

cacodylic acid exhibits so prompt an action in pulmonary tuberculosis because "it imparts to the blood of the patient a condition which is inimical to the tuberculosis." In my opinion, this is a very interesting statement, especially when we bear in mind that this was long before Koch's discovery or before anything was known about antibodies, antitoxins, and side-chain theory. Between Jochheim in 1862 and Gautier in 1899, many other authors have made contributions to the literature on the cacodylates. Indeed, Peraldis in 1902 in the *Presse Médicale* drew attention to the fact that Gautier was by no means the first to advocate the therapeutic use of these preparations.

It is an American surgeon who is the first to draw attention to the parallel between cacodyle and "606" in the marked specific action displayed by both, based on his own experience. In the *Journal of the American Medical Association* of Sept. 24th, 1910, Dr. John B. Murphy of Chicago describes the results which he has obtained in the treatment of syphilis with the use of sodium cacodylate, which at first cause one to believe that the paper deals with the remarkable successes attendant on the use of Ehrlich's diamidodioxymethylbenzol, so similar is the effect displayed by both drugs.

Dr. Murphy has been using sodium cacodylate for seven years to allay the pain of metastatic, osseous carcinomata, and also for the various other purposes for which arsenic is indicated. He states that one of its striking therapeutic effects is the rapid dissolution of the deposits in fibrinous pericarditis in children when administered in daily doses of one to three grains or even more. He then proceeds to give an account of his observations following the use of sodium cacodylate in the treatment of syphilis. The usual dose was one to two grains injected hypodermically into the muscles. The effect is remarkable: the spirochætae disappear completely from the primary chancre in 48 hours, the induration is markedly reduced in 24, and it becomes a soft, clean ulcer in 72 hours. "From that time on it repairs with the same speed as an aseptic sore of mechanical origin would heal in the same tissue. In other words, the sodium cacodylate seems to destroy the specific micro-organism (the spirochæta) which is keeping up the irritation." The microscopic examination in one case (illustrated by photographs) showed that the spirochætae had disappeared within 48 hours from a chancre on the lip contracted from contact with a drinking cup, and following two injections of half a grain each into the pectoral muscle 24 hours apart, while only a clean soft ulcer without induration remained. Thirteen days after the initial treatment the ulcer had healed completely and had left no evidence of the disease. In all, ten injections of half a grain each were made and four injections of three-quarters of a grain. Dr. Murphy states that—

The adenopathies, except those with suppurating central foci, disappear in four or five days. The mucous patches repair in from twenty-four to forty-eight hours, the advancing ulcers of the palate and posterior wall of the pharynx clear up and heal as healthy granulating wounds in from three to six days and the perforating ulcers of the palate repair in their margins, leaving the perforation in a healthy condition. In a child nine months old with a papillary syphilide, a quarter-grain dose was administered into the pectoral muscle. The rash entirely disappeared in forty-eight hours.

As Dr. Murphy proposes to use the 25 doses of Ehrlich's "606" which he has received in control cases with sodium cacodylate, his results may be awaited with interest; and certainly his suggestion deserves attention to make further trials with a remedy as safe as sodium cacodylate. He suggests that the primary dose should be from two to four grains, and should not be repeated within three or four days. Over diamidodioxymethylbenzol it presents the advantages that it is stable, and its solutions can be sterilised without fear of decomposition, while the injections are practically painless. On the other hand, it is not a proprietary preparation and its pharmacological action is well established.

Sodium cacodylate, $(\text{CH}_3)_2\text{AsO}_2\text{Na} + 3\text{H}_2\text{O}$, is readily soluble in water and contains 46.8 per cent. of arsenium, equivalent to 61.8 per cent. of arsenious acid. As yet its mode of action in the organism has not been clearly explained. By some authors it is assumed that its action is due to its transformation into arsenious or arsenic acid, while others attribute a specific action to the cacodyle molecule, a view supported by the observation of Fraser, who found that no arsenic action followed the internal or subcutaneous administration of sodium cacodylate

and that the preparation left the organism unchanged. Heffter, on the contrary, is of opinion that its effect is due to the liberation of arsenic, and found that traces of arsenious acid could be demonstrated in the urine, while certain organs, such as the liver, intestine, and walls of the stomach, have the property of reducing cacodylic acid. This would explain the odour of cacodyle oxide which appears on the internal administration of the cacodylates, but which is generally absent following its subcutaneous exhibition.

