or emphysematous feeling imparted. No tubercles.

Right Leg.—Patch of discolored scars as large as hand over patella. Skin of lower third much thickened and of dark-brown color with numerous scars—depressed, shining, and of a bluish tinge. Over inner malleolus is large oval ulcer, with thick edges surrounded by thick and reddened skin. Another ulcer, size of nickel, a little below middle point of tibia, healing. One a little in front of outer malleolus. Another, three inches above. Toes puffed, shining, and purplish-pink color. Nails similar to those of hands.

Left Leg.—Condition of left similar to that of right, except that over tendo Achillis, two inches above its insertion, is a very large ulcer with thick overhanging edges.

ANÆSTHESIA.—*Head.*—Dorsum of right and dorsum of left, complete. Palmar surface right index finger, $\frac{3}{4}$. Same of left index finger, $\frac{3}{4}$ (uncertain). Radial surface, right ring finger, complete. Ulnar surface, same finger, complete. (Produces involuntary twitchings.) Radial surface, left ring finger, complete. Ulnar surface, same finger, complete. Radial surface, left little finger, complete. Ulnar surface, right little finger, complete.

Forearm.—Radial side, left, sensitive to needles. Ulnar side, left, cannot distinguish points. Radial and ulnar side, right, same as above.

Face.—Brow, right and left, cannot distinguish points. Malar region, right, $\frac{1}{2}$; left, $\frac{1}{4}$. (Better on left than on

right.) Upper lip, right, $\frac{1}{4}$; left, $\frac{1}{8}$. Lower lip, right, $\frac{1}{8}$; left, $\frac{1}{8}$. Neck under lower jaw, right and left, 2.

Feet and Legs.—Dorsum right foot, 4; left, 4. Cannot distinguish points on legs, great toes, or patellæ.

CASE II. LEPRA TUBERCULOSA.—White woman, aged 47 years. Born in Louisiana. Resident of Second District. Appeared as an out-door patient in my service at the Charity Hospital, May 14th, 1887.

Comes of a well-known Louisiana family. Father died fifteen years ago of chronic diarrhœa. Mother died of chronic diarrhœa at the age of 64, but neither parent had any skin disease. Has had eight sisters and brothers, but three are dead. These died of Bright's disease, paralysis and general debility. Had a brother who had a disease resembling hers, but he is now well. Other members of the family are healthy. Patient is married and husband healthy. Had one child, who died of yellow fever. Had a miscarriage in 1874. Patient has slight hypertrophy of both lobes of the thyroid gland dating back to the age of 13 years. Has lived in other portions of Louisiana.

Disease began six years ago in the bend of the right elbow as a brownish coloration. This was unaccompanied by other symptoms for several months, when she noticed that the face became red and swollen (though it did not burn); little spots, like mosquito bites, appeared on the back of the neck, and the brown blotches spread generally over the body.

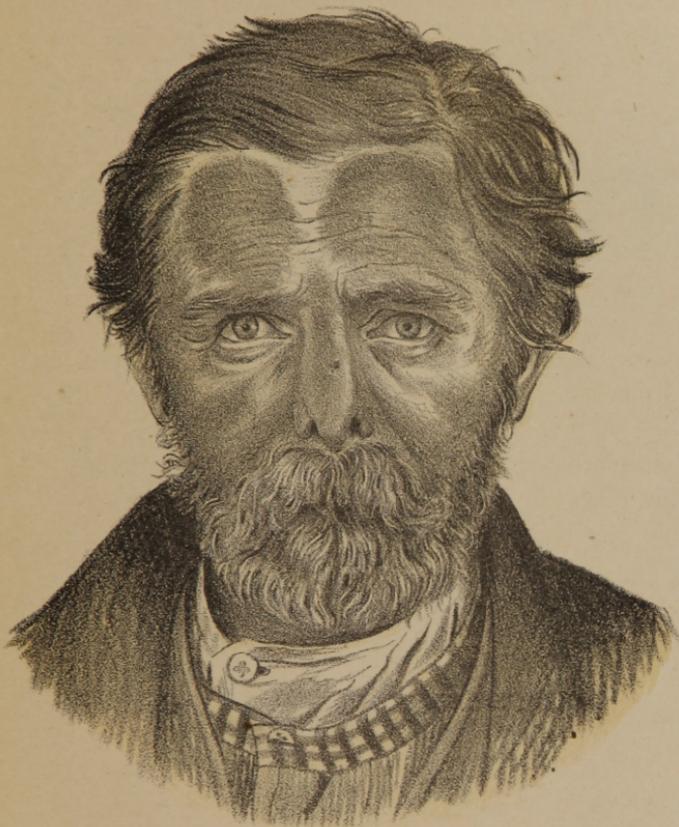
Condition on Examination.—Skin of face has the color of a dark brunette, only is somewhat more reddish in hue. A sister, who accompanies the patient, declares that she was quite fair before the disease began. The skin of the face is thickened, and a few tubercles, which are distributed over the nose, cheeks and chin, have enlarged capillary vessels running into them. The eyebrows are very scanty, and the skin over the superciliary ridges thickened, imparting a slightly leonine expression. Eyelids are heavy; conjunctivæ yellow. A few tubercles thicken the lobes of the

ears. Patient has a sensation, more or less constant, of having a "cold." Voice is hoarse, and there is a tubercular deposit on the soft palate and uvula. Trunk has a dark mottled hue. Forearms and back of hands covered with small red tubercles. Hands are smooth and swollen. Finger nails natural. Small tubercles on legs and feet. Feet are scaly and red on inner surfaces. A few small ulcers of irregular shape are seen on the feet and lower portion of legs. Hands and feet always "feel as if they were asleep." If patient is suddenly struck or jolted she experiences an acute pain.

Pills of ichthyol, a grain and a half each, were ordered to be taken three times a day, and an ointment of equal parts of vaseline and ichthyol applied to the face. During the two succeeding months these were used steadily, but patient gradually weakened, becoming greatly prostrated in the middle of July. Superficial ulcers, which formed on the soles of the feet, were treated locally, and the ichthyol preparations discontinued in favor of iron and cinchona.

I saw her last on August 4th, 1887, when it was noted that the patient was complaining of constant and extraordinary diaphoresis. In my absence from the city she came under the care of a well-known physician, who treated her until her death in December, 1887, the diagnosis on the death-certificate being, "blood-poison."

CASE 12. LEPRA MACULO-ANÆSTHETICA.—White man, aged 46 years. Native of Austria. Shoemaker by trade. Resident of the Second District. Applied in the out-door clinic of my service at the Charity Hospital, March 24th, 1888, when the following facts were elicited: Has been in America twenty-eight years, living most of this time in New Orleans. Father died in an insane asylum; mother died at "change of life." Has had sisters and brothers (five in number), all of whom died young; causes unknown. Has an uncle who is subject to fits. Has been married eighteen years, living all of that time in this city. His



CASE 12.—LEPRA MACULO-ANÆSTHETICA.



wife and four living children are healthy.* Has lost three children: a baby, three weeks old, died of bronchitis; an older child, of yellow fever in 1878; and one, nine months old, of marasmus. Disease appeared nine or ten years ago, while patient was living in the Third District, but he never knew any one with a similar complaint. Has never been fond of fish, and only ate salt meat once a week at the time that the disease began. Disease first gave trouble as a soreness of the right ear along the helix, which was scratched, and in a short time produced loss of tissue. The helix having been destroyed, the parts healed rapidly. The nose and left ear then became similarly affected, and with the same result—*i. e.*, loss of tissue. There seems to have been undoubted itching accompanying this process. The ulceration of the nose began *within* the nostril. The disease first manifested itself in the shape of red circular patches on the left forearm, which were thought to be ring-worm. Iodine was applied to these ineffectually. At the time of the ulceration referred to the face began to get red, and the patches to appear on other parts of the body. Has never had any venereal disease.

Condition on Examination.—Head.—Face is erythematous in symmetrically arranged patches which are slightly raised above the normal skin, leaving small surfaces of healthy skin in the median line of the forehead to within one inch of the bridge of the nose. The skin is likewise healthy on the eyelid, just below the eyes, and on the chin. The eyebrows are thick and the conjunctivæ normal. The anterior portions of the alæ nasi are cut out as if with a knife, in straight, V-shaped incisions, one on either side.* The septum nasi is perforated by a hole the size of a dime, but the sense of smell is not destroyed. There is no soreness about either the nose or the ears, but the latter look flattened from the absence of their helices; otherwise they are natural. The pharynx is erythematous; the

* The wife and three children called on me subsequently for examination, and were found perfectly sound.

*See accompanying lithograph.

tongue normal. No disease is perceptible on the scalp. A few irregular, red patches are scattered over the neck.

Trunk.—The anterior surface is covered with three large patches, oval in shape and of a yellowish-red color. These are slightly raised above the surrounding skin, whiter in the centre than normal integument, and are not very distinctly outlined. These patches or rings average six inches in diameter, and are situated one on either breast, inclosing the nipples, and the third, more irregularly shaped, is on the left side of the abdomen, being limited on the right border by the median line at the umbilicus. None of these patches cross the median line, while all three are limited by it. On the back they are more numerous and more oval in shape, though smaller, and seem to conform to the obliquity of the ribs, and the general direction of the spinal nerves. They have the same characteristics as those on the anterior surface, but are redder, and more clearly defined.

Upper Extremities.—As on the trunk, there are likewise ringed patches on the upper extremities, more particularly the left, where the rings are large and cover nearly the whole surface. The right arm is normal, but the forearm has ringed patches. The right hand is very thin at the metacarpus, and the third and fourth fingers are permanently flexed. There is a large bleb on the inner side of the palm, near the wrist. The nails are normal. The fingers of the left hand are congested and swollen, particularly about the joints. The thumb has lost a bone (removed by a surgeon), but a deformed nail projects from the distal extremity. On the outer portion of the second phalanx of the little finger is a deep fissure, which extends through the skin and nearly exposes the bone. This comes from drawing waxed threads over the surface while sewing shoes. There are several broken blebs on the inside of the palm.

Lower Extremities.—A large plaque completely covers the left knee, while a number of smaller ones are spread

over both legs. The feet are not ulcerated, but are very red and tender. It may be said that, as a general rule, the patches on the extremities are scaly, while those on the trunk are smooth.

Sensation.—Slight anæsthesia of face (on the red spots) and on the trunk. Both hands have diminished sensation, and a pin stuck deep into the back or palm of left hand can be felt, but gives very little pain (analgesia). The feet are anæsthetic on their outer and inner surfaces.

Urine examined and found to be normal. Patient was ordered to take chaulmoogra oil, ten drops three times a day after meals. This was increased in four weeks to twenty drops at a dose, when a burning sensation of the skin was complained of. An attempt to diminish the dose was resisted by the patient, who declared that he felt better, and seemed to prefer this new state of things to the former one, in which sensation was diminished. At this time a large blister in the right hand was noticed as the result of pressure from a walking-stick.

At the date of writing (July 29th) the patient's general condition is changed decidedly for the better. His appetite is good, his bowels regulated by the oil, and his spirits are much brighter. He is now taking thirty drops at a dose. Sensation has changed everywhere, except on the hands and feet (which are improved), from anæsthesia to hyperæsthesia, and he fears to remove his shirt lest his bare body should be inadvertently touched.

CASE 13. LEPRA TUBERCULO-ANÆSTHETICA.—White man, aged 27 years. Native of New Orleans. Resides in the Third District. Applied for treatment at the Charity Hospital March 15th, 1888.

Family History.—Father died of malarial fever. Mother is rheumatic, but otherwise in good health. Both parents born in Ireland. Mother's mother still alive and well. Has a sister and brother who are healthy. The latter is married and has one child.

