SOUTHERN

MEDICAL AND SURGICAL JOURNAL.

EDITED BY

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MEDICAL COLLEGE OF GEORGIA.

"Je prends le bien où je le trouve."

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1858.
ORIGINAL AND ECLECTIC.

ARTICLE XVIII.

Observations on Malarial Fever. By Joseph Jones, A.M., M.D.,
Professor of Physics and Natural Theology in the University of Georgia, Athens; Professor of Chemistry and Pharmacy in the Medical College of Georgia, Augusta; formerly Professor of Medical Chemistry in the Medical College of Savannah.

[Continued from p. 449 of July No., 1858.]

Case XV.—Irishman, age 18; brown hair; brown eyes; height 5 feet 6 inches; weight 125 lbs.; well developed chest. Occupation bar-keeper in a sailor's boarding-house on the bay. Five days ago, attended a boat race at Thunderbolt, and slept for two nights in an open boat. The second morning, after waking, felt very badly, and vomited.

Sept. 11th, 8 o'clock P.M. Tongue slightly furred, not redder than normal. No tenderness upon pressure of epigastrium.

<table>
<thead>
<tr>
<th>Pulse</th>
<th>116</th>
<th>Respiration, 30 thoracici.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. Calomel, grs. xii. Castor oil in four hours. R. Soda powders, Flaxseed tea. Diet, gruel. R. As soon as fever remits, give sulphate of quinia grs. v. every three hours, up to grs. xx.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sept. 12th, 12 o'clock M. Says that he feels much better; medicine acted four times. Skin cool; tongue very slightly coated with white fur; papillae not enlarged; pulse 84, soft and regular; respiration 24, gentle. Says that the fever went off about 1 o'clock this morning.

N.S.—VOL. XIV. NO. VIII. 26
Temperature of Atmosphere, 83° F. Has taken ten grains of the sulphate of quinia. 

Amount of Urine collected during the last 16 hours, grains 7,126.

Without doubt, some urine was lost during the action of the medicine. Specific gravity 1018. High colored. Reaction decidedly acid. After standard 48 hours, there was only a slight deposit of vegetable cells.

<table>
<thead>
<tr>
<th>ANALYSIS XVII</th>
<th>Urine collected during 16 hrs., grs. 7126</th>
<th>Calculated am&quot; of urine for 24 hours, grs. 10689</th>
<th>1000 pts of urine contained grs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>6766-102</td>
<td>10149-153</td>
<td>949-495</td>
</tr>
<tr>
<td>Solid Matters</td>
<td>389-898</td>
<td>539-847</td>
<td>500-505</td>
</tr>
<tr>
<td>Urea</td>
<td>203-700</td>
<td>305-550</td>
<td>28-585</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>A trace</td>
<td>A trace.</td>
<td>A trace.</td>
</tr>
<tr>
<td>Extractive &amp; col. matters</td>
<td>110-937</td>
<td>165-596</td>
<td>15-512</td>
</tr>
<tr>
<td>Fix'd Saline Constituents</td>
<td>45-801</td>
<td>68-701</td>
<td>6-408</td>
</tr>
</tbody>
</table>

The disappearance of the uric acid could not have been due to the action of the sulphate of quinia, for the greatest portion of the urine had been passed before the administration of the sulphate of quinia. 8½ o'clock P.M. Pulse 100, fuller. Respiration 24.

Temperature of Atmosphere, 82° F. Tongue slightly furred. Urine clear, hand 102°12', high colored—a shade lighter than that under tongue, 103°9'. Passed this morning. Sp. Gr. 1022.

Amount of urine excreted during the last 8 hours, grains 6138.

Sept. 13th, 11 o'clock A.M. Did not rest well during the night. Tongue moist and slightly coated with fur. Pulse 98. Respiration 26. Respiration irregular, every half minute draws a long, full inspiration.

Temperature of Atmosphere, 82° F. B. Citrate of Potassa, grs. 3.

As soon as fever remits, give sulph. of quinia grs. xx.

Amount of urine excreted during the last 15 hours, grains 7154.

5½ o'clock, P.M. Pulse 90. Respiration 28. Urine high colored.

Specific Gravity 1022.

September 14th, 1 o'clock, P.M. Tongue slightly coated with white fur, moist and natural in appearance. Skin moist and cool. Pulse 65, regular and soft. Respiration 24, regular. Color of urine much lighter.
Specific Gravity 1021.

Temperature of Atmosphere, 85° F.

" Hand, 96

" under Tongue, 98

Amount of Urine passed during the last 20 hours, grains 10210

Amount of Urine excreted hourly, " 12252

R Quassia

Amount of Urine excreted hourly, " 510:5

and soda.

September 15th, 10 o'clock, A.M. Much better; dressed and walking about the Hospital grounds. Pulse, skin, respiration, and tongue, normal. Urine orange colored, much lighter than the former specimens passed subsequent to the first stage of febrile action. Specific Gravity 1019.7. Reaction after twelve hours, alkaline. Heavy light yellow deposit of urate of soda, and prismatic crystals of triple phosphate. The crystal of triple phosphate numerous and beautiful. Up to the present time, the reaction of the urine has been very acid, and it has remained without deposit for many hours.

Amount of urine collected during last 20 hours, grains 11726
Calculated amount of urine for 24 hours, " 14071
Amount of urine excreted hourly, " 586:3

<table>
<thead>
<tr>
<th>ANALYSIS XVIII.</th>
<th>Grs. 11726 of urine excreted during 20 hrs., contain'd grs.</th>
<th>Grs. 14071:5 of urine calculated for 24 hrs. contained, grains</th>
<th>1000 parts of urine contained,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water,</td>
<td>11291:344</td>
<td>13586:613</td>
<td>962:887</td>
</tr>
<tr>
<td>Solid Matters,</td>
<td>435:206</td>
<td>521:247</td>
<td>37:113</td>
</tr>
<tr>
<td>Urea,</td>
<td>161:047</td>
<td>200:016</td>
<td>13:792</td>
</tr>
<tr>
<td>Uric Acid,</td>
<td>8:624</td>
<td>10:350</td>
<td>0:735</td>
</tr>
<tr>
<td>Extractive and coloring matters,</td>
<td>204:291</td>
<td>237:109</td>
<td>17:832</td>
</tr>
<tr>
<td>Fixed Saline Constituents,</td>
<td>60:644</td>
<td>72:772</td>
<td>5:154</td>
</tr>
</tbody>
</table>

The patient left the Hospital a few hours after these observations. He entered the Hospital again on the 18th of October, with a severe attack of remittent fever.

CASE XVI.—Irish seaman: black hair, black eyes, and florid complexion; height 5 feet 11 inches; weight 175 lbs. Has been staying on board the light ship and running up and down the Savannah River, at all hours of the day and night. Says that he resided six years at Panama, but was never sick. Was taken with chill and fever two days ago, and the captain of the light ship gave him several doses of drastic medicine.

September 5th, 7 o'clock, P.M. Has fever. R James' powder, grs. xviiij., nitrate of potassa, grs. xxx.—Mix and divide into six powders, one powder every three hours.

September 6th, 1 o'clock, P.M. Has just had a chill, which in fact is not yet entirely off. He is still shaking. Tongue coated with light yellow fur, pale at its edges. Complains of pain in his head. Epigastrium tender upon pressure; extremities cool; head and trunk warm. Pulse 118. Respiration varies from 20 to 32.
Three cut cups to epigastrium. R Spts. Mindere-rus grs. 5s. every half hour. 

Temperature of Atmosphere, 85°F. Hand, 96°. Under Tongue, 101°5′.

6 o'clock, P.M. Cupping relieved the tendency to vomit. Skin hot, although moist. Pulse 120. R Soda powders. R Sulph. of Quinia, grs. xv.

September 7th, 10 o'clock, A.M. Did not rest well; "bowels are quite loose." Has taken ten grains of sulph. of quinia. Pulse 98. Respiration 28. Urine clear, high colored. Specific Gravity 1021.

Temperature of Atmosphere... 80°F. Hand... 100°. Under Tongue... 104°.

The whole amount of urine passed was not collected, on account of the affection of his bowels. After standing 36 hours, there was a small deposit of crystals of triple phosphate and urate of soda.

<table>
<thead>
<tr>
<th>ANALYSIS XIX.</th>
<th>1000 parts of Urine contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>936:047</td>
</tr>
<tr>
<td>Solid Matters</td>
<td>63:953</td>
</tr>
<tr>
<td>Urea</td>
<td>34:995</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>0:705</td>
</tr>
<tr>
<td>Extractive and Coloring Matters</td>
<td>21:277</td>
</tr>
<tr>
<td>Fixed Saline Constituents</td>
<td>6:976</td>
</tr>
</tbody>
</table>

Sept. 7th, 7 o'clock P.M. Skin warm and moist; tongue slightly coated; no pain upon pressure of epigastrium. Has taken 15 grs. of quinine and 2 grs. of opium this morning. Bowels have not been moved since this morning. Pulse 108; respiration 24.

Temperature of Atmosphere... 82°F. Hand... 103°7'5''. Under Tongue... 105°. Urine clear, high colored. After standing 39 hours, there was a small deposit of the urate of soda. Specific Gravity 1020.8.

<table>
<thead>
<tr>
<th>ANALYSIS XX.</th>
<th>Urine excreted in 9 hours, grs. 2552 contained grains</th>
<th>Calculated amount of urine for 24 hours, grs. 6808 contained grains</th>
<th>1000 parts of urine contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>2402:683</td>
<td>6405:664</td>
<td>941:490</td>
</tr>
<tr>
<td>Solid Matters</td>
<td>149:317</td>
<td>397:968</td>
<td>58:610</td>
</tr>
<tr>
<td>Urea</td>
<td>81:660</td>
<td>217:705</td>
<td>31:976</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>1:000</td>
<td>2:666</td>
<td>0:391</td>
</tr>
<tr>
<td>Ext. and coloring matters</td>
<td>54:422</td>
<td>144:988</td>
<td>21:356</td>
</tr>
<tr>
<td>Fixed Saline Constituents</td>
<td>12:235</td>
<td>32:611</td>
<td>4:787</td>
</tr>
</tbody>
</table>

Sept. 8th, 9 o'clock A.M. Says that he feels much better. Rested well during the night. Bowels have been moved twice. Tongue clean at tip and edges, superior portion slightly coated with fur; color of tongue paler than normal; skin cool, moist and relaxed. Pulse 78; respiration 18.
Temperature of Atmosphere, ..., 75° F.}  Urine high colored. Sp. Gravity
" Hand, ... 98°5' 118°7. After standing 26 hours,
" under Tongue, ..., 100°5' 2. triple phosphate were deposited.
Amount of urine passed during the last 14 hours, ... grs. 12224
" " " hourly " " " " 873
Calculated amount of urine for 24 hours, .................. 20903
Actual amount of urine excreted during the last 24 hours, " 14776
" " " " hourly, " " " " 615

<table>
<thead>
<tr>
<th>ANALYSIS XXI.</th>
<th>Grs. 12224 of Urine passed during last 14 hrs., contained grains</th>
<th>Grs. 20003 of Urine, calculated for 24 hrs., contained grains</th>
<th>Grs. 14776 of Urine, actual amount excreted in 24 hrs., contained grains</th>
<th>1000 pts. of Urine contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>11613-180</td>
<td>19856-093</td>
<td>14015-863</td>
<td>950-000</td>
</tr>
<tr>
<td>Solid Matters</td>
<td>615-220</td>
<td>1047-631</td>
<td>760-537</td>
<td>50-000</td>
</tr>
<tr>
<td>Urea</td>
<td>279-360</td>
<td>477-705</td>
<td>361-020</td>
<td>22-852</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>3-240</td>
<td>5-540</td>
<td>4-240</td>
<td>0-285</td>
</tr>
<tr>
<td>Extractive and coloring matters,</td>
<td>272-388</td>
<td>466-885</td>
<td>326-810</td>
<td>22-283</td>
</tr>
<tr>
<td>Fixed Saline Constituents,</td>
<td>56-232</td>
<td>96-157</td>
<td>68-467</td>
<td>4-600</td>
</tr>
</tbody>
</table>

12 o'clock, M. Has just exhibited a rising upon the buttock. When lanced, f3ii, of fetid black matter flowed. & Sulph. of quinia, grs. v. Diet, beef soup and tea.

6 o'clock, P.M. Complains of great weakness. Pulse 88. Respiration 18. Extremities are much colder than the head and trunk. The phenomena resemble those of chill. He does not, however, complain on any chilly sensation.

Temperature of Atmosphere, 76° F.} Urine high colored. After twenty-
" Hand, ... 93° 4 four hours, a heavy deposit of urate
" under Tongue, ..., 104°5' of soda and triple phosphate.
Amount of urine excreted during the last 9 hours, grs. .................. 6127
" " " hourly .................................................. 680.7
" " " during the last 24 hours, " 18351
" " " hourly " " " " 764.4
Calculated amount of urine for " " " " 16335
Hourly .................................................. 680
Specific Gravity 1021.2.

<table>
<thead>
<tr>
<th>ANALYSIS XXII.</th>
<th>Grs. 6127 of Urine, passed during last 9 hrs., contained grains</th>
<th>Grains 16335 of Urine calculated for 24 hrs., contained grains</th>
<th>1000 parts of Urine contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>5830-238</td>
<td>15570-075</td>
<td>953-165</td>
</tr>
<tr>
<td>Solid Matters</td>
<td>286-962</td>
<td>765-040</td>
<td>46-835</td>
</tr>
<tr>
<td>Urea</td>
<td>113-490</td>
<td>302-564</td>
<td>18-821</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>4-320</td>
<td>11-517</td>
<td>0-705</td>
</tr>
<tr>
<td>Extractive and coloring matters,</td>
<td>126-498</td>
<td>337-244</td>
<td>20-647</td>
</tr>
<tr>
<td>Fixed Saline Constituents,</td>
<td>42-654</td>
<td>113-715</td>
<td>6-962</td>
</tr>
</tbody>
</table>

Grains 18351 of Urine excreted during last 24 hrs., contained grains 17453-472
1000 parts of Urine contained 17453-472
" " " 898-128
" " " 392-850
" " " 7-560
" " " 398-888
" " " 98-888
September 9th, 10 o'clock, A.M. Continues to improve, but complains of great weakness. Pulse 76. Respiration 20. Skin cool and moist; bowels regular; urine high colored; deposit of urate of soda and triple phosphate, after standing a few hours, and acid reaction changed to the alkaline.

Specific Gravity .................. 1018.2

Temperature of Atmosphere, .75° F.

Hand.................. 97°75'

under Tongue.............. 99° 5'

Amount of Urine passed during the last 16 hours, grains............ 9163

Hourly,.................. 572.6

Calculated amount of urine for 24 hours.................. 13745

Actual Hourly,.................. 628.7

Grs. 9163 of Urine passed during last 16 hrs., contained grains 8677.223

Grs. 13745 of Urine calculated for 24 hrs. contained grains 13015.850

Grs. 15291 of Urine, actual amount excreted in last 24 hours contained grains 14517.471

1000 parts of Urine contained

946.908

887.997

15298

Urea,.................. 237.456

Uric Acid,.................. 0.720

Extractive and coloring matters,.................. 215.955

Fixed Saline Constituents,.................. 32.436

Water, .................. 8677.223

Solid Matters, .................. 488.567


Temperature of Atmosphere.......................... 87° F.

Hand.................. 97°5'

under Tongue.............. 99° 8'

Amount of urine passed during the last 8 hours, grains............ 6135

Hourly,.................. 766'

Calculated amount of urine for 24 hours.................. 15298

Actual amount passed during the last 24 hours, grs.................. 15298

Hourly amount of urine passed during the last 24 hours, grs. 637.4

Grs. 6135 of Urine excreted during last 8 hrs. contained grains 113.490

Grs. 18405 of Urine calculated for 24 hrs. contained grs. 340.470

Grs. 15298 of Urine, excreted during last 24 hours, contained grains 330.948

Urea,.................. 4.440

Uric Acid,.................. 13.320

18.498

5.160

September 10th, 10½ o'clock, A.M. Pulse 68. Respiration 19. Color of urine only a shade higher than normal. After twelve hours a slight deposit of urate of soda and triple phosphate.
Temperature of Atmosphere........79° F.
" Hand.............98°
under Tongue.......98

Amount of urine passed during the last 16 hours, grains...........5107
" " " hourly " " " " ..........319
Calculated amount for 24 hours.....................7661
Actual amount of urine passed during last 24 hours, " ......11242
Amount passed hourly.........................468.4

<table>
<thead>
<tr>
<th>ANALYSIS XXV.</th>
<th>Grs. 5107 of Urine passed during last 16 hrs., contained grains</th>
<th>Grs. 7661 of Urine calculated for 24 hrs, contained grs.</th>
<th>1000 parts of Urine contained</th>
<th>Grs. 11240 of Urine excreted during last 24 hours, grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea, ............</td>
<td>63.050</td>
<td>94.875</td>
<td>12.362</td>
<td>176.540</td>
</tr>
<tr>
<td>Uric Acid, ..........</td>
<td>1.000</td>
<td>1.500</td>
<td>0.196</td>
<td>5.400</td>
</tr>
</tbody>
</table>

The diminution of the frequency of the action of the respiratory and circulatory systems, and the reduction of the temperature, have been attended by a diminution in the amount of urine excreted, and also of its constituents.

7 o'clock, P.M. Dressed himself and walked in the Hospital yard. Still feels weak; is now in a profuse perspiration. Pulse 68. Respiration 20.

Temperature of Atmosphere, 80° F. } Sp. Gr. of urine 1020.4. Deposit in 
" " Hand.............97° } 12 hours of urate of soda and prismatic 
" under Tongue.......98.9' } crystals of triple phosphate. When 
held in the sun, the whole mass sparkled with the crystals of triple phosphate.

Amount of Urine passed during the last 24 hours, grains...........10209
" " " hourly " " " " ..........423.3
" " " during " 9 " " " " ..........5102
" " " hourly " " " " ..........566.8
Calculated amount for 24 hours.........................13601

<table>
<thead>
<tr>
<th>ANALYSIS XXVI.</th>
<th>Grs. 5102 of Urine passed during last 9 hrs, contained grains</th>
<th>Grs. 13601 of Urine calculated for 24 hrs, contained grs.</th>
<th>1000 parts of Urine contained</th>
<th>Grs. 10209 of Urine excreted during last 24 hours contained grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea, ............</td>
<td>63.040</td>
<td>169.091</td>
<td>12.352</td>
<td>126.100</td>
</tr>
<tr>
<td>Uric Acid, ..........</td>
<td>2.300</td>
<td>6.131</td>
<td>0.450</td>
<td>3.300</td>
</tr>
</tbody>
</table>

Sept. 11th, 11 o'clock A.M. Pulse 74; respiration 18.

Temperature of Atmosphere, 82° F. } Color of urine a shade higher than nor-
" " Hand, 97 } mal. Specific Gravity 1021.2. In 12 hrs. 
" under Tongue, 98.2' } a small deposit of urate of soda and triple 
phosphate.

Amount of Urine passed during the last 16 hours,...........grs. 7143.
" " " hourly " " " " ..........446.7
Calculated amount of Urine for 24 hours, ..................10722.
Amount of Urine passed during the last 24 hours, ..........12550.
" " " hourly " " " " ..........510.4
6½ o'clock P. M. Has been walking in the Hospital yard. Pulse 67; respiration 22. Urine normal in color. Sp. Gravity 1026-5. Fermentation proceeded so rapidly, that in the course of 24 hours, the whole of the urea was converted into the carbonate of ammonia. Deposit consisted of prismatic, stellated and plumose crystals of triple phosphate, and globular and acicular crystals of urate of soda.

