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"Je prends le bien ou je le trouve."

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Article XVI.

Sulphate of Quinia administered in small doses during health, the best means of preventing Chill and Fever, and Bilious Fever, and Congestive Fever, in those exposed to the unhealthy climate of the rich low lands and swamps of the Southern Confederacy. By Joseph Jones, M. D., Professor of Medical Chemistry in the Medical College of Georgia. Chemist of the Cotton Planters' Convention of Georgia.

Summary.

Importance of protecting the troops of the Southern Confederacy by all possible means, from the effects of the climatorial fever of the South, illustrated by the records of Midway Congregation, of Liberty Co., Ga., situated in the low plain bordering the Atlantic ocean; by the mortality of the Bermudans who emigrated to Sunbury on the coast of Georgia; by the great mortality of Rice Plantations; and by the mortality of Savannah during the wet culture system in the lands surrounding the city; and by the sickness and mortality of Oglethorpe Barracks and the Augusta Arsenal. Testimony to the value of Quinine in preventing climatic fever in the Southern States. The value of Quinine in warding off climatic fever, still further demonstrated by the experience of the Surgeons of the British Navy on the coast of Africa. Facts proving the unhealthy nature of the climate of Africa—the malarial fever of Africa similar in all respects to the malarial fever of the low-grounds, swamps and rice fields of the Southern Confederacy. Comparison of the mortality in the British Navy before and after the use of Quinine as a preventive of African fever.
The climate of the rich low plain, clothed with a luxuriant sub-tropical vegetation, which forms a belt along the Atlantic ocean and Gulf of Mexico, of varying width, from 30 to 100 miles, and which is intersected with numerous swamps which discharge their waters into sluggish, muddy streams, surrounded on all sides by extensive swamps and marshes, is necessarily hostile to the white race. To the pestilential exhalation of stagnant swamps and rich river deposits, excited and disseminated by the burning rays of the sun in this hot climate during the summer and fall months, no process of acclimation has ever accustomed the white man. In the early settlement of South Carolina and Georgia, the inhabitants in most instances resided the whole year upon their rich rice and Indigo plantations; many however soon fell victims to the climate, or dragged out a miserable existence, with constitutions broken down and rendered prematurely old, by repeated attacks of climate fever. The clearing of the forests, of the swamps and rich low-lands, and the consequent exposure to the sun of the vegetable matter which had been accumulating for ages, rendered the climate so deleterious to the white race, that the planters were compelled to seek health during the summer and fall months, in sea island, or in pine barren, or mountainous retreats; and even with the most efficient precautions, the mortality of these regions is far greater than in the more elevated portions of the Southern Confederacy.

The following facts will illustrate the effects of the climate of the swamps, rice fields and river bottoms, upon the mortality of the white race.

In the Midway Congregational Church, of Liberty co., Ga., (formerly St. John’s Parish) the number of births from 1754 to 1804, was 600, whilst the number of deaths during this period was 628, thus showing an actual decrease during 50 years of 28. In 1817 there were 49 deaths in this congregation, which did not number more than 340 whites, showing a mortality of one in every seven of the inhabi-
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tants (14.4 per cent.;) of these 49 deaths, 34 occurred in four months, July, August, September and October, and were in almost every case the effects of climate fever: and other years might be cited in which, if the mortality did not rise to so high a figure, it still rose to such alarming figures as from one in every ten, to one in every seventeen inhabitants.

This heavy mortality was clearly referable to climate, for it is believed that no body of citizens in the Southern country excels this congregation in intelligence and virtue, or in the careful regard for the substantial comfort and health of its families.

Before the Revolutionary war, whilst Sunbury on the coast of Georgia, was in a highly prosperous condition, 70 emigrants came from the Bermuda Islands: of this number 50 died the first year from climate fever.

Savannah, situated on a sandy plain, terminated on the north by a turbid sluggish stream, and flanked on the east and west by extensive tide swamps, afforded during the period that these low lands were cultivated in rice, a good field for the determination of the probable mortality of troops exposed to the climate of rich river-bottoms and inland swamps. The dry culture system was commenced with the lands surrounding Savannah, in 1818; we shall therefore for our present purpose, deal with the mortuary records of the city, and during the wet culture system, as far as they extend back from 1818: premising however, that after the institution of the dry culture system, the health of Savannah, excepting the years when the yellow fever prevailed, has progressively improved, and will now compare favorably with cities situated in the same latitudes, and surrounded by similar alluvial deposits. After a careful examination of the records of the city, I have been able to discover no record of deaths with a date earlier than 1804.

The deaths of the blacks are excluded from the following statistics. The sum of the deaths of the foreigners and an
Joseph Jones, on Quinine

Death, does not always correspond with the total deaths from climate fever, because in some instances, the nativities are not given in the record.

Deaths amongst the Whites in Savannah from 1804 to 1818.

<table>
<thead>
<tr>
<th>Year</th>
<th>Deaths during July and August</th>
<th>Deaths of Malaria</th>
<th>Deaths from Fever</th>
<th>Deaths of Fever and Climate Fever</th>
<th>Total Deaths from Climate</th>
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<tbody>
<tr>
<td>1804</td>
<td>118</td>
<td>77</td>
<td>63</td>
<td>14</td>
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<td>77</td>
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<td>283</td>
<td>313</td>
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<td>461</td>
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</table>

The population of Savannah in 1800 was 5,166; of these 2,799 were whites and 2,367 slaves. In 1808 the population was 6,464; of these 3,010 were whites and 3,454 slaves. In 1810, the entire population was 5,215; in 1820, entire population 7,523.

Whilst the records of the population of Savannah at different periods are not as full and explicit as could be wished, still from the data now presented we may institute comparisons, and determine the average mortality for each year with a very close approximation to the absolute numbers: thus in 1804, the proportion of deaths in round numbers of the whites to the white population, was 1 in 13; 1805, 1 in 12; 1806, 1 in 18; 1807, 1 in 12; 1808, 1 in 13; 1809, 1 in 16; 1810, 1 in 18; 1811, 1 in 14; 1812, 1 in 13; 1813, 1 in 14; 1814, 1 in 10; 1815, 1 in 14; 1816, 1 in 13; 1817, 1 in 9.
If we compare the mortality from climate fever, of the strangers and foreigners, under which class we include the seamen, who form a large part of the transient population of Savannah, we will see that that the deaths amongst this class were more than four times as numerous as the deaths of the natives. This fact illustrates still more strongly the great risks and sickness, if not heavy mortality, which must attend the transportation of troops from Middle Georgia, and from any part of the high mountainous tracts of the Southern Confederacy to the swamps and rich rice grounds, during the months of July, August, September and October; for without doubt the observation was made by the reader as he reviewed the preceding figures, that the rate of mortality in Savannah during the wet culture system, frequently rose to a figure which in healthy regions would have been considered as the results of pestilence; and the correctness of this observation is placed in the clearest light, when it is known that the annual mortality in England (1) is one in every 45 of the living; in France, 1 in every 42; in the New England States, 1 in 64; in the Middle States, 1 in 73; Coast planting States, 1 in 73; Northern States, 1 in 80. (2)

Whilst we will readily grant that the improved method of medical treatment of the present day would greatly diminish the rates of mortality, we would on the other hand affirm that these improvements in practice would have little to do with the prevention of disease. We have therefore presented these views of the rates of mortality in these localities, rather to demonstrate the liability of men exposed in this climate to disease, and thus to establish the importance of the present inquiry; for an army may be rendered almost as ineffective by sickness as by death.

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(2) Census of United States, 1850.
The medical statistics of Oglethorpe Barracks during the period they were situated one mile south of the city of Savannah, just back of the present jail, illustrates still more forcibly the sickness and mortality of troops encamped in localities surrounded with rice fields and marshes. In 1828 during the months of July, August and September, there occurred 23 deaths in a command of 95 men; and during the months of October, November and December, 18 deaths in a strength of 85 men: the total deaths for the year was 52, besides 19 women and children—Remittent fever and dysentery were the fatal diseases which caused the high mortality. During 10 years, from 1829 to 1839, the annual ratio of mortality was 5.5-10 per cent; the annual ratio of Intermittents was 67 per cent, and that of Remittents 22 per cent; and every man was on an average during this period, reported sick in a little less than every five months. So prevalent and fatal were the diseases in the summer and fall seasons, that this post was finally abandoned.

The Medical statistics of the Augusta Arsenal whilst it was situated on the Savannah river, correspond with those of the Oglethorpe Barracks; disease prevailed to so great an extent that it was necessary to abandon the post in the summer season, and encamp on the Sand Hills.

These observations might be still further strengthened by the presentation of the rates of mortality of rice plantations, this subject however will be treated more fully, in subsequent numbers of this journal, and we will merely state the result of an extended personal examination of the mortuary statistics of rice plantations; the number of births in proportion to inhabitants does not differ materially from the number in the healthiest regions, but the mortality especially amongst the young is far greater—in fact so great that during many years instead of an increase, there is either a stationary condition, or an actual decrease.

The facts which have now been presented are sufficient to justify the attempt to devise some means to ward off the climate fever.
During the study of the relations of climate and soil to disease, the collection of the mortuary statistics and the investigation of the causes of disease upon rice and cotton plantations; and during the discharge of the duties of Chemist to the Cotton Planter's Convention of Georgia, the author has necessarily been greatly exposed to the agents which produce climate fever, and the results of his experience now presented, cannot therefore be said to be wanting the test of actual experiment.

Under these exposures I have found that Sulphate of Quinia taken in from 3 to 5 grains twice during the day would in most cases prevent the occurrence of Malarial Fever, and if it failed to ward it off entirely, the attack would be of a very slight character. I have still farther observed that when the climate fever first appeared, with a sense of lassitude, headache and excitement of the pulse, with alternate flushings, it might be arrested by a dose of from five to ten grains of Sulphate of Quinia, in combination with Bicarbonate of Potassa and Hoffman's Anodyne. From 5 to 15 grains of the Sulphate of Quinia may be given according to the urgency of the symptoms, united with 15 grains of Bicarbonate of Potassa and f$\frac{3}{2}$ii of Hoffman's Anodyne and 5 grains of Gum Camphor; the whole to be dissolved in f$\frac{3}{4}$vi of water. The feet should be placed in hot water, immediately after, or before, the administration of the remedies, and the patient after this bath should be covered up in bed, so as to promote free perspiration and induce quiet sleep. I have frequently gone to bed in a feverish, restless state, with a severe headache, excited pulse, and pain in the limbs, and dry, warm skin, and under the action of these remedies, arose in the morning refreshed and able to resume active operations. The Bi-Carbonate of Potash is here recommended, instead of the Proto-Carbonate, (Salts of Tartar,) which is in such common use, during fever, in the Southern country, because it is far less active in its effects upon the stomach, and may be taken in much larger doses, and accomplishes
more effectually the neutralization of the acid which is so often abundant in the stomach at the commencement of malarial fever, and more effectually acts upon the liver and the kidneys, and promotes the removal of all offending matters from the blood.

The late lamented Dr. Charles West, of Savannah, informed me that during his practice in Burke County, it was his custom to arrest attacks of climate fever, at the outset, when the first symptoms were manifested, by Sulphate of Quinia; my respected colleague, Dr. Dugas, Professor of Surgery in the Medical College of Georgia, informs me that he has used this medicine in a similar manner; and we have been informed that the energetic Superintendent of the Savannah & Charleston Road which passes through a most sickly region of country, preserved the health of his white laborers by the daily use of small doses of Sulphate of Quinia.

We would recommend the use of Quinia as a preventative of Climate fever, in the following manner:

R. Sulphate of Quinia, - - grains, iii.  
Dilute Aromatic Sulphuric Acid, drops, v.  
Brandy, - - - tablespoonful, 1.  
Water, - - - wineglassfuls, ii.  

Drop the diluted Aromatic Sulphuric Acid upon the Sulphate of Quinia, and then add the brandy and water. Administer twice during the day, after rising in the morning, and just before bed-time.

To render the value of this means of warding off climate fever, still more evident, we will cite the practice and success of the British Surgeons upon the coast of Africa, premising at the outset, that the endemic climate fever of Africa does not differ in any essential manner, except, perhaps, in its severity, either in its causes, symptoms or effects, from the malarial fever of North America.

The value of Sulphate of Quinia in warding off the climate fever of Africa, can be determined only by instituting a comparison between the effects of the disease
before and after the use of this medicine as a prophylactic.

The celebrated traveller, Mungo Park, suffered from two severe attacks of fever, upon his first tour through the interior of Africa, and at the conclusion of his journey the color of his skin was so altered by the disordered state of his liver induced by African fever, that he could scarcely be distinguished from a Moor; and upon his second visit to Africa, not only was he brought to the borders of the grave by climate fever, but 32 out of the 38 men who left with him the banks of the Gambia, fell victims to African fever in less than two months.

The vessel sent out in 1618, to relieve the English Explorer, Thompson, on the banks of the Gambia, lost almost the entire crew with fever, and at the very outstep, failed to accomplish the desired object.

The enterprising traveller, Ledyard, who had spent his life in travelling, and had sailed around the world with Captain Cook, had lived for several years with the North American Indians, and had travelled from Stockholm, round the Gulf of Bothnia, and thence to the remotest parts of Asiatic Russia, died of African fever, in the very commencement of his journey to explore this continent.

Numerous other travellers might be mentioned, as Nicholls, Morrison, Pearce, Clapperton, and the active, athletic and temperate Frederic Horneman, who fell victims to the endemic climate fever of Africa.

The splendid expedition to the Congo, under command of Captain Tuckey, provided with a crew of fifty active individuals, and with a Botanist, Zoologist, comparative Anatomist, and a most competent Physician, melted away under the influence of the damp and burning climate, and ended with the loss of the Captain, all the officers and scientific men. A similar termination closed the expedition of Major Peddie, for the discovery of the Niger.

The average mortality amongst the better classes in Sierra Leone, according to the testimony of Dr. Nichol, Deputy Inspector of Hospitals, was formerly about one in twelve, or very nearly nine per cent.
According to Mr. Tidlie, acting Staff Surgeon at Cape Coast Castle in 1819, all the new-comers from England were seized with fever, and one-half died, more than one-third of the resident Europeans who had been there more than one year were seized with the fever, and one eighth died; in 1820 all the new-comers were seized with the fever, and one half of them died, and of the older residents one ninth died; in 1821 all the new-comers were seized, with fever, and one third died, whilst of the older residents near one sixth died; thus making an average of one death out of every two and two thirds, of new-comers during the first twelve months after their arrival, and one death out of every eight of the resident Europeans who had been there more than one year.

From the Report of Dr. Barry, Deputy Inspector of Hospitals in 1822, we learn that twelve white sergeants from the Isle of Wight, selected as good and healthy men of regular habits, were attacked with fever, upon their arrival upon the coast of Africa, and within a few months after their arrival, eight paid the debt of nature, and the constitutions of three of the remaining four were permanently injured, whilst the sickness and mortality amongst their wives and children were nearly in the same proportion.

According to Mr. William Ferguson, surgeon to the Royal African Colonial Corps, in the third quarter of 1824, the mean strength of British soldiers at Sierra Leone, was 585, of this number 386 were attacked with this African climate fever; 161 died, showing one death to 3.63 of the strength, and one death to 2-39 cases treated; at Gambia during the same period, the strength was 108, cases of Malarial fever 92, deaths 74, giving a proportion of 1 death to 1-45 of the original strength, and 1 death to 1-24 of the cases treated; at the Isles de Los, during the same period the mean strength was 103, cases of Malarial fever 99, deaths 23, showing 1 death in 4-47 of the strength, and 1 death in 4-3 of the cases treated. Captain W. F. Owen of the Royal Navy, in his attempt in 1827 to found a settlement
at Fernando, Po., lost almost his entire colony from the Endemic fever of Africa; and Colonel Nicholls who followed him in a similar attempt had one attack of Remittent fever, and eleven attacks of Intermittent fever, and lost twenty-five out of thirty individuals who composed the company.

Numerous other examples might be brought forward to show the dreadful effects of the climate of Africa upon foreigners, unprotected by the sulphate of quinia; we will however allude to but one more—the expedition of H. B. M. ships Wilberforce, Albert and Soudan, during the year 1841 and 1842, up the Niger with the leading object of promoting the abolition of the slave trade. When the expedition entered the Nuna branch of the Niger, on 13th of August, its complement of men and officers consisted of, officers including civilians and engineers 53, white seamen 63, marines and sappers 29, total number of whites 145; men of color entered in England 25, Kroomen and liberated Africans entered on the coast 110; blacks for model farm 23; total black 158; grand total 303. The health of the expedition continued good until the ships had proceeded two hundred and fifty miles from the mouth of the river, on the 4th of September, when a most malignant fever appeared in all the vessels, and spread with great rapidity. The first death took place on the 9th; and on the 17th there were 69 sick, 63 of whom were whites; and seven whites had died. The expedition was now so disabled that it was deemed advisable to send two of the ships back to sea; on the 19th the Soudan started for the mouth of the river with forty cases of fever, and was followed by the Wilberforce, with nearly an equal number of sick, on the 21st. The Albert continued up the river, the officers believing that the violence of the fever was in a measure exhausted, and that the climate of the more open country, higher up the Niger, would be found more healthy. The result proved otherwise—when the ship had arrived at Egga, 340 miles from the sea, not less than twenty more or
the crew had been attacked, of whom two had died; and on the 3d of October there remained, capable of doing any duty, only one white seaman, the sergeant and one private of marines, the geologist, the mate, one hospital attendant, and the surgeon Dr. McWilliam: the entire enterprise was now abandoned, and the Albert steamed down the river to Fernando Po. Of the 145 whites who entered the Niger in good health, 130 were attacked with fever, and 42 died; of the 158 blacks, only 11 had the fever, and that in its mildest forms, and not one died.