Previous History.—Had never been outside of New Or-

leans previous to the beginning of the disease, which was first noticed fourteen years ago. Formerly ate a great deal of salt meat, mackerel, etc. Prefers salted to fresh fish. Never had dysentery and never had chills and fever before the disease manifested itself. The disease has progressed slowly up to its present stage, the patient having noticed a swelling of the feet as the first symptom, and, from time to time, an alteration of pigment and sensation accompanying yellowish-red patches of the cheeks and chin. He complains of the constant appearance of "blisters" on the fingers, which burst and leave small ulcers. These ulcers heal rapidly and are painless. Has been seriously burned twice: once, 13 years ago, he scalded both arms with hot water, but this gave little pain; another time, 2 years ago, his left leg came in contact with a steam pipe, which scalded it deeply, but gave very little pain, and healed in about 6 weeks, leaving a long linear scar.

Condition on Examination.—The skin of the face is much thickened and abnormally dark, being wrinkled like that of a very old man. Ears thickened, but not tuberculated. There are no distinct tubercles on the face, but the nose appears deflected to the left from atrophy of one side and hypertrophy of the other. Entire absence of eyebrows and eyelashes. There is an inflammation in the right eye (conjunctivitis), which is being treated by the oculist of the hospital. The thick, red and corrugated skin about the superciliary ridges gives the face a wild and typically leonine expression. The papillæ of the tongue (fungiform) are enlarged, but there are no fissures. The soft palate and pharynx are erythematous. The voice is exceedingly harsh. There is general discoloration of the skin of the trunk, but no circumscribed patches are noticeable. Here and there the yellowish-brown color of the pigmentation is of a deep shade, being darkest on the anterior surfaces. The upper extremities are covered with a brownish discoloration. Hands are thickened in every

part, presenting the appearance of deep congestion. Allusion has already been made to the scars from burns on the arms and left leg. The lower extremities are discolored everywhere, but ill-defined blotches of pigmentation, deeper than the rest, occupy the middle of the anterior surface of the thigh. The feet are swollen and darker than the legs, and at the ball of the right foot are several ulcers the size of a butter-bean. These give no pain.

Sensation.—Sensation of the face, tested with the point of a pin, was normal, but slightly diminished on anterior surface of neck. Trunk normal everywhere except between the shoulders, where it is slightly diminished over a space four inches square. Sensation begins to diminish in the middle third of the thigh, particularly over the pigmented portions, and this diminution becomes more marked in a downward direction over the knees and legs until, arriving at the feet, it is entirely absent, with the exception of a sensitive spot on either heel behind the malleoli. Anæsthesia is so complete on the feet that a pin pressed one-third of an inch through the skin, imparts no sensation. A very dark blood exudes from these wounds. The genital organs are normal in sensation and color. The hair upon the head and pubis is normal, and has never fallen out. The patient denies having had venereal disease, and there are no symptoms now present to contradict his statement. Bowels are not regular, though appetite is good.

I saw the patient but twice and cannot say if he continued to use the chaulmoogra oil prescribed for him.

CASE 14. LEPRA MACULOSA.—White man, aged 35 years; native of New Orleans, and has lived here all his life. Applied as out-door patient in my service at Charity Hospital, January 27th, 1887. Resident of Third District. Occupation broommaker.

Family.—Parents had no similar trouble. Both dead. One brother living—healthy.

Diet.—Frequently eats, but does not care a great deal for, salt meat or fish.

Previous History.—Disease first appeared on middle third of left thigh eighteen months ago in form of nodes, which soon were noticed on face, upper extremities and trunk.

Condition on Examination.—Has a raised, erythematous patch on right side of forehead. This is ill-defined at periphery, but seems to be the result of confluence of two reddish-yellow rings. Nose red and infiltrated, but not deformed. Red oval patches on both cheeks, the one on the left continuing down on neck. Left ear normal. Right ear red, but not swollen nor tuberculated. On dorsal surface of trunk are two rings a little larger than a silver dollar, about same size and coppery red. Patient thought for some time that they were ringworm. On the sternum and at sterno-clavicular junction are several red rings, which have grown together. On right arm is a red circular patch with pale centre, and on the middle third of right forearm is a similar patch, but paler. Patient's general condition fair; appetite good and bowels regular.

Sensation.—Normal everywhere except in centre of an oval ring, $2\frac{1}{2}$ inches in its long diameter, situated over the sternum, where it is diminished almost to complete analgesia.

Treatment.—Chaulmoogra and cod liver oil.

CASE 15. LEPRO MACULO-ANÆSTHETICA.—White man, aged 65 years, native of Ireland, and resident of this city for the past forty years. Applied for treatment as an outdoor patient in my service at the Charity Hospital, May 22d, 1888. Resident of First District.

Previous History.—Has had venereal sores several times—gonorrhœa and buboes. Never had eruption until this one came on. Never had rheumatism. Has not been out of the city for ten years. Never in country parishes. Occupation, tailor.

Family.—Father died at the age of 50 years. Had asthma. Mother died at the age of 65 years. Cause unknown. Knew only one sister, who is now dead. Cause

unknown, but was not a skin disease. Patient's wife died of cancer ten years ago. Has four living children (all healthy) and eight grandchildren (all healthy). Wife had several miscarriages, but never lost children brought to term. Lives with his children.

Diet.—Eats very little salt meat now, though he formerly was fond of it. Eats fresh fish on Fridays and other days.

Condition on Examination.—On right side of forehead is an ill-defined, raised, rose-colored patch, covering nearly all of the region from median line to temple. Paler at centre than at periphery. On left of median line, just above region of eyebrow, are two patches of same color, the size of a silver 25-cent piece and a nickel 5-cent piece respectively. Scalp normal. Throat and tongue normal. On left side of neck is an oblong patch, red and thickened, which is two inches in diameter and located over sterno-cleido-mastoid muscle.

Trunk.—Two inches to left of right nipple is a patch the size of a silver half-dollar, ill-defined, flat, pale in centre. A smaller irregular patch to left of umbilicus. The remainder of the anterior surface of the trunk is normal, but on the back, just above the right gluteal region, is a large patch, fifteen inches long by twelve wide, which extends from the crest of the ilium to the thigh. It is of a dark red color, with a pale centre and scaly edge. Besides this, three ringed patches, oval in shape and about two inches in diameter, occupy the back in the region of the kidneys.

Upper Extremities.—Normal above the elbow. On the right elbow and back of wrist are ham-colored, oval patches, with pale centres. A scaly patch, seven inches long, covers the ulnar and posterior side of the left forearm. A ring the size of a silver dollar occupies the anterior surface at middle third. Left hand normal. Forefinger of right hand smooth and red. A small, ham-colored patch near root of forefinger. Skin of genital organs normal.

Lower Extremities.—A dark-brown patch, more or less

circular in shape, size of palm of hand, covers the centre of anterior surface of right thigh. Covering completely the lower half of anterior surface of left thigh is a yellowish-brown patch, pale in centre, with a scaly border. Ringed patch, two inches in diameter, on right knee. Right leg normal; left leg nearly covered its whole length with a scaly, deep-red patch, well defined in places and resembling psoriasis. Right foot normal, but left has same sort of irregularly shaped patches on outer surface as on leg.

Sensation.—Healthy tissue of face normal, but diminished on red patch over right side of forehead. Diminished on the patches which cover the trunk, arms and legs. Anæsthesia nearly complete in the patch on left forearm; anæsthesia in large patches on legs and feet, particularly the one on outer surface of left foot.

The patient has been doing well on increasing doses of chaulmoogra oil, nothing new having developed during the course of treatment but the occasional appearance of blebs upon the fingers.

CASE 16, LEPRA TUBERCULOSA.—White boy, aged 10. Native of New Orleans. Applied in my service at Charity Hospital, January 7th, 1887. Attends school. Born half a square away from present residence in Third District. Never been out of town. Accompanied by parents, who are healthy. Father is a German. Mother's father came from Germany. Has a sister and two brothers, who are in good health. Never had chills and fever. Was perfectly well up to five years ago, when parents noticed redness and swelling about forehead, followed in a year by yellowish spots on body. Two years ago a linear ulceration appeared on left leg, just below knee, due to pressure from elastic garter. The garter removed, ulcer healed slowly under a salve.

Condition on Examination.—Hair and complexion naturally very dark. Eyes bluish-gray. Face red and swollen, and covered with small tubercles, slightly raised above skin. Puckered condition of skin gives boy the look of

an old man. In places on face are small depressed patches, two to five lines in diameter. Skin thickest about eyebrows, forehead and chin. Ears are tuberculated and stand out prominently. Eyebrows nearly all gone. Eyelids, particularly lower ones, markedly thickened. Has had nasal catarrh for some months. Soft palate and uvula erythematous, but show no deposits. Tongue normal. Trunk, which is not specially emaciated, covered with ill-defined blotches or centres of pigmentation of a greenish-yellow color. Linear scars encircle the knees above and below—from former irritation of garters. One of these ulcerated places is still open.

Sensation.—Only anæsthetic spot is a smooth, soft shining patch on right patella, three inches in diameter. General health good; bowels regular. No deformity anywhere except on head.

This patient took chaulmoogra oil for more than a year and improvement was notable. When last seen the redness and tubercles had disappeared, and only the “old man” look remained, from the thickened skin.

CASE 17. LEPRA ANÆSTHETICA.—White man, aged 63 years. Native of Germany, and a resident of this city for over twenty years; Second District. Admitted into my service at the Charity Hospital (ward 27), March 10th, 1887. Patient is now in reduced circumstances, but was formerly very well to do. Has had present disease about eighteen months, beginning with numerous red plaques, scattered over the surface of body. Patient was treated by a physician, and these disappeared in the course of three months. Blebs first noticed on hand nine months ago.

Habits.—Has been a hard drinker up to one year ago. Eats fish and salt meat occasionally. Never had chills and fever. Is subject to asthma. Has had yellow fever. No venereal disease. No history of disease in family. Has healthy children.

Condition on Examination.—Superficial blood-vessels

of nose can be distinctly outlined, and are much dilated. No marks on face, but outer half of eyebrows fallen out. Skin of this region thickened. Tongue coated, furrowed and denuded of epithelia. Throat normal. Trunk mottled. Skin over sternum reddened. Has a fatty tumor below left nipple. Fingers of both hands reddened and covered with glistening skin. Nails friable, and almost completely absent on forefingers. Irregularly shaped, red and thickened patches under surface left wrist. Skin of both arms pigmented and scaly. Toes are affected like the fingers. The right great toe overlaps the others. Legs are affected like the arms, only more scaly.

Sensation.—Diminished over dorsal surface of trunk, more particularly the gluteal regions, also on forearms and legs. The plaque upon the left wrist is quite anæsthetic, and blood can be drawn by a pin prick from any portion of hands without giving pain.

This case did not progress under chaulmoogra oil, which he soon was able to take in doses of thirty drops; on the contrary, the blebs reappeared on hands and feet, and an ulcer of one of the small toes destroyed the last two phalanges. The toe was amputated without anæsthetics, for the patient had frequently struck it upon surrounding objects, and on one occasion twisted it under his foot as it hung down, and experienced no pain therefrom.

Under potassium bromide and cherry laurel water the asthma soon disappeared. Only improvement from the oil was in the fact that the patient began to sweat from all parts of his body, except hands and feet, which gave great relief, as he had not performed this function visibly for past two years.

On June 1st two ulcers appeared on nates, which were now quite anæsthetic, the ulcers being doubtless due to friction in the seated posture. These were perfectly painless, and rapidly grew to the size of a silver dollar. Iodoform salve was applied with good results. Urine, examined from time to time, disclosed nothing abnormal; specific gravity 1010; acid. Tissue removed from the toe contained the bacillus lepræ.

CASE 18. *LEPRA TUBERCULOSA*.—White man, aged 27; native of New Orleans. Applied in my service at Charity Hospital, June 11th, 1887. Was seen on two occasions, but only the briefest notes could be taken. They are given in full. Occupation gardener. Resident of Third District. No one in family had similar disease, unless it be mother, who died in 1882.* Has a sister and two brothers living. They are healthy. Disease began on face just above eyebrows, and gradually spread over body in form of soft, raised tubercles of a reddish color. Skin of face thickened between the tubercles, which are still present and quite distinct in outline. There are a few on the extremities, but those on face are more marked. Capillaries of face dilated. Throat erythematous and tonsils swollen.