Temperature of Atmosphere, 78°75' F. Hand, 97 83
under Tongue, 99
Amount of Urine passed during the last 7½ hours, grs. 4106
Calculated amount of Urine for 24 hours, 15.104
Amount of Urine passed during the last 24 hours, 11254
Calculated amount for 24 hours, 5768.
Uric acid in 4106 of Urine, (7½ hours) grs. 4-720
13139 calculated for 24 hours, 15.104
1000 parts of Urine, 1-149
grs. 11254 excreted in 24 hours, 8-920


Temperature of Atmosphere, 83° F. Hand, 97
under Tongue, 98° 8'
Amount of Urine passed during the last 17 hours, grs. 4088.
Calculated amount for 24 hours, 5768.
Amount of Urine passed during the last 24 hours, grs. 8194.
Calculated amount for 24 hours, 3414
Uric acid in grs. 4088 of Urine passed during 17 hours, grs. 5.400
1000 parts of Urine, 1.320
grs. 8194 passed during 24 hours, 10.120
Fixed Saline Constituents in grs. 4088 of Urine, (17 hours) grs. 40.880
1000 parts of Urine, 10.000
grs. 8194 (24 hours) 10.120

Sept. 13th, 11 o'clock A. M.
Amount of Urine passed during the last 24 hours, grs. 16,962. Sp. Gr. 1025.
In this case the uric acid was diminished during the active stages of the malarial fever, and increased during convalescence. The temperature of the body was slightly depressed below the normal standard, during convalescence, and this depression was attended by a corresponding diminution of all the urinary constituents, except the uric acid.

The phenomena, during the cold stage, resembled in all respects, those previously described. The consideration of many other points of interest is deferred until we institute a general comparison of all the various forms of malarial fever.

The annexed Table No. IV. (on pages 516-17), will present a view of the foregoing results.

CASE XVIII.—Frenchman: age 45; weight 130 lbs.; thin and spare; nervous temperament; complexion pale. Has been in Savannah three weeks. Has been acting as nurse in the Hospital for the last two weeks. Occupation, nurse in an insane asylum.

September 15th, 12 o'clock, M. Was taken with a chill this morning, at 8 o'clock, A.M., which was attended with vomiting and followed by high fever. Urine passed during the height and decline of the fever, orange colored, and diminished in amount.

September 16th, 12 o'clock, M. Apyrexia. Amount of urine passed during the last 24 hours, grains 4086. Sp. Gr. 1021·5. Amount of uric acid passed during the height and commencement of the intermission of the fever (24 hours), grains 0·400. 1000 parts of urine contained—

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea,</td>
<td>20·425</td>
</tr>
<tr>
<td>Uric Acid,</td>
<td>0·097</td>
</tr>
</tbody>
</table>
TABLE IV.

<table>
<thead>
<tr>
<th>Month</th>
<th>Day of Month</th>
<th>Hour of Day</th>
<th>Pulse</th>
<th>Respiration</th>
<th>Temperature of Atmosphere</th>
<th>Temperature of Hand</th>
<th>Amount of Urine excreted hourly</th>
<th>Amount of Urine excreted during 24 hours</th>
<th>Water excreted during 24 hours</th>
<th>Solid Matters excreted during 24 hours</th>
<th>Urea excreted during 24 hours</th>
<th>Uric Acid excreted during 24 hours</th>
<th>Fixed Solids Contained in Urine</th>
<th>Hours</th>
<th>Specific Gravity</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept.'r.</td>
<td>6</td>
<td>1 P.M.</td>
<td>118</td>
<td>20–32</td>
<td>35°</td>
<td>96°</td>
<td>101°</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
<td>GRS.</td>
</tr>
<tr>
<td>10 A.M.</td>
<td>92</td>
<td>28</td>
<td>60°</td>
<td>104°</td>
<td>104°</td>
<td>104°</td>
<td>104°</td>
<td>104°</td>
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</tr>
<tr>
<td>5 P.M.</td>
<td>85</td>
<td>25</td>
<td>80°</td>
<td>100°</td>
<td>100°</td>
<td>100°</td>
<td>100°</td>
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<tr>
<td>7 A.M.</td>
<td>88</td>
<td>19</td>
<td>76</td>
<td>93</td>
<td>104°</td>
<td>104°</td>
<td>104°</td>
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<td>104°</td>
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<tr>
<td>10 A.M.</td>
<td>65</td>
<td>22</td>
<td>76</td>
<td>96°</td>
<td>98°</td>
<td>98°</td>
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<tr>
<td>11 A.M.</td>
<td>74</td>
<td>18</td>
<td>82</td>
<td>97</td>
<td>98°</td>
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<tr>
<td>12 P.M.</td>
<td>67</td>
<td>22</td>
<td>87°75°</td>
<td>97°</td>
<td>98°</td>
<td>98°</td>
<td>98°</td>
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<tr>
<td>12 M.</td>
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<td>20</td>
<td>83</td>
<td>97</td>
<td>98°</td>
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<td>98°</td>
<td>98°</td>
<td>98°</td>
</tr>
</tbody>
</table>

ANALYSIS XXIX.  
Sept. 17th.  
Grs. 6641 of Urine, excreted during 24 hours, contained 1000 parts of Urine contained | 38001 | 0342 | 1021700 | 276800 |

ANALYSIS XXX.  
Sept. 18th.  
Grs. 6640 of Urine passed during 24 hrs. contained 1000 parts of Urine contained | 20470 | 2082 | 1023000 | 277000 |


Continued to improve, and was discharged from the hospital Sept. 23rd.

October 7th, 3 1/2 o'clock P.M. Has returned. Says he has been "keeping bar" on the bay, and was taken with a "dumb
TABLE IV.

<table>
<thead>
<tr>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
<th>GRS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>Urea Acid</td>
<td>Fixed Salts</td>
<td>Contingents</td>
<td>Calculated amount of Urea</td>
<td>Calculated amount of Water</td>
<td>Material for 24 hours</td>
<td>Material for 24 hours</td>
<td>Calculated amount of Solid</td>
<td>Calculated amount of Urea</td>
<td>Calculated amount of Urine</td>
</tr>
<tr>
<td>81.6</td>
<td>1.00</td>
<td>54.4</td>
<td>12.23</td>
<td>6683</td>
<td>6460</td>
<td>397.9</td>
<td>217.7</td>
<td>2.666</td>
<td>144.9</td>
<td>32.61</td>
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<td>200.3</td>
<td>3.24</td>
<td>272.6</td>
<td>66.0</td>
<td>29603</td>
<td>19005</td>
<td>947.6</td>
<td>477.4</td>
<td>5.54</td>
<td>466.0</td>
<td>98.13</td>
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<tr>
<td>113.4</td>
<td>4.32</td>
<td>126.4</td>
<td>42.6</td>
<td>18885</td>
<td>15570</td>
<td>765.0</td>
<td>303.3</td>
<td>11.607</td>
<td>387.4</td>
<td>143.7</td>
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<tr>
<td>167.6</td>
<td>1.72</td>
<td>216.7</td>
<td>23.4</td>
<td>1875</td>
<td>13900</td>
<td>729.0</td>
<td>336.1</td>
<td>1.05</td>
<td>324.0</td>
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<td>4.44</td>
<td>15405</td>
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<td>63.0</td>
<td>1.00</td>
<td>7661</td>
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<td>10732</td>
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</tr>
</tbody>
</table>

The following tables will present the most important phenomena observed:

October 9th, 3½ o'clock P. M.—Phenomena of Cold Stage.

- Pulse 92, very feeble, resembles the vibration of a fine thread—with difficulty counted. Respiration accelerated and irregular.
- Lips and fingers blue.

Temp. of Atmosphere, ... 75° F.
- " Hand, ... 88
- " under Tongue, ... 101 5'
- B. Mustard to extremities. Brandy & snake-root tea, until reaction.

6½ o'clock P. M.—Hot Stage.

- Pulse 96; much fuller than during the chill. Respiration fuller. Pulse not so full as in milder cases.

Temp. of Atmosphere, ... 70° F.
- " Hand, ... 101 8'
- " under Tongue, ... 102 8'
- B. Citrate of Potassa mixture.

Oct. 10th, 11 A. M. Febrile excitement has almost entirely subsided.
- B. Sulph of quinia, grs. xxv.
5 o'clock P. M.—Apyrexia.

Pulse and respiration near the normal standard.

Oct. 12th, 3 P. M. Pulse, respiration, skin and tongue, normal.

<table>
<thead>
<tr>
<th>ANALYSIS XXXI</th>
<th>Am't of Urine excreted during 15 hours of febrile excitement, grs. 8687. Sp. Gr. 1022. Am't excreted hourly, grs. 579. Grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea, - - -</td>
<td>342.167</td>
</tr>
<tr>
<td>Uric Acid, - -</td>
<td>5.950</td>
</tr>
<tr>
<td>Fixed Saline Contit's</td>
<td>28.050</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ANALYSIS XXXII</th>
<th>Amount of Urine passed during the last 24 hours of Apyrexia, grs. 15330. Sp. Gravity 1022. Am't passed hourly, grs. 638. Grs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea, - - -</td>
<td>349.200</td>
</tr>
<tr>
<td>Uric Acid, - -</td>
<td>11.250</td>
</tr>
<tr>
<td>Fixed Saline Contit's</td>
<td>76.500</td>
</tr>
</tbody>
</table>

Urine was high colored, like new Madeira wine. The appropriate tests exhibit the presence of iron in abnormal amount. The coloring matters were in such abundance that hydrochloric acid changed the color of the urine into a purplish black. When evaporated to the consistence of a syrup, the urine assumed a dark brown, almost black color. After standing 50 hours, prismatic crystals of triple phosphate, vegetable cells, urate of soda, and carbonate of lime were deposited.

This patient had no return of fever, but suffered for some time with great weakness, and exhibited in his pale lips, pale gums, and sallow complexion, the effects of the malarial poison on the colored blood corpuscles.

In this case the uric acid was not diminished during the hot stage.

If we compare the first with the second attack, it is evident that the urea was more abundant in the second, than the first. The first attack of intermittent fever was slight, while the second was severe. When we consider the weight and condition of rest, and almost complete starvation of this patient, it is evident that the urea was greatly increased.

Case XIX.—English seaman: age 25; weight 160 lbs.; height 5 feet 6 inches; black hair; florid complexion; muscular system well developed; powerful chest; short stout neck. Has just returned from Jacksonville, Fla. Has been sick one week.
August 18th, 11 o'clock, A.M. Skin hot and dry; face very red; pulse 106; respiration thoracic; temperature of atmosphere 88°; temperature of hand 105°. Complains of pain in his head. Urine high colored. Specific gravity 1021. Bloodletting in the standing posture to produce relaxation of the system.

2 o'clock, P.M. Preparations were made for blood-letting. The patient appeared to be alarmed by the preparations; and when I appeared with the specific gravity bottles, beaker glasses and capsules, to receive the blood, he fell back into the arms of the assistant, and in a few moments before the lancet was applied, the perspiration stood in large drops upon his face and hands. During the bleeding, he perspired freely, and fainted before i of x, were abstracted. The pulse and respiration were diminished in frequency and force, and the patient fell into a profound slumber, during which his clothes were completely saturated with a profuse perspiration.

Examination of Blood.—Blood of a dark, almost black color, commenced to coagulate in about ten minutes. After remaining for two hours exposed to the atmosphere, the surface of the blood exposed, changed to a bright red arterial hue.

Specific gravity of blood, 1042; Specific gravity of serum, 1018. Serum of a light golden color. The color was not so deep as in severer cases of malarial fever.

ANALYSIS OF BLOOD, I.

<table>
<thead>
<tr>
<th>Water,</th>
<th>Solid Matters,</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 1000 parts of Blood, 830.509</td>
<td>In 1000 parts of Blood, 169.491</td>
</tr>
<tr>
<td>&quot; Serum, - 929.287</td>
<td>&quot; Serum, - 70.713</td>
</tr>
<tr>
<td>(1) &quot; Liq. Sang. 927.194</td>
<td>(1) &quot; Liq. Sang. 72.806</td>
</tr>
<tr>
<td>(2) &quot; Liq. Sang. 887.328</td>
<td>(2) &quot; Liq. Sang. 112.672</td>
</tr>
</tbody>
</table>

Sol. Matters in Serum of 1000 parts of Blood, 64.158

Fixed Saline Constituents.

| In 1000 parts of Blood, 7.532 |
| Serum, - 5.000 |
| Liq. Sanguinis, - 5.332 |
| Liq. Sanguinis, - 8.245 |
| Solid Matters of Blood, - 44.430 |
| Serum, - 77.931 |
| Liq. Sanguinis, - 73.345 |
| Blood Corpuscles, - 28.500 |
| Moist Blood Corpuscles, - 7.258 |

In Blood Corpuscles of 1000 parts of Blood, - 3.002
In Serum of 1000 parts of Blood, - 4.530
1000 parts of Blood contained,

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Organic Matters</th>
<th>Mineral “</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>830·509</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dried Blood Corpuscles</td>
<td>103·433</td>
<td>Organic Matters</td>
<td>100·431</td>
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<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>3·002</td>
</tr>
<tr>
<td>Fibrin</td>
<td>54·186</td>
<td>Organic Matters</td>
<td>54·426</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>2·760</td>
</tr>
<tr>
<td>Albumen</td>
<td>8·972</td>
<td>Organic Matters</td>
<td>6·902</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>2·070</td>
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</table>

1000 parts of Blood contained,

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<th>Component</th>
<th>Percentage</th>
<th>Organic Matters</th>
<th>Mineral “</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist Blood Corpuscles</td>
<td>413·732</td>
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<tr>
<td></td>
<td></td>
<td>Organic Matters</td>
<td>100·431</td>
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<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>3·002</td>
</tr>
<tr>
<td>Liquor Sanguinis</td>
<td>586·268</td>
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<tr>
<td></td>
<td></td>
<td>Organic Matters</td>
<td>51·426</td>
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<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>2·760</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extractive and Color’g Matters</td>
<td>8·902</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>2·070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fibrin</td>
<td>1·900</td>
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</table>

1000 parts of Moist Blood Corpuscles contained,

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Organic Matters</th>
<th>Mineral Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>749·996</td>
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<td></td>
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<tr>
<td>Organic Matters</td>
<td>242·746</td>
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<tr>
<td>Mineral Matters</td>
<td>7·258</td>
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</table>

(1) 1000 parts Liquor Sanguinis contained,

<table>
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<tr>
<th>Component</th>
<th>Percentage</th>
<th>Organic Matters</th>
<th>Mineral “</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>927·194</td>
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<tr>
<td>Albumen</td>
<td>56·762</td>
<td>Organic Matters</td>
<td>3·047</td>
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<tr>
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<td>Mineral “</td>
<td></td>
</tr>
<tr>
<td>Fibrin</td>
<td>2·093</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extractive and Coloring Matters</td>
<td>10·904</td>
<td>Organic Matters</td>
<td>7·619</td>
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<tr>
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<td></td>
<td>Mineral “</td>
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(2) 1000 parts of Liquor Sanguinis contained,

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<th>Percentage</th>
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<th>Mineral “</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>887·328</td>
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<tr>
<td>Albumen</td>
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<td>Organic Matters</td>
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<tr>
<td>Fibrin</td>
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<tr>
<td>Extractive and Coloring Matters</td>
<td>15·310</td>
<td>Organic Matters</td>
<td>11·772</td>
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<tr>
<td></td>
<td></td>
<td>Mineral “</td>
<td>3·538</td>
</tr>
</tbody>
</table>

8 o'clock, P.M. Much better; pain in his head has disappeared; in a profuse perspiration; skin much cooler. Pulse 96 to the minute, soft and natural. Respiration regular and normal.

August 19th, 10 o'clock, P.M. Skin moist; urine high colored; Pulse 82; Respiration 24. Temperature of Atmosphere
89°F. Temperature of Hand 100°. Temperature under Tongue 102°25′.

August 20th, 12 o'clock, M. Skin and tongue normal; urine high colored. Specific gravity, 1015. Pulse 80; Respiration 21. Temperature of Atmosphere 85°F. Temperature under Tongue 101°.

August 21st. Pulse 80; Respiration 20. Temperature of Atmosphere 80°. Temperature under Tongue 98°87′.

This case yielded readily to the action of sulphate of quinia, and the patient was discharged on the 23d. This has been a mild attack of malarial fever, and the blood corpuscles were but slightly diminished.

At first sight this case would seem to prove the efficacy of blood-letting in malarial fever. The fact that the mere preparations for bleeding, caused the patient "to break out into a profuse perspiration," demonstrated that the sweating stage was nigh at hand and the bleeding was the occasion and not the cause of its appearance.

It is probable that this patient would have done just as well, without, as with this bleeding. The next patient suffering with malarial fever, which I bled, was a stout German, with high fever, scarlet face, and "distracting pain in his head," presenting similar only severer symptoms. This case terminated fatally. I have used local blood-letting (cut cups) in scores of cases of malarial fever, and always with apparent benefit. Over the epigastrium it often arrests obstinate vomiting, and over the temples and back of neck, and over the spine, it often relieves distressing pain. Local differs from general blood-letting, in two essential degrees. First, the quantity of blood abstracted is much less, and second, the number of colored blood corpuscles is less in proportion to the amount of blood abstracted, in local than in general blood-letting. The colored blood corpuscles rush along principally in the centre of the streams, and in general blood-letting they are lost, more rapidly than the other elements of the blood. The malarial poison, whatever it be, destroys rapidly the colored blood corpuscles. Whatever therefore diminishes the colored blood corpuscles acts in concert with the malarial poison. The malarial poison reduces rapidly the forces. General blood-letting reduces rapidly the forces. The two, in this particular, again act in concert. These views will be substantiated by facts, and more fully discussed hereafter.

Case XX. Frenchman, laborer; height 5 feet 8 inches; weight, 110 lbs., in health, 140 lbs. Has been in America, ten years, and in Savannah, six months. Has been living and working in a low miasmatic situation on Thunderboldt road,
one mile from Savannah. Has been sick with chill and fever five weeks, and has had no medical attendance. He is much reduced in flesh and strength. Complexion sallow, anaemic. Lips and gums pale—the effects of miasmatic fever are well marked.

August 19th. Pulse 72; Respiration 24. Temp. of Atmosphere, 90°F.; Temp. under Tongue, 98°. Complains of great weakness, and constant pain in his head.

August 22nd. Examination of Blood.—The blood coagulated in the usual time, and the clot was firm. After standing four days in a stoppered bottle, in the heat of summer, the clot appeared firm, undecomposed, and the serum was clear. The blood of a patient who was suffering from the effects of remittent fever, and severe salivation, placed by the side of this, in the same time, and under the same circumstances, had its clot completely disintegrated, and commenced to putrefy.

ANALYSIS OF BLOOD II.

<table>
<thead>
<tr>
<th>Specific gravity of Blood,</th>
<th>-</th>
<th>-</th>
<th>1034</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In 1000 parts of Blood,</td>
<td>850.888</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>&quot; Serum,</td>
<td>920.820</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>(1) &quot; Liq. Sang.,918.072</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>(2) &quot; Liq. Sang.,892.859</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Solid Matters,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In 1000 parts of Blood,</td>
<td>149.112</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>&quot; Serum,</td>
<td>79.180</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>(1) &quot; Liq. Sang., 81.928</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>(2) &quot; Liq. Sang.,107.424</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>In Serum of 1000 parts of Blood,</td>
<td>-</td>
<td>-</td>
<td>73.167</td>
</tr>
</tbody>
</table>

Fixed Saline Constituents,

| In 1000 parts of Blood, | - | - | - | 7.692 |
| " Serum,               | - | - | - | 5.119 |
| (1) " Liquor Sanguinis, | - | - | - | 5.120 |
| (2) " Liquor Sanguinis, | - | - | - | 6.696 |
| " Solid Matters of Blood, | - | - | - | 51.586 |
| " Serum,               | - | - | - | 64.648 |
| " Liquor Sanguinis,    | - | - | - | 62.493 |
| " Blood Corpuscles,    | - | - | - | 40.351 |
| " Moist Blood Corpuscles, | - | - | - | 10.087 |
| In Blood Corpuscles of 1000 parts of Blood, | - | - | 2.962 |
| In Serum of 1000 parts of Blood, | - | - | 4.730 |

1000 parts of Blood contained,

| Water,             | - | - | - | 850.888 |
| Dried Blood Corpuscles, | 73.405 | Organic Matters, | 70.411 |
| " Mineral "        | 2.962 |
| Fibrin,            | - | - | - | 2.540 |
| Albumen, Extractive and Coloring Matters, | 73.167 | Organic Matters, | 68.405 |
| " Mineral "        | 4.730 |
1000 parts of Blood contained,

Moist Blood Corpuscles, - - 293:620
Organic Matters, - - 70:411
Mineral " - - 2:962
Water, - - 220:215

Liquor Sanguinis, - - 706:380
Organic Matters, - - 68:405
Mineral " - - 4:730
Fibrin, - - 2:540
Water, - - 630:705

(1) 1000 parts of Liquor Sanguinis contained,

Water, - - - - - - - - - - 918:072
Albumen and Extractive Matters, - - - - - - - - - - 74:050
Mineral Matters, - - - - - - - - - - 5:120
Fibrin, - - - - - - - - - - 2:748

(2) 1000 parts of Liquor Sanguinis contained,

Water, - - - - - - - - - - 892:859
Albumen and Extractive Matters, - - - - - - - - - - 96:838
Mineral Matters, - - - - - - - - - - 6:696
Fibrin, - - - - - - - - - - 3:890

1000 parts of Moist Blood Corpuscles contained,

Water, - - - - - - - - - - 750:000
Organic Residue, - - - - - - - - - - 239:803
Fixed Saline Constituents, - - - - - - - - - - 10:087

This analysis confirms the statement, that the malarial poison (either directly or indirectly) destroys the colored blood corpuscles. They are diminished one half, the dried corpuscles being only 73:405, and the moist corpuscles 293:620, whilst in health the dried corpuscles generally average 135:000, and the moist corpuscles 540:000.