The ratio of the men attacked by fever in the Albert was 1 in 1.127, the ratio of deaths in total number victualled was 1 in 2.696, and in the number of cases, 1 in 2.391; the ratio of the men attacked by fever in the Wilberforce was 1 in 1.666, ratio of deaths in number victualled, 1 in 8; ratio of deaths in number of cases, 1 in 6.857; the entire crew of the Soudan were attacked with fever; the ratio of deaths in total number victualled was 1 in 2.7.

We will now compare these facts and rates of mortality with the health of the British Squadron, employed for the suppression of the slave trade on the west coast of Africa, since the systematic employment of the Sulphate of Quinia as a prophylactic.

The observations which we will now present, are from the most reliable of all sources: the "Statistical Report of the Health of the Royal Navy," and we shall refer especially to the reports for 1856 and 1857, printed by the House of Commons, July, 1858, and August, 1859.

In 1856, the squadron employed for the suppression of the slave trade on the west coast of Africa, consisted of twenty-one vessels, with a mean force, including Kroomen and African boys, of 1630 men of all ranks and ratings. The number of men daily inefficient from wounds and sickness on the west coast of Africa, averaged about 55 per 1,000 of mean force.
The following summary taken from the nosological returns, will not only show that the great source of malarial fever in the squadron is exposure to effluvia or miasmata, while on shore, in boats near the shore, or by the entrance of the cruisers into the large tidal rivers, but also that the great means of warding off the endemic climate fever, and of moderating its violence and duration, was the daily administration of the Sulphate of Quinia to the men during exposure to the noxious miasmata.

The Bloodhound remained during the entire year on the northern division of the station. In March she steamed about 300 miles up the Benin river; while in the river, and for fourteen days afterwards, from three to six grains of the disulphate of Quinine were given to each of the ship's company as a preventative of fever, and although they were exposed to the emanations from the mangrove swamps for twenty-seven days, only six suffered slightly from fever.

Some time afterwards they were again exposed to miasmata in the Bonny, New Calabar, and in the Sherbro, the last, one of the most dangerous rivers for Europeans on the whole station; but Quinine in solution was invariably used as a prophylactic, and with good effect, as only one case occurred after the vessel had been for a week in the Sherbro, and the patient was the only person who did not take the quinine regularly. No death occurred in this vessel from fever, but one man was invalided for its sequela.

The Childers was employed almost constantly cruising, for the first six months of the year off the coast, in the Gulf of Guinea, and during the remaining months, off the coast, between Loango and Benguela. With the exception of a few unimportant cases, her crew entirely escaped fever, until three boats were sent on detached service up the Lagos River; in these there were twenty-seven white men and five officers. They remained absent for two nights, one of which was spent at anchor, off the town of Lagos. The surgeon accompanied the expedition and gave quinine-wine, which was continued after they returned on board; still,
notwithstanding, nine of the thirty-two persons who formed the party, were attacked with fever; two in five days after their return to the ship, one on the sixth day, one on the eighth, one on the ninth, one on the thirteenth, two on the sixteenth, and one on the seventeenth. The disease in all was the same, differing only in its degree of intensity; some were convalescent on the eighth or ninth day, and others not before the twenty-eighth; one had a jaundiced appearance. The surgeon thought the fever would have assumed a worse form, but for the quinine-wine which had been taken as a preventative. No other febrile disease of any consequence occurred in the Childers for several months subsequently, nor in fact until she had been for some time stationed on the southern division of the command, when four cases took place, after she had been eight days at anchor in the river Congo. The Firefly did not arrive on the station until August. Shortly afterwards she proceeded on a cruise off the river Pongas, while her boats, armed with white men, were sent up the river. They took Quinine wine night and morning while absent, and continued its use for ten days after they returned, and all escaped fever. Subsequently a few cases were contracted from long continued exposure to the miasmatous exhalations in the river Lagos. Eighteen cases of remitting and fourteen of intermitting fever occurred in the Hecate—the majority of the former were contracted on shore; two ended in death. The subject of one of the latter was a marine, who accidentally drifted away in the life-boat over the bar at Lagos; he slept one night on shore, and was not attacked until fourteen days afterwards. In the other case, the patient, an officer, slept two nights on shore, and exposed himself to the full glare of the sun during the day time, by rowing about in a boat, without an awning, in the lagoon off Lagos; he declined taking Quinine as a preventative, and was attacked about fourteen days after he returned on board.
The Merlin arrived on the station about the middle of July, and after cruising a short while off the rivers Nunez and Congas, proceeded to the Bight of Biafra. She was then ordered on special service up the rivers Bonny, New Calabar and Brass; while thus employed, the following precautionary measures were adopted against fever: The crew were turned up at 5.30 a.m., and after dressing, took half a wineglassfull of quinine wine; they breakfasted at 6. The decks were washed with water (warm) from the boilers at 0.30; they took dinner at noon, and supped at 5 p.m. No white men were sent away in the boats. Serge frocks and white trousers were worn during the day, and blanket dresses during the night. No water was allowed to be drawn from alongside for any purpose whatever. Quinine wine was administered to the whole crew for fourteen days after leaving the rivers, in which they remained altogether twelve days. Whether it was owing to the above measures it is impossible to state, but no sickness of any kind followed the several expeditions into these notoriously unhealthy localities. Although twenty-three cases occurred in this vessel, only one out of the whole number was of a severe character, and it was the result of intemperance and exposure on shore on the Isles de Los. The records of the other vessels all substantiated the great value of Quinine as a prophylactic.

It thus appears, that in all these vessels, with a mean force of about 1,680 men, there were only seven deaths from fever, being in the ratio of about a little more than four to the thousand, a mortality so small, compared with that of former years, seems almost incredible, and might well lead to the belief that the coast, like some of the cleared portions of the North American Continent, is becoming more healthy; but, with the exception of the non-appearance of yellow fever, which does not depend on terrestrial emanations alone, the climate has undergone no salutary change.

The seemingly interminable forests which fringe the estuaries of every tidal river, are still as prolific of the fever
poison as they were in times gone by, when the death-rate in the squadron was ten times greater. How then, it may be asked, are we to account for this improvement? Simply by the change which has taken place in the mode of conducting the duties of the station. By a wise and humane regulation, the deadly practice of sending boats away on detached service, to watch or intercept slavers, has been interdicted, or at all events, greatly restricted. Prize crews are no longer turned adrift to wander through the streets of Sierra Leone, when the vessels they navigate from distant parts of the station are delivered up to the authorities of the Mixed Commission Court; the orgies of "the barn," which lowered the character of the white man in the eyes of the black, have long since ceased; and last, though not least, the introduction of quinine wine as a preventative of fever has not only reduced the number of febrile attacks, but has lessened the severity of those which do occur, and thus the mortality has also been reduced to a level which does not materially exceed the death-rate from fever on some of the more healthy stations.

There has also been a great change in the medical treatment of febrile disease: the so-called active measures which were in vogue but a few years since, have given place to others of a more rational character. Blood-letting is no longer carried to an extent which leaves the patient but little chance of recovery when the fever terminates, and the rash and empirical use of calomel in large and frequently repeated doses, to produce ptyalism, has been abandoned—not only on account of the impossibility of producing ptyalism while the fever lasts, but because mercury, given to excess in any form, has a most injurious effect on the constitution. If these changes have had no effect in reducing the mortality, they, at all events, have lessened the sufferings and misery entailed on patients, who though they survived the fever, lingered long in a state of debility from the effects of blood-letting and mercury.—

Statistical Report of the Health of the Royal Navy for the year
1861.]  As a Preventative of Malarial Fever.  609

1856, ordered by the House of Commons to be printed 26th July, 1858: pp. 110-116.

In 1857 there were nineteen vessels employed on the African station, with a mean force, corrected for time, of about 1620 men, including Kroomen and liberated Africans. The number daily ineffective from wounds and sickness averaged 112, or in the ratio of 69.3 to the 1,000 of mean force, which exceeds the ratio of the preceding year by seven. The total number of dead, exclusive of those lost by shipwreck, amounted to thirty-six—twenty-seven from disease, one from poison and eight from accidental causes; on the whole, therefore, the mortality was somewhat greater than in 1856. During the year, eleven cases of endemic fever terminated in death: the ratio per 1,000, 6.7, and although nearly a third greater than in 1856, it is still not greater than the mortality of some of the healthiest stations, and incomparably less than the mortality upon the African station, before the use of Quinine wine.

The following summary, taken from the medical journals of the squadron, affords additional proof of the usefulness of Quinine as a prophylactic.

In the Trident there were forty cases of fever, but no death occurred: the greater number of these cases were contracted in the rivers which enter the sea in the Bight of Biafra. Quinine wine was freely used as a preventative. On two occasions when boats were sent up the Congo, the white men took quinine wine while in the river, and for fourteen days after they left it, and no fever of any consequence followed.

Fourteen cases occurred in the Sappho: they were nearly all contracted in boating expeditions up the river Congo. Quinine wine was administered to the men on these occasions, but several who did not take it regularly were attacked. Twenty men were employed off and on between the 30th of April and the 11th May, on this service, watching a suspected vessel in the Congo. The medicated wine was administered carefully according to the printed circu-
lar. Only four men were attacked by fever, the disease showing itself about three weeks after they ceased taking the wine. In the Myrmidon and Pluto there were but few cases of fever, though they were employed on some of the most unhealthy places on the station: the former was laid on the beach at Sierra Leone, to be repaired, meanwhile her crew took up their abode in an old hulk which lay in the harbor. Some of the men, however, together with several of the Pluto's crew, were employed, both by day and night, as their work depended on the tide, in patching up the hull of the vessel. To these men quinine wine was administered twice daily, and the executive officers took care that they did not straggle into the town or bush; consequently no case of serious illness followed.

The gig and pinnace of the Alecto, manned by fourteen white men and six Kroomen, were sent about 150 miles up the Congo, late in December, with presents for one of the petty chiefs; they returned on the 6th of January, and between the 12th and the 18th every white man, with two exceptions, was attacked with fever. The same boats were again sent up the river to the same place, on the 14th, when the two persons who had escaped fever formerly were now attacked, though one of them was not taken ill until thirty days afterwards. With the exception of these two persons the boat's crew on the second expedition were made up of Kroomen, who, as usual, entirely escaped. On these expeditions, an ounce of quinine wine was given to the white men daily during their absence from the ship; but it appears to have been discontinued on their return. In January the boats of this vessel were again detached to cruise in the Congo, but did not proceed more than 40 miles up the river. Quinine was given to the men during their absence and for 14 days after their return. The same precaution was adopted after any subsequent exposure to malaria in the river, and no cases of fever followed. The Bloodhound was employed in January in the River Benin, and during July in the Congo; as long as she remained within these
rivers, and for ten days afterwards, four grains of quinine in a quarter of a gill of rum, was administered to every white man on board. One case only resulted from these two expeditions; and in that instance, the person attacked had exposed himself in a most imprudent manner while shooting wild fowl amidst the slimy ooze in the mangrove thickets on the banks of the Benin; whether the patient took quinine as a preventative is not mentioned.

Three boats from the Childers went up the Congo, as far as Punto da Linha, and were absent for several days; quinine was administered to the white men, and no fever resulted.

In May, two boats were sent from the Hecla up the river Nunez, and returned on the following day. Quinine wine was issued in the usual manner, and no febrile disease followed.

In July, the same vessel entered the Sherbro, and subsequently her boats, containing fifty-six seamen and marines, with the usual number of officers, ascended the river to the village Victoria—they returned the same evening and rejoined the vessel, which remained in the river for a few days longer. Quinine in rum (the quinine wine having been all used,) was given to the crew while she remained in the river, and for fourteen days after she went to sea. "Eight cases of intermitting fever," the surgeon remarks, "were added to the sick list a few days after our departure; they were, however, all mild, and terminated favorably, after an average of seven days' treatment. To the regular and timely administration of quinine, I think our immunity from fever may be fairly ascribed; the cases that did occur were no doubt modified by the prophylactic. That this was the case, the mortality amongst the crews of the merchant shipping frequenting the river, and by whom no preventative is used, bears ample testimony."

On the 23d of May, three officers landed at Lagos from the Hecate, intending to return on board the following morning; but, as frequently happens on this coast, the suri
rose suddenly, and continued so long, that they could not return to the vessel until the 29th. Again, on the 2d of August, the pinnace, with seven white men in it, was detached, to cruise in-shore between Little Popoe and Whydah, where she remained until the 8th. Quinine was given on both these occasions, and no fever resulted. On the evening of the 27th of November, the same boat and a gig, with nine white men on board, were left off Shark's Point, to guard the entrance to the Congo. An ounce of quinine wine was given to the men each morning. The boats remained in the same position until the morning of 30th, when they took advantage of a sea breeze, and proceeded up the river to Punto da Linha. The gig, with one officer and two white men, returned on the 2d, and the other boat on the 5th of December. During their absence they had fine weather, and all returned apparently in good health. Quinine was now substituted for the quinine wine; four grains were given daily to each person at seven in the morning; but, notwithstanding this, nine out of the eleven were attacked by remitting fever.

The Merlin, between the 1st of January and the 30th of September entered the rivers Calebar and Cameroons, in the Bight of Biafra; she also entered the Nunez several times while on the northern division of the station. During the time she was in these rivers, and for some time after she had left them, quinine wine was duly administered to the white men on board, and no febrile disease of much importance took place; but in November, after having entered the Nunez and Pongas for the purpose of communicating with the native chiefs, her crew suffered most severely from remitting fever. Quinine wine was given to the crew for some time, but the supply being exhausted, quinine in rum was substituted. When the change took place is not specified; but in connexion with the substitution of quinine purchased on the coast, and issued in the same manner in the Hecla, the quality of the alkaloid in both instances may be doubted. The Myrmidon was employed in the River
Bonny, and afterwards lay a long time in Clearance Cove, Fernando Po; during the entire period quinine wine was given in the prescribed form: only one slight case of climatiorial fever occurred. At Sierra Leone, while the vessel was under repairs, the whole crew took quinine once a day, and those who were engaged on shore, twice; still, though the latter were at work both night and day, only one case of remitting fever resulted. In the same manner, the Pluto was laid in the beach at Sierra Leone early in March for repairs. The carpenters, together with the carpenters of the Heela, and a number of blue-jackets who were employed on her, took the prescribed measure of quinine wine before going to work, and another on leaving off; but the men who remained on the hulk took one measure only every morning until the 28th. Two men who had not been out of the ship were subsequently attacked with fever, but so long after the vessel had gone to sea, that the disease can hardly be ascribed to miasmata from the land at Sierra Leone.

It is worthy notice that in the preceding instances, when quinine wine was administered according to the instructions issued with it, no fever of any consequence followed exposure to land or swamp miasmata; but on two occasions, when quinine purchased on the coast was substituted, and once when the wine was suddenly discontinued after the exposure, a considerable number of the men were attacked, owing, it is to be supposed, to the discontinuance of the quinine wine in one instance, and to its bad quality in the other, for it is well known that, like other high priced remedies, it does not escape adulteration when it falls into the hands of dishonest traders.—Statistical Report of the Health of the Royal Navy, for the year 1859. Ordered by the House of Commons to be printed, 2d August, 1859, p. 78-85.

A comparison of these facts with the great sickness and mortality of the white explorers and residents and sailors of the African coast and rivers, demonstrates conclusively:
1st. Quinine taken during exposure to the exhalations of miasmatic regions will, in most cases, ward off fever entirely.

2d. If fever attacks those to whom the quinine has been regularly administered, its severity and duration will be far less than in those who have not taken the quinine; it therefore not merely wards off disease but renders it less powerful and destructive when present.

3d. To be entirely efficient the quinine must be administered for some time, at least ten days, after exposure to the causes of fever.

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ARTICLE XVII.

Report of Surgical Cases from Case Book. By DeSaussure Ford, M. D., Demonstrator of Anatomy, &c., in Medical College of Georgia.

March 4th, 1861, master C., aged 14, was kicked by a horse on the posterior surface of the ulna, at the junction of its middle with superior third, fracturing it obliquely upwards and inwards, through its articulating surface, the sharp spicula of the upper end of the fracture destroying the continuity of the soft parts, thus making the fracture compound. The same force dislocated the radius, forwards and upwards, upon the anterior face of the external condyle of the humerus.

With an assistant firmly grasping the arm above the condyles, I made such extension as to reduce the dislocation, and, at the same time, approximate the ends of the fractured bone; then applied an adhesive strip over the wound in the soft parts and kept the arm extended by a splint upon the entire anterior surface of the arm and forearm to the tips of the fingers; this splint confined with a many-tailed bandage—cold cloths were kept upon the joint, apprehending swelling, which then was not extensive—as the patient was seen immediately after the injury.

March 5th. The swelling very extensive; loosened the bandage; continuing the cold applications.
March 6th. Swelling still very extensive; find the arm semiflexed, the bandage having been loosed during the night; removed the dressings and endeavored to extend the arm but could not succeed; very painful; the wound in soft parts healing; applying the splint and tightening the bandage around the elbow; it was nearly extended.

March 19th. Since the 6th the swelling has subsided, the arm, however, still remaining semi-flexed. Removing the splint to make passive motion, I was surprised and disappointed to discover the radius still dislocated. Jarvis' apparatus was applied, pushing the force as far as safety to the recently united fracture would permit; failed in reducing the dislocation. The splint was replaced and allowed to remain a week longer. The young man has a partial stiffness of the elbow, caused by the dislocated radius, and not the fracture, as extension is perfect. This stiffness does not incapacitate the arm for service, and will, doubtless, be flexed more and more as the radius is shortened by continually coming in forcible contact with the external condyle. This result of the case compensates for the oversight in allowing the dislocation to exist without discovery, until too late to be reduced, which dislocation must have been indicated by the semi-flexed condition of the arm the second day after the injury.