Sensation.—On left arm is an anæsthetic spot size of a silver dollar. Says that he has scratched this place until it bled profusely, but that it did not pain him either then or after. Red spots on face bled profusely when cut by a barber. Takes no medicine, believing himself incurable.

CASE 19. *LEPRA TUBERCULO-ANÆSTHETICA*.—White woman, aged 57 years; native of Germany. Applied in my service at the Charity Hospital, April 24th, 1888. Occupation, washerwoman. Resident of the Third District. Did not know parents, and knows nothing of her family. Been in New Orleans for thirty-seven years. Has never seen any one with a like disease. Was poisoned with ivy thirteen years ago, and her face became badly swollen. "Some years ago she was called to wash the body of a person who had died of leprosy, her hands having wounds on them, and her impression is that she contracted the disease by inoculation."† Has been married twice. First husband died in battle; second husband is alive and well. Has four healthy children, and has lost two in teething. Last child was born sixteen years ago, and patient has been sick about eight years. General health has been good.

* Reference to records of Board of Health shows that patient's mother died of "elephantiasis," doubtless of the Greek form.

† Quotation from a report of Dr. A. M. Beret to the Board of Health of Louisiana, 1887.

Never ate much fish or salt meat. Food consists chiefly of potatoes, cabbage, carrots, rice, oatmeal and coffee. Disease began upon the chest in the shape of rings and circular plaques, which soon spread upon the legs. The face at the same or shortly afterwards became very red and swollen. Has had blebs upon the feet from time to time.

The description of condition on examination was not recorded at patient's first visit, and as she never returned, this cannot be accurately given. Suffice it to say that this was a mixed case of macules, tubercles, and anæsthetic spots. There were no ulcers on the extremities, but a few denuded surfaces showed the tendency to form blebs.

CASE 20. LEPRA MACULO-ANÆSTHETICA. — White man, aged 27. Born in New Orleans. Resident of Fourth District. Occupation laborer. Applied for treatment in my service at the Touro Infirmary, June 10th, 1887.

Family.—Father died of apoplexy. Mother is in an insane asylum. Parents born in Ireland. Two sisters and two brothers—healthy. Has been married. Wife died three years ago.

Previous History.—Has had venereal diseases several times. Was treated by Dr. T. S. Kennedy two years ago for secondary syphilis, the eruption being accompanied by sore throat, rheumatism and fever. These symptoms passed away for a time. During the past two years patient has been working occasionally in the Têche country—up and down the bayou. Became sick about eighteen months ago, the disease first appearing on the knee like a blister, and shortly afterwards on other parts, as a gyrate, tan-colored eruption, somewhat dashed with red and slightly raised above surface. Patient does not remember to have seen a similar case. Sleeps in same bed with brother. Diet not confined to any special kind of food.

Condition on Examination.—*Face.*—Not deformed in any way, though bridge of nose appears to be somewhat thickened. On cheeks are bands of slightly raised, bright red patches, irregularly distributed. The skin and features

elsewhere are normal in appearance. Tongue normal, but soft palate, studded with pin-head-sized nodules, very smooth and shiny. Uvula elongated. Voice harsh.

Trunk.—Spotted with tan-colored blotches, slightly raised, ill-defined and of gyrate configuration. The skin between them is normal.

Upper Extremities.—Same gyrate eruption as on trunk, only more accentuated. On hands and fingers the color is a deep red, and the disease appears on the knuckles as red blotches, size of a dime. On hypothenar surface of left hand is a deeply infiltrated, bluish-red patch. A few broken and unbroken bullæ cover the fingers and palms. Left little finger flexed at first interphalangeal joint, where there is a hard deposit. Patient states that this condition has obtained for past six years—long before disease began. The lump is red and of same color as other leprous deposits.

Lower Extremities.—Have same gyrate eruption as that seen on arms. The peculiar appearance of these patches can best be described by saying that they resemble in shape the interstices of an eruption rather than an eruption itself, suggesting the idea that the true disease had been resolved, and that the intervening tissue had become inflamed instead. This intervening tissue, which is normal on arms, is almost milk-white on the legs in places. A large bulla is seen on the middle third of right leg. Feet are red, smooth and infiltrated. Several bullæ on toes. On left foot are two deep ulcers—one behind heel, size of silver dollar; one under ball of foot, size of a silver quarter dollar. These give no pain.

Sensation.—Sensation of face and trunk about normal. Diminished on arms and forearms and nearly absent on little fingers and outer surface of ring fingers. Gradually diminishes from knee downward, and complete analgesia on inner and outer surfaces of feet. Is nervous all the time. Eats and sleeps well, but is very restless on waking in the morning. Hand shakes a great deal when he writes. Has

dull, aching pains occasionally along distribution of left ulnar nerve. Hands very tender, and leaning on a walking-stick produces blebs. Weight, 140 pounds.

A 10 per cent. salve of ichthyol with 3 per cent. of salicylic acid applied to face and ulcers; ichthyol internally. This was continued with a few intermissions for nine months, with no visible improvement except a gain of fifteen pounds in weight. The eruption remained the same and a nasal catarrh gave much trouble.

On one occasion the patient, when made to remove a bandage from foot which had not been touched for five days, disclosed a long pin sticking through the skin, with an ulcer the size of a dime at its entrance and exit therefrom. A green deposit from the metal of the pin stained the bandage and soft tissues. The completeness of the anæsthesia will be understood when it is stated that the patient did not suspect this cause, and considered the sympathetic inflammation which gave trouble in the femoral glands as a new manifestation of the disease. Conclusive evidence from his former physician as to a previous attack of syphilis prompted specific treatment, which patient has been taking for past two months, with excellent results to the nasal catarrh and certain rheumatic pains which have caused much discomfort. The ulcers on the feet are nearly healed. This case is all the more interesting for the opportunity offered for the study of two kindred and baleful diseases, both active in the same subject. Bullæ still continue to appear.

CASE 21. LEPRA ANÆSTHETICA.—White man, aged 24, native of New Orleans. Formerly resided in Avoyelles parish, La., but has lived in this city, Fourth District, for past eighteen months. Occupation farmer. Applied for treatment in my service at Charity Hospital, March 4th, 1888.

Family.—Parents have been dead about fifteen years. Does not know cause of death. Had a sister who had "sore legs" when she died, but does not know name of disease.

Previous History.—Until three years ago enjoyed good health, when water blisters came on hands and toes. Blisters disappeared as these became inflamed. Says his body has been *pigmented* since he was eight years old. Has felt a numbness of hands about two years, and says that the left hand and legs and feet never perspire. First two fingers of either hand have ulcerated, and bone has been removed. First two toes of right foot have been amputated on account of carious bone. General health and appetite good.

Condition on Examination.—Skin of face thickened and slightly tuberculated. Eyes congested. Nose swollen at bridge and slightly deflected to right of median line. Ears thickened. Voice harsh. No discoloration of face, but eyebrows are scanty. On trunk, legs and arms are spots of pigmentation varying in size, the largest being on the small of the back. This spot or plaque is eleven inches in diameter, oval in shape, and has a well defined, copper-colored border, level with the surface, and a centre of unpigmented or pure white skin. Where the plaques are absent minute centres of pigmentation are seen about the hair follicles (xerodermic condition). The first two fingers of both hands have lost their distal phalanges, but the nails, which still remain, are clubbed and bent inward. Abraded surfaces on the swollen fingers show the constant eruption of bullæ. Fingers are very stiff, but can be flexed. Right hand moist; left hand very dry. First two toes of right foot absent; third now presents ulceration and carious bone. Toes of left foot swollen, but not ulcerated. Urine, acid; specific gravity, 1015.

Sensation.—Normal on face and trunk; diminished on forearms; absent on backs of fingers and toes.

Treatment.—Chaulmoogra oil in increasing doses. For first six weeks blebs continued to appear on hands and feet; but at the end of four months these had ceased to form, the ulcers had healed, sensation had improved and both hands had begun to perspire naturally. He was then taking twenty-five drops at a dose.

CASE 22. LEPRA TUBERCULO-ANÆSTHETICA.—White boy, aged sixteen years, native of New Orleans, resident of the Second District. Applied for treatment in my service at Charity Hospital June 15th, 1888.

Family.—Father born in Germany, mother in Ireland. Father died of dysentery, fifteen years ago. Mother is healthy. Has one sister, who is healthy; three half-brothers and one half-sister—mother's children by former marriage—all healthy. Never knew or saw any one with similar disease. Eats fresh fish constantly, particularly on Fridays. Does not care for salt meat. Does not go to school. Cannot tolerate bright light. Perspires freely at slightest exertion.

Condition on Examination.—Face pale and waxy. Skin thickened. Eyebrows and eyelashes nearly gone. Eyelids heavy. Conjunctivæ yellow. Flat, bluish-red tubercles abundant on cheeks and chin. Nervous expression about the eyes. Lips large, ears thickened and tuberculated.* Bridge of nose depressed. Deposit of tubercles on alæ. Neck normal. Trunk emaciated and slightly discolored with coppery patches, more particularly about pectoral region.

Upper Extremities.—Elbows sore, with a tendency to ulcerate. Arms and forearms discolored with yellowish pigment. Fingers smooth, dark and swollen. They are stiff and not easily extended on account of cicatrices from bullæ on their palmar surfaces. Thumb and forefinger of right hand have lost first phalanx, and nails are distorted. Small ulcer on left forefinger. Pigment on thigh of a coppery color. On knees are circumscribed bluish-red, smooth deposits, cicatrices of former ulceration. Feet normal on back, but bluish-red on soles. Toes red, shiny and thickened. A few blebs on toes.

Sensation.—Normal about face and neck; diminished on arms. Normal on trunk. Greatly diminished on back of hands. Entirely absent on fingers and palms,

*See illustration.



CASE 22.—LEPRA TUBERCULOSA.



where a pin can be stuck through entire integument without being felt. A heavy pin-scratch can be felt anywhere on thighs and legs, but light touches are not perceived. Complete analgesia over entire surface both feet.

The following three cases, patients of Dr. Bemiss, I had an opportunity to examine at their residence, whither I had accompanied him on the occasion of the serious illness of the younger daughter (Case 25), who was then suffering from a high fever and great prostration.

CASE 23. LEPRA TUBERCULOSA.—White woman, *æt.* 45; born in New Orleans. Husband was born in Germany. Husband dead; had liver disease and dysentery (perhaps hepatic abscess); was a hard drinker. Occupation laborer. No signs of leprosy. Patient married twenty years; widow eight years. Some two years after death of husband first noticed signs of this disease. First came as a spot on cheek with tingling. Has two daughters with same disease. Appeared about same time in them. Eldest girl was then fourteen and the youngest eleven years of age. Never has seen any one with this trouble; never heard of it. Hypertrophy of skin of cheeks and forehead. No eyebrows; no tubercles. Small scars on dorsum of feet. This case was carefully noted and a history taken some three years ago (1885), but unfortunately the notes were lost. It was marked in the symptoms of leprosy then much more than at present. But it must be remembered that she has been taking chaulmoogra oil with only short intervals during all this time; and has at times, though not regularly, been using it externally, especially upon face and hands.

