a burden. Galvanism, faradism, ether spray, massage, and numerous lotions and liniments were tried in vain to relieve it; but nothing was of any avail except opiates.

Case 4.—A. H., female, age 61. In August, 1892, was suddenly seized with numbness over whole right side, and half an hour later could not move hand or leg; but there was no aphasia. The paralysis began to improve in a couple of days and the improvement continued for about two months until she could walk without much limping, but the hand remained much weakened. At time of examination, nearly a year after seizure, grip of right hand 15; left 39 on dynamometer; much impairment of tactile sense in left hand, and there is some trophic disturbance as shown by swelling and by the appearance of the skin. Diagnosis: Hemorrhage affecting a portion of both sensory and motor fibers of the posterior limb of the internal capsule. A few weeks after seizure she began to have burning pain throughout right side, which has been very distressing ever since, no relief being obtained from any external applications which she has been able to use.

Case 5.—N. B., female, age 25. In August, 1890, became suddenly unconscious and remained so nearly two weeks. Following this had paralysis, numbness, and various paresthesiæ of left arm and leg. As she had suffered from several severe attacks of rheumatism, the diagnosis was made of embolism of right lenticulo striate artery with softening affecting internal capsule posterior to facial fibers. Two months after seizure she had recovered the use of leg so she could walk with a crutch; but her hand and arm never regained any usefulness. About the time she regained the use of the leg, she began to complain of burning pain in her arm and leg. This pain was excruciating in character. For the relief of it massage, galvanism, faradism, and all sorts of liniments were tried with no relief. For a time antipyrin, phenacetin, and other remedies of that group relieved her, but eventually nothing but large doses of morphin would keep her comfortable. Nov. 17, 1892, the patient died, and an autopsy showed the cerebral lesion to be a softening of the larger part of the right lenticular nucleus, about one-third of the anterior and external portion of the optic thalamus, and about three-fifths of the posterior limb of the internal capsule, beginning about one-fifth posterior to the knee and extending to the posterior fifth; involving all the motor fibers posterior to the face fibers, and nearly all of the "sensory crossway" of Charcot.

In all of these cases the symptoms would indicate a lesion of the internal capsule involving, more or less extensively, both the sensory and motor fibers, and in Case 5 such was proven to be the case by the autopsy.

In all the cases the pain was of the same sort, being described as a "burning pain" by each of them, though each of them added other disagreeable sensations to their descriptions of the pain. Its severity varied, but each one complained more of it than of the motor paralysis, and more than of any other symptom resulting from the apoplexy. In each of the cases no relief was obtained from local applications to the painful limbs, such as ether spray and anodyne liniments, but was obtained by the administration of drugs that produce their effect upon the cerebrum. The character of the pain was much like that in peripheral neuritis; but I think we may exclude peripheral neuritis, from the fact that manipulation of the painful limbs did not increase the pain; no tenderness along the line of the nerve trunks was elicited on pressure; the failure of external applications to give relief and the absence of the action of degeneration. Neuritis being excluded, it would seem that it must be due to the central lesion. Landois' "Physiology," page 912, in enumerating the numerous sensory and trophic disturbances which may arise from irritation of the fibers of the internal capsule, does not mention the pain which I have described, but I believe that it should be added to the list. My theory is that it is a "referred sensation" very similar to that felt in an amputated limb and is

due, as in the latter case, to an irritation by the lesion of the sensory fibers passing from the periphery to the cortex, and hence is registered in the cortex of the brain as though it really had arisen at the periphery.

THE TREATMENT OF ERYSIPELAS.

Read in the Section on Practice of Medicine at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY J. M. ANDERS, M.D., Ph.D.

PROFESSOR OF MEDICINE, MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA.

The subject of the treatment of erysipelas falls naturally into three subdivisions: 1, dietetic treatment; 2, constitutional; 3, local.

1. *Dietetic.*—The proper attention to the diet is of first importance. It must be generous and composed of highly nutritious articles. If the temperature be high, liquid forms of nourishment alone should be administered, giving them in small quantities at definite short intervals. Rectal alimentation should be resorted to if the stomach rejects a suitable dietary. Based on considerable practical experience, I have been convinced of the fact that liberal feeding is of greater service to the patient than any recognized form of medicinal treatment.

This method pursued from the onset of the attack will not only serve to render the course of the disease more favorable than if less energetically fed, but will also lessen the liability to the more frequent complications.