This patient improved very slowly under the action of sulphate of quinia, chalybeates, and alteratives, and on the 2nd of September had a return of chill and fever.

September 3rd, 12½ o'clock, P.M. Chill has just commenced; he is shaking violently. Pulse 96, very feeble, can scarcely be felt. Respiration 32-40, irregular, spasmodic. Extremities cold; trunk warm. Temp. of atmosphere 83°; temp. of hand 93°75°; temp. under tongue 100°5°.

3½ o'clock, P.M. Skin hot and dry; pulse 108; respiration 28; temp. of atmosphere 85°F.; temp. of hand 104°; temp. under tongue 103°.

7 o'clock, P.M. Fever is subsiding; pulse 90; respiration 26; temp. of atmosphere 78°F.; temp. of hand 101°5°; temp. under tongue 103°.

September 4th. Apyrexia.

September 5th. No return of fever.
September 6th. Pulse 76; respiration 20; temp. of atmosphere 80°F.; temp. of hand 98°; temp. under tongue 100°.

Examination of Urine passed during the febrile excitement and the intermission, Sept. 3rd.

<table>
<thead>
<tr>
<th>CASE XXI. Irish laborer; light brown hair, brown eyes; has been in America seven years, and in Savannah three years; age 22, medium height. Has been living and making bricks in a low miasmatic situation. Says that he has suffered with chill and fever for six weeks. Complexion sallow and anaemic; lips, gums, and tongue pale. He is exhausted by slight exertions, and complains of great weakness.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept. 16th, 12½ o'clock P.M. Pulse 88, respiration 24. Temperature of atmosphere, 87°5' F.; Temp. of hand, 100°5'; Temp. under tongue, 101°25'</td>
</tr>
<tr>
<td>Sept. 17th, 11½ o'clock P.M. Pulse 72, respiration 20. Has just awoke from sleep, in a profuse perspiration. Temperature of atmosphere, 86° F.; Temp. of hand, 90°; Temp. under tongue, 93°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANALYSIS XXXIII.</th>
<th>Grs. 7054 of Urine passed during 16 hrs. Sp. Crav. 1012.4. Am't pass'd hourly, grs. 442.7. Grains</th>
<th>Grs. 10613, calculated for 24 hours, contain'd grains</th>
<th>1000 parts of Urine contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea, - - -</td>
<td>151.077</td>
<td>226.616</td>
<td>21.086</td>
</tr>
<tr>
<td>Uric Acid, - -</td>
<td>2.243</td>
<td>3.365</td>
<td>0.320</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water, - - -</td>
<td>15958.568</td>
<td>9957.30</td>
</tr>
<tr>
<td>Solid Matters, - -</td>
<td>68.432</td>
<td>4.270</td>
</tr>
<tr>
<td>Urea, - - -</td>
<td>42680</td>
<td>2.664</td>
</tr>
<tr>
<td>Uric Acid, - - -</td>
<td>1877.6</td>
<td>0.079</td>
</tr>
<tr>
<td>Extractive and Color-ing Matters,</td>
<td>1877.6</td>
<td>1.171</td>
</tr>
<tr>
<td>Fix'd Saline Constituents</td>
<td>5696</td>
<td>0.356</td>
</tr>
</tbody>
</table>

The reduction of the nervous and physical forces was attended by a reduction in the amounts of the solid constituents of the urine. ½. Snake-root tea, 1 pint; brandy, f 3 vi.; sulph. of quinia, grs. xv. Mix. Take a wine-glassful six times a day. ½. Citrate of Iron, grs. iv. three times a day.

1858.]
JONES, on Malarial Fever. 525

7.975; Urea in 1000 parts of urine, 12.445; Uric acid in 1000 parts of urine, 0.544

The snake-root tea and sulph. of quinia and citrate of iron, have produced an increase of the solid constituents of the urine.

Sept. 19th, 2 o'clock P. M. Pulse 76, respiration 24. Temp. of atmosphere, 89° F.; Temp. of hand, 98°; Temp. under tongue, 99°. Sp. Gr. of urine, 1012; Urea in 1000 parts, 12.445; Uric acid in 1000 parts, 0.247.

Sept. 20th. Pulse 96, respiration 24. Temp. of atmosphere, 83° F.; Temp. of hand, 100°; Temp. under tongue, 102°. Amount of urine passed during last 24 hours, grs. 20400. Specific Gravity 1010.

Examination of Blood, No. II.—Blood watery in appearance, and coagulated slowly. Reaction decidedly alkaline. After standing twenty hours, the clot contracted but little, and it was soft, possessing but little consistency.

In the specific gravity bottle, the colored blood corpuscles gravitated towards the bottom, and left above a light yellow, transparent clot. Serum of a light yellow color. Specific gravity of blood 10305; specific gravity of serum 10213.

<table>
<thead>
<tr>
<th>WATER</th>
<th>SOLID MATTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 1000 parts of Blood, 877.553</td>
<td>In 1000 parts of Blood, 122.447</td>
</tr>
<tr>
<td>&quot; &quot; Serum, 927.757</td>
<td>&quot; &quot; Serum, 72.243</td>
</tr>
<tr>
<td>(1) &quot; &quot; Liq. Sang. 925.725</td>
<td>(1) &quot; &quot; Liq. Sang. 74.275</td>
</tr>
<tr>
<td>(2) &quot; &quot; Liq. Sang. 911.124</td>
<td>(2) &quot; &quot; Liq. Sang. 88.876</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIXED SALINE CONSTITUENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 1000 parts of Blood,</td>
</tr>
<tr>
<td>&quot; &quot; Serum,</td>
</tr>
<tr>
<td>(1) &quot; &quot; Liquor Sanguinis,</td>
</tr>
<tr>
<td>(2) &quot; &quot; Liquor Sanguinis,</td>
</tr>
<tr>
<td>Serum of 1000 pts. Blood,</td>
</tr>
<tr>
<td>&quot; 1000 parts of the Solid Matters of Blood,</td>
</tr>
</tbody>
</table>

1000 Parts of Blood Contained,

Water, 877.553

Fibrin, 1.925
Albumen, Extractive and Coloring Matters, 68.335 { Dried Organic Residue, 65.194
Fixed Saline Constituents, 3.141
1000 Parts of Blood Contained,

- Moist Blood Corpuscles, 207.948
  - Water, 155.861
  - Organic Residue, 51.812
  - Fixed Saline Constituents, 0.175

- Liquor Sanguinis, 792.052
  - Water, 721.692
  - Albumen, Extractive & Co. 65.194
  - Coloring Matters, 3.141
  - Fixed Saline Constituents, 1.925

1000 Parts of Moist Blood Corpuscles Contained,

- Water, 749.519
- Dried Organic Matters, 249.154
- Fixed Saline Constituents, 0.841

(1) 1000 Parts of Liquor Sanguinis Contained,

- Water, 925.725
- Albumen, Extractive and Coloring Matters, 68.817
- Fibrin, 2.032
- Fixed Saline Constituents, 3.326

(2) 1000 Parts of Liquor Sanguinis Contained,

- Water, 911.167
- Albumen, Extractive and Coloring Matters, 82.312
- Fibrin, 3.965
- Fixed Saline Constituents, 2.430

This analysis shows that the continued action of the malarial poison has reduced the colored blood corpuscles to 51.987 dried, or 207.948 moist, which is a little more than one-third of the normal standard.

The fixed saline constituents of the colored blood corpuscles are also, not only correspondingly, but absolutely diminished in amount. I have derived much benefit in the treatment of the effects of malarial fever, from the phosphates of iron, lime, soda, and potassa. It is probable that they act beneficially by supplying those salts which are deficient. If the hypophosphites of lime, soda, potassa and ammonia, act with as much power and in the manner asserted by Dr. Churchill, they will prove valuable remedies in the latter stages of malarial fever. I have employed them upon myself, this winter, after an attack of intermittent fever, with apparent benefit.

* "On the Proximate Cause and Specific Remedy of Tuberculosis," by Dr. John Francis Churchill. Dublin Hospital Gazette, Aug. 15th, 1857. Ranking's Abstract, No. 26, July to Dec., 1857, p. 47. Dr. Churchill has employed the hypophosphites, in the treatment of tuberculosis, with success, and asserts that they increase nervous force, and are infinitely superior to all other medicines as hematogans.
CASE XXII.—German laborer, age 30; height 5 feet 5 inches; weight, in health, 112 lbs.; light hair, blue eyes; small, delicate man. Has been in the United States three years and in Savannah three months. Has been “keeping store” on the river, near the rice mill. Was taken sick with chill and fever two months ago. Complexion anæmic. Complains of great weakness. Lips, gums and tongue pale; tongue coated with white fur.

Sept. 10th, 11 o'clock A. M. Says that he had his chill yesterday. B. Sulph. of quinia grs. v. every three hours, up to grs. xv.

Sept. 11th, 12 o'clock, M. Skin cool; in a profuse perspiration. Pulse 76; respiration 19.

Temperature of Atmosphere, 85° F.
" " Hand, 94
" " under Tongue, 98
Amount of Urine excreted during last 17 hours. grs. 5072
" " " hourly " " " " 298.9
Calculated amount for 24 hours, 7157
Specific gravity 1014.5. Color a shade higher than normal.

<table>
<thead>
<tr>
<th>ANALYSIS XXXV.</th>
<th>Grs. 5072 of Urine, excreted in 17 hrs., contained grains,</th>
<th>Grs. 7157 calculated for 24 hours, contained grains,</th>
<th>1000 parts of Urine contained,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water, - - -</td>
<td>4886.160</td>
<td>6895.783</td>
<td>963.462</td>
</tr>
<tr>
<td>Solid Matters, - -</td>
<td>185.340</td>
<td>261.514</td>
<td>36.538</td>
</tr>
<tr>
<td>Urea, - - -</td>
<td>65.475</td>
<td>92.85</td>
<td>12.907</td>
</tr>
<tr>
<td>Uric Acid, - -</td>
<td>2.750</td>
<td>3.880</td>
<td>0.552</td>
</tr>
<tr>
<td>Extractive &amp; Coloring Matters,</td>
<td>102.485</td>
<td>144.607</td>
<td>20.225</td>
</tr>
<tr>
<td>Fixed Saline Constit's,</td>
<td>14.631</td>
<td>20.642</td>
<td>2.884</td>
</tr>
</tbody>
</table>

In this case, as in the preceding, we see that the depressed state of the forces, consequent upon the continued action of the malarial poison, was attended by a marked diminution of the solid constituents of the urine.

Sept. 12th, 12½ o'clock, P. M. Pulse 72; respiration 19. Skin cool.

Temperature of Atmosphere, 84° F.
" " Hand, 97 25'
" " under Tongue, 99 9
Amount of Urine excreted during the last 24 hours, grs. 13852
" " " hourly " " " " 568.8
Specific gravity 1011.3. After 16 hours, a copious deposit of urate of soda and triple phosphate.
Under the action of the sulphate of quinia, the urea, uric acid and extractive and coloring matters, have been increased in amount.


Sept. 15th. Pulse 64; respiration 18. Temp. of atmosphere, 85°F.; Temp. of hand, 98°F; Temp. under tongue, 99°F. Specific gravity of urine 1007.1. Grs. 13631 of urine contained, urea 96.400; uric acid 6.151. 1000 parts of urine contained, urea 6.003; uric acid 0.446. Urine excreted in 24 hours, grs. 13631; urine excreted hourly, grs. 568.

CASE XXIII. Irishman; height 6 ft; black hair, black eyes. This patient had been in the Savannah Poor House for three months, suffering with phthisis pulmonalis in its advanced stages. For the last two months he had been confined to the ward and recently he had been confined to his bed.

August 23d. During the night, was taken with chill, followed by fever. Had chill and fever four nights in succession, until the paroxysm yielded to the action of the sulphate of quinia. The chill and fever returned several times after this. Under the combined actions of pulmonary consumption and intermittent fever, the patient lost strength rapidly, and died Sept. 4th.

(1.) AUTOPSY 12 HOURS AFTER DEATH.

Exterior.—Body much emaciated, universal sallow color, marked cadaverous rigidity.

Head.—When the skull cap was removed, about f ½iss. of serum and blood escaped from the base of the brain. Dura mater normal. Arachnoid membrane slightly opalescent in several spots, especially in the neighborhood of the larger blood vessels. The greatest part of this membrane, however, was transparent and normal in appearance. Subarachnoid fluid appeared to be more abundant than usual. Blood vessels of pia mater filled with blood. The ventricles of the brain contained small

<table>
<thead>
<tr>
<th>ANALYSIS XXXVI.</th>
<th>Grs. 13652 of Urine, excreted in 24 hours, contained grains</th>
<th>1000 parts of Urine contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water,</td>
<td>18242.437</td>
<td>970.000</td>
</tr>
<tr>
<td>Solid Matters,</td>
<td>409.563</td>
<td>30.000</td>
</tr>
<tr>
<td>Urea,</td>
<td>209.320</td>
<td>15.316</td>
</tr>
<tr>
<td>Uric Acid,</td>
<td>19.710</td>
<td>1.443</td>
</tr>
<tr>
<td>Extractive and Col’g Matters,</td>
<td>158.485</td>
<td>11.676</td>
</tr>
<tr>
<td>Fixed Saline Constituents,</td>
<td>20.265</td>
<td>1.567</td>
</tr>
</tbody>
</table>

Jones, on Malarial Fever. [August,
quantities of serum. The cortical and medullary substances, the cerebellum, pons varolii, the medulla oblongata, and the spinal marrow, appeared natural to the naked eye.

_Chest._—Tubercles of various sizes, in various stages of development and disintegration, were deposited throughout the substance of both lungs. Many of the largest were broken down into a pus-like matter, mingled with portions of the cheesy tuberculous substance.

_Heart_ normal in size; weight grains, 6557. Portions of the right heart showed the commencement of fatty degeneration. The right auricle was filled by a large light yellow clot, which was attached to the tricuspid valves and cordæ tendinæ, and sent a large cylindrical branch down the vena cava. The surface and whole structure of this clot was of a light yellow color and appeared to be entirely free from colored blood corpuscles. In the right auricle and ventricle were several other smaller clots, which resembled ordinary coagulated blood, and must have been formed posterior to the light yellow fibrinous clot. The lower portion of the vena cava contained coagulated blood. No clots were found in the left auricle and ventricle. The carotid arteries contained flattened cylindroid, light yellow clots, which sent off branches to the smaller arteries. These clots appear to have been formed before death, when the circulation was greatly diminished in force.

_Abdomen._—Stomach small, contracted; small intestines and colon inflated with air. Mucous membrane of stomach of a purplish red color, in spots, presenting a mottled appearance. Blood-vessels upon the exterior filled with blood. The small intestines contained fecal matters colored by bile. Internal surface of a dark purplish and reddish yellow hue. Blood vessels upon the exterior and through the structures of the intestines were filled with dark blood. Glands of Peyer, normal, not enlarged. Brunner's glands did not attract attention.

_Liver._—The form of the liver was abnormal; it had no left lobe, and in its general shape resembled a spleen. The color was purplish red. The structure was unusually firm. It required considerable force to tear it asunder. It cut toughly under the knife, and the lobules started out from the cut surface, as if they had been bound down. The fibrous capsule surrounding the exterior of the liver, forming a sheath for the large vessels lying in the portal canals, was thickened. The individual lobules of the liver were surrounded with fibrous tissue. The lobules of the liver have been described by Malpighi, ('1) Kiernan, ('2) Müll-

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ler, (3) Leidy, (4) and others as isolated from each other, and each invested with a layer of areolar or fibrous tissue. In the pig, in which these lobules were first noticed, and in the Polar bear according to Müller, and in the octodon cummingii, according to Hyrtl, (5) the lobules are invested by fibrous tissue, but in the liver of the human subject, and in that of vertebrate animals generally, the lobules are not separated from each other by a fibrous partition, and there is no areolar or fibrous tissue or prolongation of Glisson’s capsule between them or in their interior. Vogel, Henle, (6) Bowman, (7) and Beale, (8) have failed to detect any fibrous tissue in the interlobular fissures of the normal human liver.

In cirrhosis of the liver, on the other hand, there is a remarkable development of fibrous tissue in the parenchyma of the liver, and the individual secreting segments become prominent, or even form isolated lobules. The increase of fibrous tissue in the liver of this subject, was manifest to the eye, and especially when the liver was subjected to the action of a stream of water, and gently mashed between the fingers. The softer parts were washed out, and the fibrous tissue remained. The character of this was determined by microscopical examination. The portions of the liver surrounded by the indurated fibrous tissue appeared to be but little altered and could be readily scraped away.

The cirrhosed condition of the liver was not the result of malarial fever, for the microscopical examination showed that the fibrous tissue was abundant and well formed. The whole structure of the liver could not have been pervaded by fibrous tissue in the course of a few days. It is reasonable to conclude with Dr. Budd, (9) that the remarkable changes in cirrhosis, are mainly the consequence of adhesive inflammation in the areolar tissue about the small twigs of the portal vein, and in the areolar tissue of the portal canals, by which serous fluid and coagulable lymph are poured out. In this stage, the liver may be enlarged. The serous part of the effusion is next absorbed, the lymph contracts, becomes converted into dense fibrous tissue, which divides the lobular substance of the liver into well-defined masses, and gives great density and toughness to the organ.

Finally, this fibrous tissue, compresses the small twigs of the portal vein and the small gall ducts, and thus impeding the escape of the bile and the flow of blood, induces great atrophy of the original hepatic tissue, and causes by a deprivation of blood and the admixture of this dirty white fibrous tissue, marked changes in the color of the liver. If these views of Dr. Budd be correct, it is evident that this condition of the liver could not have resulted from an attack of malarial fever, which had commenced only twelve days before death. The weight of this liver was 22968, troy grains, or 52 1/2 ounces avoirdupois. According to the researches of Dr. John Reid, (10) the liver weighed in 43 cases, out of 82, between 48 and 58 ounces in the adult male; and in 17 cases, out of 36, its weight in the adult female ranged between 40 and 50 ounces. It may then, in general terms be stated that the weight of the liver in health varies from 3 to 4 pounds, according to the quantity of blood which it may contain at the time it is examined. The weight of this liver therefore, was normal. It was however far more engorged with blood than is usual in cirrhosis. If this patient had died from tuberculosis and not from malarial fever, it is probable that the liver would have weighed less than in health.

This patient was an Irish laborer. This class are addicted to the free use of ardent spirits, and the true cause of this cirrhosed condition of the liver, was the action of the alcohol in the portal blood, absorbed directly from the stomach and intestines, upon the bloodvessels and secreting apparatus of the liver. We know that this form of disease is most frequent in large manufacturing towns, among the poorer classes who drink large quantities of ardent spirits. All the cirrhosed livers which I have had an opportunity of examining, have been taken from the bodies of those who have been accustomed to the free use of spirits. So common, and well known is this cause, that cirrhosis is familiarly termed by the English practitioners, gin-drinkers' liver.

