

ART. III.—*Notes of Cases of Remittent Fever which occurred in the Baltimore Almshouse Infirmiry, collected by W. F. ANDERSON, M. D., and CHARLES FRICK, M. D., Resident Physicians of the House. With an Analysis of the Cases, and Remarks, by ALFRED STILLE, M. D., of Philadelphia.*

[THE following cases occurred at the Baltimore Almshouse, in the summer and autumn of 1844. Their medical treatment was directed by Dr. Robinson, and their history and dissections recorded by Drs. W. F. Anderson and Charles Frick. They are particularly interesting, as going to confirm the observations originally made by Dr. Stewardson, and more recently by Dr. Swett, in regard to the anatomical characters of remittent fever. We may state that these characters have, still more lately, been confirmed by numerous dissections made, during the past season, at the several public institutions of Baltimore.]

CASE I.—Frederick Maunsell, ætat. 37, a German by birth, entered the hospital Friday, July 26. He has been for the last four months working at the Mine Banks. He was first attacked three weeks since, with a chill, followed by fever, violent cephalalgia, and ringing noises in his ears. Diarrhœa supervened a few days afterwards, with great prostration of strength. At the time of his entrance he had from one to three stools daily, great pain in his head, abdomen slightly tympanitic, pain over upper part of abdomen, febrile symptoms moderate, and the whole chest and abdomen covered with sudamina, interspersed with red spots, slightly raised, and which did *not* disappear on pressure. About his neck two or three of these had formed pustules. Carb. mag., and cups to epigastrium, were administered. On Saturday symptoms the same.

*Sunday*, 11 A. M. Patient lying on his back; complains of great prostration, violent headache; ringing noises in his ears; has had frequent stools during the morning, copious, fluid and green. Tongue coated in middle, red at tip and edges; abdomen tympanitic; pain on pressure over epigastrium; somnolency, alternating with low, muttering delirium. Has vomited this morning a greenish fluid. Pulse 120, small and frequent. 6 P. M. Delirium had increased; pulse almost imperceptible; eyelids half closed. In this state he remained, in spite of stimulants, till nine o'clock on Monday morning, when he expired.

*Autopsy* five hours after death.

*Brain*.—All parts, both substance and meninges, except dura mater, very much injected. No fluid in ventricles.

*Lungs*.—Healthy. *Heart*.—Softened, and lining membrane pale.

*Stomach* rather contracted. All about the cardiac part intensely injected, much softened, and of a darker colour than natural. The pyloric part injected, but not softened. It contained about four oz. of a dark fluid.

*Duodenum* at upper part injected. Brunner's glands observable.

*Ileum*.—Lower part much injected and softened. One of Peyer's patches perceptible.

*Spleen* three times its natural size, softened to a pulp, of a bluish-black colour.

*Liver*.—Somewhat enlarged, of a bronze slate colour. Cut surface polished, the two colours commingled, and whole texture softened, particularly left lobe. *Mesenteric glands*.—Healthy.

CASE II.—Henry Vettee, ætat. 62, a German by birth, entered hospital July 30. Has been at the Mine Banks for the last year. Four weeks ago he was attacked with a chill, followed by fever, which went off eight days since. He has had, from the first, diarrhœa, two or three fluid green stools daily, pain in his head, buzzing noises in his ears, and tympanitis, but no epistaxis, no vomiting, nor pain over abdomen. At the time of entrance, he had pain in his head, and buzzing noises in his ears, but no fever; skin cool, and pulse 72. Has had no stool for the last two days, but six the day preceding. Slight pain in right iliac region; moderate tympanitis; tongue glazed in centre with a brown streak. Complains of great weakness and somnolency. There is a subcrepitant râle at the bottom of both lungs behind, but no rose spots nor sudamina. He continued in nearly the same condition up to Thursday night, when his pulse began to fail, and he grew delirious. Gurgling could be detected in the right iliac fossa, and sordes appeared on his teeth. He now relapsed into a somnolent condition, and expired on Monday morning.

*Autopsy* ten hours after death.

*Heart*.—Softened; lining membrane pale.

*Lungs*.—Slight bronchitis at base.

*Stomach*.—Somewhat contracted, and contained about  $\frac{3}{4}$  of a yellowish-green fluid. At pyloric end the mucous membrane was thickened and softened, of a slate colour, and presenting a mammelonated appearance. A few of Brunner's glands were very perceptible. The duodenal mucous membrane was softened, and of a slate colour. Some of Brunner's glands elevated. Lower part of ileum injected. Peyer's patches perceptible.

*Spleen* five times its natural size, softened to a pulp, of a bluish-black colour.