Erysipelas is, as shown elsewhere, a self-limited disease in uncomplicated cases, when occurring between 20 and 50 years of age. In such, the necessity for vigorous alimentation is not greater than in other acute infectious diseases having a comparatively short course. Relapses occur in 11 per cent. of the cases and lack of attention to the patient's diet during the primary attack does unquestionably increase the frequency of their occurrence.

When the disease occurs in persons over 50 years, when complications arise and when the vital processes have been lowered on account of previous chronic disease, such as chronic nephritis, chronic phthisis, organic disease of the heart, etc., the course is much more protracted. The fact that these chronic affections also increase the receptivity of the human organism to the specific germ of erysipelas, as well as the mortality rate, must be recollected. Now it is in the classes of cases just mentioned, or in those in which the duration is prolonged, that correct alimentation is of paramount advantage, fortifying the vital functions, thus abridging the course of the affection. And since death is directly ascribable to exhaustion, with few exceptions in these instances, the life of the patient is thus frequently savable. Again when nourishment is exhibited judiciously, stimulants are required but rarely.

There can be no question but that the typhoid state of the system met with in this and other acute infectious diseases is often attributable indirectly to hypnutrition. I fear we have come to rely too much upon the local and constitutional agents in the management of this disease, to the neglect of proper dietetic means—a more potent factor.

2. *Constitutional.*—When, however, despite appropriate diet the pulse becomes feeble, the first sound of the heart indistinct and the tongue dry, undoubted

indications for the use of stimulants are present and must be heeded. When needful they should be given with a comparatively free hand. Stimulation is most apt to be required in aged and enfeebled patients suffering from the disease. I frequently order to be taken, from 16 to 20 ounces of whisky or brandy daily in divided portions.

The promptness with which strychnin acts leads me to place it among stimulating agents in the first rank, in these cases. In marked gastric irritability champagne is to be preferred. Numerous antiseptic remedies have been recommended but they have not been, up to the present, available in doses large enough to be of decided advantage. In view of the fact, however, that the disease is known to be caused by the streptococcus of Fehleisen further trial of antiseptic agents should be made. I have been for a decade or over, exhibiting to erysipelas cases, bichlorid of mercury in moderate sized doses throughout the febrile stage, and have found some degree of amelioration of the symptoms as the result.

The tincture of the chlorid of iron first used extensively by English authorities, was formerly regarded by most clinicians as a truly specific remedy. Perhaps the majority of authorities no longer accept this dictum. The profession, as the result of abundant experience, are for the most part of the belief that other preparations of iron are at least equally efficacious. While engaged recently in making a collective investigation into the etiology, complications, mortality rate, etc., of erysipelas, many facts relating to the treatment of this disease were met with and noted. They were taken from the records of several hospitals in Philadelphia. In this connection, reference will be made to points bearing upon the internal treatment alone, the local treatment being discussed subsequently. Through the kind assistance of Dr. M. Booth Miller, important data were obtained from the records of the Pennsylvania Hospital. The cases had been under the care of Drs. Lewis, DaCosta, Longstreth, Meigs and others. From 1872 to 1876 inclusive, there occurred in this institution seventy-four cases of erysipelas, which were treated by the use of the tincture of the chlorid of iron alone (the average quantity being 1 drachm daily in divided doses), with three deaths, or a mortality of 4 per cent. Of these, thirty-six were so-called idiopathic cases and thirty-eight traumatic, those proving fatal being idiopathic. The ages of those who died were 66, 49 and 20 years respectively. The immediate cause of death was noted as exhaustion in the first two instances. No complications were recorded in the first instance, but extensive bed-sores developed in the third, while the second fatal case, (aged 49) developed edema of the glottis. Twelve of the cases reported from the Johns Hopkins Hospital were treated with iron and stimulants, the results being about the same as in those reported from the Pennsylvania Hospital.

From 1877 to 1892, inclusive, some of the erysipelas cases in the Pennsylvania Hospital were treated by other methods which will be spoken of presently. In sixty-six cases, however, during the latter period, iron alone was administered. A single death occurred, and in this instance the fatal termination was due to edema of the glottis. Forty-eight cases were classed as idiopathic and eighteen as traumatic. It is quite probable that during the period in which this series of instances occurred iron was depended upon

only in the milder forms of the complaint for the following reasons: In the first place quinin was exhibited with the iron in very many instances and here the percentage of deaths was, as shown hereafter, quite high. In explanation of this fact we find that quinin was combined with iron in all of the severer types of the affection. That quinin is to be justly held responsible for the increased mortality (which occurred in the cases in which it formed a part of the internal treatment) is altogether unlikely. The value of iron is more reliably shown by the first group of seventy-four cases, above mentioned, than by the second, consisting of eighty-four cases, since in the first group *all* of the cases during the period from 1872 to 1876, inclusive, were treated by this remedy singly, while the death rate was only 4 per cent. These are favorable results when the status of the vital powers of hospital patients in general is kept in remembrance.