It will be noted that the position most advantageous for the treatment of such a fracture—the extension of the arm—is most disadvantageous for such a dislocation, which explains the tendency of the radius assuming the abnormal position, so readily, after reduction.

March 12th, 1861. Was called in consultation with Drs. Wm. Jones and Hatton to see Mr. B. aged 30, laborer, who had been stricken upon the head by a rough stone, which fractured both tables of the skull, wounding the soft parts immediately above the left eye, the fractured bone depressed upon the dura mater. This was 12 o'clock at night, the accident occurred at 8 P. M. immediately after which he walked three squares, and soon after returning home, had a convul-
sion; up to my visit had had three. It was deemed necessary to trepan, as all efforts to elevate the bone were unavailing, and as convulsions would recur from meningeal irritation.

I made a semi-lunar incision with scalpel, the concavity presenting upwards, then applied the trephine above the depressed bone, cutting the sound bone about the middle of the left lateral half of the frontal bone; removing the piece embraced by the trephine, the fractured portion was elevated and taken out. There was no hemorrhage, except from the incision of the soft parts. The flap was united with five sutures and slight compress dipped in cold water applied. During the operation the patient was partly conscious. Left at 2 A. M.; perfectly conscious, with pulse 80, (soft.) He had taken large doses of opium before my visit.

13th, 9 A. M. Pulse 80, skin moist, tongue soft and natural color, pupils much dilated, complains of pains throughout the head and in the bowels. Bladder acted four or five times last night; rested comfortably; conscious.

3 P. M. Pulse 85. Complains of pain in the head, though not local and insomnia; pupil dilated; dressed the wound, which discharged bloody serum; looking healthy; conscious.

10 P. M. Pulse 80. Tongue more dry and coated. Complains still of insomnia. Prescribed one-fourth grain morphia, to be repeated every four hours, if restless; has had no action from bowels since accident; conscious.

14th, 10 A. M. Pulse 75. Pain in head better; pupil a little dilated; eyes looking better in expression; took only 1 dose of morphia last night, resting four or five hours; conscious; no operation from bowels; ordered light nourishment.

4 P. M. Pulse 75. Not much pain; dressed the wound; removing sutures and applying adhesive strips; it had healed by primary union, except at one point, out of which discharged a small quantity of bloody serum; wound looked healthy and no tumefaction of the parts; ordered one soft boiled egg with tea and toast.

9 P. M. Having no watch did not count the pulse, which
however is perceptibly slower, say 60; speaks of getting up in three or four days, he feels so comfortable; morphine to be repeated as usual; nourishment in the morning, an egg and tea and toast.

15th, 9 A.M. Pulse 60. No urgent pain, either general or local; rested well last night, taking only one dose of morphine; nourishment the same.

8 P.M. Pulse 44. More feeble; cannot interpret this sudden change, with the healthy appearance of wound, which I inspected, and the absence of any symptoms of compression; complains of local pain, though not urgent; ordered morphine as usual; has taken for nourishment to-day, two eggs, tea and a little chicken broth.

16th, 9 A.M. Pulse 44; not as feeble as last night; soft and natural in force; removed adhesive strips from wound, and dressed it with simple cerate; wound looking well; did not rest so well last night; took two doses morphine; local pain; pupils very little dilated; nourishment only tea and toast.

4 P.M. Had gotten up and walked across the room a few moments before visit, but is comfortable.

10 P.M. Pulse 55. Pupils contract and dilate naturally; more comfortable; same directions for the night; tea and toast in the morning.

17th, 9 A.M. Pulse 65. Skin moist and pleasant; rested well last night; same diet, with addition of one egg.

3 P.M. Pulse 60. Very comfortable.

8 P.M. Pulse 56. Suspect accumulation of pus beneath flap; complains of slight, dull, local pain; same directions for the night.

18th, 11 A.M. Pulse 50. Think there is pus beneath the flap, but have no instruments; state comfortable; rested well last night, without morphine; ordered beef soup for dinner.

9 P.M. Pulse 60. Opened the wound with a probe, breaking up the recent adhesions; healthy pus discharged; put in a small tent into the wound; same diet for the morning.
19th, 12 M. Pulse 50. Skin warm, but moist and pleasant; the wound discharging, moderately, a healthy pus; did not rest well last night. Same diet.

6 P. M. Pulse 60. Comfortable; same directions.

20th, 12 M. Pulse 50. The wound discharged very freely, through the night, disturbing his rest; comfortable.

10 P. M. Pulse 57. Wound discharging; comfortable; same diet.

21st, 11 A. M. Pulse 55. Rested well last night. Comfortable.

9 P. M. Pulse 60. Same uneasiness in bowels. Note—He has had no action since accident; ordered an enema of warm water in the morning, with same diet.

22d, 12 M. Pulse 57. Had an action after enema; comfortable.

7 P. M. Pulse 66. Comfortable; nourishing diet; beef steak in the morning.

23d, 12 M. Pulse 57. Some local pain, on account of the formation of a scab, preventing the escape of pus from the wound; let out the pus; comfortable; no operation since yesterday this hour.

24th, 12 M. Pulse 65. Had a comfortable night; wound discharging freely; no operation from bowels.

7 P. M. Pulse 75. Applied a compress over the flap to invite the union of the inner walls of the abscess; no operation; comfortable.

25th, 11 A. M. Pulse 45. Comfortable and wound not discharging so freely; able to sit up in bed; ordered enema of warm water in the morning; is taking strong, nourishing food.

26th, 12 M. Pulse 45. Comfortable; dressed the wound; had a large operation.

27th, 12 M. Pulse 55. Had a restless night, with much general pain in head. This probably was from over exertion and excitement induced by smoking a pipe.

9 P. M. Pulse 60. Very comfortable; not so much pain as this morning; discharge has sensibly diminished since ap-
plication of the compress; is walking about the room and feels perfectly well, except the slight general pain in the head.

April 3d. Has been doing well since 27th of March; discharged the case as having recovered.

REMARKS—After the depressed fragment of bone was removed, it was obvious why it could not have been elevated and why the operation of trepanning was necessary. The internal table of the bone was more extensively fractured than the external, this internal surface being too large to pass out of the opening made in the external plate, which inner surface with its sharp spiculated edges caused the irritation of the dura mater, which brought on the three convulsions which the patient had before the operation. From the beginning there were no symptoms of compression, as paralysis, &c. I confess the slowness of the pulse, viz. 45 its minimum, embarrassed my prognosis, nor can I now explain it, since the patient in health, has the normal average pulse. In the treatment of the case it will be noted that his bowels were not acted on for fourteen days. Perfect rest was enjoined and nature allowed to take her course as much as possible. After the abscess formed beneath the flap had assumed a chronic form, the pus becoming more thin and watery, compresses were used with a happy effect, inducing the adhesion of its internal surfaces. At this date July 16th, Mr. B. is well, but suffers dizziness whenever exposed to the sun for any length of time.

MILITARY SURGERY.

[Continued from July Number.

Frost-bite is extremely common among soldiers during the cold, wet weather of winter. Thousands of the French troops perished from this cause in Russia, during Napoleon's retreat from Moscow. Frost-bite was very prevalent among the English during their first winter in the Crimea, and the French suffered in still greater numbers, as well as more severely. The habit which the men had of sleeping in their wet boots, at one time almost universal, contributed
greatly to its production, wet and cold combined diminishing the circulation and vitality of the feet and toes. On the 21st of January, 1855, when the thermometer stood at 5°, not less than 2500 cases of frost-bite were admitted into the French ambulance, and of these 800 died, death in many having no doubt been expedited by the effects of erysipelas, pyemia, and hospital gangrene. Weak and intemperate persons are most apt to have frost-bite and to perish from its effects.

In the treatment, in incipient cases, cloths, wrung out of cold water impregnated with a little spirits of camphor or alcohol, should be applied, or the parts be covered for a few minutes with snow, or immersed in cold water. On no account must they be exposed to warmth, either moist or dry. Excessive reaction is controlled by lead and laudanum lotions, or dilute tincture of iodine. If gangrene occurs, the ordinary measures, local and general, are indicated. All rude manipulation in dressing the injured part greatly aggravates the disease. In general, spontaneous amputation is waited for, experience having shown that operative interference, even when the part is perfectly black, and attached only by a few living shreds, is extremely prone to be productive of excessive pain and constitutional irritation, often proceeding to an alarming extent.

Among the great evils, both of civil and military practice, are bed-sores, which, unless the greatest possible precaution be used, are sure to arise during the progress of acute diseases and of severe accidents, necessitating protracted recumbency. The hips and sacral region are their most common sites, with the heel in cases of fractures of the leg. The earlier symptoms are a sense of prickling, as if the part were rubbed with coarse salt, or a burning, itching or smarting pain, with a brownish or livid discoloration of the skin, and slight swelling. Then gangrene ensues, followed by horrible suffering.

To prevent these sores, which often prove destructive to life, when there is already much exhaustion from previous suffering, the posterior surface of the body should be frequently examined, particularly if the patient is in a state of mental torpor, and pains taken to ward off pressure by the use of air cushions and other means. The parts should be sponged several times a day with some alcoholic lotion containing alum, or painted with a weak solution of iodine. If gangrene or ulceration occurs, a yeast or port wine poult-
tice is used, the separation of the slough is aided with the knife, while the granulating process is promoted by the usual remedies.

Ulcers of the leg are causes of disqualification in enlisting, but they sometimes occur after the soldier has entered the service, from fatigue, injury, or undue constriction of the limb. However induced, they should be managed as any other forms of inflammation, recumbency with elevation of the affected parts, tepid water-dressings, a restricted diet, and cooling purgatives constituting the most important elements of the treatment. When the healing process has fairly commenced, the leg should be supported with the roller, or adhesive strips.

As preventive of ulcers of the legs, the limbs should be daily washed in cold water with Castile soap, and no soldier should be permitted to wear garters.

CHAPTER X.

MILITARY HYGIENE.

Much disease and suffering may be prevented, and many lives saved, by a careful observance of hygienic regulations. There is no question whatever that immense numbers of soldiers everywhere fall victims to their recklessness and the indulgence of their appetites and passions. We would not advocate too much restraint; men are but men everywhere, and soldiers form no exception to the general law. They, like civilians, must have their amusements and recreations. The bow cannot last long, if kept too constantly and too tightly on the stretch. Occasional relaxation is indispensable to health.

Indolence, however, should never be countenanced in any army. Its demoralizing effects, and its influence upon the health of the soldier, have been noticed and commented upon in all ages. "The efficacy," says an eminent military surgeon, in speaking on this subject, "of due attention to the occupation of the mind must never be lost sight of. Many illustrations of its powerful influence, whether for good or evil, whether in resisting or accelerating the inroads of disease, may be found both in ancient and in modern times, from the retreat of the ten thousand Greeks
under Xenophon down to the present day. It may be observed that disease goes hand in hand with indolence and inactivity, whether of body or of mind; and that, on the contrary, where the minds of soldiers are agreeably occupied, and their bodies energetically employed, as in the attainment or pursuit of victory, disease is kept in abeyance." It was the observation of another experienced authority in military medical affairs, Mr. Alcock, that "the period of the smallest loss to an army is a victorious and vigorously prosecuted campaign, with frequent battles and much marching;" an assertion corroborative of the facts, long since so painfully realized, that sickness, however induced, destroys incomparably more soldiers than the sword and the musket.

No intemperance, either in eating or drinking, should be tolerated in an army; both are demoralizing, and both predispose to, if not actually provoke, disease. Alcoholic liquors should not be permitted to be used except as medicine, and then only under the immediate direction of the medical officer. The ordinary drink and food should be selected with special reference to their healthful properties. The use of bad water, even for a short time, is invariably productive of mischief. The tea and coffee should be of good quality, and well prepared, to preserve their agreeable flavor and their soothing and refreshing effects. Lager beer, ale, and porter, if sound, are both nourishing and wholesome, if consumed within judicious limits.

The practice of allowing soldiers spiritous liquors, as a portion of their daily rations, has, I believe, been pretty generally, if not entirely, abandoned in the European service. Its injurious effects upon the health and morals of troops have long been deprecated. In the British army in India, the use of alcoholic liquors was, at one time, universal, on the supposition that it had a tendency to counteract the depressing influences of a tropical climate; the men took their spirits regularly before breakfast, and not infrequently several times during the day, especially if on active duty; but it was soon found that it produced quite a contrary impression, causing instead of preventing debility, and affording a temptation to general drunkenness, which was followed by insubordination and crime. The result was that the government abolished the alcoholic ration system altogether, substituting coffee and tea, which are now regularly served once, and often twice a day.
The condition of the 13th Regiment of Light Infantry, stationed at Jellalabad, during the late insurrection in India, affords a happy illustration of the salutary effects of abstinence from spirituous liquors. While the siege was progressing, the men, during a period of five months, were entirely debarred from drinking, and yet their health and courage were most excellent. As soon, however, as the garrison was relieved, and they began to indulge in spirits, many of them in a short time became sick and riotous. The experience of Major-General Wylie, of the Bombay army, was precisely similar. When the soldiers under his command were quartered in districts where no liquor could be obtained, their health, discipline, and morals were all that could be desired; whereas, under opposite circumstances, insubordination and disease prevailed to a frightful extent.

During the Crimean war, coffee and tea were found to be eminently wholesome and invigorating, enabling the troops to sustain fatigue and to resist disease. When the men were in the trenches, and could not obtain their usual supplies of these articles, they became languid, and suffered from dysentery and diarrhoea. To produce their peculiar sustaining and exhilarating effects, coffee and tea should be taken hot and moderately strong, with sugar, if not also with cream.

Fresh meats are always preferable to salt, though good ham and smoked beef may be taken once a day with advantage as an agreeable change. Fresh fish are always acceptable. Pickled pork and beef are far from being good articles as a portion of the daily rations. The frequent use of fresh vegetables is indispensable to the health of the soldiery. Ripe fruits are nearly equally so. Without a proper admixture of this kind, dyspepsia, bowel complaints, and scurvy will, sooner or later, inevitably ensue; and woe to the man that is assailed by them! The acids and other properties contained in these substances are indispensable to the healthy condition of the blood and solids, and the importance of such a diet cannot be too deeply or too frequently impressed upon the attention of every commissariat. Potatoes, rice, hominy, beans, peas, beets, spinach, lettuce, asparagus, radishes, horse-radish, water-cresses, dried peaches and apples, and the different kinds of fruits as they come into season, should be constantly on hand. Soups, both animal and vegetable, are generally grateful to
the palate, as well as useful to the system, and should be used whenever the occasion is favorable for their preparation.

Eggs, butter, milk, and butter-milk should be freely indulged in whenever they can be procured. Serious disease is often engendered by bad bread and biscuit, and it should therefore be made a part of the duty of every medical officer to see that no articles of this kind are brought into camp.

When in the camp or barracks, the soldier should take his meals with the same regularity as the ordinary citizen at his home. Neglect of this precaution must necessarily lead to great bodily inconvenience, and, if long persisted in, may ultimately lead to serious disease, especially dyspepsia and other disorders of the digestive apparatus. He should not disregard regularity even with respect to his alvine evacuations; for there are few things more conducive to the preservation of the health.

The soldier's dress should be in strict conformity with the season of the year and the vicissitudes of the weather. He should, at no time, be either too hot or too cold, but always comfortable, changing his apparel with the alterations of the temperature. Flannel should be worn next the surface both winter and summer. The shoes must be thick and warm, with broad soles; and woolen stockings will be more comfortable, especially when the troops are marching, than cotton. A thin woolen cap-cover, found so useful in India, will protect the neck from the hot sun, and an oil-silk cap-cover, from the rain. In very wet weather the shoulders might be defended with a cape of oil-cloth.

Frequent ablutions will largely contribute to the comfort of the soldier and the preservation of his health. They should be performed at least once a day, the best time being late in the afternoon or in the evening just before retiring. The feet, in particular, should be often washed, especially in marching, for reasons which need not be dwelt upon here. The under-shirt should be changed every night, and frequently washed, to promote the healthy state of the skin.

Exposure to the hot sun, to cold and wet, must alike be avoided. Sojourning in malarious regions will be certain to be punished by an attack of neuralgia or intermittent fever.

All offals should be promptly removed from the camp,
and carried to a distance of several miles, or be well buried.

The privies should be in the most favorable location as it respects ventilation, and be closed at least every three or four days; or, what is worthy of consideration, every man should be compelled to bury his alvine excretions, as was the custom, in time of war, among the ancient Hebrews, each man being obliged to carry a paddle for that purpose. The emanations from these sources cannot receive too much attention, especially when large masses of men are crowded together, as they are then extremely prone to induce disease.

Finally the medical officer should make it his special duty to see that every recruit is vaccinated, or, if the operation was performed prior to his enlistment, at a dijant period, matter should again be inserted, experience having shown that the effects of the virus are, in time, in many instances, totally eradicated from the system. In most of the European armies revaccination is extensively practiced; and it is asserted by Stromeyer that during the Schleswig-Holstein war, on an average, 38 operations out of 1000 were successful.

It is impossible to bestow too much care and attention upon the selection of the camp ground, and the arrangement of the tents, as a vast deal of the comfort and health of the soldiers must necessarily depend upon them. The following judicious remarks upon this subject are from the pen of an eminent military surgeon, the late Dr. Ballingall, who served in various campaigns, and who was for many years, as stated elsewhere, Professor of Military Surgery in the University of Edinburgh.