*Liver*.—One-third larger than natural, its surface presenting an ashy, bronzed appearance, internally reddish-brown; cut surface polished, and the two colours commingled. Its right lobe so softened that the finger penetrated it with ease.

*Gall-bladder* twice its natural size, and distended with dark bile, resembling molasses.

*Mesenteric glands*.—Healthy.

CASE III.—Patrick M'Cormick, ætat. 40, entered the hospital on the night of August 19th, in a nearly comatose condition. Extremities perfectly cold; some little heat about his head; pulse quick, but very feeble. We afterwards learned that he had been working in Alexandria; that four days previous, he had had a severe headache and convulsions, and also a chill, three or four times on alternate days, but does not remember any fever. Stimulants were applied, which after a time brought on reaction. The patient slept well, and appeared better in the morning. Sulph. quinine was given through the day. Pulse 90, quick, and full; tongue covered with a thin, pale, white coat. He complains of no pain on pressure over any part of abdomen. Through the day he had two loose stools.

August 21st. Patient is not so well; slept badly; a good deal of stupor,

and a dull expression of face. Pulse 104, small, quick and feeble; skin hot; sordes on teeth; tongue covered with a thick light fur, with red edges. No stool during the night. During the visit a perceptible change occurred. His pulse sank, his skin grew cold, and covered with a sticky perspiration. This lasted a short time, when his pulse again rose, and his skin became hot. Quinine, blue mass, morphia and camphor were given every hour. The next morning the patient was evidently sinking, and in spite of stimulants he expired at 12 P. M.

*Autopsy* eight hours after death.

Body not emaciated; face and breast, with conjunctiva, tinged yellow.

*Lungs*.—Healthy; three oz. of serum in pericardium.

*Heart*.—Muscular substance softened; a ring of vegetations at base of mitral valve. Lining membrane paler than natural.

*Stomach*.—Contained a thin fluid, of a greenish-yellow colour; cardiac mucous membrane injected, of a bright red colour, but not softened. At pyloric end, of a dull slate colour, thickened and softened. Brunner's glands very prominent in the first six inches of duodenum.

*Ileum*.—Slightly injected at ileo-cæcal valve. The mucous membrane thickened, and softened over one of Peyer's patches, which was distinct.

*Spleen* six inches by four, of a bluish-slate colour; softened to a pulp, and crepitates between the fingers.

*Liver*.—Very much softened. Externally right lobe of a bronze slate; left lobe of a bluish-slate colour. Cut surface polished, and the two colours commingled. Right lobe very much softened.

*Gall-bladder* distended with a dark fluid resembling molasses.

**CASE IV.**—Joseph Holler entered the hospital from the Mine Banks, August 23, in a comatose condition. We afterwards learned that he had been sick for six days, having had a severe chill, followed by fever, every other day, and that he had several times vomited matter of a greenish colour. At the time of his entrance, his breathing was laboured, with a full tense pulse of 180, and his body covered with a profuse perspiration. He was immediately bled in the sitting posture to  $\frac{3}{4}$ vj, when his pulse became so feeble that it was necessary to close the orifice. His pulse soon returning to its former strength and frequency,  $\frac{3}{4}$ vij were abstracted by cups to the back of neck. Quinine, brandy, &c., were given by injection; ice to his head, and his body rubbed with dry capsicum. Under this treatment some reaction was produced; his pulse fell to 150; he expressed himself as better, but complained of great pain over the epigastrium, as evidenced by continually placing his hand there, and wincing when pressure was made. Soon after he commenced to sink; his pulse rose so that it could not be counted; breathing laboured, 48 in a minute; and at three o'clock he expired.

*Autopsy* six hours after death.

*External appearance*.—Joints rigid, body fleshy; surface of a decided yellow tinge, particularly body, neck and conjunctiva.

*Head*.—Membranes in a healthy condition, except some adhesions of dura mater to the calvarium. Substance of brain injected; the medullary portion speckled with small pink spots.

*Thorax*.—About  $\frac{3}{4}$ ij of fluid in the pericardium. The substance of heart softened, and lining membrane pale. Some old adhesions of pleuræ; parenchyma of lungs healthy.

*Abdomen*.—Large intestines distended with flatus.

*Ileum.*—Peyer's patches very distinct; some injection in the lower part; mucous membrane not softened.

*Duodenum.*—Mammelation of mucous membrane; glands of Brunner perceptible, and slightly enlarged.

*Stomach* contained  $\bar{z}$ ij of a yellow-coloured fluid; mucous membrane of the cardiac cul-de-sac injected, but not softened; at the pyloric end, mammelated, and thickened.

*Liver.*—Externally of a slate bronze colour; substance softened, particularly the right lobe; cut surface polished, and the two colours commingled; about one-third larger than natural.