I have shown elsewhere that the general average mortality rate in hospitals is 6.57 per cent.; in private practice 4.16 per cent. Not a few of the seventy-four cases treated by iron alone manifested complications, and since some of these modify unfavorably the prognosis they should be mentioned here. In thirteen there were abscesses, (though it has been shown that this complication does not augment the death rate to any extent); in two, delirium tremens occurred; in two, general articular rheumatism and in one, scurvy. As pointed out in a previous paper,¹ preëxisting chronic affections render the outlook gloomy, but we find that one of the cases developed in the case of chronic pulmonary tuberculosis, another in a hemiplegic, both of which, however, recovered under iron.

The number of cases treated by iron and quinin in combination from 1877 to 1892, inclusive, was eighty-one, and of these fifty-five were idiopathic, and twenty-six traumatic. The average daily dose of quinin administered was from 12 to 16 grains. Ten cases proved fatal—a mortality of 12.3 per cent. The cause of death in two instances was acute Bright's disease; in two, delirium tremens; one, pyemia; one, exhaustion during fourth relapse; one coëxisting leg ulcer, and one cerebral sclerosis and bed-sores.

The complications noted from which recovery ensued, (while being treated with iron and quinin) were: Three suppurative otitis media; three abscess of the eye-lids; two delirium tremens; and bronchitis, sciatica, diarrhea, acute nephritis, bronchopneumonia, lobar pneumonia, iritis, abscess of foot, tonsillitis, angina pectoris, mastoiditis and fracture of the skull, one each. One instance arose during convalescence from typhoid ending in recovery. When such facts as the gravity of the type of the present series, and the character of the complications are kept in remembrance, the high mortality on the one hand and the apparent inefficacy of these remedies in combination on the other hand need excite no surprise.

My own experience in the use of quinin in erysipelas has been quite encouraging. During the past decade I have employed it in not less than twenty-four cases, its use being confined to instances in which the temperature touched 103 degrees F. With a single exception, in uncomplicated cases, (eighteen)

¹ The Complicated Conditions, Associated Diseases and Mortality Rate in Erysipelas, International Medical Magazine for October, 1893.

the nocturnal remissions were decidedly greater and the evening exacerbations less marked. In every instance, iron in some form (usually the tincture of the chlorid), was administered simultaneously.

During the years from 1881 to 1892, inclusive, twenty-six cases were treated in the Pennsylvania hospital by the use of pilocarpus, quinin being also associated in four of the cases, and in two, iron. There were seventeen of the idiopathic and seven of the traumatic variety, while the complications consisted in one delirium tremens, one acute articular rheumatism, one diarrhea and in two a relapse occurred. None of these proved fatal. These results create a favorable showing for pilocarpus, but it is to be stated that in but few cases were there manifested serious complicating conditions. Pilocarpus tends to produce increased nocturnal fall of temperature. The fact, however, needs to be emphasized that there is a strong disposition to spontaneous nocturnal remissions in temperature in this disease. Prof. J. M. Da Costa first used pilocarpus in erysipelas at the Pennsylvania hospital. His experience soon showed clearly that when given in the very early stage in one-sixth of a grain doses, hypodermatically, repeated three or four times at intervals of two or three hours, it often aborted the attack. It has been used by myself and others to a considerable extent at the Philadelphia hospital for its antipyretic effect.

If we accept its use to abort the affection, it is only in cases attended with high temperature, without decided morning fall, that pilocarpus should be employed. As a guide to the administration of this drug the conditions of the pulse and the heart can be relied upon. Pilocarpus, then, deserves a permanent place in the therapy of erysipelas.

But though I have been unable to obtain complete data, showing the treatment and its results from the records of the Philadelphia and Episcopal hospitals, the facts so far as ascertainable indicate that for twenty years the tincture of the chlorid of iron in large doses has been most frequently used with the same good results as at the Pennsylvania hospital. Quinin has been another favorite, administered in doses of 2 grains every three hours or 10 to 15 grains once or twice daily. In twenty-four cases gathered from various sources, ergot gave decidedly favorable results.