"A camp," says Ballingall, "is most advantageously situated on a gentle declivity, on a dry soil, and in the vicinity of a running stream. In order to ascertain the state of the ground it may sometimes be necessary to dig into it to some extent; for, although apparently dry on the surface, it may be found sufficiently wet at the depth of a few feet; and if so, ought, if possible, to be changed, particularly if an encampment is to be stationary. A camp should never be formed on ground recently occupied, nor on a field of battle where much carnage has recently occurred. Many favorable spots are to be found on the banks of rivers, which, perhaps, upon the whole, afford the most eligible sites. We must yet bear in mind that, when the banks of the rivers are low, or the country subject to periodical rains or sudden
inundations from the melting of snow on contiguous mountains, there may be a very serious danger from this cause. Against the danger of such a position, we are cautioned in Mezerey's "Medecine d'Armee," which states a case in which the Austrian army lost 500 men and 200 horse from a sudden inundation of this kind."

When damp ground or a low situation is unavoidable, it should be abandoned as soon as possible for a better, and, in the meantime, the greatest care should be taken to protect the soldiers from damp or wet with straw or other suitable means.

An army has been known to suffer severely from disease contracted in a malarious region. Against such a calamity useful information may often be elicited from the people of the neighborhood, especially physicians conversant with insanitary sites.

When an army is obliged to remain for a long time stationary, an occasional change of camp will be greatly conducive to health, although such change should involve a good deal of labor and temporary inconvenience. A camp under such circumstances should, at all events, be frequently ventilated, and kept constantly clean, a pure atmosphere being of paramount importance to health and comfort. It may often be difficult to do this, but it must, nevertheless, be done; the welfare of the service absolutely demands it, and no medical officer honestly performs his duty unless he interests himself personally in these matters. "The most obvious and perfect way," says Ballingall, "of thoroughly airing the tents is by shifting them occasionally, and exposing the straw, blankets, and soldier's clothing to the open air; the necessity of frequently changing the straw, and enforcing cleanliness in camp in every possible way, are circumstances too obvious to require any effort of reasoning to enforce. With this view the slaughtering of cattle, and everything likely to create noxious or putrid effluvia, ought to be conducted without the camp, and on the side of it opposite to that from which the wind generally blows." The demoralizing influence of a camp life is well known, and I am convinced that there is nothing so well calculated to counteract this influence as rigid discipline, reasonable activity of mind and body, strict temperance, both in eating and drinking, and frequent religious worship. Every regiment should have its chaplains, not less than its medical officers, not only with a view of re-
straining vice and promoting morality, but of affording to
the poor soldier, away from home and friends, in the hour
of his mortal extremity, those consolations which the min-
ister of the gospel alone knows how to impart. The miti-
gation of the horrors and miseries of war, not less than the
tendencies of the age in which we live, absolutely demand
such a provision.

CHAPTER XI.

DISQUALIFYING DISEASES.

Troops, whether regulars or volunteers, should include
no men that are not perfectly qualified, both physically and
mentally, for the hardships of the public service. They
should, in a word, be perfectly sound, or, what is the same
thing, free from all defects, congenital or acquired. It is
for this reason that they are always subjected to a most
thorough examination by the recruiting or regimental sur-
geon. This examination is, as a general rule, a great deal
more rigid in the regular than in the volunteer service. In
the former, the regulations are such that, if the recruit is
not found to be sound after he has been inspected by the
regular army surgeon, the expense incident to his enlist-
ment and transportation falls upon the medical officer who
committed the oversight.

An examination of the kind here mentioned demands
both time, patience, and skill. In order to make it thorough,
the candidate must be completely stripped, so that if any
disease or defect in the exterior of the body exist it may be
at once rendered apparent. The examination, however,
must not be limited to the exterior; it must embrace also
the interior. The disqualifying affections may be arranged
according to the organs and regions in which they are
seated, under separate heads:—

1. The eye and ear. 2. The brain, as the seat of intel-
lect. 3. The lungs and heart. 4. The stomach, bowels,
anus, liver, and spleen. 5. The kidneys, bladder, and ure-
thra. 6. The testicles. 7. The exterior of the abdomen.
8. The limbs, including the joints.

The diseases which unfit a man for military service are
defects of sight, of hearing, and of speech; weakness of
intellect; paralysis; epilepsy; hernia; hydrocele; vari-
cocele; imperfect development or absence of the testes; hemorrhoid's, anal fistule, and fissure of the anus; unusual protuberance of the abdomen; organic lesion of the internal organs; large tumors; aneurism; varix of the extremities; ulcers, or large scars indicative of their former existence; bad corns; bunions; overlapping toes; flatfootedness; deformity of the hands and fingers; contractions from burns or other causes; badly united fractures; unreduced dislocations; diseased joints; loss of the incisor and canine teeth; serious disfigurement of the features; spinal curvature; ill-formed shoulders; habits of intemperance; diminutive stature or excessive overgrowth.

In the regular army no man is enlisted under the age of eighteen or over that of forty-five. In the volunteer service, similar regulations obtain, although they are not so rigidly enforced.

Recruiting surgeons, after having examined a candidate for enlistment, are obliged to certify, on honor, that they consider him, in their opinion, to be free from all bodily defects, and mental infirmity, which would, in any way, disqualify him for performing the duties of a soldier.

When men become disqualified for service, in consequence of disease or accident, a surgeon's certificate is also required, in order to aid them afterward in procuring a pension and exemption from ordinary military duties. The affections which may justify a soldier in applying for a release from further service are organic visceral lesions, deafness, blindness, mental imbecility, lameness, large herniae, and such mutilations as interfere with the proper handling of the sword and musket.

CHAPTER XII.

FEIGNED DISEASES.

Soldiers, influenced by a desire to quit the service, to revisit their homes, or evade active duty, will not hesitate, at times, to play the part of impostors, feigning diseases, or even inflicting upon themselves more or less serious injuries, with the hope of accomplishing their designs. This deception, technically called malingering, would be of comparatively little consequence if it were always, or even generally, confined to a few members of a regiment; but
when it is remembered that it is liable to become epidemic, spreading from individual to individual, it assumes a deep importance, well calculated to arouse the attention both of the medical officer and of the military commander. Its effects, then, become eminently demoralizing to the service, which, if proper care be not employed to detect and punish it, might seriously suffer, especially when such an outbreak occurs on the eve of a battle. Great ingenuity is often displayed by malingerers, requiring no little vigilance and skill on the part of the surgeon for its successful exposure, and yet it is not less necessary for his own credit than for the honor of the service that he should not permit himself to be deceived.

The number of diseases, imitated by this class of dissemblers, is surprisingly great, and there is also quite a list of self-inflicted injuries. Among the former are various mental diseases, as mania and imbecility; deafness; amaurosis; epilepsy; paralysis; haematemesis; haemoptysis; gastritis; dysentery and diarrhoea; affections of the heart; rheumatism; lumbago; wry-neck; contractions of the joints; incontinence of urine; bloody urine; and stone in the bladder: among the latter ophthalmia, opacity of the cornea, œdema of the limbs, wounds, and amputations of the fingers.

Space will not permit me to enter into any details respecting this important subject. I shall, therefore, content myself with a presentation of such facts as may be supposed to be of special practical interest.

First of all, the medical officer should weigh well in his own mind the nature of the disease for which a soldier applies for a certificate of discharge, or inability to perform duty. If the case is one of recent standing, it will be well not to come to too hasty a conclusion as to its diagnosis; it should be examined and re-examined before any definite opinion is given. Day by day facts may be developed, revealing the true character of the affection. If the patient is really sick, or affected with some serious chronic disorder, his general appearance will hardly fail to afford some evidence of its existence. The pallor of the countenance, the functional disturbance of the suffering organ, the bodily prostration, the want of appetite, and the gradual emaciation will almost unerringly point to the nature and seat of the disease. When, on the other hand, the malady is simulated, all, or nearly all, the usual phenomena of disease
will be absent. Impostors, moreover, are generally very
zealous in talking about their disorders, or in obtruding
them upon the notice of their surgeons, whereas those who
are really sick and suffering make comparatively little com-
plaint. A malingerer may often be detected by carefully
watching his movements, coming suddenly upon him when
he is asleep, or when his attention is directed to some one
else, tickling his foot when he feigns paralysis, or pricking
his back when he pretends to be laboring under lumbago.
Sometimes a determined threat will promptly restore him
to a sense of his duty, as the application of the actual
cautery in incontinence of urine, rheumatism of the joints,
or mental imbecility. Now and then the exhibition, in
rapidly repeated doses, of a nauseous draught, answers the
purpose. Whatever expedients be employed the surgeon
cannot exercise too much address, otherwise he will be
almost sure to be baffled.

Mental alienation, or mania, unless the result of inebriation
and of acute disease, generally comes on gradually,
being preceded by a marked change in the moral character
of the individual, loss of appetite and sleep, and other
evidences of general disorder.

Genuine deafness is also gradual in its approaches, and,
when fully established, is invariably attended by a peculiar
listless state of the countenance with more or less change
of the voice. Before a final decision is given, a careful
inspection of the ears should be made, to ascertain whether
there is any obstruction or appearance of matter. The un-
expected discharge of a pistol, in a case of feigned deafness,
might suddenly decide the diagnosis.

Amaurosis may be simulated by the internal use of bella-
donna, or by the direct application of this article to the eye,
causing dilatation and immobility of the pupil. These
effects are often accompanied by unnatural vascularity of
the conjunctiva, and they generally disappear spontaneously
in a few days. In genuine amaurosis, too, there is always
da dilated condition of the vessels of the eye.

Feigned epilepsy differs from the real in the absence of
lividity of the countenance, the want of froth at the mouth,
and the partial character of the convulsions. The pupil
does not contract, as in the genuine disease, the general
sensibility is unimpaired, the tongue is not injured, the
nails are not discolored, the hand, if opened, is again firmly
shut, and the individual often watches with his eye the
impression the attack is making upon the by-standers. The application of a heated case-knife, or of a cloth wrung out of hot water, often speedily reveals the imposition.

Paralysis is frequently imitated, but is generally easily detected, simply by watching the patient, tickling his feet when he is asleep, or threatening him with the hot iron. The disease, when it attacks the lower extremity, is nearly always caused by apoplexy, and is then generally associated with mental weakness and difficulty of articulation. Partial paralysis of the upper extremity is frequently induced by lying upon the arm, by suppression of the cutaneous perspiration, and disease of the spinal cord.

Hæmatemesis may be simulated by swallowing blood, or an infusion of logwood, and ejecting the fluid afterward by vomiting. It should be recollected that the real disease is almost invariably connected with serious organic lesion, as ulceration of the stomach, induration and enlargement of the liver, or visceral obstruction, and that the patient, consequently, will exhibit all the characteristic of a sick person.

Soldiers sometimes counterfeit hæmoptysis, by cutting the gums, or chewing substances impregnated with coloring matter. A case is related by Guthrie, in which a man, for this purpose, swallowed a piece of cork full of pins. The immediate effect was hæmoptysis, and the remote one death by wounding the carotid artery.

Gastritis may be simulated by spontaneous vomiting, a faculty possessed by some persons, and by pretended pain in the epigastric region. The attack in general speedily yields to a large sinapism and a brisk emetic.

Dysentery and diarrhoea are occasionally feigned by exciting, artificially, irritation of the rectum, by mixing blood with the alvine evacuations, or by borrowing the discharges of persons actually affected with these diseases. In genuine dysentery and diarrhoea there are always well-marked constitutional phenomena, which are of course absent in the spurious. Careful watching of the patient and compelling him to use a close stool will soon remove any doubt that may exist respecting the nature of the case.

Disease of the heart, in the form of palpitation, may, it is said, be produced by the use of hellebore. Mr. Hutchinson, of England, refers to an epidemic of this kind among the members of the Marine Artillery. Organic cardiac disease could easily be detected with the stethoscope.
Rheumatism being a very common disease among soldiers, is often counterfeited; but the cheat is of easy detection when it is recollected that the real affection, especially the acute form, is attended with more or less swelling and constitutional disturbance.

When lumbago is made the subject of deception, the attack seldom long withstands the application of rash remedies, or the threatened use, if speedy relief do not arise, or the hot iron.

Contraction of the joints, a not unfrequent source of imposition, is easily detected by the use of anaesthetics, or simply by pricking the parts suddenly with a needle, when the patient is off his guard.

When wry-neck is simulated, both the sterno-cleido-mastoïd muscles are rendered rigid by the effort at deception; whereas in the real disease the contraction is confined to one side.

Incontinence of urine, bloody urine, and stone in the bladder have all been simulated by designing soldiers. The former is said to be at times epidemic, and then its detection is of course easy, as the ordinary disease never assumes such a character. Harsh remedies are the best means of relief. Ballingall states that fictitious cases of incontinence have been successfully treated by the cold bath, by prescribing a few lashes on the loins, with the avowed object of strengthening the parts. In the Austrian army the impostor is obliged to do duty with a urinal.

Bloody urine has been provoked by injecting blood into the bladder, and by scarifying the urethra.

Calculi is almost unknown among soldiers; it is sometimes attempted to be counterfeited by scraping the walls and throwing the lime into the urinal. When stone actually exists, the sound will generally promptly detect it.

Self-inflicted injuries of various kinds are restored to for the purpose of deception. Thus malingerers often provoke inflammation of the eye and temporary opacity of the cornea by means of corrosive sublimate, lime, tobacco, nitrate of silver, and other irritants. A great number of men have been known to suffer from this cause at the same time, as if the disease was an epidemic. Ulcers of the legs are produced by pricking the skin with pins or needles, frictions with sand, or caustic applications. (Edema of the limbs may be excited by tight ligatures; disease of the scrotum and testicle, by inflation of the parts with air. All such
tricks are usually readily detected by the medical officer and his assistants.  

Self-mutilation sometimes amounts to the destruction of an eye, an entire finger, or even the greater portion of the hand. Occasionally it is limited to slight wounds, and the imposition may then be practiced on an extensive scale, as was the case in the French army at the battles of Lutzen and Bautzen, in which nearly 3000 soldiers were slightly injured in the hand, causing the belief that the wounds had been voluntarily inflicted.

CHAPTER XIII.

MEDICAL, SURGICAL, AND DIETETIC FORMULÆ.

Under this head I propose to notice such formulae, or medical, surgical, and dietetic preparations, as have been found serviceable in my own practice, or in the practice of others.

1.—General Remedies.

Among the more simple purgatives may be mentioned the following: all drastic articles should, if possible, be excluded from the prescriptions of the military surgeon:—

R.—Massæ ex Hydrargy. gr. x;
Pulv. Ipecac. gr. i.
M. ft. pil. ii.

A mild laxative in dyspepsia and disorders of the stomach and liver.

R.—Extr. Colocynth. c;
Massæ ex Hydrargy.
Pulv. Rhei. v. Jalapæ, aa gr. x;
Ant. et Potassæ Tart. gr. iø.
M. ft. pil. v.

An active, antibilious purgative, from three to five being an ordinary dose. Calomel may be substituted for the blue mass, if there is much disorder of the liver and secretions.

The safest emetics are ipecacuanha, infusion of eupatorium perfusatum, and mustard and common salt, an even tablespoonful of each to half a pint of tepid water, one-half to be taken at once, the remainder, if necessary, in fifteen minutes. Sulphate of copper or zinc will afford the most prompt emetic effect in case of great urgency, as in poisoning.

The following formula will be found very serviceable in the earlier stages of most inflammatory affections, especially the
cutaneous, articular, and traumatic, unaccompanied by disease of the alimentary canal:

B.—Ant. et Potass. Tart. gr. iss; Magnessæ Sulph. 5i; Morphiae Sulph. gr. ss; Sacch. Albi. 5ii. Aque Destil. 5vi. M.

This is the antimonial and saline mixture, of which repeated mention occurs in the preceding pages, and which I am in the daily habit of prescribing in my surgical as well as medical practice. It may be rendered depressant by the addition, to each dose,—which is half an ounce, repeated every two or three hours,—of from three to eight drops of the tincture of veratrum viride; anodyne, or diaphoretic, by laudanum, or morphia; anti-periodic, by quinine; anti-gonorrhoeal, by copaiba, gum-arabic being used, in the latter case, as one of the ingredients; and anti-rheumatic, by colchicum. If quinine be used, the addition of aromatic sulphuric acid will be required, which is also an excellent solvent of the salts.

B.—Vini Colchici Sem. 5i; Morphiae Sulph. gr. ss; Potassæ Carbon. gr. x; Aque Destil. 5ss. M.

In rheumatic and gouty affections, taken at bedtime, and followed by a mild aperient next morning.

The following will be found to be pleasant and efficient diaphoretics:

B.—Spirit. Mindereri, 5iv; Sp. Æther. Nitrici. 5ii; Morphiae Acet. gr. i. M. S.

Tablespoonful every two or three hours. If there be much heat of surface, we may add to each dose the eighth, twelfth or fifteenth of a grain of tartar emetic.

B.—Potassæ Carbon. 5i; Morphiae Sulph. gr. i; Sacch. Albi. 5ii; Suc. Limonis recent. 5ii; Aque Menth. v. Destil. 5iiiss; Sp. Æther. Nitrici. 5ss. M. S.

Tablespoonful every hour or two.

The effervescing draught, so valuable in irritability of the stomach, is composed as follows:

B.—Suc. Limonis recent. 5ji; Sacch. Albi. 5jiss;
Put two table-spoonfuls of the lemonade with one of the alkaline solution, and let the mixture be drunk while effervescing, repeating the dose at pleasure.