*Gall-bladder* not distended, containing a grumous molasses-coloured fluid.

*Spleen* five times its natural size, of a dark purple colour, and softened to a pulp.

CASE V.—Jno. Coonman, ætat. 35, a German, entered the hospital Sept. 7, in a nearly comatose state. Supposing him to be suffering from the effects of drink, an emetic was prescribed. In the evening of the same day, after having vomited a greenish-coloured fluid, his condition was as follows. His mouth and fauces filled with a frothy mucus, which he was unable to get rid of by vomiting, and which threatened to strangle him; tongue moist, and covered with a yellowish-white fur; skin moist and hot; pulse full and bounding, 120 in the minute. No evidence of pain on pressure over any part of abdomen; no delirium, but stupor very marked; pupils contracted; sibilant and sonorous râles over all parts of chest. Sulphates of zinc and of copper were given without effect, and afterwards carb. of ammonia and brandy. He was then set in the erect posture, and bled  $\bar{z}$ x, with mustard plaster to trachea, under which his breathing became easier. Sulphate of quinine, brandy and carbonate of ammonia through the night. In the morning the patient was much improved; got up, and arranged his bed; said he came from the Mine Banks; had been sick a week, and was taken with a chill, and vomiting. Still very stupid; tongue coated, and yellowish-white; skin hot; pulse 108. This day and the next he remained nearly the same.

*Sept. 9th* (night). Found the patient lying on his back, eyes closed, perfectly comatose; hands, when raised, fall like inert masses; breathing very laboured, and stertorous, 50 in the minute; râles throughout the whole of his lungs; skin moist and hot; pulse full and bounding;  $\bar{z}$ xx of blood were abstracted without the slightest effect on his pulse. Another vein was opened shortly afterwards, and  $\bar{z}$ xxij taken. His breathing became less laboured, and slower; pulse had still considerable strength; patient comatose; pupils natural. Blister to nape of neck and abdomen; quinine, brandy and carb. ammon. through the night.

*10th.* Patient sensible, but stupid; skin hot; pulse better. Condition on the whole much better than the preceding night. Râles still continue. Quinine to-day, and the day following. Same state continues, and no distinct remission observable in the fever.

*11th* (night). Another well-marked congestive stage; symptoms like the preceding, but much aggravated. Pulse still frequent, but had lost its strength; tongue black in centre, and dry;  $\bar{z}$ ss doses of quinine were given by mouth and anus. He died twenty-four hours after the last attack.

*Autopsy* fourteen hours after death. *Joints* very rigid. Trunk, face and conjunctiva tinged with yellow.

*Brain.*—Membranes natural, except pia mater, which was infiltrated

with a turbid, yellow serum; cerebral substance injected; red points very perceptible. About  $\frac{3}{4}$ ij of serum in cavity of arachnoid.

*Thorax.*—Heart softened; internal membrane pale. Bronchial tubes filled with a frothy serum, and mucus. Mucous lining intensely injected.

*Abdomen.*—Peyer's patches perceptible in ileum. *Stomach.*—Bright red injection at cardiac end. Pyloric end of a dark slate colour; mucous membrane softened, and mammelonated; duodenal mucous membrane slate-coloured. Brunner's glands very perceptible.

*Liver.*—Slightly enlarged. Of a slate bronze colour externally, internally the two colours commingled. Substance softened, particularly right lobe. Cut surface shining. Gall-bladder distended with a grumous fluid, like molasses.

*Spleen.*—Four times larger than natural, of a dark blue colour, softened to a pulp.

CASE VI.—Andrew Shultz, *ætat.* 42, entered hospital from the Mine Banks, September 9, 1844. Has had fever and vomiting for more than a week, but no chill as well as he recollects. For three days has been half comatose. At present he lies on his back. Speaks with difficulty, very averse to answering questions; prostration great, much emaciation; tongue coated yellowish-white; body covered with cold clammy sweats; pulse 105, and feeble; remarkable fullness in lower part of right lung, and want of respiration. No pain over stomach, liver, or spleen; abdomen much sunken; applied blisters, and gave calomel, quinine, carb. ammonia, and camphor, &c. He remained in nearly the same condition, gradually becoming more prostrated, and his tongue blacker, until four days after his entrance, when he died. No remissions were observable.

*Autopsy* eight hours after death.

*Head.*—Membrane natural; cerebral substance injected; red points quite numerous. No serum in ventricles.

*Chest.*—Pleuritic attachment in right side. Lungs healthy, except slight emphysema.

*Heart.*—Substance softened. Lining membrane pale.

*Liver.*—Larger than natural, pushing up the diaphragm, and compressing the lungs; externally slaty bronze; right lobe much softened. Cut surface presents a shining appearance, and the two colours are commingled. In the substance of right lobe, about an inch below upper surface, there was a small cavity, with circumscribed walls, lined by a membrane about the size of a filbert, containing a clot of dark blood.