The treatment of severe symptoms. Of drugs, as antipyretics, phenacetin, acetanilid and antipyrin have been used at the Philadelphia hospital—a method of practice which I regard as being fraught with grave consequences. The best mode of reducing temperature is by means of cold sponges and cold or cool baths. The ice-bag applied to the crown of the head lowers temperature and simultaneously allays delirium and nervous excitement. For the marked nervous phenomena, such as pain, sleeplessness and active delirium, hyoscin hydrobromate, .01 grain hypodermically has been tried in numerous instances at the Medico-Chirurgical, Pennsylvania and Philadelphia Hospitals, and has given promise of being a valuable remedy. It should not be employed where the heart power is found to be greatly deficient. To fulfil the same indications the following remedies and recipes named in the order of their value and importance, have been utilized: Sodii bromidi grs. v, every two hours; or grs. xx—xxx at night; morphin one-eighth grain, and chloral grs. x in combination

every half hour for three doses; potassii bromidii gr. x, and tincture cannabis indica mx. at bed-time, atropin one-eightieth of a grain and morphin one-sixth of a grain hypodermatically.

Local Treatment.—Local measures have always held a prominent place in the treatment of erysipelas. The list of agents which have been used topically is long and embraces all classes of therapeutic substances. Thus in the three series of cases before cited, which were treated at the Pennsylvania Hospital together with a few collected from other sources, no less than fifty different remedies and preparations have been employed. Among those most frequently used were: Elm in thirty-seven cases, lead-water and laudanum in twenty; subcutaneous injections of carbolic acid (1 to 40) in eighteen; oxid of zinc in fourteen; corrosive sublimate in solution in fourteen; vaselin or cosmolin in thirteen; solution of bicarbonate of soda in nine, and benzoated zinc ointment, cocain with laudanum, and ichthyol ointment with lanolin, eight each. Among the many measures of which trial has been made in a smaller number of instances are, collodion, glycerin, laudanum, unguentum potassii et belladonna, unguentum plumbi, liquor acid carbolic, liquor chloralis, liquor sodii hyposulphites, liquor sodii sulphatis, aqua calcis, mistura ol. lini et bismuthi, unguentum sulphur, mistura ether et camphor, (employed until a distinct coat is obtained), iodoform and dry gauze once daily, together with such simple and yet curiously varied measures as to dust affected parts with flour, zinc and starch; sassafras, hot flaxseed, poultices (every two hours), cold water cloths, warm water cloths, ice-bag, wet cloths, lotions and so on.

I have mentioned a large number of external applications—by no means all of them, at the risk of exhausting the patience of my hearers, for the express purpose of showing thereby the highly unsatisfactory condition which has characterized the local treatment of this disease down to the most recent times. Doubtless many of the preparations before mentioned were prescribed for their effect in excluding the air. To my mind this is a leading indication, and to meet it I prefer carbolized vaselin or cool carbolized oil.

A knowledge of the microbic nature of erysipelas has led to the employment by the profession of various antiseptic drugs and their application in various ways. I do not doubt that it is along this line the greatest advances are to be expected. Allusion has been made to the injection of carbolic acid. Here the aim is to check the spread of the inflammatory process by inserting the needle at numerous points just beyond the inflamed border. This method, introduced by Heuter, has been much practiced by Henry at the Philadelphia Hospital, and more recently by Osler at Johns Hopkins Hospital. The success thus attained is encouraging and the method is especially applicable in erysipelas migrans. As before stated, the solution of the bichlorid of mercury, (1 to 4000) was used locally in fourteen instances; and to these I can add the results of twelve others, treated at the Medico-Chirurgical Hospital and in private practice. It may be applied in the form of lotions to the inflamed surface, or it may be injected beneath the skin, just beyond the border of the inflamed area as in the case of carbolic acid. Quite recently it has been recommended to scarify the affected part and follow by

the application of a solution of mercuric bichlorid. This method of treatment I regard as being most promising as well as rational. It was certainly, in three instances in which it was resorted to in my own practice, followed by rather brilliant results, moderating more particularly the severity of the local inflammation.

Dr. Morris Booth Miller observed in the wards of the Pennsylvania Hospital quite uniformly good results from the local use of ichthyol ointment with lanolin, in the service of Dr. Da Costa and others. Before making trial of the corrosive sublimate solution I had used ichthyol locally, but the results were not brilliant. Dr. Charles J. Whalen has reported, in a recent issue of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (April 28, 1894), most strikingly favorable results in four cases of facial erysipelas, from the use of external applications of guaiacol—a mode of treatment which richly deserves a more extended trial.