As antiperiodics quinine and arsenic are the main reliance of the modern practitioner. The former may be given by itself, in pill or solution, in doses varying from two to ten grains, according to the urgency of the case or the state of the system. My usual dose is ten grains every eight ten, or twelve hours, until the paroxysm is arrested. If the symptoms are unusually violent, we need not hesitate to administer fifteen or even twenty grains at a dose, being of course careful to watch the effects, which will generally be more pleasant if a little morphia be combined with the quinine.

In chronic, or frequently-recurring intermittent and neuralgic affections, arsenic forms a valuable, and, indeed, in many cases, an indispensable addition; also iron, if there be evidences of anaemia. I prefer myself the arsenious acid to Fowler's solution, convinced that it is much more efficacious and at the same time less apt to cause nausea and anasarca. The following formula will be found advantageous:—

R.—Acid. Arseniosi, gr. iss;
Quiniae Sulph.
Ferri Sulph. aa 3j;
Morphiae Sulph. gr. i;
Extr. Nucis Vomicae, 3j.
M. ft. pil. xxx.

S. One every five, six, or eight hours.

Quinine is also one of the best tonics, and it may always be beneficially combined with other articles, as iron, gentian, quassia, nux vomica, and capsicum. The fluid extracts and aromatic tinctures of bark and gentian will also be found useful. One of the best chalybeate preparations is the tincture of the chloride of iron, in doses of from twenty to twenty-five drops three or four times daily.

Expectorants constitute a large class of remedial agents, but they nearly all derive their active principles from the admixture of tartar emetic, ipecacuanha, or squills. They may generally be usefully combined with potassa and anodynes, being rendered palatable by syrup or sugar.

Nurses should be familiar with the manner of administering enemata or injections, as frequent occasions arise for their em-
ployment. They may be cathartic, as when they are designed to empty the lower bowel, or to promote the action of other remedies; stimulant, as in case of excessive exhaustion; nutritive, as when food cannot be taken by the mouth; anodyne, when it is wished to allay pain and induce sleep.

A cathartic effect may readily be induced by an injection of a pint and a half of cold water, or water in which a little ground mustard or common salt has been stirred, a mixture of warm water and castor oil; or an infusion of senna, or senna and Epsom salts. Turpentine is particularly indicated when the bowels are distended with flatus.

Stimulating injections may be made of brandy, alcohol, mustard, salt, or spirits of camphor or turpentine, mixed with more or less water; and they are often extremely serviceable in promoting reaction.

Nutritive enemata may be necessary in the low stages of fever, and in gunshot and other injuries attended with lesion of the gullet. The best ingredients are essence of beef, strong beef-tea, brandy, or brandy and milk, introduced in small quantity so as not to oppress and irritate the rectum.

Anodyne injections may consist of laudanum, black drop, morphia, hyoscyamus, or belladonna, either alone, or variously combined, and administered with about two ounces of tepid water, or some demulcent fluid.

The best syringe now in use is the gutta-percha, which is not liable to be deranged, and which has the additional advantage of durability. It should be of various capacities, from eight to sixteen ounces, according to the intention to be fulfilled by it. The nozzle must be well oiled previously to its introduction, and care taken that no air be pushed into the bowel.

2.—Topical Remedies.

℞.—Tinct. Iodine,
     Sp. Vini Rectific. aa 5j. M.
To be applied with a large camel-hair pencil, or cloth mop. I hardly ever use the pure tincture of iodine for local purposes.

℞.—Plumbi Subacet. 5j; Pulv. Opii, 5j. M.
To be put in half a gallon of hot water, and the solution to be used warm or cold, as may be deemed best. Laudanum may be substituted for the opium.

℞.—Pulv. Ammoniae Hydrochlor. 5j;
     " Potassae Nitrat. 5ij;
     " Opii, 5j. M.
To be used as the preceding; being particularly valuable in inflammation of the joints, on unbroken surfaces.

The warm water-dressing consists of warm water, simple or medicated with laudanum, acetate of lead, or any other ingredient that may be desired, applied upon flannel or muslin cloths, properly folded, and covered with oiled silk, to confine heat and moisture.

The cold water-dressing is composed of cold water, also simple or medicated, applied with cloths, the parts being constantly exposed to the air to promote evaporation. The cloths are to be wet whenever they become heated or dryish, the water being pressed upon them from a sponge.

Water-dressings, if long continued, will occasionally cause irritation, itching, and pustulation of the skin, rendering it necessary to replace them with cataplasms, or other soothing remedies.

Among poultices decidedly the best, for ordinary purposes, are the flaxseed and slippery elm. The former is made by mixing a suitable quantity of linseed meal with hot, or, what is still better, boiling water, and rapidly stirring it into a thick mush-like consistence. The mixture is then spread upon a fold of cloth, in a layer a third of an inch thick, when it is covered with bobinet or gauze to prevent it from adhering to the parts. A piece of oiled silk, larger than the poultice, is placed upon its outer surface, to retain heat and moisture.

The elm, and, in fact, all other cataplasms, are prepared and used upon the same principles as the linseed. Like water-dressings, poultices may be simple or medicated, according to the object proposed. They should be changed at least twice, or, in warm weather, even three or four times in the twenty-four hours.

Adhesive plaster is cut, in the direction of its length, into strips of suitable length and breadth, warmed by holding the backs against a smooth vessel, as a pitcher or tin case, and applied in such a manner as to bring the middle of each piece over the wound, the edges of which are, meanwhile, carefully supported by an assistant. A suitable space is left between the strips for drainage. If things progress favorably, substitution need not be made under three or four days. If the wound be large, only a few of the strips are taken off at a time, lest, all support being lost, the edges should be forcibly separated.

Before the soiled dressings are removed, everything intended for the new should be prepared, or put in its proper place. The strips of plaster must be removed with great gentleness.
If the injured parts are covered with hair, the surface must always be shaved before the application of the dressings.

Proper material for sutures should always be kept on hand, ready for use. The silver wire is the best, as it is less irritating than any other. Silk, however, answers exceedingly well; the thread should be rather thin, and be well waxed. Saddler's silk is the article used for the ligation of large arteries.

Among the more common and useful unguents for dressing wounds, burns, abraded surfaces, or fissures, are the following:

R. — Pulv. Opii, ss; Pulv. Rhei, s; Ung. Cetacei, s. M.

To these ingredients may advantageously be added, in many cases of healing sores, or eruptions, requiring a mild stimulus, a drachm of the ointment of the nitrate of mercury, a few drops of nitric acid, two drachms of ointment of acetate of lead, a small quantity of myrrh, or of balsam of Peru, or from six to eight grains of sulphate of quinine.

R. — Ung. Cetacei, s; Bismuth. Subnitri. s. M.

Extremely soothing and valuable in superficial excoriations, slight burns, and eczematous affections. Turner's cerate may be employed for similar purposes, but should always be considerably diluted.

The best disinfectants are the chloride of soda, chloride of lime, Labarraqué's solution, and the hypermanganate of potassa, of which an abundant supply should always be on hand in every hospital, free use of it being made, by sprinkling and otherwise, upon the dressings, as well as upon the bedding and the rooms.

The sponges about a hospital should be of the softest kind, perfectly clean, and always ready for use. The same articles should never be employed upon different persons, especially where there are foul or specific sores, as contagion might thus be communicated by direct inoculation, as has, for example, so often happened during the prevalence of hospital gangrene.

3. — Dietetic Preparations.

The diet of the sick-room has slain its thousands and tens of thousands. Broths, and slops, and jellies, and custards, and ptisans are usually as disgusting as they are pernicious. Men worn out by disease and injury must have nutritious and concentrated food. The ordinary preparations for the sick are,
in general, not only not nutritious, but insipid and flatulent. Nitrogenous food is what is needed, even if the quantity taken be very small. Animal soups are among the most efficient supporters of the exhausted system, and every medical man should know how to give directions for their preparation. The life of a man is his food. Solid articles are of course withheld in acute diseases, in their earlier stages, but when the patient begins to convalesce they are frequently borne with impunity, and greatly promote recovery. All animal soups should be made of lean meat; and their nutritious properties, as well as their flavor, may be much increased by the addition of some vegetable substance, as rice or barley. If the stomach is very weak, they may be diluted, or seasoned with pepper.

**Essence of beef**, so frequently given in the low stages of fever, and in the exhaustion consequent upon severe injuries and operations, is prepared by cutting from a quarter to half a pound of lean beef into thin pieces, and putting it into a wide-mouthed porter bottle, corked tightly, and placed in a kettle of cold water, which is then heated till it boils. After it has been digested in this way for a few hours, the juice is decanted, and seasoned with salt and pepper, wine or brandy.

**Beef tea**, much less nourishing than beef essence, is made by putting a quarter of a pound of lean beef in a pint and a half of water, and boiling it for fifteen minutes, a few blades of mace being added during the process, and the fluid well skimmed.

To make **chicken broth** requires half a young chicken and a quart of cold water, with a teaspoonful of rice or barley, the whole being slowly boiled for two hours under cover, with proper thinning.

**Chicken jelly** is prepared by putting a chicken, cut up and all the bones broken, in a stone jar, closely covered, and retained in boiling water for three hours and a half. The liquor is then strained, and seasoned with salt and mace.

**Vegetable soup** is composed of two Irish potatoes, one onion, and a piece of bread, with a quart of water, boiled down to a pint in a closely-covered vessel, a little celery or parsley being introduced near the close of the operation. Salt and pepper are added at pleasure.

To form **rice jelly** a quarter of a pound of rice flour and twice that quantity of loaf sugar are boiled in a quart of water, until the whole becomes a glutinous mass, when the jelly is strained off and flavored.

**Sago jelly** is composed of four tablespoonful of sago, one
quart of water, juice and rind of one lemon, and enough sugar to render it agreeable. After the mixture has stood half an hour, it is boiled until all the particles are entirely dissolved, the mass being constantly stirred.

Oatmeal gruel is composed of two large spoonsful of oatmeal and half a pint of milk, stirred into one pint of boiling water, and allowed to simmer for thirty minutes, when it is strained through a hair sieve. Cornmeal gruel is prepared in a similar manner.

Arrow-root pap consists of a large tablespoonful of this substance made into a paste with a little cold water, which is then stirred into a pint of boiling water, and kept on the fire for five minutes. The nourishing properties of arrow-root pap may be heightened by using milk instead of water in its preparation.

Milk toast is often much relished by the sick; and there is a very excellent jelly for invalids made of a thinly sliced and slightly toasted penny roll, boiled in a quart of water until it becomes a glutinous mass, when it should be strained upon a few shavings of lemon-peel.

The flavor and efficacy of the various dietetic preparations here described may be greatly increased by the addition of mace, lemon, wine, or brandy. When salt, or salt and pepper are used, the patient's own taste should be consulted. Great care should be employed in making these compounds that they are not scorched. To prevent this a double boiler should be used.

Milk-punch, an excellent article when a stimulant is required in conjunction with a nutrient, is made by mixing good brandy with cold, fresh milk, in the proportion of about one ounce of the former to half a pint of the latter. Sugar and nutmeg may be added to make the mixture palatable.

Wine-whey, well made, may be rendered of great service to the sick. It is prepared by adding to a pint of fresh milk, as soon as it reaches the boiling point, as much good Madeira or Sherry as will coagulate it. The mixture is then strained, and sweetened or flavored for use.

The best wines for the sick are Madeira, port, and sherry. In cases of gastric irritation, champagne sometimes produces an excellent effect, quieting the stomach as well as the system at large.

Egg-nog consists of an egg, the white and yolk of which are beaten up separately; half a pint of cold water with a little loaf-sugar is then added, together with two tablespoonsful of brandy.
Syphilis of New-Born Children. By J. B. Hughes, of M. D., Newbern, N. C.

To whatever epoch or circumstance the origin of Syphilis may be assigned, it has probably existed, though in modified form, since the transgression of moral laws has been attended by subsequent evil. It was not till at the close of the fifteenth century, however, that it assumed the character, with which we have now become so familiar, when it exhibited itself in continental Europe, and startled the world with the terrors of its contagion, and its fearful ravages. Much had been written on the subject, but Hunter is the author who has given the first systematic treatise, to which we usually refer for his own, and the previous ideas of its nature and treatment. He availed himself of all the information which three centuries had furnished, and made great progress in the study of the disease—gave an unmistakable diagnosis of the indurated chancre, but arrived at the conclusion that gonorrhea and syphilis proceeded from the same virus.

It is to the French School with Ricord leading the avant garde, that we owe so much for the light which has been thrown upon this disease within the last fifty years. Ricord, whose genius would rest with nothing less than actual experiment, inaugurated syphilography, and exploded the dogma that gonorrhea and syphilis had the same origin, and established the contrary fact beyond the peradventure of a doubt. With mathematical precision he arranged the laws which govern syphilis; the domain and career of each kind of chancre, and apparently left no feature of the disease unexamined; and as far as he could carry his experiments, established his doctrine in each particular*.

Inspired by the enthusiasm of their leader, some of his associates and former pupils, and especially M. Diday of Lyons have pushed their investigations still farther, and excited grave doubts in the minds of physicians in regard to Ricord’s idea of the unity of syphilitic virus; as well as that of Hunter, confirmed by Ricord, of the non-contagion of the secondary manifestations of the disease. Ricord himself proved, that the soft chancre was almost local in

*Lettres Sur la Syphilis.—Ricord.
its effects; exciting bubo, but leaving the constitution uncontaminated; while the indurated chancre was followed, as by fatality, with constitutional infection; but insisted that both chancrees had their origin in the same virus. M. Diday at the head of the dual School, said on the contrary, that the soft chancre always proceeds from the soft chancre, and the indurated chancre had as invariably an indurated chancre for its source. M. Fournier has given an admirable synopsis† of the actual state of knowledge on this question, and of the result of the experimentation of MM. Buzenet and Nadau. While the advocates of the dual School seemed to be gaining ground in public belief, M. Ricord announced the new idea, that all cephalic chancres (of tongue, lips, face and scalp,‡) were of the indurated kind, and consequently followed by constitutional infection. At the clinique of hopital du Midi, where Ricord presided, the soft chancre of the body presented itself in the preponderance in favor of the former variety, why should these cephalic chancres always be of the latter? Unquestionably, M. Ricord has said, because the virus is the same, but the cephalic region is the peculiar soil for syphilis, and its anatomical characters convert the soft into the indurated chancre. Those of the dual School on the contrary, maintained that this region while it would resist the contagion of the soft, had a peculiar election for the indurated chancre, and that this election was not singular, but an analogy could be found in other diseases; as the pericardium showing a great election for rheumatism, while the peritoneum enjoyed almost an immunity from it; the hands being peculiarly liable to itch, while the face, back, &c., were almost never attacked by it, though it could be forced into these regions; and so on with other diseases.

To settle the disputed points, MM. Buzenet and Nadau had the courage to attempt inoculation on a great number and variety of patients; and their experiments are peculiarly interesting, as they belonged to the opposite doctrinal schools, and lead us inevitably to the same conclusion—

†L'Union Medicale Tome xii. Nos. 19, 22, 25, 28, 35, 135.

‡In the United States, these points are almost never visited by the primary sore, but the patients who present themselves at the hospitals of Paris seem to consider no points of the body sacred from its contact.
that the virus of syphilis is dual. The pus of a soft chancre was inoculated upon the lip, and at the same time upon the thigh of a healthy subject; in both places a soft chancre resulted, and so on to each point of the disputed territory, face, scalp and all. But in every instance the thigh was similarly inoculated, with the uniform result of the re-production of the soft chancre, thus establishing the fact that a soft chancre could exist in these points as elsewhere. As if in verification, however, of their pre-conceived ideas, while the soft chancre was known generally to heal with much greater difficulty than the indurated variety, it was found uniformly that the soft of the head healed very rapidly, while that of the thigh run the ordinary course where it was not prematurely destroyed by caustic. Farther, Ricord's idea that constitutional syphilis was like variola, in the fact of one attack freeing its victims from a repetition of it, has been strengthened by their experiments. Patients who were suffering from constitutional syphilis from indurated chancre, were inoculated with pus from a similar chancre, and the result was uniformly negative. The same individuals were inoculated with the pus of soft chancre, with the invariable reproduction of soft chancre, which ran the ordinary course without aggravating the constitutional malady. The followers of the dual school, then offered as their solution of the experiments, that the cephalic region enjoys a peculiar immunity from the virus of soft chancre; and that while a soft chancre will uniformly follow the inoculation of pus from a similar source, this region will resist the virus, so far as contagion is concerned. The experiments would seem to justify this conclusion, and when we have it more firmly established by additional investigations, its announcement will excite no more surprise than we now feel when gravely told that syphilis and gonorrhea have not the same origin.