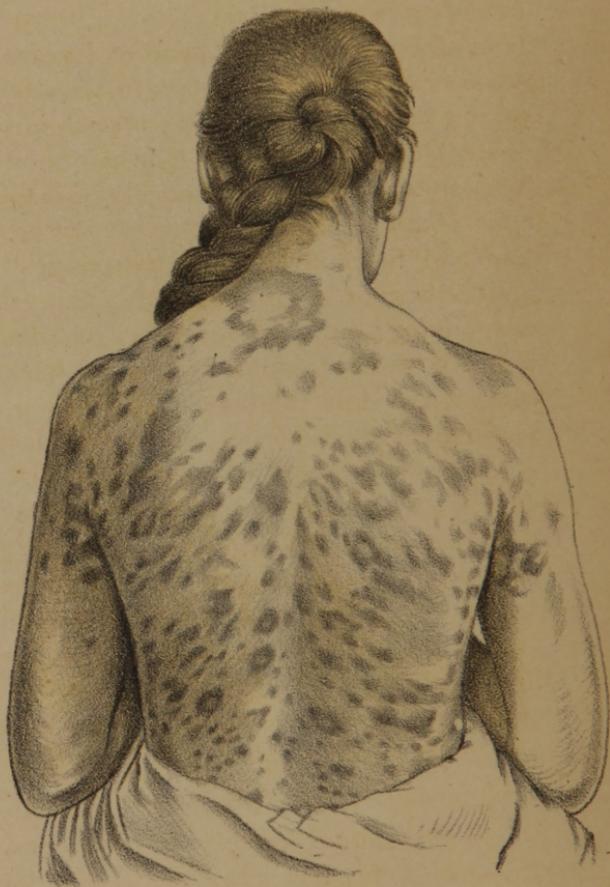
CASE 24. LEPRA TUBERCULOSA.—White girl, *æt.* 17; born in New Orleans. Daughter of case 23. Has never been out of city. This case presented marked symptoms of the disease when she first showed herself three years ago, but the notes were lost. Now she simply shows some thickening of the skin of forehead, cheeks and ears, with partial loss of eyebrows. (There were none when

first seen). Hands appear glistening red, especially towards tips of fingers. Cannot determine any anæsthesia, though it was complained of when first seen. There are no tubercles, nor any remains of any. She has taken chaulmoogra oil constantly for three years.

CASE 25. LEPRA TUBERCULOSA.—White girl, aged 15 years. Born in New Orleans. Daughter of case 23. Never out of city. Her history, taken at the same time as those of her mother and sister, was also lost. Now she shows the same thickening of skin of face and ears, with discolored hands. On right cheek is a large oval, white spot, surrounded by an area of bluish-red discoloration. She has no eyebrows. There is now no anæsthesia apparent and no tubercles. She has the stolid, fixed expression of the disease. She has taken the oil for three years, but not so regularly as her sister and mother, nor in such doses as she ought. It makes her sick, and she often fights against it. She is a sufferer from inflammatory rheumatism, attacks of which are frequently severe.

CASE 26. LEPRA TUBERCULOSA.—White boy, aged 11 years, native of Louisiana. Applied for treatment in my service at the Charity Hospital, November 9th, 1886. Resides in Third District, near the slaughterhouse. Parents healthy. No family disease. Parents have eight other children—all healthy. Some five years ago all took the measles, and a short time afterwards patient noticed swelling of hands and lower extremities, followed by gradual pigmentation of body. General health good. Gets out of breath when he runs.

Condition on Examination.—Face very dark. Skin of entire face thickened. On forehead skin is wrinkled vertically near median line, giving a frowning expression. Flat, red tubercles of various sizes on cheeks and chin. Hair dry and of a brown color, being lighter near the edge of the scalp. Ears thickened but not deformed. Eyebrows scanty. Throat normal. Tongue coated. The trunk is somewhat emaciated, and spotted here and there.



CASE 27.—LEPRA MACULOSA.

with flat, brown patches of simple pigmentation, more or less round, and averaging two inches in diameter. In the gluteal region, left side, is a white patch the size of a silver dollar. Raised erythematous patches and papules abound on dorsal surface, lower third of right arm and about elbows, also lower third of forearm on both surfaces. On outer border of left forearm is a white patch of skin, two inches in diameter. Genital organs normal. A large pigmented spot discolors the anterior surface of right thigh, and others cover entirely the lower halves of the legs. Tubercles the size of a butterbean are scattered here and there over lower extremities. These tubercles have a higher temperature (surface thermometer) than surrounding skin. About the edges of the patches on the legs are a few minute white pustules. Just above the knee on the right thigh is a pale patch, surrounded by a well-defined dark border, all level with the normal skin.

Sensation.—About normal everywhere, except on white patches, which are completely anæsthetic.

Chaulmoogra oil, gradually increased to twenty-five drops at a dose caused the disappearance of the red tubercles, the pustules and much of the thickening of face. To-day the boy is stouter, and, with the exception of the discoloration of the body (less than formerly) and the aged look of the face, he seems perfectly well. The anæsthesia has not changed.

CASE 27. LEPRO MACULOSA.—White girl, aged 14 years. Presented herself in my clinic at the Charity Hospital, February 28th, 1888, with the following history: Born in the Fifth District of this city (Algiers) and has always lived there, attending one of the public schools.

Family History.—Father healthy; mother is subject to malarial fever. Is accompanied by a grown sister, who shows no symptoms of disease. Has had two other sisters and two brothers, all of whom died under the age of six years, two of them dying of scarlet fever, and the other two died while teething, after a short illness.

The girl is a stout brunette, large for her age. Gives a history of malarial fever when nearly ten years old—fever without chills. Never had marked diarrhœa. During the winter preceding the attack of malarial fever patient had an ulcer on the sole of right foot the size of a silver dollar. This was a very ugly sore, and was peculiar in that it “gave no pain even when washed and rubbed.” Her sister volunteers the information that just about this time the patient was often unnaturally drowsy, and slept a great deal, and that she was easily startled by a sudden noise or touch. After the fever there came copper-colored patches on back of neck, shoulders, thighs, legs and feet. (Ulcer of foot had healed under perfect rest and a mild ointment). The eruption then appeared on anterior surface of neck, and finally, a year ago, there was noticed a round, red spot on the forehead. Has had a swollen thyroid gland. Patient has never noticed increase or diminution of sensation beyond the points already mentioned.

Condition on Examination.—Face swollen and covered with patches of a bright bluish-red color. These are distributed over the centre of forehead, cheeks, nose, chin and superciliary ridges. The temples are normal, and there are patches of healthy skin beneath the rami of the lower jaw. The ears are unaffected, but the holes for earrings are hard and always irritated when these are inserted. Throat erythematous, but shows no deposit. Eyebrows are scanty. The trunk is covered with more or less well-defined plaques of an oval or irregular shape, yellowish-brown in color, and paler in the centre than at the periphery. These plaques are more numerous on the posterior than anterior surface, and are well shown in the accompanying lithograph, where their annular configuration may be seen in a patch between the shoulders about the size of the palm of the hand. The skin between the diseased spots is white and smooth. The skin of the upper extremities is rather mottled, and the hands are swollen a little, having red, shining fingers, the last two on the right hand being perma-

nently flexed. There are two marks of successful vaccination on the right arm. The lower extremities are covered with brownish, ill-defined pigmentation, resembling, below the knees, a mild form of ichthyosis. Feet are red, but not deformed.

Sensation.—Normal on the face, but greatly diminished to the point of analgesia on inner surface of right arm, ulnar side of both forearms and hands, particularly on the two flexed fingers of the right hand. Feels but does not complain of pain when pricked with a pin on the knees, legs and left foot. Anæsthesia complete on inner surface of right foot.

Being questioned, at a later visit, as to her diet, she declared that at the time the disease began she had eaten a great deal of salt meat, and was very fond of it still.

Treatment.—Chaulmoogra oil ordered in increasing doses, beginning with ten drops twice daily. In addition to this she was ordered to cover her face with salve of ichthyol, ℥vi; acid salicylic, ℥ss; vaseline, q. s. ad ℥ii. M. Naturally this application irritated the face, and has been discontinued occasionally. The patient has been seen from time to time up to date of writing, and shows more improvement in sensation than in the visible lesions. These latter are only less marked and less clearly defined, but the depth of color remains. She has been ordered to stop school and to sleep alone in her bed. The oil has disagreed so often that she has not been able to take more than twenty-drop doses. A chemical and microscopical examination of the urine revealed nothing abnormal.

CASE 28. LEPRA TUBERCULOSA.—White boy, aged 16 years; native of St. Martinsville, La. Admitted into my ward at the Charity Hospital, May 8, 1887. Has been in New Orleans for eleven months, treated at Hotel Dieu.

Family.—Father was a native of Louisiana, and died of leprosy in 1883, aged 61 years. Father's mother came to this State from Martinique in 1801, at age of 7 years. She was accompanied by her mother, who was supposed to

have the disease. Father of patient married three times. No children by first wife; six (or more) children by second wife, and four children by third wife, patient being one of the latter. Testimony with regard to children by father's second marriage is conflicting; several of them, however, are undoubtedly free from the disease. Mother was a relative of and descended from the person who came from Martinique and was supposed to have leprosy. So patient is liable to disease from both parents. Has two sisters who are said to be healthy. I have seen his brother and found on him no signs of this disease. Patient has two female relatives in St. Martinsville (his father's brother's children) who have undoubted leprosy.

Habits.—Does not smoke or chew. Has been in habit of eating fish, particularly on Fridays. Disease began about ten years ago. Most marked in thickening of skin of face and swelling of hands. Has been subject to chills and fever.

Condition on Examination.—Patient rather stout. General health good. Skin of face thickened everywhere, particularly in region of eyebrows, which have fallen out. No circumscribed tubercles. Leonine, fierce expression. Lips and lobes of ears thickened. Lashes of lower lids have fallen out. Hairy scalp natural. Entire face and neck slightly reddened from presence of dilated blood vessels. Tubercular deposit upon uvula and both tonsils. On soft palate, just above uvula, is a deposit of brown pigment size of a silver quarter dollar. Trunk covered here and there with yellowish-red pigment, level with surface. Upper extremities normal, with exception of hands, which are congested and swollen. On the legs the skin is dry, harsh and scaly, as in xeroderma. On middle third of left leg is a scar of a healed ulcer, pinkish in centre and surrounded by brown pigment. Both feet have a dry, scaly, unhealthy look.

Sensation.—Good everywhere, except in a patch two inches long on ulnar side lower third of right forearm.

where it is greatly diminished, and on edge of cicatrix on leg, where it is likewise diminished. Urine examined from time to time and always found to be normal.

In addition to drachm doses of chaulmoogra oil patient was treated externally with a salve of equal parts of ichthyol and vaseline, applied to the face. The salve was continued, with a few intermissions of two or three weeks, for nearly a year, and produced no better result at the end than discoloration of the skin. The oil has been stopped from time to time and the dose diminished on account of intolerance. An occasional fever, lasting a few days, and an ulcer on seat of old cicatrix (now healing), have been the only accidents.

CASE 29. LEPRA TUBERCULOSA.—White boy, aged 15 years, native of New Orleans. Resident of Second District. Applied for treatment in my service at Charity Hospital, December 1st, 1886. No history of disease in family. Accompanied by parents, who are healthy. Two sisters and three brothers, all healthy, with exception of one brother, who has the same disease. Disease began about five years ago as pigmentation of the legs, followed by tubercles on face. Mother states that there was a negro man living on premises who had an eruption on body. Does not know what has become of him. Patient is very lean, and dark complexioned. Appearance is remarkable. Mouth large, ears prominent and bent forward. Face covered with red tubercular nodes, most marked about cheeks. Ears much thickened. Eyebrows and lashes gone. Frightened expression of face. Deposit on soft palate. Voice very harsh. Pigmentary deposit all over body. Small tubercles on forearms. Fingers swollen and stiff. General health poor—has fever. Chaulmoogra oil seemed to act as a tonic and improve locomotion, but patient was very weak when last seen.