*Gall-bladder.*—Enormously distended, containing a fluid resembling molasses.

*Spleen.*—Five times its natural size, dark purple, and softened to a pulp.

*Stomach.*—Grayish slate at cardiac end, and mucous membrane softened; mammelonated at pylorus.

*Duodenum.*—Brunner's glands much developed, also Peyer's patches in ileum.

*Colon.*—Injected, and of a dark slate colour.

*External appearance.*—Joints *rigid*. Yellow tinge over whole body.

One point of interest in this case is the clot and cavity found in the right lobe of the liver. We learned that this man had had a similar attack of congestive fever in the hospital twelve months since. This would show

that the disease can occur twice in the same individual. How far can we consider this cavity and clot the remains of a previous softening?

CASE VII.—Thomas Moore, ætat. 45, entered hospital September 17, from the Mine Banks. Was taken on the 9th with a chill, followed by fever and a chill on the 10th. No vomiting, cough, or diarrhœa. Has taken calomel and jalap. When he entered he was delirious; pulse full and strong, 124 in the minute; and hot skin. Next morning pulse 92, and soft; no delirium, but great prostration. A decided yellow tinge over body.

(5 o'clock P. M.)—Patient comatose; pulse strong and full; contracted pupils; hot skin, and profuse perspiration. He was bled to  $\text{℥xxiv}$  in the sitting posture, with but little effect on his pulse, although his respiration, which was stertorous, became easier. Quinine in  $\text{ʒi}$  doses, carb. ammonia, and blisters were given, and continued through the night. But the collapse increased, his pulse became imperceptible, extremities grew colder, and he died at 8 A. M.

*Autopsy* eight hours after death.

Joints flexible; a decided yellow tinge over whole body.

*Head.*—About  $\text{℥iii}$  of serum between dura mater and arachnoid. Arachnoid slightly congested. Substance of brain healthy.

*Chest.* Bronchial tubes slightly reddened. Heart softened, and its lining membrane paler than natural.

*Abdomen.*—An effusion of blood into the cavity of peritoneum of about  $\text{℥xii}$ , which had the appearance of thick tar. Omentum and peritoneum intensely engorged.

*Stomach.*—Cardiac end softened and injected; mammelonated at pylorus. Brunner's glands perceptible in duodenum, and Peyer's patches in ileum.

*Liver.*—Externally of a light brownish slate. Cut surface shining and of a slaty bronze. The two colours commingled. No exudation on pressure. Right lobe much softened. Whole organ about one-third larger.

*Spleen.*—Enlarged to five times its natural size, dark purple, and softened to a pulp.

CASE VIII.—Joseph Smith, ætat. 36, entered hospital October 1st, 1844; comes from the Mine Banks; has been sick fourteen days; has had chills and fevers in the meantime, sometimes every day, at others every third day; has as yet taken no medicine. October 2d, at 11 o'clock, A. M.—He presents the following condition: lies on his right side, every muscle in his body quivering, skin and extremities warm and dry; pulse 160, feeble and quick; body, face and conjunctiva tinged yellow; breathing rapid and laboured, harsh respiration; tongue coated yellowish white, moist and clammy; no pain over liver, stomach, or spleen; bowels open; pupils contracted; perfectly sensible; (Æther and laudanum, brandy with carb. ammon., mustard plasters, &c.) In about an hour reaction came on; pulse became full and bounding, and vibrates with a peculiar thrill; skin hot and dry; tongue now brownish-yellow and very dry; still breathing rapidly, but less laboured. (Quinine in large doses, by mouth and anus.) 4 P. M.—Patient sweating profusely; pulse still full and vibrating; marked dullness in lower part of right lung; subcrep. râle diffused through both lungs, with mucous gurgle in larynx; tongue now moist and sticky. 6 P. M.—Condition about the same; mucous gurgle and râles continue; pulse lost its thrill, but still full and bounding; skin hot, with copious sweat; tongue again very dry, and dark yellow;

disposition to somnolency; pupils contracted and insensible to light; patient sensible when roused. (Quinine, now combined with calomel.) 8 P. M. —Condition now seems much worse; mucous secretion from his larynx threatens every moment to strangle him; sulphates of zinc and copper were given to relieve this condition, but had no effect. Skin still warm and moist; pulse full, but rather compressible. In spite of stimulants, which were constantly administered, he died about 11 P. M.

*Autopsy* eighteen hours after death. Limbs rigid, general yellow hue over surface, conjunctiva yellow.

*Head.*—Not examined.