I have thought it necessary to introduce this expose of the disputed points in syphilis, which have been fully discussed in the French Medical Journals, as they affect to a great extent, the transmission of syphilis by inheritance—the soft chancre not being transmissible, while the constitutional affection resulting from indurated chancre is almost invariably so conveyed. And also that while much is known in regard to the syphilis of new-born children, it will require some enthusiast with courage and hardihood to make actual experiments to decide other points now in dispute. The
following cases of syphilis in new-born children have, within the past three years, come under the care of my father, Dr. I. W. Hughes, and myself:

**Case No. 1. June 11th, 1858.** Bright mulatto child, girl, four month old. The history given of it was, that it was born at term, of full size, apparently healthy, nursed well, and gave no indication of disease till it was two months old, when its nose and mouth became sore, an eruption showed itself on its body, and it began to lose flesh. When presented to us, it was greatly emaciated, breathed with difficulty through its nose; its lips, mouth and nose filled with condylomata (mucous papules); on its forehead and scalp was an erythema of copperish color, while on the scalp there were also several ulcers. Condylomata were in the vagina, and associated with an ugly ulcer at anal orifice. The string of lymphatics along the inner border of the thighs was a series of abscesses. The hands and feet bore the characteristic erythema, and several pustules; while the buttock was filled with pustules and tubercles, the spaces intervening between the eruptions being of copperish-brown color. The lymphatics at the back of the neck and behind the ears were hard and swollen. Our inquiries elicited no information of venereal taint from the mother, but the child was put upon anti-syphilitic treatment with the happiest results. **R**—Hydrarg. Protiod. grs. ii to be divided into 24 powders, one to be given each morning. **August 1st**—Child greatly improved—the abscesses along the thighs had been opened from day to day as necessity required, some of them had healed entirely, and those which had at first degenerated into ulcers, assumed a healthy appearance with diminished discharge. The erythematous eruption which had in a great measure disappeared, left in many places a border of thin, whitish scales. A slight iritis which had supervened soon after treatment was commenced, giving great annoyance to the child, at this time was entirely relieved. The Hydrarg. Protiod, which had purged a little, was modified by the addition of a small quantity of opium, and continued as before; a solution of Nitrat. Argent. gr. i. to *Aqua f 5 i.* was applied to the ulcers. **Nov. 1st**—All signs of eruption disappeared, the enlarged lymphatics were reduced to nearly their normal size, flesh increasing, skin clear and healthy, and the ulcer at anal orifice, and one on the scalp were all that remained of the disease. Same treatment continued. **Dec. 1. Child**
perfectly cured, and is at this time, three years old, vigorous, intelligent, and in the enjoyment of perfect health, having never exhibited any symptoms of the disease. As a necessary explanation to this case, I must mention that, although the father of the child did not come under our care, I saw him and he was suffering from constitutional syphilis in the fullest sense of the phrase.

Case No. 2, Oct. 1859.—Negro child, boy, three months old. Born at term, with all the indications of health. At the sixth week its mouth became sore, diarrhea set in, lost flesh, and an eruption showed itself, which had been treated by its mother without effect. When presented to us, its nose and mouth were filled with the condylomata; on its legs, feet and arms was an erythema, associated with pustules in the accustomed crescentic order. The aspect of the child was pinched and wearied, and its scalp bore a papular eruption of copperish color. We could get no fact from the mother in regard to syphilitic infection. Prescribed for child, Hydrarg. Protiod. grs. ii. to be divided 24 powders, one to be given each morning. In four weeks every symptom of syphilis had disappeared, it regained flesh and was perfectly cured. It has not since had any return of the disease in any form, and is a fine, healthy child.

Case No. 3, August 1860.—Negro child, girl, two months old. Born at term, with somewhat pinched and aged features, but otherwise exhibiting no evidence of disease. At its fourth week the inner border of legs and soles of the feet showed a pustular eruption. When seen by us all the natural orifices, nose, mouth, anus, &c. were covered with condylomata, with the lymphatics of the neck, and behind the ears hard and swollen; its face bore patches of erythema mixed with pustules, which had, in some places, broke, and been converted into ulcers, its scalp was foul with scabs. The parents of this child had been under our care in July, 1858, for gonorrhea, associated with indurated chancre. In September, the expected secondary symptoms exhibited themselves, which were apparently entirely relieved in May, 1859.

Some months afterwards, the mother became pregnant, and in July, 1860, was delivered of the child above described. The child was put upon the same treatment as the previous cases, but gave us no symptom of decided improvement for two weeks. In this space of time, the dis-
ease had reappeared upon the mother. Her occupations had prevented her realising the necessity of taking medicine anterior to the eruption. She was now given iodide of potash, gr. v. three times a day, and the mercury continued with the child. Both mother and child soon began to improve, and in November there was no vestige of the disease in either, and it has not since reappeared. The child is healthy and growing rapidly.

Case No. 4, June, 1860. I was called accidentally to see patient, mulatto child, eight months old. Had been sick ever since it was two months old, when it began to lose flesh, and an eruption commenced to spread itself over the body. When seen, it was in the last stage of syphilitic marasm. On its face and scalp was an erythematous eruption with pustules and ulcers. The glands of neck and behind the ears were swollen; its body and limbs well marked with papules and pustules which assumed more or less the crescentic form. The inguinal glands had degenerated into foul ulcers; its body wasted almost to a skeleton. The liver was much swollen, and alternate diarrhea and constipation had prevailed; its life was nearly worn out. Prescribed Liq. Amon, Acet. in doses of ten drops every two hours. Hyd. C. Mite, Pulv. Doveri, aa. grs. iv. to be made into twelve powders, one to be taken morning, noon and night. The child died two days afterwards—could learn nothing of the history of the case, so far as related to syphilis of parents.

Case No. 5, December 1860.—Negro child, girl, seven months old. Had been born healthy and continued to thrive till its third month, when its skin assumed a dryish, scaly appearance, without characteristic eruption, and it lost flesh rapidly. When seen by us, the skin presented this dryish, scaly appearance very forcibly, and the expression of face was like that of an old person, with muscles of the body greatly wasted; its bowels sometimes irritable, but generally regular, the appetite generally good, the lymphatics of neck and groin, and the tonsils were swollen.

The symptoms presented gave no such unmistakable evidence of syphilis, as the history of the mother. She had borne three children previously by the same husband. Neither he nor she confessed to a syphilitic taint. Each of the previous children had between the fourth and tenth weeks, broken out with an eruption of nose, mouth, and anus, and the limbs had become filled with erythema and
pustules. The first child had had large abscesses in the groin, and though each succeeding child had manifested less of the disease it was the same in all. Each child had wasted and died before it was six months old. The child presented to us, was placed upon the same mercurial treatment as the cases mentioned above.

January, 1861.—While the child seemed to be improving it at this time had an attack of measles, which greatly taxed its strength, but left no bad symptom behind it. As soon as it was better the mercurial treatment was resumed; and at this time although the child is not entirely cured, it bears nearly the aspect of health—its skin has become clear—appetite good—swollen glands disappearing—flesh increasing and strength restored. The treatment is still continued but will not be much longer necessary.

Case No. 6, March 1, 1861.—Negro child, boy, three months old. Born at term, good size and healthy. He presented the following symptoms—a papular squamous eruption when it was five weeks old, existed on its scalp; at the inner border of limbs, and flexures of joints were occasional patches of erythema which had given place in some points to thin whitish scales; on the face and eyelids were pustules, and the scrotum and anus were filled with condylomata, and at the anal orifice an ulcer. The buttock was a mass of tubercles and pustules, some of which had degenerated into ulcers. Every inquiry in regard to syphilis was denied by parents; but a few days before I saw the child, the mother came to me for a sore throat which was palpably syphilitic, both nipples were sore and fissured, and one of them had several mucous papules. She told me that the throat had become sore one week after the birth of infant, then the nipples in a few days afterwards. Soon the mouth of the child was likewise affected, and then followed the general eruption of the body. The mother was given iodide of Potash, grs. v. three times a day, but no medicine was given to the child, letting it receive its cure through the milk. This treatment is still pursued, and I saw both the patients yesterday. They are already nearly well. The throat of the mother gives her but little trouble, and the eruption of the child is greatly improved, having disappeared entirely from some parts of the body, and rapidly healing in the rest.

The history of these cases illustrates the great difficulty in deciding many doctrinal points in syphilis of new-born
children. The parents in some instances, from ignorance or carelessness in noticing the primary sore, in others, from an unwillingness to acknowledge any improper conduct, deny every inquiry which would enlighten us in the ways of diagnosis; and if any confession is made, it is rather through accident, or ignorance of the direction to which our questions tend.

The cases presented for treatment constitute but a small proportion of those which have been infected, for a syphilitic mother may and generally does abort a great many times, and at various periods of pregnancy, before a child is delivered at term. Observers have detected external manifestations of the disease as early as the second month of intra-uterine life, and there are many observations of this manifestation at the fifth and sixth months. This is a feature of the force of the disease, when it seems to exhibit itself with such violence as to prevent the foetus from arriving at term, while in the cases reported in this article which agree with other observation, the disease never exhibit itself till the third, fourth and up to the tenth week of extra-uterine life. We may then say of syphilitic children born at or near term, first, that some present a pinched cachectic look, which ought to excite suspicion of the disease at time of birth; that this cachexia may constitute the only prominent feature; while from mal-assimilation of nutritive matter the muscles waste, the skin becomes dry, and the child may die with or without any cutaneous eruption; or if subjected to treatment may recover without the disease ever having manifested itself externally. Second, that the majority of cases presented, are reported to have nursed and looked well till the first or second month, when appetite may or may not begin to fail, child grow feeble or emaciated, and eruption show itself.

With regard to the period at which eruptions show themselves, we must say that pemphigus both in this particular and in result makes a class of cases for itself. Sometimes at birth generally a few days after, it manifests itself, and other things being equal, the victims of it die very rapidly. M. Bouchut has quoted the investigations of M.M. Paul Dabois, Deville and others in their autopsies of syphilitic children, which have been made from the foetus of four months up to child delivered at term. The thymus gland, the lungs, brain and liver, have exhibited together or separately in each case, peculiar changes. In the first stage there were mere points of conges-
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tion of a fibro-plastic character; further on, these had degenerated into abscesses. The thymus gland, especially, and more uniformly has exhibited these changes. In the lungs, M. Dubois has found many abscesses, but in one case to which special value has been attached—a child delivered at term and filled with pemphigus—the lungs were found without abscesses, but had disseminated all through them patches of eruption which corresponded to that manifested externally.

The question which now presents itself is, what is the source of syphilis in new born children? M. Ricord says, "there cannot be constitutional syphilis without a chancre or syphilitic mother or father." The first part of the proposition that a secondary sore is not contagious, as it will affect another branch of our subject, we will leave for the present, to revert to it farther on. The second part means, that syphilis is transmissible by inheritance, and I suppose there are few persons at the present day to contradict the fact. But the father and mother seem to possess different powers in this agency. In order to transmit syphilis to offspring, it is necessary that one or both parents should be suffering from constitutional syphilis, the primary sore not sufficient to cause such result.

In regard to the father, it appears that when suffering from constitutional syphilis, the ovum is infected by him at the moment of conception, and though the foetus may be delivered at term, and not exhibit the disease for six or eight weeks after birth, it has really from the very first moment been diseased. If syphilis is contracted by father after conception, if the mother does not become affected the disease is harmless so far as the offspring is concerned. But a child "created syphilitic by the father can infect the mother during gestation." The force of the disease is here brought in question as to the relative power of father affecting the offspring. Erichsen in his Surgery relates a case of his own, where a gentleman suffering from constitutional syphilis, married and had a large family none of whom exhibited any symptom of the disease. But this case is exceptional, and although we may believe that the father bears less danger of infecting offspring than the mother, still when he is suffering from constitutional syphilis the result will be, as a rule, that his children will come into the world syphilitic. In regard to mother, Ricord says that "inheritance by mother can proceed from a constitutional syphilis anterior to conception, or consecutive to an indurated chancre contracted during gestation." Thus the danger from mother extends during the period of pregnancy, except perhaps as M. Bouchut has expressed a doubt
towards the eighth or ninth month. The only thing requisite is constitutional infection, for the mother to affect in fants; and we may now ask, is a constitutional syphilitic mother who is carrying a syphilitic fetus apt to infect husband? The mass of evidence is against the supposition, and M. Bouchut relates a case, where a woman who had been under his care for indurated chancre, married in a few months against his advice. She conceived, and a syphilitic child was born at its sixth month, but the husband did not contract the disease.

Here arises the important question of the power of contagion of secondary syphilis. M. Ricord has asserted that it is not contagious; but that in those cases where this has appeared to be the fact, there has been error in diagnosis, and that what appeared to be a secondary manifestation was really an indurated chancre transformed "in situ," into an eanthymatous pustule or mucous papule. Melchior Robert whose treatise (Maladies Veneriegnes,) is drawn from the lessons of Ricord says in relation to this point: "It did not suffice to attribute to every primitive chancre the property of infecting the economy; it was necessary still to multiply the propagating means of syphilis in extending this power to secondary accidents. The bodies of unfortunate patients have been sown to profusion with the secretion of every variety of syphilides; they have inoculated one patient from another, from patient to healthy individuals; sometimes from mucous papule, sometimes from eanthyma; again from tertiary manifestations, and finally from the blood of syphilitics; and all that to arrive at the means of contradicting an opinion, which experimentation has a thousand times confirmed." There could be no more positive assertion than this, and yet, in 1857, M. Ricord, in his Oral lectures, expressed a doubt of this very point. The frequency of reports of syphilitic child infecting healthy nurse, and vice versa, and the medico-legal importance of the question have created much opposition to the belief of the non-contagion of the disease in this form. Without contradicting the theory entirely, it is certain that some modification of it is necessary; for a healthy mother carrying a fetus infected disease by the father, which has it in secondary form, is in her turn affected, and perhaps in an exaggerated degree, sometimes exhibiting it anterior, but generally consecutive to accouchment. The question of mother and child infecting each other when only secondary
manifestations have existed, have been the principal obsta-
cles to assent to this maxim of Ricord, for the great major-
ity of adults with constitutional syphilis have failed to com-
unicate it by contact.

Can a syphilitic child infect a healthy nurse? The pro-
bability is that it can; but to do so it is necessary that the
sease shall be developed into eruption. M. Bouchut re-
ces the case of an infant suffering in this way, who com-
unicated the disease to three nurses consecutively, neither
whom had ever given any evidence of the disease ante-
riorly; of another nurse, who had a healthy child of her
own but contracting syphilis from a child which she was
siring, actually communicated it to her own child.

The means of transmission is generally thus: the child's
mucous papules or ulcers on the lips, in frequent con-
tact with the nipple of the nurse; soon upon it a similar
raption, or it may be a fissure, is developed, and then fol-
ows constitutional infection. And in some instance, the
ipple is actually lost by the amount of fissure which sur-
ounds it. Can a syphilitic nurse impart the disease to a
healthy child? M. Ricord has denied this communication
on nurse to child, except when the former is suffering
on primary syphilis, and she by accident inoculates the
ursling with the pus from primary sore, when secondary
ptoms follow as a natural consequence. M. Bouchut
ifle citing some cases to the contrary of this doctrine, is
eclined to adopt somewhat the same views especially so
as infection through the milk is concerned. In the dif-
rent analyses of the milk, it is pronounced "a perfect
iment elaborated from the blood," and while the different
gesta, excitement from rage, venereal desire, the men-
tual flow, &c. &c. may affect its character in the propor-
on of fat globules, salts, &c. to a limited extent and
ereby affecting the nursling, yet there is no consistent
iation from the average standard from these causes. So
persons with phthisis, scrofula, syphilis, cancer, rickets,
the milk shows no consistent change so far as chem-
tal test will detect. Yet no one will rationally doubt
at the milk elaborated from the blood of such persons,
ich nourishes the blood, muscles, bones, &c. of nurs-
gings must in some wise differ from that of perfectly
althy persons. No one would knowingly engage a nurse
or their child who had syphilis, scrofula, &c., because her
ilk exhibited by chemical test no derangement. In re-
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That the milk should give no evidence of the particular malady, ought to excite no surprise when we reflect that the syphilitic pus differs so little from healthy pus, that we have no certain means of distinguishing them, but by inoculation; and farther, that in the majority of cases when the mother is put under treatment, and the milk is freighted with the remedy for diseased child, chemical test will rarely detect any change in it. We have thus far considered syphilis in its secondary form, and it will be necessary now to examine its influence when passed into the tertiary. In this stage, the sub-cutaneous, sub-mucous, fibro-osseous, and muscular tissues, the testicle, liver, &c., have been invaded; that is, the poison has passed from the external the deeper parts and taken firmer hold of the victim. If its power of translation increased with its progress? M. Ricord has said, that the disease passed into the tertiary stage is not transmissible by inheritance, but whatever manifestation may be made in a child born under such influence will be scrofulous. M. Deville has observed that children born of fathers suffering from tertiary syphilis do not exhibit the disease, and while he believes the same regard to mothers under similar circumstances, his observations have not been so satisfactory as to allow him to assert positive belief. The force of the disease is again brought in question here, and it must be confessed that grave doubts exist of the truthfulness of these observations. There is no doubt that secondary syphilis and sero tuberculosis...
mewhat analogous in their manner of manifestation, and is often extremely difficult to distinguish one from the other; but their nature is so different, that it will require much stronger proof to convince us, that though robust parents do not give birth to syphilitic children, yet parents in the tertiary stage of syphilis will bring into the world scrofulous children. This question is important in a therapeutical point of view, for a remedy which is of great benefit in a case of syphilis may be positively detrimental in one of scrofula.

With regard to the treatment, it has become an established fact, that however much the non-mercurial school may cavil about the use of mercury in this disease in the fult, it is at least a specific in syphilis of new-born children. The iodide is the best preparation of mercury, and may be given to infants in doses from twelfth to twentieth a grain once a day; if no benefit is derived in the course of the day, the dose may be repeated twice a day. If administered to mother, it is best to begin with one grain, to be increased if necessary to three grains per diem, and will feed the mother, and through the milk, the child. Mercury may also be used by inunction. Where it is not desirable to give mercury, the iodide of potash may be used, doses of five grains three times a day. If the disease is taken in time, when the child is not worn out, the prognosis is always favorable, but when it is in an advanced stage of marasmus, its exhaustion and not the disease is the first point to combat. If this can be overcome, the syphilis will be manageable.

Voluntary Dislocation of the Crystalline Lens.