The innocuousness of the drug is demonstrated by the fact that there is no mention in the literature of any serious optic derangement or alarming symptoms consequent on its administration during the past 10 years. In view of the recent success in the treatment of syphilis with arsenic, it is of interest to recall to mind that Gautier did not attribute any specific action to arsenic medication, but believed its beneficial action in this affection to be due to its important property of improving the general condition. Oppenheim (*Klinisch-therapeutische Wochenschrift*, 1907, p. 1170) is one of the most recent authors who refer to the use of sodium cacodylate in syphilis, which he regards as preferable to atoxyl and amino-phenylarsenic acid by reason of its lesser toxicity. The preparation has hitherto met with little interest in Great Britain, and it is principally in France and in Italy that it is extensively used. It is now official in the pharmacopœias of France, Italy, and Switzerland.

I am, Sir, yours faithfully,

Darmstadt, Dec. 5th, 1910. GEORGE P. FORRESTER, F.C.S.

THE NATIONAL COUNCIL OF PUBLIC MORALS.

To the Editor of THE LANCET.

SIR,—May we presume upon the sympathy which you have shown towards the National Social Purity Crusade to announce that this organisation will in future be known as the National Council of Public Morals, a title which is more in keeping with the comprehensive educational character of the work, and which we hope will further commend it to the churches, schools, and press of the whole country, and that its offices, through the generosity of Sir W. P. Hartley, will be at Holborn Hall, W.C.

In making this announcement, permit us to add that His Majesty, in kindly accepting a copy of "The Nation's Morals," being the report of our Public Morals Conference held at Westminster last July, graciously says that he fully shares the sympathetic sentiments of His late Majesty King Edward VII. towards this crusade, and that there is no one more anxious than himself to see the state of things (which we deal with) changed for the better.

May we further add, with His Majesty's knowledge, his message to the Convocation of York—"The foundations of national glory are set in the homes of the people. They will only remain unshaken while the family life of our nation is strong, simple, and pure"—will be the motto of the National Council of Public Morals. They express in most felicitous terms the object of this movement, of which the Lord Bishop of Durham is President for 1911.

We remain, Sir, yours faithfully,

WILLIAM SINCLAIR,
Chairman.

F. B. MEYER,
Vice-Chairman.

National Council of Public Morals, Holborn Hall, W.C.,
Dec. 19th, 1910.

A POINT IN CHOLELITHIASIS.

To the Editor of THE LANCET.

SIR,—Three months ago, with the help of Dr. John Morton and Dr. R. Home Henderson, I operated on a gall-stone case. There was nothing out of the ordinary in the conditions present except the number of calculi found. There was one marble-sized, round, almost encapsuled stone, with 796 others, small, cuboid, faceted. A week after operation three small ones came from the wound, making in all 800. I looked up Mr. Mayo Robson's book on "Diseases of the Gall-bladder and Bile-ducts" (second edition, 1900), and found that he had taken 720 from one of his cases.

Can any of your readers furnish me with, or direct me

where to procure, details of cases with as large or larger numbers removed by operation?

I am, Sir, yours faithfully,
Glasgow, Dec. 14th, 1910. DUNOAN MACARTNEY.

A QUESTION UNDER THE WORKMEN'S COMPENSATION ACT.

To the Editor of THE LANCET.

SIR,—I give a note (certificate) to a man with a "beat knee" dated Dec. 1st. Certifying surgeon comes along when he pleases, not when asked, at least not as early as he could have come. He dates certificate of suspension Dec. 8th, the day he saw patient, but puts in the suspension certificate that patient has suffered since Dec. 1st. How do the owners pay compensation—from my date, Dec. 1st, or certifying surgeon's date, Dec. 8th?

I am, Sir, yours faithfully,
Dec. 14th, 1910. SIMPLEX.

* * The employers are liable to pay compensation from the date of disablement, which for the purposes of Section 8 of the Workmen's Compensation Act, 1906, "shall be such date as the certifying surgeon certifies as the date on which the disablement commenced" (Section 8, Subsection 4). This assumes the incapacity to be of more than two weeks' duration. We are not of the opinion that our correspondent has any cause of complaint against the certifying surgeon, as his letter seems to suggest, and we think he will find the certificate, which is not before us, is one of disablement not of suspension, following the form (Form 3) laid down by the Secretary of State, and rightly giving the date of the certifying surgeon's examination, as well as that which he has been able to fix as the date of disablement.—ED. L.

MALARIA IN ITALY IN 1909.

(FROM A CORRESPONDENT.)