The color of the liver of this patient was very different from that generally presented in cirrhosis. Upon the inferior surface of the liver, there was a small portion of a dark slate inclining to bronze color, resembling the color of the malarial fever liver, and forming a striking contrast with the surrounding purplish red color. In cirrhosis, owing to the admixture of fibrous tissue and the impediment to the circulation of the blood, and the passage of the bile, and the compression of the capillaries and secreting apparatus, the normal dull-reddish brown color of the liver

(10) London and Edinburgh Monthly Journal of Med. Science, April, 1843. See also Comparative Weights of the Liver of Animals, by Joseph Jones, M.D. Smithsonian Contributions to Knowledge. 1856, p. 113.
is altered sometimes to a bright canary yellow, sometimes to a brownish or greenish, and occasionally to a reddish color. A section of the liver upon a general view presents the greyish and yellow color of impure bees-wax.

The researches of Dr. Thomas Stewardson, (11) in the Philadelphia Hospitals, confirmed by those of Dr. Wm. T. Howard, (12) in the Baltimore Alms House, of Dr. Swett, (13) in the New York Hospital, of Drs. Anderson, (14) and Frick in the Baltimore Alms-house and Infirmary, and of Dr. Richard D. Arnold, (15) in the Savannah Marine Hospital and Poor House, have shown that the color of the liver in malarial fever, is changed from the normal reddish brown, to a slaty or bronze, or mixture of bronze and olive. The observations of the author, which we hope to present in subsequent numbers of this journal, confirm the statements of these observers.

In this case, owing to the pathological conditions of cirrhosis, the admixture of fibrous tissue, impediment of the circulation of the blood, and flow of bile and the compression of the capillaries and secretory apparatus, the color of the liver was not so marked as in those cases of malarial fever, in which the liver was normal before the introduction of the malarial poison. Allowing due weight to the pathological changes of cirrhosis, it is evident that the change in the color of the liver, was similar in all respects to the slate or bronze color of livers which were normal before the onset of the malarial fever. This change in the color of the liver in malarial fever is due to changes in the amount, and physical and chemical constitution of the blood in the capillaries of the liver, and to physical and chemical changes in the bile and the contents of the secretory apparatus. The blood which issued from the cut surface of the liver, remained of a dark purplish color, and did not change to the arterial hue upon exposure to the oxygen of the atmosphere. The loss of this power to change from the venous to the arterial hue is significant of profound changes in the constitution of the colored blood corpuscles.

In this, and many other cases of malarial fever, I have observed the bile to be of high specific gravity—thick, concentrated, and of a greenish black color when seen in mass, and of a gamboge yellow, when spread in thin layers. I have always found

(13) Swett, on Pathol. of Remit. Fever. " " " " " "
(14) Published by Dr. Alfred Stille. " " " April, 1846.
the filtered decoction of malarial fever livers, to be of a brownish yellow color, whilst the decoction of normal livers is of a light yellow, whilst that of yellow fever livers is of a bright golden yellow. The color alone, would seem to point to pathological changes in malarial and yellow fevers, differing in each disease. The amount of blood contained in the capillaries of the malarial liver has always appeared to be greater than normal. The combination of these three causes will account for the peculiar color of the liver in malarial fever.

The liver of yellow fever on the other hand, as far as my observations extend, is of a bright yellow color, (readily extracted by water and alcohol,) firm texture, and contains much less blood than the malarial liver. The yellow fever, liver although resembling fatty degeneration in color, as far as my observations extend, gives no evidence of such a change under the action of chemical re-agents. A solution of liquor potassa readily dissolves the liver of malarial fever, but acts very slowly upon the yellow fever liver.

These facts are sufficient to show that the pathological changes are widely different in the two diseases. The liver of this patient who had died with phthisis pulmonalis and intermittent fever, was carefully tested for grape sugar, with Moore's and Trommer's tests. Not a trace of grape sugar was obtained. The absence of the grape sugar was not due to the cirrhosed condition of the organ, for I have detected grape sugar in the cirrhosed livers of patients who had died from other causes than malarial fever. Diabetes mellitus, has existed when much of the lobular substance of the liver had been destroyed by cirrhosis, and the secretion of the bile defective and the passage of the blood through the liver much impeded. Such a case occurred in King's College Hospital, under the care of Dr. George Budd.(16) From numerous chemical examinations of the livers of patients who had died with the different forms of malarial fever, I am convinced that the absence of grape sugar is due to the action of the malarial poison upon the special ferment of the blood.

When tested for glycogenic hepatic matter (animal starch), after the method of Bernard, an abundant precipitate was obtained. When the fibrous capsule of the liver was torn off, spread upon a glass slide, partially dried and treated with tincture of iodine, the cellular tissue was not altered by the tincture of Iodine, but wherever a particle of liver adhered to the fibrous tissue, there a purple and blue color was produced. Under the microscope the fibrous tissue of the liver generally, and of the portal canals, were found to be completely infiltrated with this animal starch. Under the microscope the liver cells appear-

ed to be paler and have fewer oil globules and granules than usual, but otherwise, they were normal. When single cells were treated with tincture of iodine under the microscope, I was not able to demonstrate satisfactorily whether they contained animal starch. When, however, a number of them, in mass, were treated with tincture of iodine, the characteristic blue color was produced.

In this case of intermittent fever, the special ferment in the blood which transforms animal starch into glucose, had been destroyed, whilst the power to manufacture starch from both nitrogenized and non-nitrogenized materials, was exercised by the liver, and hence the absence of glucose and the accumulation of glycogene. From chemical examinations of the livers of the different forms of malarial fever, from the summer of 1856 to the present time. I have obtained similar results—an abundance of animal starch, without a trace of grape sugar. Livers were set aside and examined after intervals of 12 hours. The last examination was made 36 hours after the first. At every examination the result was the same—an abundance of animal starch, without a trace of grape sugar.

The mere presence of starch in the liver is not peculiar to malarial fever—it is not a pathological condition. In the month of September 1856, I had an opportunity of examining chemically the liver of a patient who had been under the care of my friend and former colleague Dr. J. B. Read. This patient had black vomit, and all the symptoms of yellow fever, and the liver presented the yellow box-wood color peculiar to this disease. Drs. Read and Arnold, who have had extensive experience in the treatment of yellow fever, pronounced it a genuine case of yellow fever. (17) Chemical examination gave decided evidence of the presence of animal starch in the structure of the liver. The liver of a yellow fever patient brought from Norfolk by Dr. J. B. Read, (18) presented a similar appearance, and also yielded animal starch.

I have detected this substance in the human liver, in normal condition after sudden death, from diseases of the circulatory apparatus, and apoplexy, and phthisis, and in abnormal states, as cirrhosis, fatty degeneration, and cirrhosis and fatty degeneration combined. I have examined the livers of numerous vertebrate and invertebrate animals, injected and uninjected, and in every instance animal starch has been found. Whether the elaboration of this product is confined specially to any one of

(17) For report of this case, see Addendum to Dr. Richard D. Arnold's Essay on Bilious and Yellow Fever, p. 3.
(18) Chief Physician of the Savannah Volunteers, who went on to Norfolk in 1865, and rendered medical service during the terrible epidemic of yellow fever.
the anatomical elements of the liver, I have not as yet been able to determine with certainty, for it has been found in the fibrous tissue of the portal canals, in the hepatic ducts and in the secreting cells. We would naturally infer that it was formed in and by the secreting cells of the liver, and was deposited in other positions by endosmosis. The exact point at which it is converted into grape sugar, is also unknown. Bernard has shown that this change is due to the action of a special ferment contained in the blood. Experiments have shown that the liver cells contain grape sugar as well as the hepatic veins. If the starch is formed in the secreting cells, and grape sugar is formed in them also, then the special ferment of the blood must be absorbed by the secreting cells. A portion of the animal starch may be absorbed by the hepatic veins, and be acted upon by the ferment, partially, if in large quantities, and finally be deposited in the organs and tissues. This view is sustained by the fact that this substance is not confined to the liver. I have found it in considerable abundance in the malarial fever spleens, and in normal spleens taken from patients who had died from cirrhosis and fatty degeneration of the liver combined, and in one case where the patient (an aged negro man) had died suddenly from apoplexy.

A carbo-hydrate, similar in its composition and properties to vegetable cellulose, has been found in some of the lower classes of animals. C. Schmidt, (19) discovered cellulose in the mantle of phallusia mammillaris (one of the mollusca,) and Lowig (20) and Kolliker, have discovered it in the outer tube of salpæ, in the leathery mantle of the cynthia, and in the cartilaginous capsule of the simple ascidæ. The researches of Odier, (21) Lassaigne, (22) Payen, (23) Children, (24) and Danniel, and especially of C. Schmidt, (25) have shown that a body closely resembling cellulose, (vegetable fibre, which C. Schmidt, regards as composed of a carbo-hydrate and of a nitrogenous body having the composition of the muscular fibre of insects,) forms the true skeleton of all insects and crustacea. This substance, called chitin, constitutes not only the external skeleton, the scales and hairs of insects, but it also forms their trachæ, and even one of the layers of the intestinal canal. Cellulose or animal starch

(19) Zu Vergl. Physiol. der Wirbellosen Thiere. 1845. S. 63. See also "Contributions to the Comparative Physiology of the Invertebrate Animals, being a Physiologico-Chemical Investigation," by Dr. Carl Schmidt. Taylor's Scientific Memoirs, vol. v., part xviii. 1852, p. 34.
has been discovered by Rudolph Virchow, (26) in the brain and in some of the higher nerves of sense. These observations were subsequently confirmed by those of George Busk. (27) In 1853, Virchow (28) announced the discovery of corpuscles presenting the same reaction as the corpora amylacea of the brain, in the malpighian corpuscles of diseased human spleens—in the condition termed waxy spleen. Virchow, Bennet and Carter have also pointed out the existence of a peculiar amyloid substance in the liver, in some chronic forms of disease, as waxy or fatty degeneration.

Notwithstanding that much time and labor were expended upon the microscopical and chemical examinations of the liver in this case, and in many others which we hope to record in future, and notwithstanding that several facts of value to pathology have been discovered, still the whole subject is open for investigation and presents an inviting and untrodden field to the investigator. These imperfect results are presented with the hope that others may be excited to enter the same field, and not only prove their truth or falsity; but also remove the uncertainty and obscurity, and establish a clear knowledge of the pathology of malarial and yellow fevers. Those who enter upon this field of investigation will soon be convinced, that chemical and microscopical examinations of the liver are tedious, and to a great extent uncertain and vague, on account of the complexity and delicacy of the structures, and secretions.

The accuracy and value of pathological investigations, depend upon the state of anatomy and physiology. If anatomists and physiologists are not agreed with reference to the minute anatomy of the liver, and the mode of formation, and offices of its secretions, how can the pathologist arrive at accurate and definite conclusions, when he has to investigate not only the complex anatomical structures and secretions, but also examine the morbid physical and chemical alterations, and if possible, discover the character and mode of action of the morbid agent or agents? The difficulty of correct microscopical examination of the liver is strikingly shown by the differences of opinion amongst the most distinguished anatomists, with reference to the connexion of the liver cells, with the hepatic ducts. Kierman, (29) Schröder Vander Kolk, (30) Krukenberg, (31) We-

(26) Virchow's Archiv. b. vii., h. 1, p. 135.
ber, (32) Retzius, (33) Theile, (34) Backer, (35) Leidy, (36) and Beale, (37) have advocated the existence of a tubular basement membrane, continuous with the ducts, within which lie the liver cells. Kolliker, (38) describes the hepatic cells as so arranged in the lobules, as to form a net-work, by the simple apposition of their flat surfaces, without the assistance of any foreign connecting intermediate or investing coat. Not a trace of biliary ducts is to be observed in this net-work, and it is impossible to make out any connection between the biliary ducts and hepatic cell net-work, which is undoubtedly the secreting portion of the liver. Dr. Handfield Jones, (39) asserts that the ducts terminate in blind extremities, on reaching the lobule, instead of forming a plexus within it, and that the chief agents in the secretion of bile, and the cells lining these ducts, and not the cells in the lobular substance. These facts, show the necessity for careful and laborious research, and the importance of having a large number of careful investigators engaged in this field. (40)

Spleen.—Color of spleen, dark slate, resembling in all respects that common to the severer forms of malarial fever. Weight, grains, 6343. According to the observations of Dr. John Reid, the weight of normal spleens ranges from 2187 to 3062 grains. This organ then was enlarged. It was partially disorganized; its fibrous capsule was torn upon the slightest pressure, and the cellular framework was readily ruptured when the substance of the spleen was pressed between the fingers. The pulp (mud) of the splen was of a dark reddish brown color, and changed very slowly and slightly, when exposed to the atmosphere. After 12 hours exposure to the atmosphere, although the color became a

(34) Art. Leber, in R. Wagner's Handw. der Phys. 11, St. 308.
(35) De Structura Subtiliori Hepatis Sani et Morbosae, Diss Inaug. Trajecti ad Rhenum.
(36) Researches into the Comparative Structure of the Liver. American Jour. of the Medical Sciences, January 1848, p. 18.
(40) Of all anatomists, Dr. Lionel S. Beale appears to have examined the liver with the greatest care, and to have arrived at the most accurate results, and I would recommend his recent work "On some points in the Anatomy of the Liver of Man and Vertebrated Animals. London: 1856," to the young members of the medical profession who may enter upon similar investigations. This work contains minute and valuable directions for the injection and preparation of the liver for microscopical examination.
little lighter and redder, still it by no means assumed an arterial hue, as is usual with normal spleens. This spleen was not however as much enlarged and disorganized, as in severer cases of malarial fever. When the fibrous capsule was torn off, spread upon a glass slide, and treated with tincture of iodine, the fibrous tissue was simply colored red by the iodine, whilst in the meshes of the fibres were seen irregular blue and purple masses, resembling in all respects the animal starch of the liver. When the spleen was subjected to a stream of water, and the pulp washed out of the cells, and the cellular frame-work and blood-vessels thus cleansed, spread upon a glass slide, and treated with a solution of iodine, numerous small irregular blue and purple masses were seen in the meshes of the fibrous tissue of the frame-work, and also of the blood-vessels.

_Kidneys—normal in appearance. Bloodvessel filled with blood. Weight, grains 4156._

_Bladder—contracted, contained no urine._

(To be continued.)

**ARTICLE XIX.**

*Emulsions.* By Robert Batty, M.D., of Rome, Georgia.

[The following excellent suggestions on *Emulsions*, received some months since, have not appeared hitherto, for the want of space. We gladly find a place for them in the present number. The writer, it seems, has paid considerable attention to pharmaceutical combinations, and lays great stress upon the neatness and beauty which those compounds should present. He gives some good hints as to the mode of preparation by which these desirable qualities may be secured.

As regards his reference to our Formula for Dysentery, published some months ago, we would simply say, that we gave it to the Profession in the exact form in which it occurred to us, and in which it gained our confidence by its marked effects, and just as it has been used ever since, not only by ourselves, but by many others, with the most gratifying results. We would prefer, therefore, to retain the amount of each ingredient intact, rather than to sacrifice, in any degree, the success of the treatment to pharmaceutical neatness, or agreeableness of taste.

We see that The London Lancet, a most critical and fastidi-
Batty, on Emulsions.

ous Journal, in transferring this formula to its pages, did not see fit to suggest an alteration.—Edts.]

There is, perhaps, no class of preparations in the dispensing practice of country physicians, so badly done up as emulsions. A few practical suggestions, from one who has spent some years in the drudgery of a dispensing shop, will, I trust, not be devoid of interest to those who desire to furnish their patients with nauseous remedies in this most eligible form.

An emulsion may be defined to be a combination of oil, fat, or resin, with water, through the intervention of an alkali, gum, albumen, or casein. It is, in other words, an artificial milk, of which nature has given us a perfect type in the milk of animals, the juices of the garden lettuce, the poppy, the asclepias syriaca, the ferula assafoetida, and a large number of both indigenous and foreign plants, are samples or copies furnished us for our study and imitation.

In attempting to arrive at the points of a good emulsion, we cannot do better, perhaps, than take cow's milk as our standard of comparison; and first, we notice that it is, when fresh, an opaque, homogeneous liquid—such should be the character of the well-formed emulsion. The milk, upon standing for a time, throws up its cream to the surface—the emulsion, by age, will do the same; but as we do not find masses of butter upon the milk, neither should we have globules of free oil on the top of the emulsion—the latter, like the former, should admit of free dilution with water, without any separation or decomposition. Like milk, while it should not be too thin and watery, it is by no means thick and viscid; in color, pure white, if possible—if tinted, let it be cleanly and agreeable to the eye; in odor and taste, as little repugnant as the nature of the remedy will permit.

Let us now inquire how these indications are to be carried out in practice. We will take, for illustration, the recipe upon page 163 of this Journal—a recipe medicinally admirable, but pharmaceutically bad. We have here, of oils 2½ ounces, solid materials 3 ounces, tincture 1 ounce, and water 3½ ounces—a preparation entirely too concentrated, thick and viscid—a teaspoonful of which forms a more nauseating dose than four times...
the quantity of a well made milky emulsion. When diluted with an equal bulk of water, it separates into three distinct layers—a dirty looking fluid, with a curdled precipitate at the bottom and an oily layer upon the top; in both respects, then, most unlike its prototype—milk. In this case, the quantity of water has been insufficient to prevent the curdling action of the lavender upon the mucilage; it should therefore be increased; and this may best be done by using a portion of aqua menth. pip. as a corrigent, and also to conceal the flavor of the turpentine. The quantity of soda, upon the other hand, is excessive, its saponifying properties being unnecessary—so much only should be used as is medicinally requisite.

Salts should enter into emulsions only when clearly indicated in the case, and then in small quantity; for, with the exception of the alkaline salts, they impair the permanence of the preparation—while the alkaline salts, themselves, in large quantity, offend the palate and stomach. The use of ordinary spts. turpentine should be avoided if possible—fresh camphine or pine oil is preferable; and when this cannot be obtained, the spts. turpentine may be put in a retort or flask, with a little water, and one half of it distilled off for medicinal purposes: as prepared in this manner, it is so nearly free of taste and odor, as to be scarcely recognizable in the emulsion. The castor oil should be clear and limpid, and wholly soluble in alcohol; and the powdered gum arabic, when rubbed upon a pill tile, with a little water, should form a bright and clear mucilage, free of color.

Upon remodeling the formula, in accordance with the views above indicated, we have a handsome preparation, as little repugnant to the taste as the remedies will admit, and the recipe will read somewhat as follows:

B. Ol. Ricini Opt. ..... f 3ij.
" Terebinth, Recentis. ..... f 3ss.
Sodæ Bi Carb. ..... 3ij.
Pul. Acacia Opt. ..... aa 3i.
" Sacch. Alb. ..... aa 3i.
Sps. Lavendul Comp. ..... f 3i.
Aquaæ Camph. ..... aa 3v.
" Menthar Pip. ..... aa f 3 vj.

M. Ft. Emulsio. Sig. a tablespoonful to be taken every two hours.
It is not sufficient, however, that we have a well devised formula: skillful manipulation in combining the ingredients is also of prime importance, if we would have a handsome product. The simple mixture of the materials in a bottle, gives us a heterogeneous mass, utterly devoid of form and comeliness; and even when well begun, a single false step in the process will often wholly defeat the end proposed. Yet the process, when once understood, is by no means a complicated or difficult one.

In compounding the above formula, the first step is to weigh the dry materials—soda, gum and sugar—and combine them in a suitable mortar, capable of containing a pint—then add of the camphor water sufficient to form a thick mucilage, which gives a crackling sound under the pestle. Mix well the turpentine and oil in a graduate, and add it in successive portions of 5 or 10 drops, triturating thoroughly after each addition, until about one-fourth has been thus combined with the mucilage, which will be found to have thickened in the process. It will now be necessary to add a few drams of the camphor water to attenuate the mixture to its former consistence, when it will be proper to add the remainder of the oils, slowly, as before, and with constant trituration. The camphor water may now go in, dram by dram, followed by the mint water; and lastly, the sps. lavender, which should be added cautiously, drop by drop, continuing the trituration constantly throughout the process.