CASE 30. LEPRA TUBERCULOSA.—White boy, aged 13; native of New Orleans. Resident of Second District. Brother to case 29. Applied for treatment December 1st,

1886, at same time as brother. Sick two years—disease beginning as eruption of nodes on face. Thinks he caught it from brother, as he always slept with him. Has same physiognomy as brother, only his features are more exaggerated. Ears more twisted, and the lower eyelids, instead of gently curving towards the outer canthus, form an obtuse angle a third of an inch from it, greatly broadening the angle of the canthus. These defects are congenital. Skin of face thick and pigmented. Upper lip swollen, and left side of nose covered with tubercular deposit. Eyebrows very scanty. Eyelids waxy and heavy. Small tubercle on soft palate, near uvula. Voice hoarse. Tubercles on back of ears. Trunk and extremities lean and covered with mottled pigment. Sensation normal. Chaulmoogra oil.

CASE 31. LEPRA TUBERCULOSA.—White man, aged 51 years. Native of Manchester, England. Applied for treatment in my service at Charity Hospital, November 26th, 1887. In Louisiana thirty-one years, excepting three years of service in the Confederate army. Had typhoid fever in 1850; yellow fever in 1858, and chills and fever off and on—the last time ten months ago. Had syphilis twenty-five years ago, and was treated by Dr. H. D. Schmidt. In New Orleans up to 1872, when he went to St. Martinsville, where he remained from April till September, keeping a dry goods store while there. Never saw any cases of leprosy while there. Had dysentery when in St. Martinsville, but had had it before. Was a nurse in this hospital in 1883, remaining twelve months in institution. Returned in July, 1886, with malarial fever, and left again in December of same year in order to peddle dry goods in the country. Visited parishes of St. Charles, St. John and Jefferson. Reëntered hospital in May, 1887, nursing in ward 31 (for negro men), and has not been out of institution since then. A mulatto man from St. Martinsville, who had leprosy, was an inmate of this ward, but patient says that he never gave him his

medicine, the mulatto always keeping his own medicine separate from the rest. Patient has eaten with this man fruit cake made by the leper's mother, who is regarded as a suspicious case. Patient's finger has been sore and tender since coming to hospital. Thinks this is due to constant irritation from medicines. Patient cut himself while shaving six weeks ago, and eight days afterwards noticed erythema of skin where he had cut himself. Keeps his razor and soap concealed from patients, and no one allowed to use them but himself.

Family.—Parents were healthy when last seen; his sisters and brothers, ten in number, showed no evidences of skin disease when last seen. No family disease.

Condition on Examination.—A few typical syphilitic scars on trunk and extremities. Under left eyebrow and on right side of jaw are two raised erythematous spots, larger than a silver dollar and of irregular shape. Scattered over face are a number of smaller macules of a bright red color. Right ear reddened and thickened at the lobe. It is also painful. Throat slightly erythematous. Over posterior thoracic region are two oval, scaly, copper-colored patches, situated one on either scapula. Their long diameters are two and a half inches, and they are level with the surface. They are pale in the centre and have the appearance of rings. On either gluteal prominence is a patch like those just mentioned: one has a pale centre, the other is decidedly ringed. On right knee and just below are ill-defined, reddish patches, level with surface and quite anæsthetic unless severely pricked with a pin. Several irregular red patches of small size are noted elsewhere. One is just on the edge of an old syphilitic scar, but does not encroach upon it. The spots on face and trunk are not anæsthetic. On left foot is an irregular patch, red and flat and size of palm of hand. This is completely anæsthetic. Small patches of anæsthesia are also found on both knees and in middle third of left leg. Urine normal. Patient kept under observation until December

10, 1887, and as the symptoms multiplied the following was ordered for face: Resorcin, gr. 25; ichthyol, gr. 25; salicylic acid, gr. 50; vaseline, enough to make an ounce. Chaulmoogra oil was given internally until he took fifty drops at a dose. The improvement was rapid and altogether satisfactory, and in six months after its institution nothing visible remained of the disease but two patches on the nates (treated with pyrogallol and flexible collodion), and a small amount of anæsthesia on the knees. The total anæsthesia of the left foot has disappeared. The man is practically well and considers himself cured; but lest the disease should reappear at any time he is instructed to continue the oil as long as he is able to take it. Here let me say that although all the symptoms which led to the diagnosis of this case have disappeared I deem it not only rash, but unscientific, to pronounce upon the cure of a case of lepra within less than ten or fifteen years after the disappearance of symptoms.

CASE 32. LEPRA ANÆSTHETICA.—Negro man, aged 28 years, native of St. Martinsville, Louisiana. Occupation laborer. Admitted into my service at Charity Hospital, June 28th, 1887, while *in articulo mortis*. History of having been ill for eight years. Was born blind. Has lived in the city (Second District) for some time. Died within a few hours of admission.

Condition on Admission.—Emaciated to an extraordinary degree. Ulcers of various shapes cover hands, arms, thighs, legs and feet. Toes falling off with ulcerations. Fingers are all imperfect, having been destroyed from former ulceration.

Sensation.—Diminished in places on the face; *entirely absent on lower extremities.*

Friends claimed the body, and only a section of skin from edge of an ulcer on thigh could be removed. This was examined and found to be crowded with the bacillus lepræ.

CASE 33. LEPRA TUBERCULOSA.—White man, aged 54, native of Bremen. Resident of Third District. Admitted into my ward at the Charity Hospital, March 7th, 1887. Has been prescribed for at this hospital a number of times during the past seven years. Occupation iron-moulder. Been in New Orleans for twenty-one years, coming directly from Bremen, and has never been out of city since. Has relatives, but knows nothing about them. Father died of apoplexy. Cause of mother's death unknown. Never knew any one with disease. Has had a venereal disease—probably chancroids. When disease began was in the habit of eating salt meat, but has never eaten much fish. Had chills and fever occasionally, beginning seven years ago, but has not had them for past two years. Disease began with the attacks of chills and fever, accompanied by tubercular thickening of the skin of face.

Condition on Examination.—Very much emaciated. Skin of face pigmented to a dark color, and greatly thickened about superciliary ridge, with long vertical corrugations between, in median hue. Nose flattened, particularly at bridge, from either side of which extends downward a band of red, thickened skin, curving around angles of mouth and nearly corresponding in situation with the elevator muscle of upper lip. Ears enlarged and thickened, the lobes being pendant in large tuberculated tumors. Eyebrows and lashes gone. Conjunctivæ yellow. Uvula ulcerated away and scars on soft palate. Voice extremely hoarse and almost undistinguishable. Trunk and limbs pigmented almost everywhere, but patches are not well defined. Scattered over trunk, especially on anterior aspect and also on arms, are small red tubercles. On forearms there are tubercles also, but these are well raised, of purplish color and bleed easily when pricked with a pin. They are more numerous on the dorsal surfaces. Skin of thighs, legs and feet has a dry and drawn look. There is redness and infiltration on left thigh, just above knees, and the great toe is ulcerated. Knee joints swollen and

painful, and contain serous effusion. Appetite poor; bowels constipated. Patient in a condition of apathy, as if he did not care what became of him. Sight not very good. Pupils contracted.

Sensation.—Diminishes downward from elbows and knees, becoming entirely absent on hands and feet.

Ulcers which appeared from time to time have healed under iodoform salve. Attacks of articular rheumatism have been quite frequent, and are always ameliorated by iodide of potash and wine of colchicum. Urine contained granular and hyaline casts about a year ago, but has been normal for some months. Cannot tolerate chaulmoogra oil.

CASE 34. LEPRA TUBERCULOSA.—White girl, aged 18 years, native of New Orleans; resident of Third District. Applied for treatment in my service at Charity Hospital, August 15th, 1888. Resided in New Orleans until five years ago, when she moved with her family to New Iberia, La. Took up her residence in this city again six weeks ago, residing in the Third District.

Family.—Father born in Germany, but has been in Louisiana for many years. Mother was a native of New Orleans—died in child-bed. Father has married again, and stepmother accompanies patient to hospital. Patient's stepmother has had eight children—five are dead, and three are living. The former died of heart disease, small-pox, and infantile debility. Stepmother and three living children are perfectly healthy. Patient's paternal uncle and grandmother are alive and in good health.

History.—Eats fish and salt meat sometimes. Formerly attended school. Felt perfectly well when she left New Orleans five years ago, and did not have any trouble for some months afterwards. Sickness began as a swelling of legs about four years ago, and was supposed by relatives to be approaching puberty. It was then noticed that the face would flush when the slightest exercise was taken.

Had chills and fever occasionally while in New Iberia. Pigmentation and thickening of skin came on, but menses never appeared.

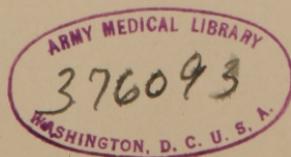
Condition on Examination.—Height, four feet two inches. Weight, eighty-five pounds. Body emaciated and of dark complexion. Patient's disposition is morose, and her intellect is evidently stunted. Though eighteen years old her development is that of a child. Mammary glands are as rudimentary as a boy's, with the exception of a slight tumefaction at the nipple. No axillary nor pubic hair, and has never menstruated. Two marks of a successful vaccination on arm, said to have been done when patient was six months old.

Face shows no tubercles, but is dark and of a slightly reddish tint. Nervous, frowning expression of face. Eyebrows and lashes nearly entirely gone, particularly lashes of lower lids. Bridge of nose thickened; ears normal; trunk and upper extremities slightly pigmented. Fingers, feet and toes swollen. Scars on elbows. Legs smooth and scaly below the knees. Toes of right foot sore from friction of shoes. Smooth, soft, tissue-paper-like scars on knees similar to those on elbow, and are the remains of an earlier ulceration.

Sensation.—Occasionally has a numb feeling in forearms and legs. Sensation tested with a pin and found to be normal.

CASE 35. LEPRA TUBERCULOSA.—Mulatto man, aged 21 years; native of St. Martinsville, La. Admitted into my service as an inmate of the Charity Hospital in the summer of 1887.

Family.—Paternal grandfather was a white man. Father and mother are mulattoes; both parents living. Mother examined in May, 1888, when the Louisiana Board of Health investigated this disease in St. Martinsville and pronounced it a "suspicious case." I saw her at the time and noted that she was covered with a number of slightly raised



ringed patches and had a spot of anæsthesia on one of the lower extremities. Examined more recently the rings were noted to have entirely disappeared, *but the anæsthesia remains*. She is known to have communicated frequently with a leprous family. Patient is the only child by this marriage, but the mother has lived with another man for over fifteen years, and has had by him a number of healthy children, including a stout and hardy baby two years old. Disease began on the son some months ago as nodes upon the face, with considerable thickening.

Condition on Examination.—Tall mulatto, of good physique. Tubercular nodes on face everywhere, including ears. Eyebrows scanty. Eyelids thick and lashes nearly gone. Throat red; voice husky. Trunk normal. Hands and feet swollen and skin thickened, but not pigmented. Small ulcer on left forearm. Genital organs normal. General health and appetite good.

Patient was given pills of ichthyol (gr. \bar{i} ss. each), and ointments of ichthyol and salicylic acid were rubbed on the face twice a day. The immediate effect was to smooth the face and produce general amelioration of symptoms for about three months, when the tubercles began to reappear during the treatment, though ichthyol was used locally as strong as he could bear it. This plan of treatment was continued nine months with few intermissions, when chaulmoogra oil was resorted to. Patient in the meantime was frequently given cinchonidia for chills and fever, the medicine always breaking the chills. After fifteen months' residence in the Hospital the patient left it, in many respects much improved; when he was taken with an acute disease, producing dropsy, and died after a weeks' illness. The immediate cause of his death could not be ascertained. This patient was an inmate of the ward where case 32 was a nurse.

CASE 36. LEPRA TUBERCULOSA.—Patient referred to me by Dr. Bemiss in May, 1888, but the doctor's notes,

taken five years ago, being quite complete, I shall give them nearly in full. The symptoms when noted by me were much more marked than those here recorded, the disease being more advanced. White man, aged 21 years (1883); native of New Orleans. Parents born in Ireland and there married. They moved to New Orleans in 1852, and patient was born in 1862. Father living and healthy. Mother died of a fever in 1878. Has three healthy sisters living. Two of them are married and have healthy children. Patient has never been away from city but once; then to Memphis, in May, 1882, returning before the end of the month. Only other relative in the United States is an aunt, who lives near Charity Hospital. She is well and has healthy children.