*Chest.*—Some old adhesions between pleuræ. Bright red injection of bronchial and laryngeal mucous membrane. A large amount of frothy serum exudes from the cut surface of lung, and very abundant in smaller tubes. Lower half of right lung compressed by the enlarged liver, which presses up the diaphragm.

*Abdomen.*—*Liver* considerably enlarged, weighs five pounds; externally of a dark bronze and slate colour, internally the two colours are commingled; cut surface shining; right lobe particularly enlarged and very much softened. Gall-bladder moderately distended, containing bile of a dark straw colour. *Spleen* very much enlarged, six or seven times its normal size; weighs three pounds, softened to a pulp and having the colour and consistence of dark venous blood. Stomach distended with gas, containing about  $\text{ʒviii}$  of darkish yellow fluid, mucous membrane injected at cardiac and splenic portions; at pyloric orifice it was softened, thickened and of a dark slate colour, somewhat mammeloned. In the duodenum the glands of Brunner were decidedly enlarged. Peyer's patches very perceptible in the lower part of ileum, but healthy in every respect.

CASE IX.—Edward Naubauer, a German, ætat. 35, entered hospital October 3d, 1844, comes from Mine Banks; has had chills and fevers for a month. At present he is very anæmic, weak, and has pain over stomach; none over liver or spleen; bowels constipated; tongue smooth, and cold, not furred; countenance sallow; no headache; respiration healthy; skin cool. (Treated in the usual manner: stimulants, hot bricks to feet, &c.) Two days after this he had another distinct and well-marked paroxysm, cold extremities, full pulse, &c., lasting about an hour, and treated as before. After reaction took place, quinine was given in very large doses. On one day so much as  $\text{ʒj}$  every two hours, by *injection*; blisters were also applied over the abdomen, and at the back of the neck; he had no other distinct paroxysm; but on the fifth day from his entrance he became very delirious,—struck at the nurses, attempted to leave his bed; cups were applied to the back of the neck, which relieved this condition for the moment; after this he became comatose, had subsultus, &c. &c. Some hours before death the conjunctivæ became *intensely injected*,—mucous rattle appeared, and he died on the sixth day after his entrance.

*Autopsy* ten hours after death. Surface of body and conjunctivæ had a yellowish tinge. *Joints rigid.*

*Head.*—Slight serous effusion in cavity of arachnoid. Pia mater slightly injected and in some portions infiltrated with turbid milky serum. Substance of brain not softened, but presents red points on its cut surface.

*Chest.*—*Lungs* perfectly healthy. Heart contained large fibrinous concretions in each ventricle. Substance very slightly softened.

*Abdomen.*—*Liver* externally of a mingled bronze and slate colour. *Cut*

*surface* red and shining, some engorgement, blood exudes on pressure, very much softened, right lobe especially, two colours commingled,—organ weighed five pounds. Gall-bladder moderately distended, contains a dark grumous fluid like molasses.

*Spleen.*—Twice its natural size; when cut into, a reddish substance exudes; its texture not softened. Weighed one pound.

*Stomach.*—Contains about  $\zeta$ iv of a dirty yellowish green fluid. Mucous membrane partially injected, and softened at pyloric orifice. Brunner's glands enlarged at the latter portion, and also in the duodenum.

**CASE X.**—Edward Howard, *ætat.* 35, an Irishman, from the Necks about the mouth of the river Patapsco, a malarious district, came into the hospital Oct. 11, 1844, at 7 P. M. Of his previous history nothing could be learned but that he had been sick two or three weeks before with fever and occasionally chills. At the time of his entrance he was perfectly comatose; eyes closed, pupils turned upwards and do not respond to light; extremities cold; breathing almost imperceptible; pulse very small and frequent. Stimulants were administered by mouth and anus, his whole body rubbed with dry capsicum, and a blister applied to the nape of the neck. After the lapse of an hour another to the abdomen. These means were continued some hours, when partial reaction came on; but although he could speak he could give no account of himself. His tongue was covered with a dark coat and very dry, and he complained of pain on pressure over stomach; none over liver or spleen. Some doses of calomel and a solution of quinine, but he commenced sinking the next morning, and expired about 5 o'clock, P. M. The following note was taken on the case about an hour before death: patient lies on his back; skin warm and covered with a clammy perspiration; breathing rapid and stertorous, with frequent hiccup; pulse frequent and scarcely perceptible; pupils contracted; patient perfectly insensible.

*Autopsy* twenty hours after death. Body and conjunctivæ tinged yellow. Joints rigid, muscles firm and dark.

*Head.*—Pia mater injected slightly. Cut surface of cerebral substance dotted with red points.

*Chest.*—Some old adhesions. No organic lesion in lung. Mucous membrane of larynx and bronchia injected. *Heart* flabby. Its substance, particularly the walls of left ventricle, softened. Lining membrane pale.