I have been accustomed in past years to compound an emulsion of Copaiba, extensively and favorably known to the Profession here as “No. 310.” The recipe, obtained from Prof. Miller, of the Augusta College, is as follows:

\[ \begin{align*}
R. & \text{ Copaibæ,} \\
Tinct. & \text{ Cubebæ,} \\
*Syr. \text{ Uva Ursi,} & \quad 0a f \frac{3}{2} ij. \\
Pul. \text{ Acacie Opt.} & \quad \frac{3}{2} ij. \\
Aqua Cinnam. & \quad f \frac{3}{2} xvj. \\
\end{align*} \]

M. Ft. Emulsio. Sig. Dose, a tablespoonful three times daily.

I use, in my own practice, a formula, as I think it somewhat more elegant than the above—

* Syrup Uva Ursi contains the active matter of four ounces of the leaves in each pint of syrup.
Batty, on Emulsions.

M. Ft. Emulsio. Sig. Tablespoonful three times daily.

In comparing the two recipes, three points are worthy of notice: First, the use of mentha virida to couch the taste and odor of the Copaiba, as being much better fitted for this purpose than the cinnamon; secondly, the use of ol. menth virida, in place of aq. menth vir., saving the unnecessary trouble of preparing the latter for the purpose; thirdly, the use of fluid ext. of Buchu, in place of the tr. cubebs and syrup uva ursi. The Buchu contains a notable quantity of sp. nitre, oil cubebs and oil Juniper, and is altogether a more eligible preparation for this use.

In typhoid fever, and indeed all febrile cases where I have a dry, parched tongue to contend with, I use the following formula:

R. Ol. Terebinth Recini, f$\frac{3}{ij}$.  
Sodæ Bi Carb. 3j.  
" Sacch. Alb.  
Sp. Lavendul. Comp. f$\frac{3}{ss}$.  
Aquæ Camph. f$\frac{3}{iv}$.  
" Menth. Pip. f$\frac{3}{iii}$.  

M. Ft. Emulsio. Sig. Tablespoonful every two hours.

To this, tinct. opii. or tinct. verat. viride may be added, if indicated.

In digesting a formula the following suggestions will be found useful:

1st. The quantity of the active ingredient must, of course, be governed by the case. For one pint of emulsion, two to four ounces of castor oil—one half to one ounce of oil turpentine, and one to two ounces of copaiba, will usually be found desirable limits.

2nd. The quantity of gum used may be one ounce for four of castor oil, two of copaiba, and one of oil turpentine—unless it should be desirable, as in the case of copaiba, to render the

* Each pint represents, of Buchu $2\frac{1}{2}$ ounces; Sp. Nit. Ether $2\frac{1}{4}$ ounces; Oil Cubebs and Oil Juniper, of each, 21 drops. 
preparation more mucilaginous. When sugar is used, the gum may be a little curtailed, if desired.

3rd. Syrups may be added freely, if indicated; but with tinctures and spirits it is advisable that the quantity do not exceed an ounce in the pint.

4th. No insoluble powders should be added to an emulsion; nor should soluble salts be used in large quantity.

The rules for the preparation of emulsions may be briefly summed up in the order in which the materials are to be used.

1st. All dry materials.
2nd. Watery menstruum to a crackling mucilage.
3rd. The oils, until the mucilage thickens.
4th. Watery menstruum to attenuate.
5th. Remainder of the oils.
6th. " watery menstruum.
7th. Simple or fluid extracts, if any.
8th. Tinctures, or spirits.

Clinical Lecture on Dyspepsia. Delivered at the Hotel Dieu, by M. Trousseau.

Of the patients at present in the wards of our service, you may every day see some who complain of disordered digestion. You have seen me give trial to various therapeutic means, and perhaps an accusation of empiricism has planted its germ in your minds; but do not deceive yourselves. I have, it is true, been groping my way; but if to some I have prescribed bicarbonate of soda, carbonate of magnesia, carbonate of lime, and seltzer water; to others cinchona wine, infusion of quassia, or of nux vomica; and to others again, opium or hydrochloric acid, it is because I would ascertain in what cases one or other of these medicines is more particularly indicated, and more especially useful. This premised, let me now enter into some details, for dyspepsia is a question on which it will be worth while to bestow some pains.

There are circumstances in which the physician, furnished with therapeutic agents, may bring his patients into particular conditions of adjustment, and impress, for instance, on the stomach a co-adaptation necessary to the regularity of its actions. The organism readily accommodates itself to a new impression. Man certainly was not born under the 50th degree of latitude;
his body which is protected neither by hair nor by feathers, unlike the bodies of other animals, shows clearly that it was placed at first by its Creator under a sky so mild as to render unnecessary that clothing which, in our climate, is indispensable to the preservation of life. When the earth became too narrow for him, man directed his steps towards other regions, and thanks to the wonderful aptitude he possesses, after turning his back on equatorial countries, he now lives under the pole. As with these climatic variations, so it has been with his food; from a regimen the most elementary, consisting with the Hindoos of scanty rations of rice, milk, and water, man has at last arrived at the copious table of the nations of the north. Now, what we have said of individuals is just as applicable to the organs.

What is seen occurring in the animal on which there has been practised stomachic fistula? It is only necessary, you know, to introduce into the stomach a glass tube in order to excite the mucous membrane of that bag, and produce an abundant flow of gastric juice. Under the influence of such irritation—of this impression, which the nerves transmit to the ganglionic nervous centres—there is produced an extra physiological secretion of a perfectly normal fluid. Carry the excitement to a higher degree, produce inflammation, and there is no longer any flow of gastric juice; the fistula now gives exit only to mucus. But such perturbations manifest themselves independently of mechanical irritation. Let a man have fever, and let the fibrile state be accompanied with a certain modification of the innervation, and you have suspension of the gastric secretion. M. Cl. Bernard has repeated the experiment a thousand times, by exciting, in his way, fever in animals. Let the stomach be no longer in concert with the cerebral nerves and brain, let the pneumogastric nerve be divided, and the same instant the glands of Lieberkühn become powerless and inert. If, on the other hand, you touch the ganglia of the trisplanchnic system, that furnish nervous filaments to the stomach, a phenomenon of another order arises: the gastric secretion becomes more abundant. The results, therefore, are thus essentially different as the disturbance produced in the nervous system has its seat in the encephalorachidian system, or in the ganglionic system.

We see every day exemplified in man the influence which moral emotions have, if considerable, after a repast; indigestion supervenes just as it would do had the pneumogastric nerve been divided. Long continued mental affections may greatly change the functions of the stomach; hence dyspepsia is frequently occasioned by sadness. Keep these etiological details in remembrance: they may be singularly useful to you in the treatment of an affection sometimes so obstinate, and which will form the subject of several of our conferences.
The stomach secretion is modified also by local pain and neuralgia. As neuralgia of the eye augments, ophthalmic congestion increases the temperature of the organ, and causes an overflow of tears, so neuralgia of the stomach brings with it analogous effects, and exaggerates the acid secretions to such a degree that they occur not only during digestion, but also when digestion is at an end.

Dyspepsia is observed in most persons who experience difficulty in evacuating the bowels. Is constipation a cause or an effect of dyspepsia? This question to me does not seem of easy determination; for you may just as readily suppose an individual may become constipated because his food is too sparing, as that he is constipated because he is dyspeptic.

When you irritate the lower extremity of the large intestine you bring on a diarrhoea that has its source in the ileum. The anal impression thus communicates itself to the small intestine. A very evident proof of the sympathy which connects the rectum with the other parts of the intestinal tube may be seen in fact that an enema administered after a meal gives rise to indigestion. A suppository, which is never introduced beyond four or five centimetres, very often produces results identical with those caused by the enema. This at least is sufficient to provoke alvine evacuation, at first of the form of the large intestine, then demi-liquid, and containing matters in part from the cecum or last portions of the small gut. There is then a participation of action, a synergia, by which the whole muscular apparatus of the alimentary canal is preserved in harmony with the large intestine. These considerations conduct you to an explanation of the fact that constipation may cause dyspepsia; the muscular apparatus of the rectum, when this gut is indolent, contracts feebly, the movements of the rest of the tube are weakened, and digestion becomes more difficult. It is the reverse of what takes place in diarrhoea; so much is this the course of things, that with some patients it is only necessary to procure regular evacuations, whether by enemata or ascending douches, so as to awaken harmonious intestinal action, in order to cure the dyspepsia.

There is a multitude of circumstances in which colic pains are taken for stomachic. The transverse colon lies, in fact, in the epigastric region, and is found in contiguous relation with the stomach. To that organ the patient invariably refers the pains he feels in this situation—an error into which the physician too, it must be remarked, often falls. Of pains in the hypochondria the same thing may be said; whether they affect the ascending or the descending colon, on account of their proximity to the liver and spleen, they are confounded with hepatic and splenic symptoms.
In constipated individuals, accumulation of fecal matters occurs in the transverse colon, giving rise to a feeling in that part, of fullness and distension, which the patient never fails to refer to the stomach, though innocent of the evil. It will not be long ere you are convinced, if you interrogate carefully, that the pains complained of are not coincident with the first digestion, but rather with the time when it is all but accomplished. When you pursue your examination actively, you discover that such individuals are liable to obstinate constipation, followed often by diarrhoea, with a more or less abundant excretion of mucus, to be recognized by small whitish bands, sometimes mistaken for fragments of tape-worm. Such persons, in the end, have attacks of colitis, and of intestinal neuralgia, and are yet supposed to suffer from affections of the stomach—dyspepsia—but, in its more general sense, dyspepsia in such has no existence. Nevertheless, the attacks of colitis may give rise consecutively to that affection.

Morbid states of the liver occasion painful dyspepsia. The hepatic gland has with the stomach a relation so intimate, and the physiological part it plays is of so great importance to digestion, that it is easy to see how disease of the liver may influence the gastric apparatus, and disturb the course of its action. Hepatic pains, on the other hand, are sometimes mistaken for gastric phenomena; but the diagnosis is not difficult. The patient refers all his sufferings to the region of the stomach, but medical investigations show that they extend to the entire right hypochondrium.

The uterus exerts on the stomach an influence not less remarkable; and you know what perturbations are often excited in the stomach by pregnancy, an ordinary symptom of which is vomiting, in some cases quite incorrigible. If you admit the action of the uterus, physiologically modified, on the alimentary canal, you must also admit that the organ of gestation may act in the same manner when it is the subject of pathological lesions; hence the dyspepsias that arise in the course of leucorrhoea and the leading diseases of the generative system. The same, moreover, may be said of diseases of the kidneys, and of other organs.

I thought it would be interesting to speak to you of those dyspeptic states that depend upon distinct functional disorders, and organic lesions. These dyspeptic difficulties always recur with increased or diminished activity of the movements and secretions of the stomach; and it is essential to establish the differential characters that distinguish symptomatic or sympathetic affections from such as are idiopathic. For the latter, address yourselves to the stomach; for the former, you will be obliged to have recourse, not only to the distant cause, but also to the momentary
morbic phenomena, and the organic lesions. Unless you do this, you will find therapeutics impossible.

At the beginning of the present century gastritis came to overturn all our received notions in pathology. The celebrated chief of physiological medicine, exaggerating the facts he had observed, and in his march retrograding back to Van Helmont, whose archetypal sat enthroned in the centre of the epigastrium, pretended to establish an etiological relation between the mucus membrane of the stomach and diseases the most dissimilar and discrepant, and would have inflammation of that tunic to be the source of almost all the phlegmasiae. You have no doubt heard of the scientific combats that were carried on at that time, and the struggles which that doctrine had to sustain. Broussais, doubtless, went too far; but it must be said, also, that physicians of the present day allow themselves to be led away by a contrary exaggeration when they deny to the mucus membrane of the stomach a capability of becoming inflamed. Why, then, do they admit that inflammation may attack the mucus linings of the nostrils, pharynx, trachea, bronchi, uterus, vagina, and even that of the intestines? Why, because Broussais abused the subject of gastritis. Would they have the internal coat of the stomach alone exempt? This is just, in fact, what we always do; from one evil we fall into a greater.

In vitium duet culpæ fuga si caret arte.

Gastritis, then, has an existence, and there are satisfactory reasons why it should. As the chronic states is that in which it is most frequently seen, so also is it sometimes masked; but still it is there, and excites serious disturbance in the process of digestion. Under the influence of this inflammation, the movements of the muscular fibres of the stomach become irregular, and the secretions no longer take place, but in an abnormal manner. Hence you see dyspepsia accompanied by inappetency, and the tongue covered with a salivarial coating; the patient finds his food taste bitter, nausea occurs after meals, and so do inodorous eructations, retchings, and vomiting. Commence your inquiries into the etiology of this form of dyspepsia, and it will not be long ere you discover that the origin of the disease, its symptoms, and physical signs, are all referable to some permanent irritation; to chronic gastritis. There is a variety of dyspepsia, in which bulimia takes the place of inappetency. The patient experiences in his stomach a constant feeling of emptiness. Scarcely has he finished eating ere appetite returns with imperious craving, compelling attention to its factitious wants; eructation, flatulence, and constipation are, in such cases, exceptional phenomena; but diarrhea is frequent. The reason of this you will soon comprehend. In order that
digestion take place physiologically, each of its phases must be accomplished in a given time; but should the stomach contract with too much energy, the alimentary mass is protruded with undue celerity into the duodenum, and before it has acquired a state of elaboration sufficient for fitting it for the second digestion. The intestine thus brought into contact with a foreign body—if I may use the expression—hastens its expulsion, exciting an abnormal state of activity, both in its secretion and contractions. Hence the diarrhoea, and often, also, dysentery.

Let us go on to another form of dyspepsia. You will often be consulted by individuals whose stomach, after meals, become distended with air to such an extent that the patient has to undo his clothes. You are told that this phenomenon is due to the rapid fermentation of amylaceous food, or else to an abundant production of carbonic acid, the result of fermentation going on in the stomachic bag, analogous to that of wine in a vat. But such is not the way the thing occurs. As Graves has well remarked, if you substitute meat for amylaceous food, the patient taking animal food almost exclusively, gas nevertheless appears, and with the same imporium. Now, would you say in this case, that the gas is a product of fermentation? There is here a peculiar secretion that has nothing to do with digestion of the food. In hysterical women, tympanitis sometimes shows itself in less than ten minutes; the abdomen may be felt enlarging under the hand. Assuredly fermentation will not suffice for the explanation of such a phenomenon. Under the influence of nervous disorders there occurs an exaggerated gaseous secretion, which recalls those other secretions, the lacrymal, salivary, renal, &c., the quantity of which is often extraordinary.

These facts are not without their importance. In fact, if you reason as the chemists do, and consider the stomach a sort of crucible, the excess of carbonic acid which comes from the pretended fermentation you must combat by every sort of means that chemistry affords. Well, I can tell you beforehand, that, if you thus proceed, you will accomplish nothing to the purpose. But, on the other hand, if you pursue the path of the true practitioner, if you prescribe baths, effusions, a few drops of ether, or any other means in which experience has taught you to confide, you will succeed in mastering the symptoms. But on this we shall say more when we come to the treatment.

In certain cases the acids of the stomach are in quantity enormous, and the patient has scarcely finished a meal before he is assailed by eructations in great number, and so acid as to set the teeth on edge. There was lately in the Salle St. Bernard, No. 27, a young woman, a prey to sufferings of this kind. When taken with vomiting—it was frequent—and using a copper basin, as they do in all the hospitals, lactate of copper was im-
mediately produced, easily recognized by its green color. The chemists have not been behind hand in endeavoring to find out the cause of this acidity. It is a transformation, say they, of glyclose into alcohol, and of alcohol into vinegar. Unfortunately, the explanation falls to the ground before the fact that the production of acid is often more abundant when animal food is exclusively used. The contrary, no doubt, takes place in many cases, but can this weaken in any measure, the former results? No; the acids of the stomach are not produced by a chymic operation, but are due to a particular secretion. Graves said in 1823, and Berzelius repeated in 1830, that this acidity consists principally of lactic acid, which may be formed in no inconsiderable quantities under the influence of nervous action and excitation peculiar to the mucous membrane of the stomach.

I have now passed in review with you various forms of dyspepsia. But can it be said that in practice you will be able, with as much precision, to seize on all the various shades of the disease? That is often impossible. In order to convey my thoughts I am obliged to reassemble facts, give form to statements, and describe genera and sub-genera, but I express nothing that is absolute. Classification is in natural history a very simple thing, and to take only an example from botany, vegetable spices are distinguished by well marked differential characters. But the case is by no means the same in nosology. Diseases in general, and the dyspepsias in particular, are far from being always identical with themselves. In their manifestations there is confusion; they are crossed one with another, and rest on data too shifting and unstable for one to attempt here to lay the foundations of a sure classification. Take warning then; and when, in the treatment of some obstinate case, your minds are left to their own resources, be not too ready to accuse therapeutics should success not promptly follow your efforts; for so you might soon be brought to deny medicine altogether, the worst evil that could befall you in the practice of your art. If on the contrary, you bear in mind this form of dyspepsia may usurp the attributes of another, and that both may occur simultaneously, then you will not delay having recourse to the mixed treatment I shall presently point out to you. Discouragement will no longer then have any hold on you.

Dyspepsia causes its influence to be felt throughout the whole system: a fact to which M. Bean was the first to direct the attention of practitioners. He has shown that there are very generally in dyspepsia anaesthetic conditions analogous to those seen in many cases of hysteria, insensibility taking possession of an arm, or a hand, or the face. Of our experiments in confirmation of this you have yourselves been witnesses; and you have seen me pinch, prick, and make holes with a needle in certain parts
of the skin, without the patient being at all aware of what had
been done, while the other parts of the body were perfectly sen-
sible. Nor do the moral and intellectual faculties escape its
influence. The difficulties of the stomach, moreover, become a
clog upon labor, interfere with the exercise of thought, and pre-
pare the way for hypochondriasis. The various influences which
dyspepsia exerts on the general health are attended with the
most serious consequences. Thus, disorders of digestion are a
cause of imperfect nutrition; and the almost perfect inanition,
which results from this state, changes the composition of the
blood, and plunges the patient into a state of physiological

Clinical Lecture on Pulmonary Hemorrhage. By James Alder-
son, M.D., Senior Physician to St. Mary's Hospital.

Gentlemen—There are at this time a number of cases in the
wards, which form a group, displaying all the same formidable
symptom of hemorrhage from the lungs. Separately examined,
these cases will also afford so many subjects for tracing the vari-
os causes whence that formidable symptom may arise. I shall
preface what I have to say by a few general remarks on medical
study which I conceive to bear especially on the interesting sub-
ject before us.

There are two methods by which we may study disease: one
to consider the pathological condition of the organ in fault, and
having fully understood it, then to observe the various symptoms
consequent on the pathological change; the other is to bestow
your primary attention on the symptoms of the case, and after-
wards to investigate the several morbid conditions which may
give rise to them. The first is a safe course of study, in which,
as diligent pupils, you can scarcely lose your way. The second
is a course still more needed for perfect information, but many
students fail to gather the full reward of their industry by becom-
ing unduly absorbed in the contemplation of symptoms; thus, by
neglecting to seek for the original causes, they will fail to learn
that there may be many for the same phenomenon. The danger
of falling into this error is increased by the mode of pursuing
medical science continually coming more in vogue—viz., the sub-
division of medical labour, leading to what are called specialities.
It is obvious that the eye long exercised on given subjects may
perceive those points more clearly than a less diligent direct organ,
but it is a psychological fact, that the mind, too much absorbed
in one limited field of investigation, becomes narrowed in per-
ception, and incapable of wider trains of reasoning. Now, we
know that natural science is linked together by primary laws,
some known, some yet to be discovered. It is plain, therefore, that comprehensive views of phenomena and their causes are needed in order to make any advance towards realizing truth. In practice, I would not deprecate undivided close attention to the nature and treatment of such organs as the eye and ear, because their special knowledge and special manipulation are required; but in the vast subject of internal disease, the habit of taking a wide view of all the distinctive features, and reasoning on them as a whole, cannot safely be surrendered to the narrower course of choosing some essential but limited train of symptoms for favourite contemplation. The progress of fashion is unfortunately dividing every organ, and even some particular derangement of the particular functions of every organ, into a separate subject for exclusive study. By this process, secondary symptoms are being continually exalted into primary diseases, tending in many cases, to the neglect of vital phenomena, and in all to the obscuration of much pathological truth. The practical result is, the adoption and laudation of specifics.

The second course of study which I have alluded to, and which has given rise to these remarks on specialities, is, however, that which strictly belongs to clinical teaching. We will therefore pursue it, endeavoring to avoid the error of classing diseases too much by symptoms, and too little by the causes.