M. Chassaignac exhibited a patient to the Paris Society of Surgery who had the power of producing a dislocation of the lens voluntarily. Paralysis of the iris exists, and the patient is enabled to cause the passage of the lens from one chamber to the other, its transparency being completely reined. Some years since M. Larrey also presented a child, exhibiting a similar peculiarity, and the lens in that instance did not become opaque until three or four years afterwards.
On the Arrest of Venous Hæmorrhage. By Professor Lan
genbeck. (Archiv für Klinische Chirurgie, Band i. p. 543.
In the course of an interesting paper by Professor Langenbeck on the "Surgical Pathology of Veins," illustrated by nu-
merous cases, he observes that styptics are not suitable for the
arrest of venous hæmorrhage. The best of these, the liquid
ferri sesquichlorati, is dangerous, owing to the extensive
thrombus formations and subsequent irritating effects it gives
rise to. In all cases, when obstinate venous bleeding proceeds
from several small veins, he gives decided preference to the
actual cautery, as most certainly guarding against the break-
ing up thrombi and pyæmia. When the bleeding proceeds
from a large vessel, compression, ligature of the vein, or liga-
ture of the corresponding artery, should be resorted to. In
wounds of the large veins of the extremities, compression of
the peripheric ends by means of the finger will usually suffice
and in wounds of the jugulars, we should at once apply the
finger to the central end to prevent the entrance of air, and
then to the peripheric end to arrest the bleeding. In the case
of a large wound of the jugular, the finger can only act pro-
visionally, and the best means of proceeding consists in closing
the lips of the outward wound by strips of plaster, (which must
not extend to the uninjured side of the neck, where they would
compress the opposite jugular), so applied as to exert the most
equable compression around the wound without impeding the
circulation. In the case of the veins of the extremities, band-
ages may also be exactly applied, commencing at the toes or
fingers. When the injured vein is at the bottom of the wound,
the author places some cerated linen in contact with it, fills the
wound with charpie, and then brings its edges together with
plaster.

Ligature of the Vein.—In general, tying the peripheric end
of a wounded vein of the extremities suffices; but a ligature
both above and below the wound may be required when a
considerable branch enters just above the central end. To
avoid the loss of blood during the removal of large tumors, the
provisional ligature of several large subcutaneous veins, which
sometimes acquire the size of the finger, may be requisite;
and in such cases the author always applies a double ligature,
and divides the vein between, removing the ligatures after the
completion of the operation. The practice is the more to be
recommended from our ignorance of the conditions under which
air gains entrance by dilated subcutaneous veins. In wounds
of the external jugular, the central end should always be tied,
as it should be prior to operations likely to lead to its being
Dislocation of the Shoulder.

It very often happens, M. Maisonneuve observed in a recent clinical lecture, that even experienced surgeons may hesitate respecting the existence of a luxation of the shoulder; and you are aware of the learned dissertations to which the differential diagnosis of these luxations, fractures of the neck of the humerus, and even simple contusion, has given rise. Numerous are the pages, even in the most recent works, devoted to this important discussion; and certainly after reading and meditating upon them, one can be persuaded that this diagnosis is one of the most delicate and difficult in surgery. This does not arise from the enumeration of the characteristic symptoms of each lesion being incomplete. Far from it; for real and doubtful symptoms, vague and precise symptoms, are so accumulated that even the most skilful can scarcely make them out, while the simple practitioner is utterly at a loss. Still there is a simple and easily-discovered symptom, which will always enable you to recognize with certainty not only this but any other dislocation, whatever swelling of the surrounding soft parts may exist. This symptom is based upon the fact that in all dislocations the normal movements are impeded or abolished, while in simple contusion these movements persist, and in fractures others of an unusual nature are added to them. Take hold of the arm, and endeavor to make it execute the movements proper to the articulation. If these are found to be impossible, or very limited, there is
without doubt dislocation; while if these remain intact, no luxation exists, and the presence or absence of shortening and crepitation will determine whether the accident is a fracture or a mere contusion. This sign alone will enable the diagnosis of the dislocation to be made. The study of the symptoms may be carried further, and analyzed in detail. We may verify the flattening and the depressibility of the shoulder, the projection of the head of the humerus, the elongation of the limb, and the various circumstances which determine the variety of the dislocation. But the mere fact of the abolition of the movements of the joint had already placed the fact of the dislocation beyond doubt.—Moniteur des Sciences Medicale.

Prominent Eyeballs. "Exophthalmic Goitre."

At a recent meeting of the Academy of Medicine, in Paris, M. Arau, Physician to the Saint Antoine Hospital, read a paper upon the nature and treatment of the affection known under the name of exophthalmic goitre, exophthalmic cachexia, &c. The conclusions at which that writer has arrived are the following: That the disease known under the various names referred to above is not essentially constituted either by exophthalmos (protrusion of the eyeball) or by a swelling of the thyroid body, but rather by an irritable condition of the heart and the arteries of the neck, with which it is, at times, closely connected; it is impossible to fix definitely, the interval which separates the production of these two series of facts, a dilatation with hypertrophy of heart, and of the large vessels of the neck. Neither this dilatation with hypertrophy nor the increased irritability of the circulatory system, which would appear to govern it, can be considered as the base or point of origin of the malady. Preceding these phenomena, or coincident with them, there exists various derangements in the digestive system, the secretory apparatus, and the nervous system, which do not leave any doubts concerning the common tie which unites, and which generalizes them; this tie would seem to be a morbid condition of the great sympathetic system. The existence of this morbid condition of the sympathetic nerves is further shown by the production of exophthalmos which, although inexplicable on the ground of vascular dilatation, and equally inexplicable by the hypo-
thesis of an hypertrophy of the cellulo-fatty tissue contained in the orbit, (an hypothesis which is itself irreconcilable with the rapid production of this phenomenon in certain cases, with its absence in others, and with its more striking manifestation in one eye than the other), is, on the contrary, fully explained by the influence of the sympathetic system, as demonstrated by the investigations of Claude Bernard and Muller.

The nervous affection which we have described is curable by a plan of treatment continued for a sufficient length of time, which has for its object to excite the contractibility of the walls of the heart and of the arteries, to lessen the exaggerated irritability of the heart and of the vessels of the neck, and to combat the general neuropathic condition, which serves as a base for it, at the same time as the altered condition of the blood when its exists. Amongst the therapeutic measures, those upon which we can place most reliance are the application of cold to the region of the heart, the administration of increasing doses of veratria, or of digitalis, repeated affusion with water, removal of the patient into the country, and, at a certain stage of the malady, ferruginous preparations, especially the perchloride of iron.—London Medical Review.

The Nature and Origin of Epileptiform Convulsions caused by Profuse Bleeding, and also of those of True Epilepsy. By Adolf Kussmaul and Adolf Tenner, M. D. Translated by Edward Bronner, M. D.

The chief results obtained from these careful researches may be concisely grouped under the following heads:

1. The convulsions appearing in profuse hemorrhage of warm blooded animals (including man,) resemble those observed in epilepsy.

2. When the brain is suddenly deprived of its red blood, convulsions ensue of the same description as those occurring subsequent to ligature of the great arteries of the neck.

3. Epileptic convulsions are likewise brought on when the arterial blood rapidly assumes a venous color, as for example, when a ligature is applied to the trachea.

4. It is highly probable that in these cases the attack of
spasms depends upon the suddenly-interrupted nutrition of the brain. It is not caused by the altered pressure which the brain undergoes.

5. Epileptic convulsions in hemorrhage do not proceed from the spinal cord, nor from the cerebrum; their central seat is to be sought for in the excitable districts of the brain lying behind the thalami optici.

6. Anemia of those parts of the brain situated before the crura cerebri produces unconsciousness, insensibility, and paralysis in human beings; if spasms occur with these symptoms, some excitable parts behind the thalami optici must have likewise undergone some change.

7. Anemia of the spinal cord produces paralysis of the limbs, of the muscles, of the trunk, and of respiration. When the anæmia suddenly attains its greatest intensity, then only, and even then but rarely, do slight trembling movements of the limbs precede paralysis. The sphincter ani acts analogously to the constrictor muscles of the face in anæmia of the brain, that is, it contracts spasmodically before it relaxes.

8. Convulsions from hemorrhage are neither physical nor reflective; they do not ensue
   a. In cold-blood animals, at least not in the frog.
   b. When the hemorrhage is slow, so that the vital power is only gradually consumed.
   c. When the animals are very much debilitated.
   d. When the nutrition of the spinal cord has suffered.
   e. When large pieces of the excitable districts of the brain have been removed.
   f. In animals subject to etherization.
   g. Doubtless, also, when excitable districts of the brain have undergone certain pathological alterations.

9. As suffocation brings on convulsions, and etherization averts them, it is evident that etherization and asphyxia are two different conditions.

10. The brain of warm-blooded animals can only be deprived of red blood for a short time; otherwise it loses its capability of resuming its functions when again supplied with the nutritive fluid, and the appearance of death becomes a reality. The brain of some rabbits presented this capability for two minutes.

11. It is sometimes observed, after the arteries of the neck have been tied, that the muscles of the trunk perish and take on the rigor mortis before the action of the left
heart is extinct. Hence the left heart is not always the
primum moriens among the muscular organs.
12. Contraction and subsequent extreme dilatation of the
pupils in the agonies of death is no certain sign of real
death, and of the incapability of being revived, as main-
tained by Bouchut.
13. To cure epileptic attacks caused by anæmia, there is
no better method than that of renewing the supply of red
blood. The debilitating method of treating epilepsy, espe-
cially by abstracting blood, should almost always be re-
jected.
14. The quantity of blood in the cranial cavity can, by
way of experiment on the living subject, be considerably
increased or diminished. Hyperæmia in the cranial cavity
is caused by releasing the stoppage of circulation in the
cervical arteries, by tying the cervical veins, especially by
simultaneously dividing the cervical branches of the symp-
thetic nerve, and lastly by tying the trachea, during inspi-
ration. Anæmia in the cranial cavity is produced by hem-
orraghe and by tying the cervical arteries, as well as by
electric excitation of the vaso-motor nerves of the head.
15. The quantity of blood contained in the cranial cavity
after the application of a ligature to the arteries is greater
than after hemorrhage; the anæmia as regards small arte-
ries, the capillaries, and the smallest veins being always
present to a greater extent.
16. From the quantity of blood contained in the skull
after death, it is seldom possible to draw certain conclusions
with respect to the quantity contained during life. The
death-struggle brings on numerous conditions altering the
circulation of the blood in the skull, and even in the corpse
the quantity of blood may still undergo alterations.
17. The phenomena of the incomplete epileptic attack
can be explained by alterations occurring in the cerebrum
only; while the phenomena of the complete attack presup-
pose an alteration of the whole brain. Convulsions in epi-
lepsy are justly styled cerebral ones, and the spinal cord
probably plays only the part of a conductor, transferring
the impetuses it receives from the brain to the muscles.
18. Circumscribed anatomical alterations of the brain, or
alterations of protracted duration, cannot be regarded as the
proximate cause of epileptic attacks, but may cause epileptic
affections.
19. Pathological anatomy cannot give any explanation
as to the nature of epilepsy. Suddenly-withheld nutrition is only one of the causes by which the brain is brought into that peculiar internal condition which is manifested in the form of an epileptic attack. Arterial congestion of the brain does not seem to be capable of producing any other symptom than those of paralysis. Venous congestion of the brain, as well as arterio-venous congestion, brings about conditions which belong more to those of apoplexy than to those of epilepsy and are characterized by paralysis of the glottis, together with a slower respiration and slight spasmodic symptoms.

20. Marshall Hall’s sphagiamus and trachelismus are not to be regarded as a source of epileptic attacks, but the latter will produce them. All theories are false which assert the epileptic attack to be derived from a sudden determination of blood, whether active, passive or mixed. It is probable that certain forms of epilepsy result from a spasm of the muscular coats of the cerebral arteries.

21. The epileptic affection which disposes to the attacks occupies either the whole of the brain or some districts only, and by it the brain is brought into that altered state on which the epileptic attack is based. The medulla oblongata as being the part whence the nerves causing the constriction of the glottis and the vaso-motor nerves take their rise, seems frequently to be the spot from which eclamptic and epileptic attacks proceed.—N. A. Med. Chir. Rev.

On Uraemic Intoxication. By Wm. A. Hammond, M. D. Professor of Physiology and Anatomy in the University of Maryland.

In the memoir entitled as above, Dr. Hammond relates an elaborate series of experimental researches designed to clear up some of the unsettled questions as to the effect of the accumulation of certain of the urinary elements in the blood. Dr. Hammond considers that the most important of these mooted points is, whether carbonate of ammonia from the decomposing urea, as Frerich has urged, is the cause of the condition now known as uræmia. After criticising Frerich’s views, by means of a succession of well planned and ingenious experiments, Dr. Hammond exam-
In the whole subject anew, in an additional series of experiments, and by their aid, arrives at the following conclusions:

1. That the injection of urea, in limited quantity, into the blood of animals produces a certain amount of disturbance in the nervous system, similar in its symptoms to the first stages of uremia, but that this condition disappears, if the kidneys are capable of so depurating the blood as to eliminate the toxic substance.

2. That urea when introduced into the circulation in larger quantity than can in a limited period be exerted by the kidneys, induces death by uremia.

3. That by ligature of the renal arteries, or removal of the kidneys, the elements of the urine being retained in the blood, render this fluid unsuitable to the requirements of the organism, and consequently induce a condition of system not essentially distinguishable from the uremic intoxication of Bright's disease, or that caused by the direct introduction of the blood. As, however, was pointed out by Bernard and Barreswil, so long as the urea or the products of its metamorphosis are discharged by the stomach or intestines, uremia does not take place, but that when these channels become closed, convulsions and coma are produced and death soon follows:

4. That the introduction of urea or urine into the circulation of animals, the kidneys of which have been ablated, shortens the life of such animals as Frerichs and others have already shown.

5. There is reason to believe that the urine, as a whole, is more poisonous than a simple solution of urea, for in those cases in which urine was injected into the blood, the amount of urea thus introduced was much smaller than that previously thrown in, in a pure state, and yet symptoms of as great intensity followed.

6. That urea or the elements of urine, as a whole, induce such a condition of the nervous system as strongly to predispose to congestion and inflammation of the viscera, especially the lungs, pericardium and spleen.

7. That urea, when directly injected into the blood, or suffered to accumulate in this fluid by extirpation of the kidneys, deranges in some manner the process of sanguification, so as to disturb the normal relation of proportion existing between the white and red corpuscles, and either to hasten the decomposition of these latter, or to interfere
Placenta Prævia; Treatment by the Caoutchouc Water Pessary.
By E. J. Fountain, M. D. Davenport, Iowa.

Mrs. P. aged twenty, at seven and a half months of her pregnancy, began to have hemorrhage, but without labor pains or dilatation of the os. This ceased partly under the use of rest, cold water, enemata, opium, and acetate of lead. At the end of two weeks, it recurred with greater violence and some pain. Dilatation was sufficient to allow the finger to enter, and the placenta was ascertained to be in front. To check the alarming discharge, a caoutchouc bag was introduced and filled full of cold water, which at once arrested the flow. In half an hour it again commenced moderately the water now quite warm was allowed to escape and the bag refilled. By the continuance of this process through the day and night, the patient was kept safe. When the contents were changed, an examination could be made without removing the instrument. After twenty-four hours, as the os was becoming well dilated, and the pains more regular, turning was thought of, but finally rejected, and the former plan continued. Finally, the head pressed down on the placenta, thus perfectly controlling the hemorrhage, and the child was soon born in good condition about thirty hours after the commencement of the treatment. The placenta was found loose in the vagina.

Placenta Prævia; [August,}

with the due removal from the blood of such as are broken down and effete.

8. That there is no reason to suppose that, under the circumstances specified, urea undergoes conversion into carbonate of ammonia, but that on the contrary, there is sufficient evidence to warrant the conclusion that no such process ensues. The fact that in the foregoing experiments a larger amount of urea was generally found in the blood taken from the body after death than in that abstracted during life is, of itself, conclusive against any such hypothesis.—Ibid.
On the Therapeutic Action of Bismuth. By J. B. M'Caw, M. D.

Having concluded my remarks on bismuth and its combinations, I call your attention for a few moments to their value in the treatment of disease. I think you will see how much the curative virtues of these compounds depend upon the physical and chemical properties, already explained to you.

First, then, remember the physical properties of the bismuth compounds and especially of the basic subnitrate, the usual form in which this agent is administered by the physician. This salt, as I have told you, is the result of the action of water on the ternitrate, causing a white, almost insoluble semi-unctuous precipitate, which is the subnitrate of the pharmacopoeia.

Known as the magistery of bismuth, this powder was much prized by the ladies, long ago, as a cosmetic, because of its emollient influence on the skin, concealing pimples, freckles and other deformities to which even the fair sex is sometimes liable, and leaving a beautiful white gloss much to be admired. Not only did its external application act soothingly to the excoriated or irritated integument, but it was also used as a drying powder, checking a too profuse perspiration, by coating over, with its delicate varnish, the exuding membrane.

Suppose, then, you have a patient with dyspepsia, an irritable mucous membrane, painfully excited during the act of digestion, by the excessive flow of the gastric juice and the mechanical efforts of the muscular coat, can you not, with great propriety, appeal to the innocuous and emollient subnitrate of bismuth, which coats over the angry membrane with its soft white precipitate, shields it from all causes of irritation, and gives to the digestive function a great amount of comfort?