*Abdomen.*—*Liver* rather larger than natural. Numerous adhesions between it and walls of belly. Externally dark bronze and olive; internally redder, and much softened, cut surface shining, but the two colours were distinguishable. *Gall-bladder* moderately distended with dark grumous bile. *Spleen* enlarged two and a half times its usual size, and softened. *Stomach*, mucous membrane throughout of a dark slate colour and softened. Mammelonated at pyloric end. Brunner's glands perceptible. Mucous membrane injected, but not softened over Peyer's patches.

**CASE XI.**—John Coyle, *ætat.* 45, from Mine Banks, entered hospital September 21, 1844; says he had chills and fevers two or three weeks since; two days ago he had again another chill succeeded by headache, fever and vomiting; has been drinking freely for some time past. When seen Saturday morning, his state was as follows: lies on his back; face and eyes red and flushed; skin hot and dry; pulse 124; tongue coated yellowish white, edges and tip red; tenderness on pressure over right hypochondrium, not so



over spleen or stomach; three or four stools daily, black; complains of great headache; has cough; lower part of right lung dull on percussion in front and behind; diminution of respiration in same part; slight sonorous râle in upper portion of same lung; complains of great oppression in lower part of this lung; left side normal; (cups over liver and stomach and along the upper portion of spine: calomel grs. xx at once, also small doses of calomel, ipecac. and quinine, every two hours.) 8 o'clock P. M., symptoms about the same; medicine operated freely; headache still, and vomiting of green bitter bile. 22d, 9 A. M. Skin dry; frequent passages during the night; pulse full and about 100; tongue furred yellowish-white, edges red; right lung in same condition; patient feels about the same; still has cough but expectorates nothing; headache diminished, (calomel ʒss; the other treatment continued.) 23d, and 24th, and 25th. His symptoms are about the same; he constantly complained of pain and oppression in right lung, the lower part of which was still dull on percussion; no râles, however, were yet detected. 26th.—Oppression very great in right lung; pulse 100; auscultation detects a friction sound in lower part of right lung behind, also subcrep. râle in middle and upper part behind; dullness now over the whole lung, more marked in front; bronchial almost tubal blowing in some parts of the lung; patient coughs frequently, expectoration of a prune juice colour; bowels open three or four times in the twenty-four hours; tongue found yellowish in back part. (Cups and blisters, calomel, quinine and ipecac.) 27th.—No alteration in symptoms; expectoration still copious, same colour; yellow coat disappeared entirely from tongue; pulse upwards of 100, and rather feeble. 28th.—Patient evidently declining; expectorates copiously muco-purulent matter of a dark chocolate colour; breathing rather laboured; pulse weaker and quicker; (stimulants of carb. ammon., quinine, wine whey, blisters, &c., were ordered). He died two hours after the visit, sensible to the last.

*Autopsy* twenty-two hours after death. Joints rigid, ecchymosed spots in depending portions of body. *Head*.—Not examined.

*Chest*.—The whole of right lung in the third stage of pneumonia; pulmonary abscesses occupy upper and middle lobes; bands of vessels and cellular tissue traversing the cavity; no tubercles were discovered. The left lung presented a remarkably corrugated appearance in its upper lobe, seeming like a cicatrized cavity; on cutting through this portion it almost creaked under the scalpel, and seemed to be composed of hard fibrous tissue.

*Abdomen*.—*Liver* externally of a light brownish pink, internally darker, and the two colours commingled, its tissue softened throughout. *Gall-bladder* not distended, and containing a light yellow and thin fluid. *Spleen* neither enlarged nor softened. *Stomach*.—Mucous membrane very much injected, of an ashy slate colour in some portions, and not softened. *Duodenum*.—Brunner's glands enlarged. *Ileum*.—Peyer's patches perceptible; mucous membrane injected over them but not softened.

CASE XII.—Henry Stretchel, a German, ætat. 32, came into hospital September 20th, 1844, with remittent fever, with which he had been sick ten days. After two weeks convalescence was so far established as to enable him to walk about the hospital. A few days after this a severe attack of dysentery came on, which, owing to his debilitated condition, terminated fatally in twenty days.

*Autopsy* ten hours after death. *Head* not examined.

*Chest.*—Lungs tuberculous in their upper lobes. *Heart.*—Softened. *Abdomen.*—*Stomach.*—Mucous coat softened throughout. Bright red injection near pylorus. Some of Brunner's glands very perceptible in commencement of duodenum. Small intestine not examined. *Colon.*—Numerous ulcers throughout, increasing in size and number as we approach the rectum. Some of them extend to the peritoneal coat. *Liver.*—Of a natural size, of a brownish yellow colour, resembling incipient cirrhosis. Hypertrophy of yellow substance, softened in right lobe; when torn has a granular appearance. *Gall-bladder.*—Moderately distended with lightish coloured fluid bile. *Spleen.*—Rather larger than natural; reddish substance exudes from cut surface, disappears under a brisk stream of water. Its texture not softened.