The popular view of hemorrhage from the lungs refers it to the rupture of a bloodvessel; it is also the common belief that such hemorrhage is the beginning of consumption. Now, it is not always the breaking of a bloodvessel; and whether it is or is not so, consumption does not always follow. It is not denied, as we shall see hereafter, that hemorrhage may take place from a ruptured or ulcerated vessel in the lungs, but this form of haemoptysis is the exception to the general rule.

Hemorrhage from the lungs most frequently occurs by means of exudation through membranes or the coats of vessels. Exudation of blood may also result from a constitutional derangement, of which I shall presently describe an instance in one of the cases before us. They are also exceptional cases, the cause of which I shall presently refer to; but by far the greater number are to be referred to the existence of tuberculous deposit. It is not difficult to understand how the presence of tuberculous matter will cause blood to be exuded from the vessels. As all the blood of the body has to pass through the lungs, for the purpose of purification before being again transmitted to the system, it is plain that the presence of any foreign body in the lungs must offer obstruction to the free transmission of the blood, and cause delay and congestion. The greater the quantity of blood present in the lungs, the greater must be the necessity of the presence of air to purify it; and the forced accumulation of both occasions the
blood to exude from the surface of the membranes and vessels. Hence we account, not only for the symptom before us, but also for the dyspnoea, or difficulty of breathing. It must also be borne in mind that the structures and vessels are altogether impaired in tubercular constitutions, and therefore admit more easily of transudation.

In the latter stages of pulmonary consumption, the hemorrhage results not only from exudation, but from ulceration of smaller vessels in the immediate neighborhood of softened tubercles. In the progress of the disease this hemorrhage is small in quantity, though frequently repeated; but in advance cases of a particular class it is profuse and generally fatal, having resulted from the ulceration of a large vessel. This lesion is still essentially different from what is termed the breaking of a blood vessel, as, for instance, in the brain or its membranes, whether as in apoplexy, or as the result of an injury.

If we now briefly review the general character of spitting of blood, we shall find that it occurs under two forms—the one severe, the other slight. In the first, several ounces of blood will be brought up at once—six or seven or more ounces at a time. In the other, only specks or streaks may be seen in the expectoration; both forms being referable to exudation from obstruction; and although it is only the larger quantity which terrifies the patient, both forms equally reveal to the physician the existence of a diseased condition of the lungs.

When profuse, the blood is usually of a florid colour, frothy from the admixture of air, and clots of dark blood will be occasionally spit up, or sometimes apparently vomited, when a sort of convulsive action of the diaphragm accompanies the expectoration of the blood. A difficulty of breathing almost universally attends it, as well as pain, which is usually referred to the sternum, though sometimes to the side affected.

You will now follow me through the case of J. F——, in Albert ward. He was received into the hospital having a severe attack of spitting of blood, which had come on suddenly to such an extent, that in a few hours he had expectorated six or eight ounces. He was not in the slightest degree emaciated, the arms and chest being well covered with flesh; though he admitted that he had some slight difficulty of breathing, and a little cough, there had not been sufficient distress before the hemorrhage began to warn him that there was anything wrong within the chest.

The patient is twenty-one years of age, and by trade a bootmaker; and in the course of his employment he had to use strong exertion, and whilst thus at work the spitting of blood came on. His pulse was 100 in a minute, but he had no fever; his bowels were confined. On examining the chest we perceived that he did not expand the right side as well as the left; on percussion,
at about a couple of inches below the clavicle, over the upper lobe of the lung anteriorly, there was a decided dullness, very perceptible when compared with the sound on percussion on the left side; some degree of dullness was also found posteriorly by percussion. By the stethoscope the respiratory murmur over the left side was clear, and good; over the right side, a crepitation or crackling over the upper lobe, together with here and there increased resonance of the voice. For treatment, he was immediately ordered a dose of calomel and colocynth, followed by sulphate of magnesia in infusion of senna; he was also ordered acetate of lead with morphia, and diluted with acetic acid at intervals; for drink, lemonade; enjoined perfect rest; simple diet, to be taken cold.

The use of the dilute acetic acid is to keep the lead in the state of superacetate. The aperient treatment had for its object to divert the flow of blood to the bowels. When constipation exists, the active treatment of this symptom is of great value, and is often found of itself sufficient to stay hemorrhage.

I have the following notes of his state on the third day:—

The pulse still 100 in a minute; the cough not troublesome, but still existing. Great relief had followed the action of the aperient. His expectoration clear and frothy, but free from blood. On examining the chest by the stethoscope, the air was found to enter freely and rapidly on the left side, but a hesitation or delay occurred to the passage of air into the cells on the right side, conveying an idea of some obstruction to its admission, as if resisted by some foreign body, the expiratory murmur being longer than the inspiratory. The pulse soon after this fell to 80, but in a day or two again rose to 100, when the expectoration again showed a few specks and streaks of blood. He complained of pain and weight over the upper part of the right lung where the breathing was a little tubular, indicating again some consolidation from tubercular deposit. A few leeches and a cupping glass were applied; the aperient was repeated, and for the lead were substituted nitrate of potash and digitalis, with a view to act on the kidneys, and to control the heart's action; and the opiate was discontinued to avoid confining the bowels.

This appears to be a case of tubercular deposit in its earliest stage, the deposit being confined to the right lung, and being at present so limited in extent as not to have set up alarm in the constitution, the processes of nutrition not having as yet been interfered with. This man will be liable to returns of hæmoptysis, the severity of which would probably be heightened by any violent or unusual exertion. He will, sooner or later be the subject of pulmonary consumption. His intervals of troubled health will be regulated by the favorable or unfavorable circumstances which may attend his life, and in a great measure on the care and treatment of symptoms as they arise.
Lecture on Pulmonary Hemorrhage. [August,

A certain degree of relief for a time from his alarming symptoms may result from the equilibrium of the circulation through the lungs being, in a measure, restored. It is possible that the tubercular deposit has taken place rapidly, presenting a sudden obstacle to the transmission of blood through the lungs. A large withdrawal of the functional powers of a vital organ may be compatible with continued life, when the change takes place gradually, and the system has time and power to accommodate itself; but sudden interferences of a much slighter character will destroy life before the system has had time to accommodate itself to the change.

I shall now direct your attention to a case in which hæmoptysis occurred in a later stage of pulmonary consumption—that of S. B——, in Carlisle ward. This young woman, aged nineteen, has been received into the house more than once during the last year, with symptoms of phthisis so obviously marked that "he may run that readeth." On receiving partial relief she has been discharged. During her former admissions there were some appearance of spitting of blood, and this symptom has now become more grave and constant. The blood she spits is still only small in quantity at a time. It appears in specks and streaks, mixed with much purulent and offensive expectoration. The blood is florid. Her cough is most distressing, loud, and frequent, and she suffers from the constant effort to vomit during the paroxysms.

The case last considered was one of obstructed circulation through the lungs, and consequent exudation of blood through the membranes; in this case the blood is not only obstructed by tubercular deposit, but also escapes from the vessels in the immediate neighborhood of the tubercles, the vessels being perforated by means of the ulceration which has taken place in the process of the softening of the tubercles and the breaking up of the lung. The chest in this young woman is nearly immovable, and to this circumstance may, perhaps, be attributed the slow progress of the disease. Adhesion of the lungs to the chest controls the movement of the lungs during respiration, keeps the organ quieter, and thus avoids irritation of diseased surfaces. The vomiting is a usual and marked symptom of pulmonary consumption. This may be referred partly to the expectoration dwelling about the fauces, but arises chiefly through the medium of the association, by nervous influence, of the throat, lungs, and stomach, which is effected by the pneumogastric nerve, and is a reflex act.

In the treatment of this form of hemorrhage, palliatives are the only resource. Opiates to allay the irritation, and occasional local means to repress the attacks of pleuritic pain; a single leech to relieve the action set up at points where tubercular matter reaches the pulmonary pleura, exciting and giving rise to adhesion; or a liniment of chloroform and opium may also be used to
subdue the pain till adhesion takes place. To restrain the hemorrhage, and to prevent as much as possible the offensive character of the expectoration, alum is excellent. Creasote is also found useful: it seems especially indicated in these cases. It is not only a deodorizing agent, but stays sickness, and seems generally to palliate symptoms. If one searches for a reason for this palliation, I should give the following: The lung having lost its power from want of space to throw off the carbon of the blood, the oxygen present during respiration remains free to damage the structure; creasote, therefore, being chiefly carbon, is offered to the oxygen, neutralizing the bad effects of the latter. Creasote is, in another form, the old tar water of the last century, which had a fashion without an explanation. Many remedies are taken up from good experience, but laid down because they are not explained. I only deprecate the present fashionable quackeries, as cod-liver oil, &c., because they can be explained, and the reason has been found insufficient.—[Lancet.

Clinical Lecture on the Diagnosis of Idiopathic from Rheumatic Arthritis, and the Pathology of these Diseases. By E. A. Lloyd, Esq., F. R. C. S., Surgeon to St. Bartholomew's Hospital.

Gentlemen—The subject on which I wish to treat to-day in a "Clinical Lecture," so called, is one on which a good deal of obscurity seems to hang, yet one on which you may be asked to give an opinion very often.

The great object of clinical lectures I believe to be to teach practical therapeutics and diagnosis; some say to teach general surgical principles; but these you will receive in your lectures on "Surgery," and the less of sameness and repetition we have in a school like this the better. The subject of treatment—that is the corner-stone of all the edifice. I never knew a surgeon to get on properly in after-life who was not a‘ufait as to the little details of therapeutics and good general treatment. The great secret of success is to put yourself in the patient's place, and to treat all cases well.

How often do I find old pupils of St. Bartholomew's regretting that they neglected therapeutics? Students are, by the present Examination Boards, encouraged to go to "grinders;" encouraged, indirectly, to make themselves "up" on fixed questions of delicate anatomy or histology—of no conceivable importance. But therapeutics! how to order the commonest mixture or lotion, or what lotion or mixture is valuable in a specific surgical case, is thought infra dig. It is when you have "passed" the College you will find this. "Clinical" lectures are a step in the right direction; but, then, they are only another name for lectures on

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therapeutics and diagnosis. As such also you should not neglect
them if you wish to get on in practice.

The case I propose to speak of to-day is one of what was called
"Rheumatic Arthritis," but where we have now reason to see
the diagnosis was confused and uncertain for a long time—at
least, out of hospital. The poor man told us the disease commenced
with a dull, heavy pain of the joint, which led his surgeon in
the country to pronounce it "rheumatic;" a dull, heavy pain that
prevented him going about his work; he could tell us very little
else about it. About the end of August, you remember, I left
town, and the patient was then under Dr. McWhinnie's care.
The patient was sixty-eight years of age, and the disease had ex-
isted fifteen months prior to admission; it was called rheumatism.
An abscess formed under the knee-joint, which was discharging
pus profusely, the joint was swollen, and some sinuses were observ-
ed around it; on passing a probe. I found necrosis of the tibia—in
fact, there was a hole in the tibia, with a piece of loose necros-
ed bone. It was, therefore, very clearly not rheumatic arthri-
tis, but a case, probably, of idiopathic disease of the tibia. The
patient's health was not suffering much, there was very little pain.
When I again saw him, pus had got into the cavity of the joint,
and very foetid matter was let out, which is always an indication
of loose or diseased bones. How the case was mistaken for
rheumatism before it came to us, I am not in a position to say.

Well, after this the knee-joint increased again in size, and now
severe pain also came on, with signs of a new attack of inflamma-
tion. I was obliged to allow exit to more matter; the man then
rallied, the fever diminished, but subsequently he had tedious sup-
uration again, and he sunk. I dwell on this case to-day, as you
all had excellent opportunities of watching it from the time of its
admission. We often learn a good deal also that is retained in
the mind from errors of diagnosis rather than from plain sailing.

I now show you the diseased parts—and this is what I call
practical diagnosis of cases. The man died a few days ago, and
we have the knee-joint here well preserved, and full of instruc-
tion. There is a cavity posteriorly communicating with that of
the knee-joint; the cancellous structure of the head of the lower
bone is engaged, and even in the medullary cavity we see here
fragments of diseased bone; there is a large cavity, in fact, in the
head of the tibia; the articulating surfaces are destroyed, but the
condyles of the femur have escaped. Now this is a state, I need
not tell you, that we do not find in rheumatism; it explains the
great tediousness and intractableness of the case. Some might
say, why not try resections, &c.? But mind you, the man was
sixty-eight years of age, and worn down by suffering.

Now, the diagnosis of rheumatic diseases of joints is sometimes
very difficult. We have had some cases sent into our surgical
wards from medical wards over the way. The fever in these cases was so great that they misled the physicians; but they were cases of acute synovitis of the hip-joint, and immediate relief was obtained by opening the joint—Mr. Gay's method over a case of a woman. She went out of hospital improved, and entirely altered for the better after this operation. It is of course, a very formidable proceeding, and not to be undertaken too lightly; but in some cases the relief afforded is something wonderful.

In a private case, not long ago, treated by one physician, and then by another, for articular rheumatism—for I do not know how long—I was sent for, and I found it common synovitis with puruleht deposit in the joint. This case took two years, but ultimately got well with stiff joint, better perhaps than so-called resections or amputations, and death. I saw at once it had nothing, in fact, to do with rheumatism; it puzzled the two physicians exceedingly. If treated properly at first, all such cases are rendered more amenable to professional skill; this is what I call proper diagnosis, for it is obvious to every one if we form a wrong diagnosis, and use wrong therapeutical agents early, we only confuse the case; and many of these cases, as they reach us in hospital, are sadly confused. In a case at present in "Colston" ward, sent to me also as rheumatism, the disease was thickened periosteum over the os calcis. I divided this, and the patient has gone on well. Now the treatment of the two diseases is not at all the same; so you will do well to take a note of the differences.

The question you are all this while asking yourselves is, how is rheumatic to be diagnosed from common or idiopathic disease of articulations? In rheumatism it is very rare to find pain in one single joint; there is also some history, more or less obscure, of previous rheumatism of various joints, pericarditis, &c., or of some affection probably yielding to rheumatism medicines. Again—rheumatism is very seldom, if ever, complicated with suppuration in or about joints. Rheumatism is also a very common disease.

Now, the disease we are speaking of is a very rare and very tedious disease. In diseased bone there is dull, heavy, protracted pain, without effusion at first, but soon we get effusion of pus. Now, I never saw suppuration in rheumatic disease; on the contrary, the slightest amount of idiopathic synovitis leads very often to suppuration. Again, in pyæmia you may find rapid suppuration into joints and in internal parts, but you can scarcely call them abscesses. In acute idiopathic inflammation, the cases are not so tedious in their previous history, as this form of disease goes through its stages more quickly than chronic rheumatism. If you find "rigors" have set in, you may be almost sure there is suppuration going on, and that it is not rheumatism you have to deal with. Anchylosis is very rare, or entirely unknown in rheuma.
Case of Hæmaturia.

[August,

tism; joints get stiff, but there is no true bony anchylosis. In chronic rheumatism of joints, too, the fibrous and synovial tissues are thickened, nay, the cartilage may be removed, but the ends of the bones do not anchylose—they become polished. How different all this is from strumous disease of joints with anchylosis, so easily brought about, I need not to-day stop to describe.

I believe that opening a diseased knee-joint with pus in it, is not at all the same thing, or so formidable as opening a healthy knee-joint. I have now done it very often. I believe it a good operation. A great deal consists in a good diagnosis of the case.

There are other forms of disease that may be confounded with this "Rheumatic Arthritis;" I mean malignant disease of joints. Here we have the well-known cachexia, attended with quick pulse and pains at night, as well as other diagnostic points to lead us—which time will not permit me to enter into at any length. Nor must we forget syphilitic and gonorrhœal diseases of joints; in the former, mercury sometimes does good, but I think it does harm in other forms of joint disease. You will merely make the mistake of confounding these diseases with idiopathic forms of inflammation; but you will do well to take care of "splitting on the rock" in your way—rheumatic as compared with idiopathic disease of bones and joints.—[Medical Circular.

Case of Hæmaturia, Successful Treatment with Sulphate of Quinia.

Translated from the April Number of the Revista Medica de la Isla de Cuba. By J. F. Grall, M.D., Demonstrator of Anatomy, New Orleans School of Medicine.

Being in the month of September last, in the district of San Anton de la Negada, a hurried call, to render professional assistance to the wife of an old acquaintance, occasioned the following observation, very important in a practical point of view, particularly to physicians practising in a swampy locality; and since it is a phenomenon only mentioned in a vague way by authors, even the most modern, when they speak of local affections sustained by a miasmatic, or better said, malaric cause, I shall try to give a clear idea of the case.

The patient was a woman about thirty years of age, of bilious temperament, and already mother of five children. She complained of severe pains in the hypogastric, lumbar and inguinal regions, and in the posterior part of the thighs. These pains were not continuous, but observed, marked intermissions, which circumstance, united with a cessation of her menstruation for two months, made me suspect a commencing abortion; but I was not able to verify my suspicion by a vaginal examination, on account of the repugnance, sometimes invincible, which most women
evince against that kind of exploration. This hypothesis established, my remedial means were naturally directed towards an arrestation of the abortion. I recommended, therefore, absolute rest in the horizontal position, evacuated the rectum by an emollient injection, followed by a demilavement with ten drops of laudanum, and give her a "portion calmente," consisting of aqua laurocerasi, aqua florum aurant, and infusum tiliae. In consequence of this treatment the pains were somewhat relieved; sometimes they returned with the same intensity as before, to disappear after the administration of the medicine. She remained in this state for about four days, when, the urine which up to this time had been clear and normal, began to have a turbid aspect, and I noticed floating in it particles of mucus, and a few drops of blood, which latter gradually increased, so that three days afterwards she discharged almost as much blood as urine. Under such alarming symptoms, I considered a rigorous examination of the bladder of absolute necessity, to which the patient readily submitted, comprehending the critical state in which she found herself. A catheter introduced found no obstacle, either in the urethra, neck of the bladder, nor the bladder itself. Although I endeavored to arrest this hemorrhage by employing the different local and general remedies recommended by the majority of authors, I produced only a palliative effect; from time to time the urine presented a sanguinolent aspect, accompanied by the inseparable sequitus of pains above mentioned.

Twenty days had already passed, and my patient remained in the same state, with more or less prolonged interruptions, when I decided to call in consultation Ldo. D. José Manuel Nunez, who has already practiced twelve years, with excellent success, in that neighborhood. I related to him the past and what I had done, to which he answered, that in his long practice, which brought him in contact particularly with diseases of an intermittent character, and their larved (masked) types, he had observed four cases altogether similar to the one I presented to him; that, full of doubts at the beginning of his career, he could not fail to recognize the miasmatic element, after he had observed, that all the patients, who presented themselves with this affliction, lived in swampy localities, and that consequently he had recourse to quinine, always with very satisfactory results.

I, in consequence, determined to administer to my patient the sulphate of quinia, not with full confidence, although I relied on the good faith, and the great knowledge of the medical topography of the county of Guamutas, which my colleague possesses; and not only for these reasons was I determined to give the quinine a trial, but also, because I considered the administration of some tonic necessary, to reanimate the failing strength of a patient who had suffered from a disease of a haemorrhagic nature during twenty
days. I confess openly, that I did not hope for the result I obtained with a scruple of sulphate of quinia, associated with the extract of absynthium, divided in twelve pills, which were taken in twenty-four hours. I took good care not to divulge to my patient the composition of these pills, because, in spite of my short practice, particularly in this island, I am not ignorant of the repugnance, the horror, they have in the country of this salt of the Peruvian bark, because to it they attribute generally the effect or consecutive lesions of swamp fevers, which terror sometimes goes to such an extent, that they refuse to take it even in the most urgent cases, as they consider it as a fire (un fuego)—to use their own expression. Unhappy error, that has conducted more than one victim to the grave!

Two days after the administration of the quinine, I saw my patient, and what was my surprise, when she told me that the sanguineous fluid had ceased from the moment she began to take the pills; and it did not return afterwards, at least not until the month of December, at which period I left that neighborhood.