THE "Società per gli Studi della Malaria" in its report for the year 1909 calls attention to observations in Algeria by the brothers Sergent and by Poletti, Memmi, and Pozzilli, proving once more the existence of carriers of malaria. Persons were found who had malarial parasites, even parasites of the æstivo-autumnal variety, in their blood, without showing the slightest febrile reaction. These apparently healthy carriers, some of whom were children and some adults, are most dangerous from the epidemiological standpoint, forming reservoirs, as it were, very difficult of detection, from which the new epidemical torrent emerges. Add to these the chronic cases of latent infection and the links connecting one epidemic season with another become evident. No simple easy method of detecting such cases has yet been discovered.

Besides the ordinary pre-epidemic recrudescence of recidivous cases there has been observed a recidity which is of a more prolonged type and may be called periodic, recurring in the years of epidemic recrudescence. It has not been possible to trace any relation between the number of anopheletes or between the meteorological conditions and the periodic recrudescences; rather it would seem that these are regulated by biological causes such as this periodic recidity and by a loss of the immunity conferred by previous attacks. As regards prophylaxis, the report has again to lament a diminution in the quantity of State quinine consumed in the past financial year, 1909-10, to the extent of nearly 2000 kilogrammes upon that of 1908-09, which in its turn showed a diminution of 715 kilogrammes upon that of 1907-08. Associated with this diminished use of quinine there has been an increase of malaria in nearly all those provinces where such diminution has taken place. The following table gives the figures since 1902 (when the use of State quinine was begun) relating to the consumption of quinine and the mortality from malaria. The mortality for only the first half of 1909 is available. It

shows a total diminution, however, of 949 deaths on that of the corresponding period of 1908.

Consumption of State quinine.		Mortality from malaria.	
Financial year.	Kilogrammes sold.	Year.	Total deaths.
—	—	1900	15,865
—	—	1901	13,553
1902-1903	2,242	1902	9,908
1903-1904	7,234	1903	8,513
1904-1905	14,071	1904	8,501
1905-1906	18,712	1905	7,838
1906-1907	20,723	1906	4,871
1907-1908	24,351	1907	4,160
1908-1909	23,635	1908	3,463
1909-1910	21,665	1909	—

Besides the fall in mortality there is a noticeable absence of the great periodic oscillations in the mortality curve which characterised it in the year preceding the date of State-supplied quinine. The fall is still more evident in the statistics of Latium, Southern Italy, and the islands where, before it was supplied gratuitously, quinine was beyond the reach of the greater part of the population. Further, whereas prior to 1902 the malaria mortality and the general mortality were subject to the same variations and fell at about the same rate, after that date the former made a precipitous descent, leaving the latter at the comparatively high level which it still maintains.

Unfortunately, the same cannot be said of the morbidity rate for malaria, which, in some regions especially, still remains very high, doubtless because of the neglect of the prophylactic as compared with the therapeutic use of quinine. An experiment carried out at Vigasio in 1909 strikingly confirms this explanation. All adults in that place who had been attacked during the previous season by malaria were carefully treated with quinine for the last 50 days of the pre-epidemic, as well as during the whole epidemic period of 1909, the rest of the population, with the exception of 132 children who also received prophylactic treatment, not taking any quinine as a preventive. An epidemic of primitive infections nevertheless broke out, affecting 17·3 per cent. of adults and only 12·7 per cent. of all children (who it is well known are the more susceptible), while not one of the 132 children prophylactically treated was attacked. The value of the prophylactic method was also abundantly shown in the "demonstration camps" organised both in Italy and abroad in connexion with the army, the schools, the mines, the country estates, and the agricultural population of the Agro Romano and Pontine Marshes, among all of whom only a very small fraction contracted malaria. The doses of quinine administered for the purpose of prophylaxis (amounting sometimes to 10 or 12 grains daily) have proved uniformly innocuous. In the case of children it is given in the form of chocolates of tannate of quinine in doses of 2½ grains and upwards daily, according to age, and far from harming them is found to act as an excellent tonic. When practicable the use of wire gauze has been continued, with the same good results as formerly. In such a country as Italy, with but limited means at its disposal, no attempt has been or can be made with any hope of success to attack malaria by the destruction of the anopheles.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool University: The Dutton Memorial Professorship of Tropical Entomology; the Lectureship in Operative Surgery.

In 1905, it will be remembered, the late Dr. J. E. Dutton lost his life in the Congo from spirillum fever, a disease which he, together with the other members of the twelfth expedition of the School of Tropical Medicine, were investigating. He succumbed after a short illness. In view of the many great services that Dr. Dutton had rendered to the investigation of tropical medicine, although he died at the early age