Case XI is an interesting one in this point of view, viz., that he came from an extremely malarious district, and presented, moreover, all the symptoms of remittent fever when he entered the hospital. Could this possibly have been a case of pneumonia, *modified only* by the malarious district from which he came? There is certainly a most remarkable difference between this liver and that of Case XII, though both present the characteristic element, viz., softening. Should we not expect to find a difference between the two, considering the relative period from the commencement of the disease at which the autopsies were made?

[*Remarks.*—The number of the cases in this series is not large enough, nor is the history of the symptoms in them minute enough, to serve as the groundwork for a full description of remittent fever. But the cadaveric appearances were so very uniform, and correspond so closely with those described by previous observers, as to acquire a degree of importance entitling them to a separate analysis. We shall not, however, attempt more than to bring together the most important and similar features of the several cases. The 11th and 12th cases we shall not include in this summary, the one appearing to be a case of pneumonia, occurring some time after an attack of intermittent, or possibly remittent fever, and the other a case of dysentery coming on during convalescence from remittent fever.

*Brain.*—This organ was examined in seven out of the ten cases, and in *all* of them, either its membranes or its substance was found injected, and in two of them there was moderate effusion in the cavity of the arachnoid.

*Lungs.*—In one-half of the cases, the lungs are described as healthy, and in the other half there was more or less intense redness of the bronchia, and, in one case, of the larynx. But this condition does not seem to have been accompanied with cough during life, and its inflammatory nature may therefore well be doubted.

*Heart.*—The heart was examined in nine cases, and in *all* of them its muscular tissue was found to be more or less *softened*. The only one in which this condition was not remarkable, (Case IX,) also presented large fibrinous concretions in both ventricles. The patient had been "very deli-

rious," and some portions of his pia mater were found "infiltrated with a turbid milky serum."

*Stomach and Intestines.*—The stomach generally contained from two to four ounces of a dirty yellow fluid. The mucous membrane was found to be injected in seven out of the nine cases in which it was examined, and in three of them intensely so. In five cases it was softened near the cardiac extremity, and in four near the pylorus, where also it was for the most part grayish, thickened and mammillated. In every instance Brunner's glands were unusually developed, and in three cases to a remarkable degree. The glands of Peyer were constantly healthy, but generally visible.

*Spleen.*—In *all* the cases, without exception, the spleen was very much enlarged, being from two to six times larger than natural. In one instance it weighed three pounds. In nine out of ten cases it was very soft or pulpy, and of a bluish black colour.

*Liver.*—The size of the liver was noted in nine cases, in all of which it was unnaturally large. Its consistence was very much diminished in ten cases, in eight of which the right lobe was the principal seat of the alteration; in one the left lobe was chiefly affected, and in the remaining one the whole organ was softened. In *all*, the colour of the liver was either bronzed, or like that of slate; the surface of a section was polished or shining; and in every instance but one, the different colours of its component parts could not be distinguished. In seven out of eight cases in which the state of the *gall-bladder* was recorded, this receptacle was *distended* with thick grumous bile, resembling molasses. In the eighth case it was moderately distended with straw-coloured bile.

From this summary we may now conclude that the cases of remittent fever under examination presented the following lesions uniformly; to wit, 1st. Congestion of the brain; 2d. Softening of the heart; 3d. Softening of the mucous membrane of the stomach; 4th. Softening of the spleen, with enlargement; 5th. Softening of the liver, with enlargement, and a bronzed or slate-like hue of that organ, and distension of the gall-bladder with inspissated bile.

Of all these morbid alterations the only one peculiar to remittent fever is that of the liver, which was for the first time pointed out, and so well described by Dr. Stewardson, and which the present series of cases, taken along with those previously observed by himself and by Dr. Swett, justifies him in regarding as the *anatomical characteristic* of the disease. But it does not stand alone. The spleen, the stomach, the heart, and the brain, are all diseased, and what is still more remarkable, they, with the liver, have one lesion in common, viz., softening. The hepatic alteration is evidently not that to which the symptoms of remittent fever can be referred as a cause. Our knowledge of the phenomena attending inflammation of the liver on the one hand, and of the close analogy existing between remittent fever and intermittent fever (in which the liver is unchanged), on the other, for-

bids such a supposition. The bronzed and slaty hues of this organ are pretty certainly due to the congestion of its biliary ducts with bile, and of its veins with blood, so that its softening only remains to be studied, as well in its origin as in its effects. But this softening, as already remarked, is common to it and to several other organs. The question is therefore enlarged, and we have next to inquire to what ought the diminished consistence of these several organs to be attributed? Here are two parenchymatous structures, (the liver and spleen,) a mucous membrane, (of the stomach,) and a muscle, (the heart,) softened in the same disease. It will not be pretended that the change is due to inflammation; for the symptoms of this condition, as it occurs in the several organs, are wanting. Is it owing to a cause like that which produces softening in typhus fever, and in all diseases of a typhoid type? in one word, is it due to an alteration of the blood?