Recollecting, also, its mechanical effect upon the transpiration of the skin, you can see why the subnitrate should be made use of in the treatment of serous diarrhoeas, especially those not the result of organic disease; in the “summer disease” of teething children, and in the irritable form of disordered bowels following measles and scarlet fever. Here, as we have to act upon a great extent of surface, it is necessary to give the remedy in large repeated doses, and in such cases I have prescribed one ounce in twenty-four hours with great advantage.
So much for the mechanical influences of this agent on the mucous membrane, explaining, to some extent, its therapeutic action; but I think by observing its chemical attributes you may also derive some hints of practical importance.

I have shown you that the presence of bismuth or any of its compounds can be detected by the agency of sulphuretted hydrogen, when a precipitate of the brown-black sulphide of bismuth will at once appear. So sensitive is the subnitrate to the presence of this agent that its use as a cosmetic has also been abandoned since the introduction of the coal gas as an illuminating agent, which, when impure, often sets sulphuretted hydrogen free. The pearly cheeks of a cluster of beauties decked for the ball would soon, under the action of this unerring detector, even rival the sooty complexion of Christy's Minstrels.

If you have to treat hereafter cases of gastric or enteric disorder accompanied by disengagements of sulphuretted hydrogen, as, for instance that distressing condition of stomach called "egg belch," or the windy colic of defective digestion and torpid liver, remember that subnitrate of bismuth may be relied on to neutralize the offending and offensive gas, by the formation of a sulphide which is entirely innocuous, if not positively curative. The dark color of the stools after the administration of this remedy proves the truth of this statement, as there is not always sulphuretted hydrogen to give the characteristic precipitate.

The surgeon as well as the physician may gain some useful ideas from a study of the physical and chemical properties of bismuth. As an application to burns, or diseases of the skin, such as erysipelas, the subnitrate, with its soothing influence, will be found very valuable; also in excoriations of the skin, and the chafing of infants, the result of acrid discharges. As a disinfectant, I would advise you to use this harmless salt freely, being equally effective and greatly more convenient than the tar and plaster of Velpean, or the permanganates of Girdwood—a fetid ulcer, a sinus connected with a carious bone, or a malignant sore, pouring out its putrid odors, will be greatly improved under the free application of the agent under discussion.

Before closing these remarks, which are not intended to infringe upon the prerogatives of our colleagues of surgery and the practice, but rather to show you the value of chemistry even in the more practical departments of medicine,
I will mention that as arsenic is not unfrequently found in combination with bismuth in a native state it would be well before using the subnitrate, in the large quantities I have recommended, to make sure that your preparation is pure. The usual mode of manufacturing the article, I should think, would preclude the possibility of much danger from this source, but we have the high authority of Prof. R. E. Rogers, of Philadelphia, to justify us in giving you this caution. In experiments made by him some years ago, he found traces of arsenic in many of the samples of subnitrate of bismuth collected by him from the druggists of Philadelphia. As far as my own observations go, however, I have never detected arsenic in the subnitrate in any appreciable quantity, and never heard, after an experience of many years, of its producing the symptoms of arsenical poisoning in a single instance. — Maryland & Virg. Med. Jour.

On Chronic Gastritis, Post-Mortem Appearance, Inflammation of the Kidneys, etc. By N. S. Davis, M. D.

Gentlemen:—At the last clinic hour, your attention was occupied chiefly with a case of chronic inflammation of the mucous membrane of the stomach, coupled with indications of incipient tuberculosis. We then not only stated the symptoms of the disease as illustrated in the patient brought before you, but we alluded also, briefly, to the diagnosis between it and the different varieties of cancer on the one hand, and mere functional derangement of the stomach on the other. We reminded you that chronic gastritis is generally characterized by a distinct burning, smarting pain, increased by food; frequently the rejection of the latter by vomiting, in a sour or acrid condition, or mixed with mucus; acceleration of the pulse; some tenderness of the epigastrium; the tongue red, sometimes smooth and glossy on its surface, at others fissured and tender; the bowels generally inactive, though sometimes relaxed, with aphthous sores in the mouth. The urine is in most cases scanty and high colored, and the emaciation progressive. We reminded you that these symptoms differed from those of simple functional derangement of the stomach in several
respects. They are more constant or uniform from day to
day, while functional derangement is seldom accompanied
by either redness of the tongue, acceleration of the pulse,
or any considerable emaciation; and it tenderness of the
epigastrium exists, it is only for a day at a time, while the
distress from food is rather a load or weight with gaseous
eructations, instead of burning, smarting and vomiting, as
in inflammation. The differential diagnosis between
chronic inflammation of the stomach and cancer was ad-
mitted to be more obscure and difficult to define; so diffi-
cult indeed that the experienced are sometimes left in
doubt. We reminded you, however, that the symptoms of
cancer usually commence much more gradually and ob-
scurely than those of chronic inflammation.

There is for a long time less alteration of the pulse, less
redness of the tongue, less thirst, while the emaciation is
accompanied by that mixture of the sallow and anaemic hue
of the skin peculiar to the cancer cachexia; and the abdo-
men is almost constantly sunken or empty, and the bowels
costive. We have briefly recalled these symptoms which
were dwelt upon much more minutely in the preceding
lecture, for the purpose of introducing to your notice some
pathological specimens obtained by a recent post mortem
examination. We were called directly from the clinic, to
which we have alluded, to the bedside of a patient whom
we found dying. He had the appearance of one decidedly
anaemic, but was only moderately emaciated, with some
anasarcous swelling of the extremities.

His pulse was feeble and thread-like, extremities cold,
breathing oppressed, in fact he seemed apparently in articulo
mortis.

From his wife and friends we learned that about one
year since he had an attack of fever, and during his treat-
ment, he was severely salivated with mercurials. His gen-
eral health had not been good since that time. He had
been constantly more or less anaemic and troubled with in-
digestion. Still he had continued to attend to his ordinary
duties until about six weeks since, when his food began to
give him more distress, and much of it was rejected by
vomiting. His strength, of course, rapidly failed, and du-
ring the last three weeks he retained neither food nor
drink. He had some pains in his back and head, and
œdema of the extremities. The condition of the urine
could not be ascertained as no attention had been paid to
that subject. The medical attendant, who was not a regular member of the profession, had pronounced the disease to be cancer of the stomach. But its evident beginning after the attack of fever and salivation, the persistent and active vomiting during the last three weeks, together with the oedema of the extremities and paroxysms of headache, led us to doubt the existence of cancer, and to express the opinion that the disease was chronic gastritis, complicated with some morbid condition of the kidneys. In about an hour after this visit the patient died, and the next day we were requested to make a post-mortem examination. We complied with this request, assisted by Dr. M. O. Heydock of this city. The cavity of the abdomen was opened in the usual manner, and its viscera carefully examined. The liver was perfectly natural in size, color and structure, and the gall-bladder was moderately full of yellow bile.

The spleen was natural in color, but about one-third larger than the normal size, unusually firm and dense in its structure, and on its outer or costal surface there was a spot about one inch in diameter, where, on cutting into it, the investing membrane was found to contain a true bony deposit, so firm as to resist the scalpel. Here is a portion of that part of the spleen, and by passing it from one to the other, each of you can see the change of structure, and you will observe also that the hard or bony deposit is limited strictly to the surface. The whole exterior of the intestines and mesentery appeared healthy. The only evidences of disease found in these organs were in the mucous membrane of the stomach, which is here exhibited for your examination. That part lining the lesser curvature of the stomach is intensely red, with here and there a dark spot, moderately thickened; and on close examination two or three spots will be seen abraded or deprived of epithelium. An unnatural degree of redness is also seen over that part lining the left portion and larger curvature of the stomach, but less than in the part just described.

As we approach the pylorus the membrane appears more natural, and the pylorus itself is perfectly healthy.

Thus, all the morbid appearances in the stomach are such as indicate the existence of simple chronic or sub-acute inflammation of the mucous membrane, without the least vestige of malignant or cancerous disease. The bladder was found moderately distended with urine, and the left kidney entirely natural. On lifting the right kidney from
its place, it was found slightly larger and a darker red than
the left; and on laying it open, its whole texture was in-
tensely injected with blood, forming a strong contrast when
compared with the other. The specimen is here before you,
and though faded some by maceration during the last forty-
eight hours, yet the morbid redness is still easily recog-
nized. The further progress of the post-mortem revealed
no other evidences of disease. It is thus seen that the
opinion expressed by the attending physician, that the pa-
tient was laboring under cancer of the stomach was entirely
erroneous.

The morbid condition of the spleen had undoubtedly
existed a considerable length of time, probably since the
attack of fever one year since. As the function of the
spleen evidently exerts some influence, either direct or in-
direct, over the formation of red corpuscles of the blood, its
morbid condition might explain the anaemic appearance
exhibited by the patient during the last six or eight months.
This was also accompanied by sufficient gastric derange-
ment to occasion imperfect and sometimes painful digestion.
These embarrassments, however, were not sufficient to
prevent him from attending to his duties in an active out-
door occupation until four or five weeks since, when the
active and persistent vomiting commenced and continued
until death. This symptom doubtless marked the com-
mencement of the inflammation which you have seen in
the mucous membrane of the stomach, and the parenchyma
of the right kidney. Whether the inflammation in these
localities commenced simultaneously from the same general
causes or not cannot be determined with certainty by the
post-mortem appearances. But I wish to remind you that
there is a close relation in many cases between a morbid
condition of the kidneys and gastric irritation. A case
came under our care a year or two since, in which the urin-
ary secretion was very scanty, amounting to not more than
four ounces in the twenty-four hours, and highly albumi-
nous, with general anasarca, and a profuse watery diarrhea.
These symptoms had supervened during the period of con-
valescence from an attack of remittent fever.

Fearing the occurrence of extreme exhaustion from the
continuance of diarrhea, remedies were administered for
the purpose of restraining it, and at the same time favoring
the increased secretion of urine; But it was soon found
that whenever the intestinal discharges were restrained for
twenty-four hours, either active vomiting ensued or symptoms of approaching coma. This led to the suspicion that the diarrhoea was purely vicarious or the result of uræmic irritation; and on applying the tests, urea was readily detected in the intestinal discharges. The patient ultimately recovered under the influence of treatment for inflammatory congestion of the kidneys.

If you make the necessary inquiries you will find many cases in practice, illustrating the effects of urinary disorder on the gastric and cerebral functions. It is now well known that a large proportion of the convulsive affections, not only of puerperal women, but of children also, arise from the retention of urea in the blood.

We have found many cases of that distressing affection called "sick headache," which had recurred again and again for a long period of time, permanently relieved by establishing and maintaining a full healthy action of the kidneys. In the case immediately before us, whether the inflammation of the kidney preceded that of the stomach, or merely accompanied it, there can be no doubt but that it contributed much to increase the gastric irritability and advance the patient towards a fatal result. Yet its existence appears not to have been suspected during life. Such cases should admonish you to acquire the habit of examining all patients carefully in reference to every important function, instead of allowing the attention to be wholly engrossed with the more prominent symptoms, as is too often the case.

We shall allow you to occupy the remainder of the present clinic hour in examining the physical signs of pneumonia complicating a case of extensive tuberculosis.—Chicago Med. Exam.

Marked Icterus with Fatty Degeneration of the Liver and Kidneys. By Dr. Von Plazer.

Marie St. —, aged twenty-six, an unmarried servant girl, of good constitution, came under treatment in October, 1859. She had suffered for two or three months with constipation and digestive disorder, accompanied with colicky pains in the abdomen, particularly in the epigastrium they came on in periodical accessions. Two days before she applied for medical advice she had observed that she
was jaundiced, and began to be troubled with malaise, headache, heat and vertigo, obliging her to give up work.

Her skin and conjunctive were moderately tinged yellow; her tongue foul, and her abdomen slightly meteoric; the spleen was swollen, the skin hot and dry, pulse and respiration a little quick, the urine scanty, brownish yellow, cloudy and albuminous; stools pale brown and pasty. The chief subjective symptoms present were somnolence, dullness, vertigo, sensitiveness of the liver and stomach upon pressure, nausea, thirst, and loss of appetite.

All these symptoms were aggravated on the next day; when she passed into a state of alternating coma and delirium. On the third day of the treatment she died.

Autopsy.—The skin was tinged yellow, and the abdomen meteoric. The cerebral meninges were edematous, the brain swollen, congested, infiltrated with serum; at its base were about two ounces of bloody serum. The lungs were somewhat edematous; the heart was flaccid, and numerous ecchymoses existed beneath the endocardium and pericardium.

The liver was swollen and heavy, its left lobe and the left half of its right lobe colored deep yellow, the remainder of it pale brown; its substance was soft and friable, anemic, greasy to the knife; the lobuli were indistinct. The gall-bladder was small, containing a little clear yellow bile, the ducts pervious.

The spleen was enlarged one-half, its capsule tense, its parenchyma soft and deep red. The stomach and intestines were a good deal distended with gas, the mucous membrane puffy, dotted with ecchymoses of the size of a pin's head, and covered with deep brown thick mucus. The kidneys were large, flaccid, somewhat yellow, moderately injected; the cortical part pale yellow, here and there streaked with red, the medullary part brownish red. The urinary bladder was small, and contained three or four ounces of cloudy, icteric urine.

On microscopical examination, the liver was found in a state of extreme fatty degeneration. The kidneys were in a less advanced stage of a similar condition.

M. Von Plazer is disposed to regard this case as one of acute atrophy, the fatty change becoming rapidly developed. He quotes similar cases published by Rokitansky in the Zeitschrift der Wiener Aerzte for 1860, but objects to an idea suggested by this observer, that uremic poisoning may be the proximate cause of death.—Gazette Hebdomadaire, Dec.
The editor being at the seat of war, will account for the lack of matter under the editorial head.

We are requested to call attention to the following announcement:

In consequence of the existing war between the governments of the Confederate States of America and the United States of America—the proximity of this point to the territorial line dividing the combatants—the possibility that this vicinity may, in the course of the ensuing six or twelve months, become the theatre of hostile operations,—the excited condition of the public mind generally, and especially among that class of the community yielding pupils to institutions of medical learning—the unfitness for receiving instruction, either satisfactory or profitable, which necessarily results from this state of mind,—the large number of the youth of the country who are already in the military service—the stringency everywhere prevailing in regard to pecuniary matters caused by the posture of affairs above described,—and the fact that four of our corps of teachers are employed in professional positions connected with the army, the Faculty of Shelby Medical College have deemed it proper to announce that the winter course of Lectures for 1861-'62 will not be opened, and that this suspension of exercises will be continued until further notice.

John H. Callender, M.D. Prof. Therapeutics, etc.
Thomas L. Maddin, M.D. Prof. Surgery,
Daniel B. Cliffe, M.D. Prof. Anatomy,
J. J. Abernathy, M.D. Prof. Theory and Practice,
Daniel F. Wright, M.D. Prof. Physiology and Pathology,
Henri Erni, M.D. Prof. Chemistry,
John P. Ford, M.D. Prof. Obstetrics, and Dean of Faculty
H. M. Compton, M.D. Demonstrator of Anatomy.

Nashville, August 22, 1861.

Chloroformic Solution of GuttA Percha.—Take of GuttA Percha, in small slices, an ounce and a half; Chloroform, twelve fluid ounces; Carbonate of Lead, in fine powder, two ounces.

To eight fluid ounces of the chloroform contained in a bottle, add the gutta percha, and shake occasionally till it is dissolved, then add the carbonate of lead, previously mixed smoothly with the remainder of the
chboroform, and having shaken the whole thoroughly together, several
times, at intervals of half an hour, set the mixture aside and let it stand
for ten days, or until the insoluble matter has subsided, and the solution
has become limpid, and either colorless or of a light straw color. Lastly
decant, and keep the solution in a glass stopped bottle.—Am.Jour.Pharm

**Prescription for Irritable Stomach. By Dr. Blackwell, of New Jersey.**—Cresosot... gtt. j.

Aq. calcis ........................................ t.z]. M.

S.—Five drops every ten minutes; failing with this, one drop every
three minutes.

Stomach irritation, transmitted from the pelvic viscera, in pregnant
women, being paroxysmal, may be successfully treated in the interval by
medicines which strengthen the stomach and general system to resist its
attacks.

R.—Ferri, lactatis, vel.

Ferri et strychniae citratis,
Quiniae sulph. aa gr. xii. M.

Divide into twelve powders giving one every four hours.—M. & S. Rep.

**A Pathognomonic Sign of Scarlatina.**—For some years past, M.
Bouchut (Journal Practical Medicine and Surgery) has been in the
habit of pointing out in his wards a curious sign which assists in the dis-
crimination of scarlatina from measles, erythema, erysipelas, etc. It
consists in a vascular phenomenon, proportionate in intensity to the ex-
treme contractibility of the capillaries; we refer to the enduring *white
stripe* produced at will by drawing the back of the nail over the part of
the skin in which the eruption exists. Pressure with the nail or any
other hard substance upon the exanthematous surface, produces a white
streak, which lasts one or two minutes, and sometimes more. Figures
may thus be traced upon the skin, the lines of which are conspicuous
from their whiteness. With a blunt probe or pen-holder, the diagnosis
of the disease may be distinctly inscribed on the integument, and after a
minute or two the word scarlatina disappears, when the uniform tinge of
the eruption again invades the written surface.

This phenomenon is observable in scarlatina only. The scarlet hue
of measles is not uniform, the eruption consisting of mottled patches,
with very slight elevations separated by interstices of healthy skin. In
measles the procedure we have described would produce an alternately
red and white streak, enduring a much shorter time than in scarlatina.
In erysipelas, in the redness induced by a mustard poultice, in solar
erthema, the white line we allude to is not visible; and without attribut-
ing to this sign an undue degree of importance, it may be said to supply
one more element in the determination of the characters of the eruption
of scarlatina.—Ibid.