Lastly, from the results of these statistical investigations into the subject of the treatment of erysipelas by personal observation and experience, I have arrived at the few brief conclusions following:

1. Proper attention to the diet is of paramount importance.

2. Stimulants are rarely necessary if the dietetic requirements are fully satisfied, but may be freely exhibited when indicated.

3. Of drugs, iron has been widely tested and found to be of great value, though it matters little which salt or preparation is employed.

4. Quinin when administered with iron, reduces the temperature, supporting at the same time the vital functions.

5. The use of antiseptics *per oram* is to be recommended.

6. Pilocarpus is in a small proportion of cases, powerful to abort the affection. To reduce temperature merely, pilocarpus should be employed in intense pyrexia, particularly where the favorable morning remissions do not occur.

7. The question of the local treatment of erysipelas has not as yet been set at rest, but agents intended to exclude the air and such as possess a germicidal power, especially corrosive sublimate, are highly useful.

8. That the erysipelococcus of Fehleisen which is found chiefly in the more superficial channels of the corium, may be attacked directly by the corrosive sublimate solution when the latter is used after scarification, is quite probable.

9. In erysipelas migrans the germicide should be injected beneath the skin, just beyond the edge of the part inflamed.

CHAMPAGNE AND STRYCHNIN IN CHEST TROUBLES OF THE AGED.

Read in the Section on Practice of Medicine, at the Forty-fifth Annual Meeting of the American Medical Association, held in San Francisco, June 5-8, 1894.

BY G. EDWARD BUXTON, M.D.
NATIONAL CITY, CAL.

From these few remarks, which shall be presented briefly, do not conclude that my dependence upon the *vis medicatrix naturæ* is sublime, and faith in the medicinal value of drugs microscopic.

It is true my graduating thesis was upon the action of mind in medicine, but that was nearly a score of

years ago, before the faith cure fad and, as the years increase so does my confidence in medicine intelligently administered; when failure comes, as frequently it does, it is because the situation has not been fully grasped or the vital forces have ceased to act.

A physician living on the shores of San Diego Bay sees many invalids from east of the Mississippi, a large proportion of whom come from the Atlantic seaboard; and among them are many advanced in years who come expecting to find in our perfect climate the perennial spring of youth and by partaking of its waters live forever.

While the tendency of this equable climate is to prolong life and, in some instances to an astonishing degree, as has been shown by Dr. P. C. Remondino in his researches in this direction, still the aged come to us sick, and here the aged sometimes die.

It has always seemed to me important that the sick, the feeble and advanced in years, should make the long journey across this entire continent, not in a few days as is now customary—from the Atlantic to the Mississippi, from the plains of Kansas to the high altitudes of the Rockies, and then drop down again to the sea—but on the other hand, that they should come in slow stages from point to point, occupying weeks or months in covering this great distance.

I have myself witnessed great distress on the trains bringing invalids, due to these changes; and patients have repeatedly told me of their sufferings on the way, especially in the higher altitudes.

In former times when the journey was made by team from the Missouri, west, the change came gradually, and when this "golden shore" was finally reached the health seeker was in full harmony with environment and likely long to outlive the time limit set by Holy Writ.

We do not see in the region about San Diego Bay the same good old pneumonia, double and otherwise, that we used to treat, for instance, in Boston or Pittsburg.

There is pneumonia and pneumonia; and this probably in some measure accounts for the great variety of treatment which has been and still is in vogue; why should we follow the authority recommending phlebotomy who wrote fifty years ago, and of patients living in the humid, insular climate of England, and about the disease as seen among those malt liquor drinkers—those roast-beef and plum-pudding eaters. Why should such medical experience be taken as the guide to proper treatment of cases in the high altitudes of the upper Missouri Valley, or among the corn- and hog-fed malarial dyspeptics of the lower Mississippi Valley, or how can we reasonably follow treatment appropriate to the sturdy young farmers of New England, and apply the same remedies in cases among the closely confined factory operatives? Or how apply any one of these methods, successfully, to the health seekers coming, physically bankrupt, from the Eastern States, to our land of perpetual sunshine, fruits and flowers; here where he may freely partake with no restrictions, of ozone from nature's vast laboratory reaching thousands of miles to westward and from which, wafted by the gentle Pacific zephyrs, it comes to these Californian shores.

There being then chest troubles—pneumonia is the name which like the broad mantle of charity