When we consider on the one hand, the habitation of our patient, which was situated close to a swamp, fed by the overflow of a ditch, which does not empty itself where it ought to, in consequence of the embankment of the railroad of Jucaro, causing continuous miasmatic emanations to such a degree that few persons inhabit that part of San Anton de la Negada, without suffering from some form of intermittent fever; and, on the other hand, the immediate good result from the antiperiodic, par excellence, the quinine—if we consider these facts, there remains not the least doubt that the haemorrhage, which might have carried our patient to the grave, was caused and sustained by the malaric or swampy miasmata, which she constantly respired.

We believe that our readers will find this observation really and truly interesting, because, far from being very common, I have not seen this occurrence mentioned by any author, nor even in the very modern work of Dr. Wanderlich, (Handbuch der Pathologie und Therapie, Vierter Band zweite Hälfte. Stuttgart, 1856,) which is perhaps, the most complete treatise on pathology now existing in the field of science. When treating of haemorrhages caused by intermittent affections, he confines himself to the following words: "Haemorrhages are very frequent in malaric diseases. In more than half the cases of recent intermittent fevers, more or less abundant, epistaxis presents itself, and is sometimes repeated. But it is when already a prolonged cachexia exists, that with more certainty these haemorrhages and other sanguineous extravasations present themselves."—[N. O. Med. News.

Dr. Juan C. Oxamendi.
Remarks upon Rheumatism.  By O. C. Gibbs, M. D.

In the Peninsular and Independent, for April, Dr. DuBois publishes an interesting and able Report upon Rheumatism, which we have read with pleasure. Its reading has suggested a few thoughts, which we wish to express, and that too in no spirit of criticism, influenced only by the consciousness that it is every man's duty, who is engaged in the noble work of mitigating pain and disease, to contribute his mite to enhance the efficiency of his art.

In regard to the difference to be noticed between rheumatic and ordinary inflammation, Dr. DuBois says:

"Throughout all this febrile disturbance, there is no coma, no marked trouble of the stomach or of the bowels, no vomiting, no diarrhoea," &c., "which it is fortunate to remember in some masked cases of difficult diagnosis."

To our apprehension, the above quotation contains an error, to which we are the more anxious to call attention, as Dr. DuBois is not the first to have given it expression. Vomiting is not common in rheumatic inflammation, but we have certainly seen unmistakable cases, in which vomiting was the most distressing symptom. We have seen vomiting commence almost simultaneously with the arthritic inflammation, before any remedies had been administered, and have seen this symptom persist, in spite of treatment for many days.

Rheumatism is a disease of such frequent occurrence, so distressing in its symptoms, so protracted in its course, and so often fatal in its consequences, that any practical remarks in regard to its treatment cannot be deemed ill-timed or out of place.

In regard to treatment in this disease, we have never bled, have never given emetics, or antimony as an antiphlogistic, and in no inconsiderable experience, have never had reason to regret this neglect. Purging with neutral salts is an important therapeutic measure, but, as an antiphlogistic in this peculiar form of inflammation, we know of no compound to be compared with calomel, opium, and colchicum; the first in rather small, the other two in full doses. These of course, are to be used conjointly with, or succeeded by, such other means as the peculiar circumstances of the case may demand. Contrary to the teachings of some of our highest authorities, we have no hesitation in saying that the earlier the calomel is used in this combination the sooner will the cure be effected, and the less will be the liability to heart complications. In our own practice, we are confident that endo- and pericardic complications have not averaged one in fifty.

Rheumatic inflammation occurs in such a diversity of constitutions, and of such varying grades of intensity, that no uniform plan of treatment can be adopted. We have certainly seen cases,
to the cure of which quinine and opium was better adapted, in our judgment, than any other known combination. In Rheumatism, as in all other diseases, for their successful treatment, a goodly share of common sense, and a thorough and appreciative knowledge of the principles of medicine are more indispensable to the practitioner than the best set formula that was ever devised.

There is one article of medicine that Dr. DuBois has not seen fit to mention, that in some forms of Rheumatism is certainly worthy of consideration. In chronic forms of this disease, or even in the acute forms when convalescence has commenced, the tincture of cimicifuga, combined with the iodide of potassium (the former in teaspoonful, the latter in from four to six grain doses) is certainly a remedy of great efficacy. The good effect of this combination will be materially enhanced by the conjoint action of quinine in the debilitated, and the veratrum viride in the plethoric. Dr. Davis, of Chicago, Dr. Johnson of New York, and others, have recommended the tincture of cimicifuga even in the early stages of Acute Rheumatism: we have but little acquaintance with the remedy as recommended by them, but, in circumstances as above, we speak from a reasonable amount of experience.

In that troublesome form of rheumatic disease, denominated Sciatica, we have succeeded in effecting a cure with strychnine, after the failure of almost every other known means.

For a fuller expression of our views of the pathology and treatment of inflammatory Rheumatism, we beg leave to refer the reader to the American Medical Monthly, for 1854, Vol. II., page 412.—[Peninsular Med. Jour.

On Urethral Intermittent Fever. By M. Chassaignac.

This is the name M. de Chassaignac attaches to the febrile attack which all surgeons have observed as a consequence of catheterism, and which, if it were desired to indicate the cause giving rise to it, might be termed cathartic fever. It is a curious point to determine, whether the contact of the instrument with the entire length of the urethra is necessary for the production of the paroxysmal attacks, or whether it is sufficient for one portion of the canal to have undergone such contact, and in that case, which portion. Judging from the facts known to him before the case which gave rise to these observations came under his notice, M. Chassaignac was disposed to believe that neither the membranous nor the prostatic portion of the urethra was in the portion in question. Thus he never met with an instance of such febrile paroxysm being produced after catheterism in the female, nor is he aware of any one who has ever met with one.
A natural inference would be that it is not observed in woman, because the paroxysm arises from the contact of the instrument with a portion of the urethra which does not exist in her. An opportunity offered itself for confirming this conjecture, by the counter-proof of the induction of the paroxysm by the exclusive catheterism of the portion of the urethra which is proper to man. This occurred in the case of a patient suffering from multiple urinary fistulae. The catheter being passed from one of these to the meatus, and back again from the meatus to the fistula, no difficulty or pain occurring, an intense intermittent paroxysm was produced. The patient had had the catheter passed before, and had borne one fixed in the urethra without such effects having been produced. It was quite certain that on this occasion the instrument had not come in contact with either the membranous or prostatic portion of the urethra, or with the neck of the bladder; and until further information upon the subject, M. Chassaignac feels justified in localizing in the bulbous or anterior portion of the urethra the physiologico-pathological process which gives rise to the production of the paroxysm in these cases.—[Moniteur des Hôpitaux. New Orleans Med. News.

Case of a Mole, or False Conception retained in Utero. By Samuel B. Clark, M.D., of Brothersville, Geo.

[As cases of false conception are very rare in this region of country, we select the following case from the Nashville Journal of Medicine and Surgery. The subject is an interesting one and should elicit more attention from the profession—as a more thorough inquisition into the nature of these abnormal bodies would in time, doubtless lead to a detection of their cause.—Edts.]

I delivered Mrs. J. B., of a female child on the 18th of October, 1857, with nothing peculiar about the labor, except perhaps a little more difficulty in delivering the placenta than usual. Some ten days afterwards I was called to see her, and learned that the lochial discharge had become pale, as usually happens, but that without any appreciable cause she had a return of hemorrhage again, with very little pain. Gave ergot and other astringents, which nearly checked the hemorrhage, but in a few days she complained of heat low down in the abdomen. I then made an examination per vag., and found a substance engaged in the os uteri. Introducing the fingers still higher up, I found the attachment to the inside of the uterus so slight that I easily separated it and brought it away. On examination I found it
to be a mole or false conception, of a conical or pyriform shape, about three inches long and two in thickness. It was smaller at the neck, where it was attached to the uterus, and rather more consistent than a placenta, with no regular organization. The hemorrhage stopped, and she got well under the use of quinine, iron, etc.

How long do these substances remain in utero usually? This must have remained nine months or more, unless it was a case of superfetation. According to my experience they usually remain from two to four months. It may not be amiss to remark that this lady had twins at her first confinement, and that all of her sisters who have had children have had twins, so far as I have been informed. In my limited library I cannot find a very full history of these substances. In the 8th volume and 467th page of the Nashville Journal of Medicine and Surgery, Dr. T. Lipscomb gives an account of two cases, and requests other physicians to make inquiries respecting them. His theory is that the continuance of lactation after conception has taken place, will blight the conception by abstracting the necessary stimuli from it to the mammary glands, and thereby produce a false conception. In the case of Mrs. B., I do not think she nursed her former infant until after conception took place, as it was eighteen months old when conception took place.

_Treatment of Aphonia by Electricity._—A case of aphonia was observed at the Samaritan Hospital, under the care of Dr. Savage. A woman, aged 21, lost her voice a month ago; she thought it was brought on by her having caught a cold. The movements of the tongue were not in the least impaired. There were no signs of inflammation nor of ulceration of the larynx; very little cough, and some little pain in the larynx, as well as in the chest. No tubercular deposits in the lungs. She has always been regular. Purposely no medicine was given, but Dr. Savage asked Dr. Althaus to try what Faradization might do for her. Dr. Althaus applied the current of the first order of his apparatus of induction by means of solid metallic excitors covered with wet fingers of gloves, localizing the electric stimulus in the inferior laryngeal nerve, which animates all the muscles of the larynx concurring to the formation of the voice. The day after the first sitting, which only lasted two minutes, the speech seemed to be not materially improved; but in the course of whispering, sometimes the normal sound of voice returned. After the second sitting of the same duration as above, the improvement was striking; the day after the third _séance_ the patient spoke almost quite naturally, and the treatment was discontinued after another sitting, as now the speech is going on perfectly well. We know of no other case of aphonia in which the effect of the electric treatment was so quick and manifest, without having been connected with any inconvenience whatever. Professor Sédillot applied electricity in a case of aphonia, one pole
being placed alternately on different parts of the tongue, and the other one on the mastoid bone, the posterior and superior part of the neck and various points of the face. The application was useful, but could not be repeated until one week afterwards, owing to severe headache, which had followed the application of electricity. By localizing the electric stimulus in the inferior laryngeal nerve no such inconveniences were produced.—[Med. Times and Gaz.

EDITORIAL AND MISCELLANEOUS.

The Principles and Practice of Obstetrics. Including the Treatment of Chronic Inflammation of the Uterus, considered as a frequent cause of Abortion. By Henry Miller, M.D., Professor of Obstetric Medicine in the Medical Department of the University of Louisville. With Illustrations on wood. Philadelphia: Blanchard & Lea. 1858. 8vo. pp. 624.

A systematic book on Obstetrics, or any department of medicine, must necessarily be, to a considerable extent, a republication of matter already in print, but the present work is less obnoxious to this objection than any that has appeared for a long time. Dr. Miller has very properly, not deemed it incumbent on him to relate every thing his predecessors have thought, done or written. He quotes when requisite, for illustration and elucidation, and no more. He tells what he has seen and done himself—what others will meet in practice—the services they will be required to render—the operations they will be called on to perform. He records his own experience and practice.

Some treatises are more extensive and comprehensive, consequently in some respects preferable as books of reference, perhaps as text books for students; but as a practical work very few are equal to it, and none possess higher claims to originality. The author is an original and independent thinker—a bold and able practitioner.

We would not be over-fastidious or severe, but we must acknowledge, we admire his sound logic, his plain common-sense instruction, more than his occasional sallies of wit and humor. His style would be sufficiently interesting, were he in another edition, which we predict will soon be demanded, to expunge everything like a jest, pun, or other witticism: his subject is too serious, too delicate, and too important to admit of anything ludicrous, such as the serio-comic delivery of an unfortunate half-born baby, by three persons holding on to each other and the feet of the infant, and "taking a long pull, a strong pull, and a pull altogether."
He asks us to excuse a pun on his own name; we have too much respect for that name to have it treated so lightly: for, besides the honor which his own well earned fame has cast about it, there are too many tender recollections embalming it, for it, ever, to form the element of a jest; the word is dear to us, as the name of a loved and respected colleague; with us also, it is hallowed, nay almost sacred, because it calls up in solemn remembrance the lamented image of one of Georgia’s most cherished sons, “The Woman’s Friend” in the councils of our State; and with all the world, it must forever waken painful and loving remembrances, as it reminds us of the melancholy fate of one of Scotland’s brightest jewels, her mechanic-philosopher, the gifted “Stone-mason of Cromarty,” who

“Quarried truth all rough-hewn from the earth
And chiselled it into a perfect gem.”

If time would permit, it would afford us much pleasure to analyze the entire work, and give the author’s views on many subjects which, with very rare exceptions, we most cordially approve. His highest claims to originality are based on his 5th and 6th chapters, in which he treats of abortion and haemorrhage; each of which published alone would constitute a valuable monograph.

Dr. Miller’s method of treating the subject of abortion is novel and interesting, and founded on the most rational and scientific principles. We would not assert that his opinions and views are all original: they have generally been entertained and expressed by others, but to him the credit is due of having collated them in such a manner, from various sources, as to constitute an original and valuable treatise.

Dr. Miller considers the principal cause of abortion to be disease of the cervix, which he believes extends from the cervical canal into the cavity of the body, much more frequently than Dr. Bennett supposes, which opinion we have long since entertained and expressed. In his preface he says:

“I am not aware that modern improvements in uterine pathology, resulting chiefly from the employment of the speculum uteri, and the more rational and successful treatment of uterine diseases, which have followed in their train, have hitherto received the full recognition which they deserve, by any author of a treatise on obstetrics. Appreciating so highly as I do these advances in the right direction, and having enjoyed such abundant opportunities of testing their value, I have thought it incumbent on me to give them their rightful place in this volume, and this was found in discussing the subject of abortion. There is no fact in pathology, of which I am more thoroughly convinced, than the frequency of inflammation and ulceration of the neck and body of the uterus during pregnancy, and I am as well persuaded that such a morbid con-
dition of the gestative organ is among the most frequent causes of abortion. I could not, therefore, hesitate to give to specular treatment of the disease a prominent place in the prophylaxis of abortion."

Dr. Miller makes the following very judicious and practical division of the treatment of abortion:

"The treatment of abortion may be divided into the resistive, the palliative, and the prophylactic—meaning by the first such measures as may be taken to avert the disaster when it is threatened; by the second, the conducting of it to as favorable an issue as possible, when miscarriage is inevitable; and by the latter, the prevention of it by the cure of any diseased state, which would be likely to occasion it or has already produced it in the previous pregnancies of the patient."

Professor Miller considers that the prophylactic is the most important part of the treatment, and that this consists principally in treating the uterine disease, which is the most frequent cause. Under this head he gives the appropriate treatment of inflammation of the cervix, and its extension into the cavity of the body. His favorite remedy is nitrate of silver, although he does not by any means neglect or ignore others, either general or topical.

In the treatment of chronic endo-uteritis, in place of injections, of the danger of which he entertains very just apprehensions, he proposes to insert a strip of lint, wet with a saturated solution of nitrate of silver, through the cervical canal into the cavity of the body. In reference to the alarming symptoms that frequently follow uterine injections, Dr. Miller remarks:

"Considering the subject in all its bearings, it occurred to me that such sudden and violent symptoms must be owing more to the mode in which the remedies were applied than to actual intolerance of the internal surface of the uterus. Acting upon this view, instead of abandoning the use of topical remedies altogether, I began to introduce them upon strips of lint, pushed into the uterine cavity with a probe or sound. I first applied the nitrate of silver in this way, notwithstanding that experience had taught me that a weak solution of it—two grains to the ounce of water— injected into the uterus, might be followed by the alarming symptoms that have been detailed. I used it, commencing a very weak solution, carefully prepared by the apothecary, and finding that it caused no more pain than an ordinary cauterization of the os uteri, I was emboldened to make it stronger and stronger, until I ceased to have it prepared by weight and measure, but took a strip of lint, wet it thoroughly with water, and passed the stick of caustic over it till it was imbued with, as I judged, a saturated solution. I have cauterized the internal surface of the womb in this manner, in quite a considerable number of cases, without any of the alarming consequences incident to intra-uterine injection. No practitioner hesitates, in cervicitis, to push the nitrate crayon into the neck to cauterize the whole extent of its internal surface."
Experience warrants me to declare that we may, with as little hesitation, treat the internal surface of the body in the same manner, only a saturated solution is preferable to the stick, on account of its liability to break and be retained in the cavity—an accident which sometimes happens in the neck.”

This is a valuable suggestion: it will doubtless be found an excellent practice when that patulous state of the os and cervix, which always obtains to some extent in cases of endo-uteritis, is very much exaggerated; but I cannot conceive that it can possess any advantage over the introduction of the solid nitrate through the os internum into the cavity of the body, where it may be held long enough for some of the caustic to dissolve and diffuse itself.

Our experience differs a little from that of Dr. Miller: first, in that no practitioner hesitates to thrust the nitrate crayon into the cervical canal in cervicitis: we have met with a number of cases in which the external cervical inflammation had been successfully treated, while its extension into the cervical canal had been altogether neglected, from the physician, formerly in attendance, hesitating to introduce the caustic freely into that canal. Secondly, according to my observation, the caustic crayon when sufficiently large is not liable to break in the cervical canal, and when it does, from the contractile powers of that canal it is promptly expelled.

Dr. Miller’s remarks on hemorrhage in general are excellent; but he proposes a new method of treating the unavoidable, which if found on fair experiment by other practitioners to be as successful, as it has proved hitherto in his own practice, will be one of the greatest improvements in modern midwifery, and ought to render his name illustrious. At present we regard it very favorably, as every proposed improvement ought to be, in a practice, to say the least, heretofore very unsatisfactory, but we are not prepared to adopt it to the full extent advised by Dr. Miller.

Properly executed it might perhaps answer admirably in every case, if the practitioner had charge of it from the commencement; but cases occasionally occur in which the labor is far advanced and the patient in extreme exhaustion, when first seen by the practitioner, in which I do not think anything can prove a substitute for version; therefore, I can not yet confine turning exclusively to the correction of malformations; although I fully concur with Dr. Miller that as an obstetric operation it has been grossly abused, and ought to be very much limited in practice.

Dr. Miller describes his new method in the following extracts:

“The substitute for turning, which I will venture to propose, is a modification of the method of M. Puzos, and consists in originating ex-
pulsive contraction of the uterus by the tampon or plug and then puncturing the membranes, relying on the tampon to control the flooding until the liquor amnii is evacuated. This is the only method of treatment, of which I have any experience, and I have employed it with uniform success, so far as the mother is concerned. This is strong testimony, but it must be mollified by the confession that my experience, in placenta praevia cases, has not been large; yet I have encountered them sufficiently often to have acquired some acquaintance.

"To expound this method of treatment and at the same time vindicate it, it must be observed that the tampon is preferable to manual dilatation, as an oxytocic, in placental presentations, because forced dilatation could not be practised without necessarily still further detaching the placenta, giving rise to additional hemorrhage, all the more profuse on account of the non-parturient state of the uterus. Then, again, such manipulations would be objectionable because of the greatly more vascular and sensitive condition of the portion of the uterus contiguous to the os, which has already been mentioned as a reason why delivery by turning ought to be refrained from.

"In arousing the uterus to expulsive contraction, the tampon acts, I suppose, through the channel that has been more than once indicated in the previous pages of this work, viz: irritation of the incident nerves of the cervix, leading to reflex action of the fibres of the fundus and body. Explain as we will, however, the fact is generally admitted that the tampon is competent to excite uterine contraction and being on labor. Should it fail (and what may not?) it may be reinforced by the puncture of the placenta, as recommended by M. Gendrin, which, considered merely as a means of bringing on labor, is excellent and wholly unexceptionable, and it will be observed that I am not, just now, speaking of the restraintment of hemorrhage but of the excitement of labor. No case can occur, I think, in which the tampon, aided, if necessary, by puncture of the placenta, will fail to bring on labor, in a longer or shorter time, and where the tampon alone is sufficient, and labor is regularly established by its instrumentality, either the placenta must be punctured to evacuate the liquor amnii, or the finger must be pushed up beyond its margin to rupture the membranes during a uterine pain. I have myself usually practised the latter alternative, and always felt that my patient was safe, when advanced thus far on the road to recovery.

"The supervision of labor—the evacuation of the liquor amnii—these, in their order, are the great bulwarks of a flooding woman, no matter where the placenta is implanted. It is a maxim in obstetrics that a contracted uterus cannot bleed; it might, I think, be amended and enlarged, by adding that neither can a contracting uterus bleed when it is emptied of its waters, or at any rate, if it bleed, the hemorrhage is no longer dangerous."