At this point our facts fail; for in most of the reports of dissections in remittent fever, little or nothing is said of the state of the blood, and but little of the consistence of the solids. Dr. Stewardson, indeed, suggests "that an altered condition of the blood, combined, perhaps, with some softening of the tissue" of the lungs, may have given rise to an effusion of bloody serum noticed by him; he also notes the "flabbiness" of the heart in some instances, and the absence of firm fibrinous coagula in all, and remarks that "it is perfectly evident that the blood in this disease is the seat of morbid changes which deserve attention;" and, again, that to the state of this fluid "we must no doubt look, in part, for an explanation of the fatal termination in some cases." These observations and surmises are strengthened by the above series of cases; for in them softening of the liver and heart especially, appears to have been more uniformly observed by Dr. Frick than it had been by either of the gentlemen whose names have been mentioned before. But no certain inference can be made from the materials which now exist. Had observers recorded fully all that their cases presented, instead of so much, only, as appeared to bear upon a single point of their history, we should not now have to leave unanswered the main questions relating to the pathology of remittent fever. We therefore call upon all such as have the opportunity to study this disease, to furnish complete accounts of what they witness, detailing minutely all the symptoms that occur during life, and all the changes detected after death, not contenting themselves with confirming previous observations, but rather endeavouring to add some new truths to those already established. This is a subject of serious interest, for on its proper investigation must depend the lives of hundreds every year. A study of the pathology of remittent fever will not, indeed, lead us *directly* to a successful plan of treating the disorder, but *indirectly* it will so lead us, by showing its resemblance to some class or classes of disease of which the therapeutic management has been settled by experience. It may, it probably will, show us that the malady is not everywhere identical, and it will distinguish the cases to which one, and those to which

another, treatment is applicable. It will also teach us what are causes, and what effects, in the several links of its morbid chain of symptoms and lesions, a knowledge which, at present, we are very far from possessing. The points to which we beg leave earnestly to direct the attention of observers, are the following: 1st. The precise circumstances of the commencement of an attack of remittent fever, including external relations, and symptoms properly so called. 2d. The state of the blood in the several stages of the disease determined according to the method pursued by Andral and Gavarret, and its condition in the vessels and heart after death. 3d. Chemical analyses of the blood, urine and bile; and 4th. The consistence of the solids, especially of the brain, lungs, heart, liver, spleen and kidneys.

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ART. V.—*On the Connection between Puerperal Fever and Epidemic Erysipelas, in its origin and mode of propagation.* By SAML. KNEELAND, JR., M.D., of Boston.

FOR the solution of the question, whether puerperal fever has any connection with epidemic erysipelas in its origin or mode of propagation, and for the proper explanation of our views, it will be necessary to determine what is meant by the terms puerperal fever and erysipelas. Let us accordingly make a brief statement of the opinions of different authors, from Hippocrates to the present time; and see, if, by comparing the phenomena of the various epidemics, we cannot bring this collection of separate and even opposite opinions into something like order and agreement.

Hippocrates, in his epidemics, gives several observations of puerperal fever; but he makes it depend on an inflammation of the uterus, produced by a suppression of the lochia, or a difficult labour—this opinion has been followed by Galen, Celsus, Paul of Egina, Albucasis, Mercatus, Avicenna, Mauriceau, Sydenham, Boërhaave, Fred. Hoffman, &c. Others accuse a metastasis of the milk—as Willis, Puzos, Levret, Sauvages, Van-Swieten, Doublet, Vigaroux. Peu, White, Tissot, Alph. Leroy, Manning, have referred it to a degeneration of the fluids, and have considered it analogous to adynamic and putrid fevers—Stoll, Finck, Doulcet, to an ataxic malignant fever—Walsh, Ant. Petit and Selle, to the accumulation of bilious matter in the abdominal viscera—Hulme, Leake and Delaroché, make it out the result of inflammation of the intestines, the mesentery, or the epiploon.

In 1776, Hunter perceived that the peritoneum frequently presented alterations, in the abdominal affections after delivery, while the organs covered by it were in a healthy state; this opinion was followed out by