Occupation.—Sack-sewer at oil works in Algiers. No one in works had this trouble. A queer-looking passenger was accustomed to travel daily on the ferry with him before he was afflicted, who had swollen features very much like those which patient now has.

Personal Habits.—Temperate as a rule. Uses tobacco; chews. Was not very loose in his habits. Once had gonorrhœa for two months. Never had syphilis. Accustomed to spending much time in Royal street saloons and in back part of town. Eats fish on Fridays, on other days beef and vegetables; of the latter chiefly potatoes and cabbage, but not much, if any, rice. Occasionally eats ham.

Previous Disease.—Chills and fever in 1879 and 1880, being treated by a physician both times.

History of Disease.—First thing patient noticed was about ten copper-colored spots in vicinity of navel. Three months afterwards spots began to appear on left arm, near wrist, and then on right arm, as diffused reddish flush. Something like a month later very fine desquamation of the cuticle of face and ears took place. Companions accused him at this time of powdering his face. Spots on abdomen appeared about April, 1882, as near as he can remember.

In September, 1882, face and ears, in the course of two or three days, became red, simulating sunburn. Three or four weeks later face began to swell and become lumpy. Hands became blue (i. e., capillary congestion) about January, 1883. In about October, 1882, first noticed blebs on upper radial side of forearm. They appeared very suddenly, were oval in shape and about one-half inch long. They were not at all painful, and were very sluggish in healing.

Present Condition.—Height, five feet eight inches. Weight, 145 pounds. Stout, muscular man. Hair and beard black; eyes brown; skin characteristic copper tint. Skin of whole face hypertrophied and infiltrated, especially that of brow, nose, malar region, lips, chin and ears. Discoloration and thickening gradually fades towards neck. On left side of neck is a reddish, oval spot, size of a silver quarter-dollar. Arms to elbows quite natural, with exception of being covered with numerous light brown spots from size of a pea to that of a hand. These are quite regularly distributed from apex of one shoulder to middle of sternum, and then to apex of other shoulder. No spots posteriorly. Right forearm and hand have dark, bluish spots. On fingers of both hands and ulnar side of right wrist are a few blebs and a number of scars where blebs have been.

Sensation.—Greatly diminished in hands and feet. On ulnar side of forearms two points cannot be distinguished closer than six and one-half inches. Sensation is diminished to about the same extent as this on both legs, and is complete on the great toes, varying in degree here and there upon the feet.

CASE 37. LEPRA TUBERCULOSA.—White boy, aged 17: native of New Orleans. Occupation, newsboy. Resident of Third District. Applied for treatment in my service at Charity Hospital, August 20th, 1888, accompanied by his mother.

Family.—Father born in Germany and has been living thirty-one years in New Orleans. Mother born in Alsace and has been in New Orleans for thirty-five years. Both healthy and never heard of a similar disease in family. Mother has four other children—two boys and two girls—all healthy. One boy is 14 and the other 23 years old. Lost two children, the causes of death being scarlet fever and dentition.

History.—Has had chills and fever off and on for three years. Had them also when much younger. Delicate as a child. Boy formerly worked in a brush factory in Third District. Has been withdrawn. Never had dysentery. Seldom eats fresh fish, but eats salt meat about once a week.

Condition on Examination.—Boy tall and thin and of dark complexion. Is just arriving at puberty. Noticed one year ago a few irregular blotches on the cheek resembling a bruise, and which appeared afterwards on chin. Face slightly swollen, but features not deformed. Nose, ears and lips normal. Eyebrows thick, lashes long and curled. Skin of face of a bluish-red color, here and there in irregular blotches. Tongue shows enlarged fungiform papillæ. Follicular pharyngitis. Trunk is lean, and skin very slightly darkened here and there. Bluish-red, ill-defined patches on nates. Genitals normal; also thighs. On lower half of rear of both legs is a red, clear-cut, scaly eruption, diminishing in depth of color toward anterior surface, where it takes on a xerodermic appearance. Fingers slightly swollen and pigmented.

Sensation.—Anæsthesia not complete anywhere, but sensation greatly diminished on legs and feet.

Treatment.—Gurjun oil to be increased five drops a week.

CASE 38. LEPRA MACULOSA.—White woman, native of New Orleans, aged 36 years. Unmarried. Applied for treatment in my service at Charity Hospital, September 29th, 1888.

Family.—Father born in France. Is dead; cause unknown. He had for some years an itching eruption called eczema. Mother born in Cuba; died of cholera. Father married twice; patient is by second marriage. Father had two children by first marriage and both are dead—one from consumption and one from pneumonia; also two other children by second marriage—one dead and one living. Patient had eczema as a child.

General Considerations.—Appetite good; bowels regular. Teaches school. Lived at present residence in Third District since childhood. Eats fish and salt meat occasionally. Has been subject to pains in shoulders for four years. Disease began about four months ago as a rose-colored macule on left cheek; it then appeared on other parts of body.

Condition on Examination.—Face is natural in every respect, with exception of an oval, rose-colored spot just to left of nose, size of a silver dollar, and a small spot near left eye three lines in diameter. A few small patches here and there on neck. Trunk and right upper extremity normal. On upper part of left forearm and elbow are red, scaly patches, with well-defined borders, slightly raised. On lower part of left forearm and hand is a single patch of same character, changing in the palm to an erythematous patch. Hands slightly swollen. Nothing on thighs nor right leg. Left leg covered with red, scaly patches from two to five inches in diameter, and having pale centers. Feet are red, but show no special eruption.

Sensation.—Diminished in all the patches except that on the face. No complete anæsthesia anywhere, but considerable analgesia on left hand.

Treatment.—Twenty-drop doses of chaulmoogra oil in capsules. Frictionings with same.

Brief notes upon the three cases following were furnished me by Dr. A. M. Beret, assistant sanitary inspector, and were taken by him in 1887, and forwarded with a report to the Board of Health:

CASE 39. LEPRA ANÆSTHETICA.—White man, aged 30 years; native of Italy. Occupation, wagon-driver. Family consists of mother, two brothers and a sister, all of whom are robust and healthy. Has never heard of the disease occurring in his family. Patient is unmarried. Lives in Third District in a healthy locality. This is an exceptionally severe case. The man appears to be rotting away, being covered with ulcers, and is a terrible sight to look at. There are three persons occupying the same premises.

CASE 40. LEPRA ANÆSTHETICA.—Negro woman, aged 45 years; native of New Orleans. Can give no information relative to family history. Married and has two children in good health. Resides in Second District. Cistern water and general condition of premises where she resides are as they should be.

CASE 41. LEPRA ANÆSTHETICA.—White woman, aged 48 years; native of France. Occupation, grocery-keeper. Says the disease is unknown in her family, and has no idea how it was contracted. Is married and has three children, all in excellent health. Lives in a healthy locality in the Second District. Seven persons live upon the same premises.

CASE 42. LEPRA ANÆSTHETICA.—Negro man, aged 19 years; native of New Orleans. Carpenter by trade. Both parents living and in good health. One sister died of *leprosy* about three years ago. No history of disease in family, and does not know how the disease was contracted. Resides in Second District, in a low, swampy locality.

Having completed the relation of cases, in which it is feared the unavoidable repetition of symptoms has proved somewhat monotonous to the reader, it may be well to place certain salient points of each case before the eye for rapid reference and comparison. Accordingly the following table has been arranged and will explain itself:

CASE.	AGE.	NATIVITY.	COLOR.	SEX.	VARIETY.	NATIVITY OF PARENTS.	DURATION.	RELATIVES WITH LEPROSY.
1	60	Germ.	W.	F.	A.	Germany.	1 year.	
2	16	N. O.	W.	M.	T.		2 years.	
3	35	Germ.	W.	F.	M.-A.	Germany.	5 years.	
4	29	N. O.	W.	M.	T.		3 years.	
5	25	Mo.	W.	F.	T.		7 years.	
6	26	N. O.	W.	F.	M.-T.	Ireland.	7 years.	
7	26	La.	B.	F.	T.	{ Father in Italy, mother in La.	3 years.	
8	75	La.	W.	F.	M.-T.		2 years.	
9	48	Germ.	W.	M.	M.-A.	Germany.	5 mos.	} Step-mother and two half brothers.
10	35	Germ.	W.	M.	T.-A.	Germany.	10 years	
11	47	La.	W.	F.	T.		6 years.	
12	46	A'tria	W.	M.	M.-A.	Austria.	10 years	
13	27	N. O.	W.	M.	T.-A.	Ireland.	14 years	
14	35	N. O.	W.	M.	M.		18 mos.	
15	65	Irel'd.	W.	M.	M.-A.	Ireland.		
16	10	N. O.	W.	M.	T.	{ Father and mother's father from Ger.	5 years.	
17	63	Germ.	W.	M.	A.	Germany.	18 mos.	
18	27	N. O.	W.	M.	T.			} Mother.
19	57	Germ.	W.	F.	T.-A.	Germany.	8 years.	
20	27	N. O.	W.	M.	M.-A.	Ireland.	18 mos.	
21	24	N. O.	W.	M.	A.		3 years.	Uncertain.
22	16	N. O.	W.	M.	T.-A.	{ Father German, mother Irish.		
23	45	N. O.	W.	F.	T.		6 years.	} Two daughters
24	17	N. O.	W.	F.	T.	Moth'r in N. O	over 4 ys	
25	15	N. O.	W.	F.	T.	Moth'r in N. O	over 4 ys	Moth'r & sister
26	11	La.	W.	M.	T.		5 years.	
27	14	N. O.	W.	F.	M.		4 years.	} Father and several relatives.
28	16	La.	W.	M.	T.	Louisiana.	10 years	
29	15	N. O.	W.	M.	T.		5 years.	Brother.
30	13	N. O.	W.	M.	T.		2 years.	Brother.
31	51	Eng.	W.	M.	T.	England.	5 weeks.	
32	28	La.	B.	M.	A.		8 years.	
33	54	Germ.	W.	M.	T.	Germany.	7 years.	
34	18	N. O.	W.	F.	T.	{ Father in Ger., mother in N. O.	4 years.	
35	21	La.	B.	M.	T.	Louisiana.	over 1 yr	} Mother is a suspicious case.
36	21	N. O.	W.	M.	T.	Ireland.	1 year.	
37	17	N. O.	W.	M.	T.	Germany.	1 year.	
38	36	N. O.	W.	F.	M.	{ Father in Fr'ce, mother in Cuba.	4 mos.	
39	30	Italy.	W.	M.	A.		years.	
40	45	N. O.	B.	F.	A.			
41	48	Fra'ce	W.	F.	A.			
42	19	N. O.	B.	M.	A.			Sister.

Age of Cases.—We see from the tabulated statement that there were no cases under 10 years of age. There were thirteen between 10 and 20; eleven between 20 and 30; five between 30 and 40; six between 40 and 50; three between 50 and 60; three between 60 and 70; and one between 70 and 80. Though none were seen younger than 10 years, three of these cases developed the disease before that age; and though all ages are represented, more than half of the cases were between 10 and 30 years. The oldest patient was 75 years old, and is still alive.

Nativity.—Of the forty-two cases twenty-nine were natives of Louisiana, including twenty-two natives of New Orleans. Natives of Germany, seven; of other foreign countries, five; of other States, one.

Color.—The majority of the thirty-seven white persons were of dark complexion, and the majority of the colored persons were mulattoes.

Sex.—The males were in the majority, being twenty-six in number, while there were only sixteen females.

Variety.—For the sake of systematic classification the form of the disease has been given in every case, but it should be understood that this simply indicates the most prominent symptoms; for nearly all of the anæsthetic forms were accompanied by macules and tubercles, and the tubercular forms by nerve lesions and pigmentation. Leprosy which is purely tubercular, macular, or anæsthetic, is very uncommon.