In conclusion, we can only express our regret that we cannot do full justice to this excellent book, by presenting larger extracts, in an extended review. We can only now say that, we have derived much pleasure and benefit from its perusal, and that we cordially recommend it to the profession, both to practitioners and to pupils.

The above work, together with the volumes of the Medical and Physiological Commentaries, and a pamphlet of Essays on Vitality and Remedial Agents, was acknowledged in the last number of this Journal, as sent us by their distinguished author. We wish to notice briefly, at present, the "Institutes of Medicine," regretting, that in our monthly journal space is allowed only for a bibliographical notice, rather than for a review, which the character of the work richly merits.

Of all American writers, no one has been more indefatigable and laborious than Professor Paine, and the works of but few, either in this country or in Europe, display a greater amount of learning than we find enriching both the Institutes and Commentaries of this perhaps most recondite of American authors. On opening any of his works, we may be said to be, at once "lost in a sea of erudition," and his copious references to the authors of every country and every language, attest his familiarity with the general literature of the science to an extent rarely evinced by cis-Atlantic writers. Although, in the beginning, we must affirm our thorough dissent from both the tenor and the tendency of Professor Paine's peculiar physiological tenets, we cannot justly withhold our cordial recommendation of the work before us, as one presenting a most valuable collection of physiological and medical facts, accompanied, in many instances, with very just commentaries upon the phenomena of life; but we must say, that his reflections have not always led their author to such principles of practice, as we can wholly approve: for instance—he quotes, with approval, a number of authors who strongly recommend profuse bloodletting in typhoid diseases, and endorses Dr. Parry as having "introduced the only successful or philosophical treatment, that of bloodletting, in purpura hemorrhagica." This treatment may have been applicable in some particular form of purpura, and in some peculiar epidemic; but our own experience, and that of most practitioners of the present day, will attest the virtue of an opposite course, and the extreme hazard of depletion.

From our examination of the work, we receive the impression that its pervading spirit will be found expressed in the first line of the initial page; "Solidism and vitalism will form the basis of these Institutes," says our author, and we find, upon every page, that it is most uncompro-misingly carried out. Vitalism is for Dr. Paine, the Procrustean bed upon which every fact, every phenomenon, and every medical theory are placed, and with his determined hand laid upon them, they are length-
ened or shortened into a consistency which is often almost unanswerable. For this vitalism, he contends with the most unyielding pertinacity, and the chief objects of his horror, appear to be, the chemical and humoral doctrines, in whatever form they may be presented. To the humoral pathology he specially devotes but a small number of pages (about 35) of the present work, but he maintains a sharp skirmishing warfare with this class of medical philosophers, from his very first to his very last page.

This vitalism, which in earlier times, and even as late as the days of Boerhaave and Cullen, was a wonderful advance upon the unsettled notions about physiological action, has become, in these later days, when all our discussions of the phenomena of organic action are conditioned, by a definite understanding of the nature of the elements with which we deal, too vague a principle to "form the basis" of our physiological and pathological reasonings. Vitalism, in its technical sense, has ever appeared to us, to sustain the same relation to medicine, that the searchings after the nature of the soul do to theology. The existence of both is evident—indeed undeniable, and must be admitted as being in close relation, the one with all our moral and intellectual, and the other with all our physiological and organic acts, but still neither of them, when we attempt to seize upon and define it, can be made the basis of satisfactory and conclusive argument. As in theology, it has scarcely ever yielded any thing to investigate the ultimate nature of the soul, so in medicine, beyond the full admission of the vital principle and its acceptance as a dominant influence in all our organic acts, nothing has been gained by the most elaborate investigation into the exact nature of the force by which these organic acts are accomplished.

Physiology, like all the other inductive sciences, has for its basis, a bundle of facts—indeed, in the present day, it has become an ocean of facts. These facts, are of no one kind: many, it is true, relate to the nervous system, and indicate its sway over all our vital acts, but then others as fully shew that humoral, chemical and atmospheric influences are at work in modifying, supplying and controlling the power exercised by the nervous system, and so intimately blended here, are cause and effect, that when we would attempt to say of any one of them, "here is the beginning," we become involved in labyrinths interminable, and are forced to look back, to that Beginning of all beginnings, that source of all power, the Creator of man and the universe.

Notwithstanding we have thus candidly considered those parts of Prof. Paine's work which have appeared, to us, objectionable, we repeat, that we can still cordially recommend it as a valuable addition to the medical literature of our country. In an age when Humoralism and
Organic Chemistry are threatening to displace all other views of physiological and pathological action, this work, because it is ultra in its vitalism and solidism, must exert a most salutary influence upon the history of the medical opinion of the present, and the rising generation. It requires no half-way assertion of the power of nervous action to gain its admission; but he who would advocate its unmodified sway, as Dr. Paine does, must be as firm and as uncompromising even as he has been, throughout the comprehensive work before us.

The present edition has been prepared, apparently with great care, and, with a few marring exceptions, the typographical execution very well sustains the reputation of the Harpers. A most copious analytical index much enhances the value of the volume, and attests well, the perseverance and industry of the author.

In regard to what may be called, par excellence, the controversial portion of this work, viz., "The Rights of Authors" in the appendix, we do not intend to make any extended remark: For although some of Dr. Paine's reclamations, strangely enough, appear to refer pointedly to the labors of one of the editors of this journal, still, printed beside them—on the same page, is the unanswerable decision of Dr. Marshall Hall, the acknowledged Father of the great principle of Reflex action, awarding the merit on the other side, and declaring that "the field is indisputably His Own." With his originality thus asserted, he may well be content to add, not even a single word, for himself, no matter from what source the denial may come.

Under these circumstances, we do not feel called upon to select this one, from the thirty-nine! distinct claims recorded in this appendix, in order to make it the subject of particular discussion.

PROFESSORIAL CHANGES, HOSPITALS, COLLEGES, &c.

In our last number, we recorded several changes in various Faculties of Medical Colleges throughout the United States. Our exchanges supply us with the following in addition:

Professor Daniel F. Wright, the former able Professor of Physiology and Pathology in the Memphis Medical College, has been elected to the same Chair in the Shelby Medical College. Professor W. is also editor of the Memphis Medical Recorder, one of our ablest and most valuable exchanges. We sincerely hope that his change of residence will not deprive us of our valued confrere.

Dr. J. H. B. McCLELLAN of this city, (Philadelphia,) has been elected to fill the vacancy in the Medical Department of Pennsylvania College,
caused by the removal of Dr. T. G. Richardson to New Orleans.—Medical and Surgical Reporter.

Dr. Richardson held the Chair of Anatomy in the above College.

"Professor S. G. Armor," says the N. O. Med. News and Hospital Gazette, "requests us to announce his resignation of the chair of Pathology and Clinical Medicine in the Missouri Medical College of St. Louis. Dr. B. L. Jones has been appointed to the vacant chair of Chemistry in the Oglethorpe Medical College."

The New Orleans Medical News and Hospital Gazette, thus regretfully refers to the resignation of Dr. Thomas Peniston from the chair of Clinical Medicine in the N. O. School of Medicine: "We are recording an event which only gives us pain, and we shall do it in as few words as possible. Impaired health has forced our worthy and most highly esteemed colleague to tender his resignation, and he has gone across the water to seek repose from his labors, and that restoration for which he shall have our heartfelt prayers."

Professor Austin Flint, the distinguished author of Clinical Reports on Typhoid Fever, the most accurate and reliable since those of Louis, has been elected to fill the chair vacated by the resignation of Dr. Peniston. As Philadelphia has recently been making inroads into a Southern Faculty by calling Prof. Dickson from Charleston, it seems but fair that New Orleans should make reprisals on the North; this has been done by the New Orleans School of Medicine securing Dr. Flint from Buffalo, and the University, Dr. Richardson from Philadelphia. Also, Dr. J. F. Grall has been appointed Demonstrator of Anatomy in the New Orleans School of Medicine.

University of Louisville.—This excellent Institution which a year ago had the misfortune to lose its edifice by fire, with an energy truly surprising and highly commendable in its Faculty, was able to gather the same season, quite a large class. The following changes have occurred in its Faculty: Prof. Benjamin R. Palmer has been transferred from the chair of Anatomy, so long and so ably filled by him, to that of the Principles and Practice of Surgery; and Prof. J. B. Flint, the former Professor of Surgery, occupies the newly created chair of Clinical Surgery, while the chair of Anatomy thus vacated is filled by the election of Dr. J. W. Benson. Prof. Henry Miller having resigned the chair of Obstetrics, his place has been judiciously supplied by the election of Dr. Llewellen Powell.

Dr. S. M. Bemis, favorably known to the profession by his contribu-
Editorial.

[tions to the American Medical Association, has been elected to the chair of Clinical Medicine.

The other members of the Faculty occupy their old positions, viz., Prof. T. S. Bell, Theory and Practice; Prof. L. P. Yandell, Physiology and Pathological Anatomy; Prof. Robert J. Breckenridge, Therapeutics and Materia Medica; and Prof. J. L. Smith, Chemistry and Toxicology. With the above excellent organization, the University may reasonably expect the same distinguished success in her new edifice, which marked her progress in the old.

Shelby Medical College.—The unprecedented success of the University of Nashville, has encouraged others to establish a second Medical Institution at this point. The following gentlemen have been elected to fill the respective Chairs:

J. F. May, M. D., Principles and Operations of Surgery; E. B. Haskins, M. D., Theory and Practice of Medicine; J. P. Ford, M. D., Obstetrics and Diseases of Women and Children; T. L. Maddin, M. D., Descriptive, Histological and Surgical Anatomy; J. H. Chandler, M. D., Materia Medica and Therapeutics; R. O. Currey, M. D., Chemistry and Medical Jurisprudence; Daniel F. Wright, M. D., Physiology and Pathology; H. M. Compton, M. D., Demonstrator.

The circular of the new college evinces a conciliatory spirit, and deprecates strongly any suspicion of unworthy rivalry or desire to cripple the valuable organization already existing in Nashville. "Its success is a source of gratification to all who take pride in the public institutions of the city and the state, and, without affectation, they desire it to continue."

Recognizing the names of several of our valued friends in the above Faculty, we can cordially wish them success; but with friends equally prized by us, in the University, that success could be no longer gratifying to us, should it be secured at the expense of that noble and liberal Institution.

Nashville Medical Society.—The Physicians of Nashville, Tenn., have recently organised themselves into a society, adopted a constitution and chosen officers for the current year. Meetings are appointed to be held monthly. Dr. A. H. Buchanan is President, Dr. S. S. Mayfield, Vice-President, and Dr. G. S. Blackie, Secretary and Treasurer.—[Boston Med. and Surg. Journal.

Ohio Medical and Surgical Journal.—Professor J. M. Hamilton has become associated with Prof. John Dawson as joint editor and proprie-
tor of the Ohio Medical and Surgical Journal, published at Columbus in that State.—Ibid.

"We have room merely to announce," says the Medical and Surgical Reporter, "that Dr. R. K. Smith has been re-elected Chief Resident Physician to the Philadelphia Hospital, Blockley—thus effectually redeeming that Institution from the disgraceful position which it has for some time occupied." We learn also from the Reporter, that a new college hospital has been established at Brooklin.

NEW JOURNALS.

Journal de Physiologie de l'Homme et des Animaux.—We have the pleasure of acknowledging the first number of this valuable Journal whose existence is due to the energy and zeal of the distinguished experimental physiologist, Dr. E. Brown-Sequard, so well known in this country, as well as in Europe. We believe that this is the first, and at present the only periodical exclusively devoted to that most interesting and progressive branch of Medical Science—Physiology. The "Annals of Anatomy and Physiology," published in Edinburgh, by John Goodsir, was of a different character, and so far as we know, did not reach its third number. Dr. Brown-Sequard is assisted in his editorial labors by Drs. Ch. Robin, Ch. Rouget, and Tholozan, and he has the promise of original communications from many distinguished contributors in America, England and Germany.

Besides Physiology proper, the journal will treat of—

"1. Organic Chemistry, hygiene, toxicology, and legal medicine, in their relations to physiology.

"2. Descriptive anatomy, comparative anatomy, teratology, and normal and pathological histology, so far as they may be connected with physiology.

"3. The application of physiology to the practice of medicine, surgery, and obstetrics.

"The numbers will be issued four times a year—on the first day of January, April, July, and October—each number containing about 200 pages.

"The contents will be classified in the following manner:—

"1. Original communications, forming more than one-half of each number.

"2. Articles published abroad, entire or in part.

"3. Critical analyses of books published in France and other countries.

"4. Accounts of the progress of physiology in France and other countries.

"The subscription price in this country will be twenty-five francs, or $5 per year."
American correspondents will please address, post paid, Mons. J. B. Baillaire, et fils, or Dr. Brown-Sequard, Rue de Dragon, 16 à Paris.

We place the above journal, with pleasure, on our exchange list, and hope to make it valuable both to ourselves and to our readers.

THE MAINE MEDICAL AND SURGICAL REPORTER.—We have received both the first and second numbers of the above promising new journal. It is edited by W. R. Richardson, M.D. and R. W. Cummings, M.D., who are also the proprietors. It is published monthly, at Portland, by Sanborn & Carter. Both numbers are filled with valuable matter, original and selected, and the typographical execution and style of the journal does credit to both the editors and the publishers. We welcome the new comer to our sanctum, and with pleasure place it among our exchanges.

Symmetrical Morbid Action.—We copy the following from the Buffalo Medical Journal. The fact is certainly worthy of record, however darkly hidden may be the explanation.

Lockport, May 31st, 1856.

PROF. HAMILTON:

Dear Sir,—I send you the following report of a case that occurred in my practice, and which may possess interest enough to entitle it to a more extended publicity. You are at liberty to do with it as you see fit:

In the summer of 1853, Mr. Monroe Levally, wagon-maker, age 46, called at my office and requested me to examine his arm. I did so, and found immediately over the point of the olecranon process an encysted tumor of the size of a robin's egg, and which made its appearance a few days previous. I made a few incisions in the sack with an abscess lancet, and obtained about 3iii. of a thick fluid. Introduced into the sack a pledget of lint, and in a few days a perfect cure was effected.

But the next week I was not a little surprised, when he returned, with another tumor on the other arm, an exact counterpart of the previous one in every particular. It made its appearance in the same manner; in locality it was the same, (except on the other arm,) of the same size and form. I treated in the same manner, and the result was the same.

How far this goes to prove the existence of a sympathetic action between the corresponding points of the human system, we leave for others to decide; but it does certainly go far to prove that, under certain circumstances, one elbow at least has some sympathy with the other.

Yours, ever, A. M. LEONARD.

DR. ELINT,—"Symmetrical diseases" are known to occur often in eruptive affections, and occasionally in rheumatic and syphilitic affections, but this is the only example which I have known where an encysted tumor, or a true tumor of any kind, has illustrated this curious law of affinities between opposite portions of the body.

Yours, F. H. HAMILTON.
Pertussal Glucosuria.—In the year 1855, the fact was first pointed out by Dr. Gibb, that the urine in almost every case of hooping-cough is saccharine, the quantity of sugar varying, generally but small, and sometimes a trace only being present. A considerable quantity he has, however, found on several occasions, the specific gravity being at the same time high, and in general characters the urine has been similar to that of diabetes. A case of pertussis, with urine in this last condition, was recently under Dr. Gibb’s care, at the St. Pancras Royal Dispensary, in a child of six years, who had reached the spasmodic stage of the complaint, without any complication, unless the glucosuria be considered as such. The remarkable feature of this case was the rapidity with which the quantity of sugar diminished under the usual plan of treatment recommended by Dr. Gibb in this disease—namely, nitric acid in large doses. The specific gravity of the urine became lower, the quantity of sugar diminished, and, as a cure was established within three weeks, not a trace of it was to be found. It is an interesting fact, that nitric acid should so rapidly diminish the glucosuria. This may be effected in one of two ways—either by its curing the pertussis, and a condition with it, which must hereafter be looked upon as symptomatic of it; or else the assimilation of the acid prevents the formation of the sugar. To the last view Dr. Gibb inclines, but he says large doses only will produce this, as experience has proved in his hands. This condition of the urine in hooping-cough is well worthy of record. We shall refer at a future time to the explanation given of its appearance, but we take this opportunity of throwing out the suggestions of a trial of the influence of nitric acid in cases of diabetes mellitus.—[Lancet.

New Method of Amputation.—M. Maisonneuve read lately a paper before the Academy of Sciences of Paris, on a new method of amputation, which he calls the diaclastic method. It consists of a contrivance for fracturing the bone at the precise point required; after which the muscles are strongly compressed by mechanical means, so as to reduce them to small diameter. They are divided, and the member separated from the trunk. In consequence of the compression, all hemorrhage is effectually prevented. M. Maisonneuve quoted six cases of amputation by this astonishing procedure—five of the leg, and one of the arm; in all of which complete cures were effected. No unsuccessful cases, he says, have occurred to him.—[Lancet.

“The Sands of Life” “Played Out.”—Under this caption the New York Times gives an account of the legal means lately adopted in that city to put a stop to the disgraceful system of quackery for some years carried on by a reckless swindler representing himself, in his advertisements, as a physician “whose sands of life have nearly run out.” It seems that he, with other quacks of the same sort, have been arrested, and the letters which are daily flowing into them by mail are sent on to the Dead Letter Office at Washington, whence the money contained in them will be returned to the deluded victims of this last and boldest of the medical humbugs.—[Boston Med. and Surg. Journal.
Miscellaneous.

Glycerine with Alum and White Precipitate.—Dr. Anciaux recommends the following formula in the local treatment of erysipelas, obstinate eczemas and atonic ulcers: alum, in impalpable powder, 30 parts; white precipitate, 1 part. Triturate them well together, put them in a phial and add glycerine, 90 to 100 parts. Shake the phial, until the mixture assumes the consistence of cream, each time it is applied.—[Ibid.]

Painless Caustic.—M. Piedagnel, after various trials, has succeeded in producing a caustic that may be employed, causing little or no pain. It is formed of three parts of the Vienna caustic in powder and one part of hydrochlorate of morphia, intimately mixed together, and then made into a thick paste by means of chloroform, alcohol, or water. It is applied to the skin on diachylon. A black eschar is produced in fifteen minutes, increasing in thickness with the duration of the application. The morphia mixed in the same proportion with powdered cantharides, prevents pain during the rising of a blister. M. Piedagnel, who at present has only used this means for the production of issue and blisters, states that the action of the morphia is merely local.—[Druggists' Circular.]

A Specific for Scabies.—At the last meeting of the Academy of Sciences, Paris, M. Bonnet of Epinal, sent in a paper announcing that benzine is a specific for the itch. The author of the paper states that if benzine be rubbed on the parts affected, and also very slightly on the other parts of the body, a cure will be effected in the course of five minutes, after which time the patient may take a warm bath for half an hour. Nevertheless, in cases where the itch is accompanied with a secondary eruption, the latter will require a separate treatment.—[Ibid.]

Hydrocele treated by Electricity.—Rodolfi of Milan, has applied electricity for the cure of hydrocele in four cases, and reports very favorably concerning its effects, not only the fluid disappearing in all, but its reproduction being prevented in three of the cases. Bunsen's or better still, Daniel's pile should be employed.—[Ibid.]

New local application in Erysipelas.—M. Anciaux speaks in high terms of the following application for erysipelas and some other cutaneous affections. Alum reduced to impalpable powder, 30 parts; white precipitate, 1 part. Rub up well together, and place the powder in a bottle, and then add from 90 to 100 parts of glycerine. Shake the bottle until the mixture assumes a creamy consistence, and repeat the shaking whenever the application is about to be employed.—[Ibid.]

Infants found dead in bed, are not generally killed by being laid on by their mothers, but by being suffocated under the bed-clothes, with carbonic acid gas exhaled from their own lungs and re-inspired. They die without pain, in a profound sleep. Mothers, give your babes more air. Let them sleep with their heads uncovered. Do not let them go to sleep on or under your arm, for when you cover yourselves, in the half unconciousness of partial sleep, you will cover your darlings' heads also, and in the morning may find them still in sleep—a sleep from which your caresses cannot awake them.—[Pacific Med. and Surg. Journal.]