Nativity of Parents.—It is a significant fact that in Louisiana, where a large proportion of the oldest inhabitants are *natives*, we find that as many as eighteen of the cases here reported are children of foreign-born parents, and as many as twenty are children of at least one foreign-born parent; from which we conclude that if the disease is hereditary it must be derived from a variety of foreign sources; and if acquired then it seems to attack the children of immigrants as often as those of the older native families.

Duration.—The figures here recorded can give no idea of the expectation of life in this disease, for a large majority of the patients are still living and may live on for many years. But experience with these cases has already shown that proper medication and wholesome diet can greatly ameliorate symptoms; and it cannot be denied that the greatest ravages of leprosy are upon those who are least able to resist them physically. Three cases are here reported in which the first symptoms appeared five months, five weeks and four months, respectively, before applying for treatment. These are brief periods, but as leprosy has no known initial lesion, like syphilis, it is impossible to say how long the patients were diseased before the first symptoms attracted attention. After careful inquiry upon this point the author has come to the conclusion that in certain cases the disease has lain dormant through an exceedingly long period of incubation before the skin lesions made their appearance, and that the duration of this period of latency in leprosy is greatly modified by the diathesis or resisting power of the individual. It is probable that a stout, healthy man is as little apt to become leprous as he is to become tuberculous, unless there be hereditary taint.

Relatives Afflicted.—We find that there were ten patients who had other relatives afflicted in the same manner; while, on the other hand, these ten have lived and come in constant contact with many other relatives and friends who have not contracted the disease. Some of the patients have had perfectly healthy children after the disease began, but the rule seems to be in females for pregnancy to end in a miscarriage or in a weak, delicate child.

Diet.—Questioned as to food the majority of patients have shown that they live on a mixed diet of the usual meats and vegetables that can be procured by the poor. Salt meat and fish, when they can be procured, are eaten by the poor all over the world. In the warm summers of New Orleans it is probable that much of the meat and fish

eaten by the poorer classes is not as fresh as it should be; and it is said that the various viscera and stale products of the butcher's stand, sold under the name of "cat and dog meat," and fit only for such animals, are purchased by the lower classes of New Orleans and used as articles of food by them. This is certainly a possible source of disease.

Intercurrent Diseases.—The two maladies which have complicated the cases here reported are malaria and syphilis. Nearly all of the patients complain of having had malaria, and on several occasions these attacks have been observed. Most of them were the ordinary leprosy fevers, coming irregularly and easily broken with quinine, but re-appearing while the quinine was still being taken. But not a few of them had regular intermittent fever, which was preceded usually by a chill and followed always by a sweating stage. This fever yielded to quinine.

Case 20 is syphilitic. His symptoms were becoming aggravated until iodide of potash was used, and then improvement was immediate, though the blebs of leprosy continue to appear as usual.

Case 31 has had syphilis, and, though not treated with anti-syphilitic remedies, improved to a wonderful extent on large doses of chaulmoogra oil. The syphilis was of long standing.

Case 33 has probably had syphilis, though the history is not clear. He is subject to muscular and articular pains, often with swelling of the joints, and iodide of potash and colchicum give immediate relief.

Etiology.—Tainted animal food as a possible cause of this disease has already been alluded to; another and much more certain one is heredity. But the cases here recorded, in which a child inherits from a parent or ancestor, are so very few that we are forced to look for some other solution of the question. We find here a large number of persons, not related to one another and having an entirely different ancestry, coming from a variety of countries. It is probable that several of these persons may

have developed in this State a malady which was inherited or acquired from others in older countries. But it is *improbable* that so large a number of ancestors should have been tainted with a disease which is exceedingly rare in Germany, Ireland, France and Austria, and that their descendants should have met at this time all in one particular locality, which certainly presents no special inducements to persons suffering from leprosy.

Now, though possessing no absolutely reliable history of direct inoculation, there are several cases here reported which would lead one to suspect that the disease may have been acquired by contact with another person afflicted in a like manner. Sometimes the evidence is weak, but let us see what it amounts too. It is well known that the Louisiana Board of Health has, on two different occasions, sent its officers to examine and report upon cases of leprosy said to be on the banks of the lower Lafourche* and in the town of St. Martinsville.† The investigations showed that there were from twelve to fourteen cases in the parish of Lafourche, and only three positive and three doubtful cases in St. Martinsville.

Referring to our histories we find that case 3 acquired dysentery and first noticed leprous spots while living in Houma, a town situated but a few miles from the infected district on Bayou Lafourche. Case 20, while suffering from a recent attack of syphilis, was in the habit of riding up and down Bayou Têche to St. Martinsville. Case 36, before taken with the disease, traveled daily on the ferry with a passenger whose deformed visage suggested that here was a similar disease. Indeed the physiognomy of leprosy is a remarkable one, easily recognized, and we have more than once had our attention attracted to the Dromio-like manner with which these cases eye one another on meeting accidentally in the ward. Cases 32 and 35 were colored men from St. Martinsville. Little is known.

*Report of Board of Health for the year 1880, p. 217.

†Results reported May 2, 1887.

about the former, but his dark skin showed that both parents were probably negroes, and it is believed that he worked for a family there afflicted with the disease.

Case 31, an Englishman, had likewise been to St. Martinsville; lived there five months in 1872. This same patient also nursed during several months in a ward of the Hospital which sheltered a person who had leprosy (case 35).

With the exception of his mother the family of the young mulatto (case 35) were healthy as far back as his grandparents, and we have been told that his mother nursed and washed for the father of case 28—a man who was a subject of this disease, as well as his son. These facts suggest several possibilities, even probabilities: 1st. If the mother (the “suspicious case”) has the disease she may have acquired it directly from the man she nursed, or indirectly from the clothes she washed. 2d. If she has *not* the disease she may have been the means of conveying it to her son in her own person about her clothes, or else in the soiled clothes of the diseased man. 3d. Again, the son may have acquired the disease either by inheritance from his mother, by contact with his mother, or by contact with the diseased man referred to or some of his belongings. 4th. Even granting that the mother is a leper it is hardly probable that the son, who is her eldestchild, would have been the only one to inherit a disease which did not manifest itself in her until she had borne a number of other children, all of whom remain healthy. 5th. It seems to be a much more plausible theory that the disease of the son came from one of the known sources of contagion, and the disease of the mother, if her’s be leprosy, also from a similar source.

The statement of case 19 that she washed the dead body of a leper while her hands “had wounds on them,” and afterwards contracted the disease, looks very much as if this was the origin of the disease. Unfortunately the name of the physician who diagnosed the case of the dead person

is not given, but on being questioned recently she reiterated this statement.

It is customary after rehearsing testimony to draw conclusions. We have seen that a few of these cases are of inherited disease, but the majority give no such history; on the contrary there is usually a flat denial of having ever seen or heard of a similar case. The evidence that the disease has been acquired in an infected district, or by association with other cases, or by actual contact, is more or less valuable. It is not entirely conclusive, however, though the history of the woman washing the dead body of a leper when her hands were in a condition to absorb infective virus, and the Englishman nursing in a ward with a leper while his thumb was sore, points very forcibly in the direction of *inoculation*.

Treatment.—Unna's plan of treatment with the so-called *resolvents* has been pretty well tested as regards ichthyol, pyrogallol, resorcin and salicylic acid, the latter being usually combined with one of the former. Their action upon the face has been in no case permanently satisfactory either in strong or weak ointments. Made into a paint for the body, with traumaticine or flexible collodion, they have been very useful. Ichthyol, administered internally, either in liquid or pill form, as much as six grains a day, has given entirely negative results. Chaulmoogra oil is still the best remedy which the author has tried, acting at times almost as a specific, and always (when tolerated) as a tonic and regulator of the bowels. Old cases, particularly those of the anæsthetic variety, are not much benefited by the oil, but if pushed rapidly in recent cases to the point of toleration (thirty drops to a drachm may be given at a dose) visible improvement may be looked for. Under this treatment case 31 made such rapid improvement that nearly every erythematous or disfiguring spot had disappeared in the course of six months. Chaulmoogra oil as an ointment has been used very little, on account of its high price, the majority of patients being very poor; be-

sides, the resolvents are more generally beneficial as external applications.

Gurjun oil is now being tried in several cases, but its effects have not yet been accurately ascertained.

CONCLUSION.

These cases have not been seen and studied in a corner. In the milder ones the author has added to his diagnoses the unqualified concurrence of Dr. J. H. Bemiss and Dr. F. W. Parham, who are both familiar with the disease.

Leprosy is undoubtedly increasing in this city—slowly, but steadily; and the author is not aware that any Louisiana physician has ever before reported half as many cases in New Orleans. To what we should attribute the spread of this loathsome disease it is impossible to say with any certainty. Malaria, syphilis, debilitating diseases, unsanitary surroundings, improper diet, etc., were undoubtedly predisposing causes in some cases, but beyond this all is obscurity.

It is not intended to discuss here the contagiousness or infectiousness of the disease. Suffice it to say that, after a the study of these and other cases, the writer believes that leprosy may be communicated from a leprous to a non-leprous person by means of a specific virus, which acts somewhat like the specific poison of syphilis, depending upon thin or denuded surfaces for its absorption, and which remains potent, very probably, for an indefinite period of time. Syphilis, on the other hand, runs a much more rapid course, and virulence of the poison diminishes with age, even when the disease is untreated. But howsoever the disease may be acquired the question to be decided is, *What shall be done with the lepers?* To leave them at their homes were to create just so many possible foci of disease, liable to communicate it to others about them, and by marriage or otherwise leave their puny offspring as a burden to relatives and a menace to the community. The present practice of admitting them to the Charity Hospital is an imprudence justified only by the necessities of the case.

A separate ward for them *within* the institution would still be a great risk to the inmates, and complete separation under the circumstances would be impracticable.

The only plan that seems likely to prove of permanent benefit to all concerned is *complete and permanent isolation of the lepers*. Science has moved very slow in this matter, and the ancient methods of Moses have not been superseded by anything better at the present day.

It is the universal experience, tested time and time again, that whenever hospitals for leprosy have been formed and the lepers separated from the rest of the community the disease has ceased to spread. This method was practiced long ago by the Jews; it was practiced in Europe in the middle ages; it is practiced now at Bergen in Norway, and at Molekai in the Sandwich Islands. Indeed there was once a hospital for lepers in the city of New Orleans,* which continued in existence until all its inmates were removed by death or transportation.

To accomplish segregation of lepers in Louisiana stringent laws must be enacted and certain general rules observed, for the creation of which the following propositions are suggested:

1. A hospital or lazaretto to be conducted at the expense of the State, and situated on high ground in the rear of the city; the same to be surrounded by a plot of ground which the inmates may utilize as a truck farm and for outdoor exercise.

2. Physicians throughout the State to be compelled by a law more urgent than the one now existing in Jewell's Digest (ordinance No. 6022, A. S., art. 41) for the city of New Orleans, to report to the Board of Health all cases coming under their knowledge, as well as occurring in their practice, of persons suffering from symptoms of leprosy or suspicious thereof.

3. A committee of experts, appointed by the Board of

*Gayarré's History of Louisiana, Spanish Domination, p. 167.

Health, to which shall be referred for diagnosis all persons so reported, and whose decisions shall be final.

4. When a case is decided to be leprosy it shall be sent to the lazaretto, to be there confined at the expense of the State ; all personal communication with the outside world to be interdicted, and intercourse with friends permitted only where bodily contact is impossible.

5. With clean, hygienic surroundings, substantial and wholesome diet, together with the means of active diversion and intelligent medical treatment, the pangs of separation from relatives will be felt less by the victims of the disease (who are too glad to hide themselves during its latter stages) than by relatives on the outside ; and the lives of patients, to which they are entitled, will thus be materially prolonged.

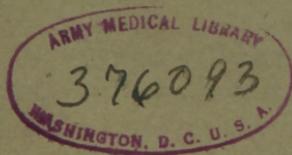
6. Lastly, by such segregation only can the community rid itself of a most loathsome, repulsive and unclean disease.

LEPROSY IN NEW ORLEANS.

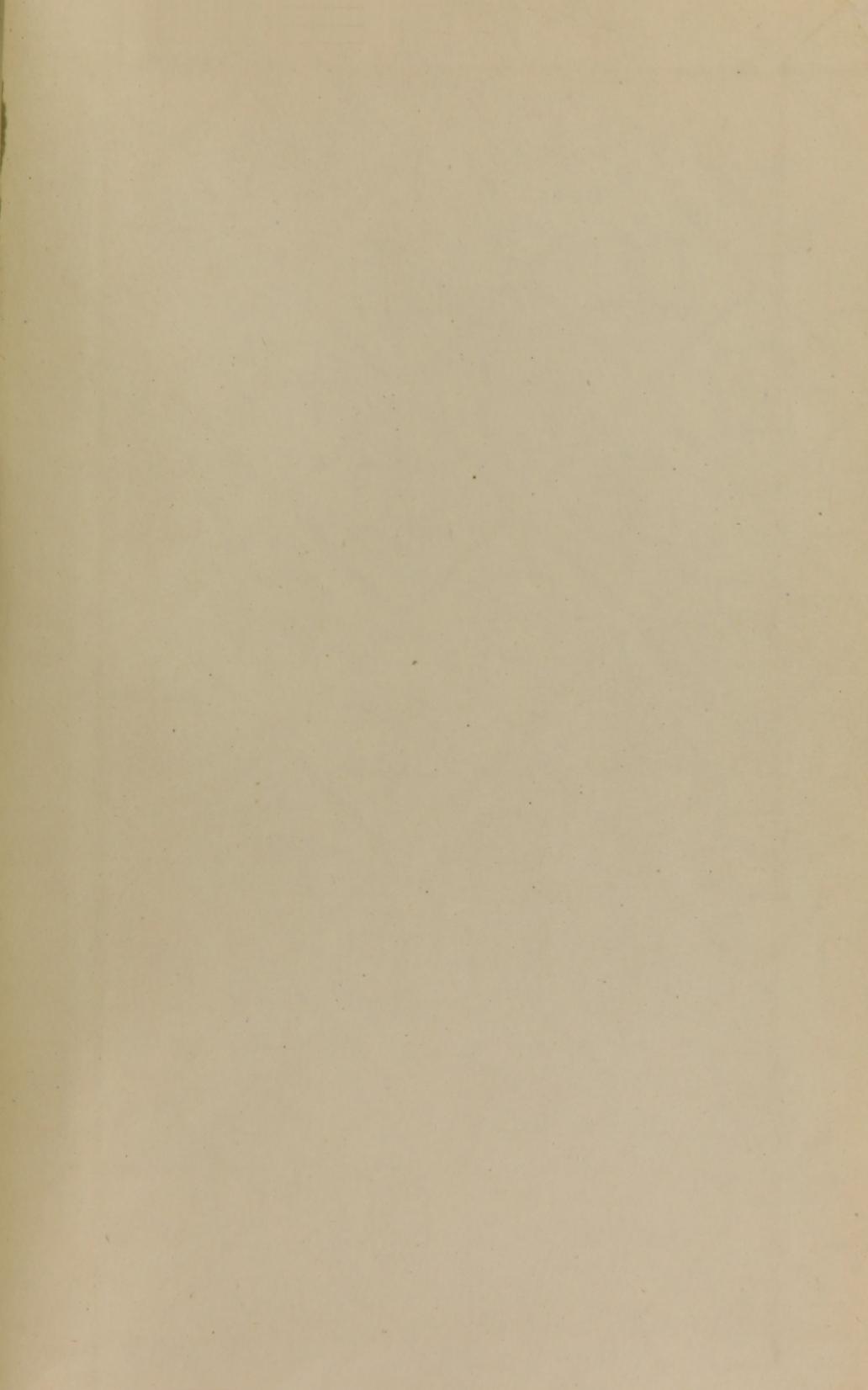
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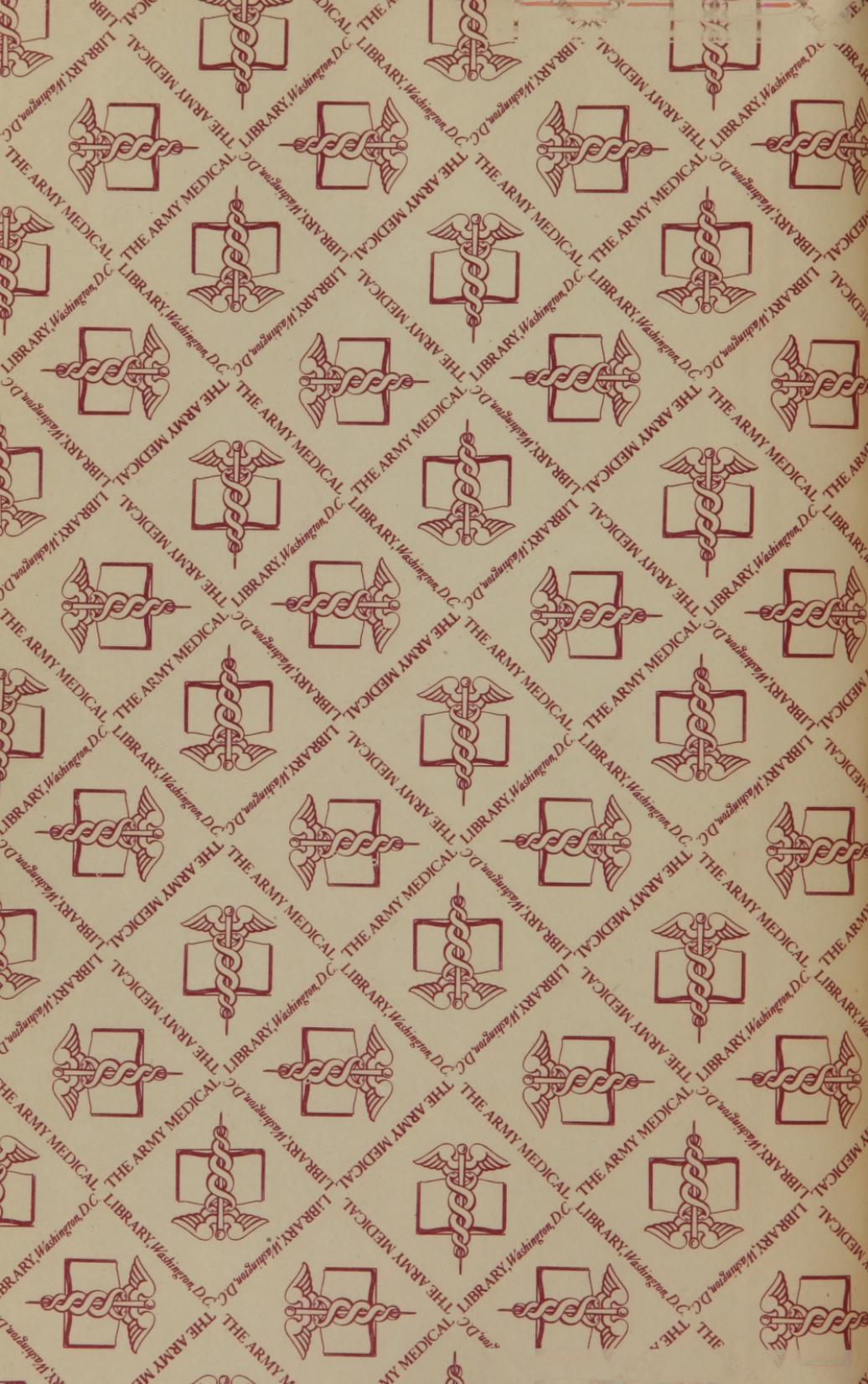
Dermatologist to Charity Hospital; Lecturer on Dermatology, Tulane University of Louisiana; Instructor in Skin and Venereal Diseases, New Orleans Polyclinic; Dermatologist to the Touro Infirmary.

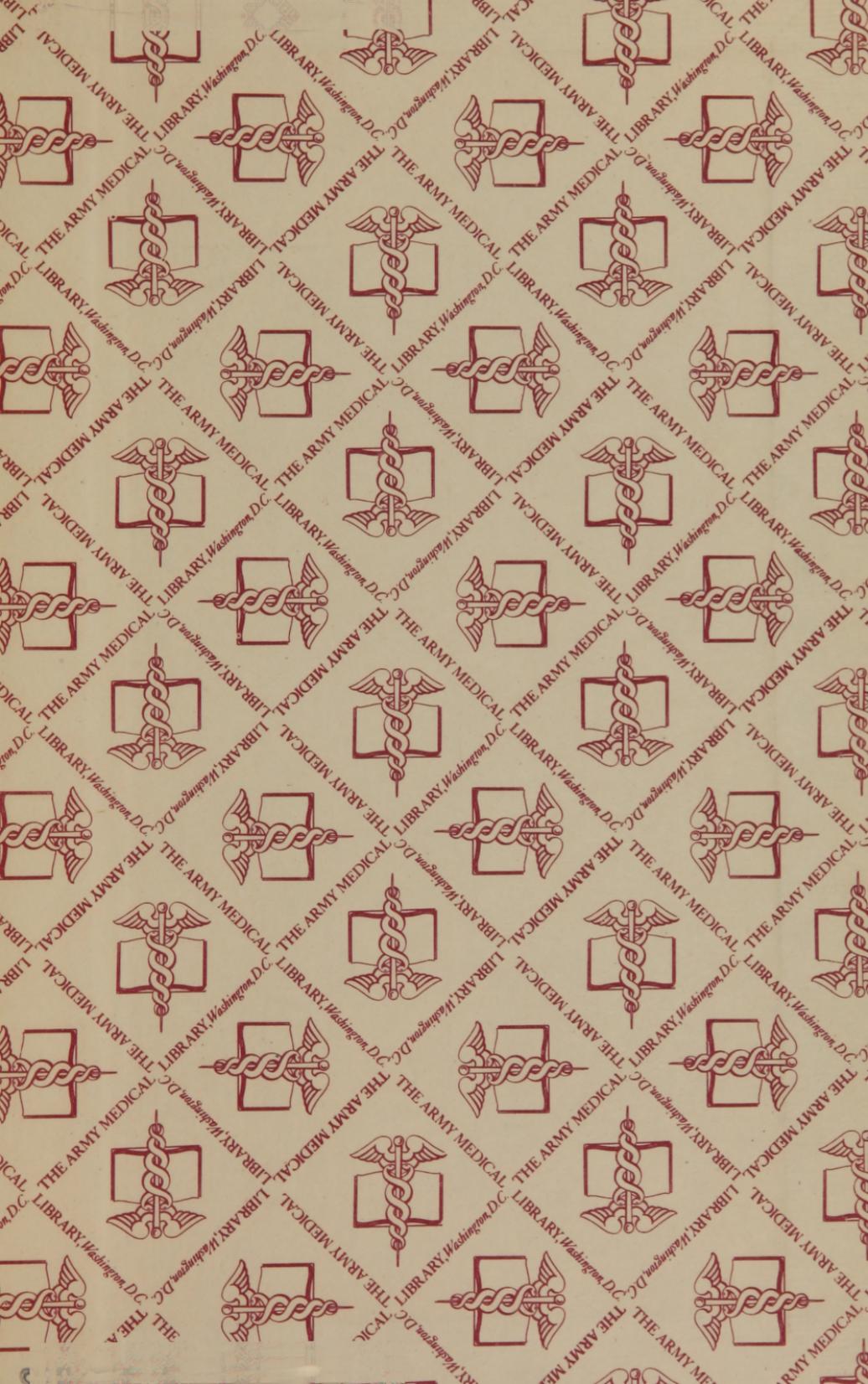
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