

began to bulge somewhat into the right nostril again.

At this time, without ether, the portion of the cartilaginous septum projecting into the right nostril was transfixed with a pointed bistoury and cut away. The bony portion of the septum showed no tendency to resume the position it occupied before operation. The removal of the projecting cartilaginous portion of the septum in this manner made a small opening between the two sides of the nose. It allowed, however, the free passage of air through both nostrils. The operation accomplished more than was anticipated. It had not seemed practical at the time of operation to force the septum to the left and the point of the nose at the same time to the right, so that the latter was not attempted. As the opening which had been made by the bistoury between the two nostrils contracted during cicatrization, however, the effect was to pull the point of the nose back to its normal position. After nine months the result of the operation is that the patient breathes with perfect freedom through both nostrils. The point of his nose is much nearer the median line than before the operation, resulting from the contraction of the opening made in the septum.

The voice still has something of the nasal quality, but the improvement in this respect is perceptible.

## MALARIA.

BY ERWIN F. SMITH.

In connection with the recent discussion of malaria by the American Public Health Association, it is interesting to note the conclusions reached by Prof. C. Tommasi-Crudeli, of the University of Rome, as to the causation and prophylaxis of fever and ague. These conclusions, first published some years since, have been reaffirmed recently in a study on "The Preservation of Man in Malarial Regions," published by the Italian government.

Tommasi-Crudeli believes malarial fevers are caused by a bacteric ferment which grows in the soil, and thence finds its way into the air. Both he and Klebs think they have discovered a specific intermittent fever germ, which they have christened *bacillus malarie*. This germ is not of necessity paludal in origin. He seems to have established beyond a doubt that there is no cognate relation between marshes and malaria—some marshes, though filled with decomposing vegetation, are innocent, while many comparatively dry and even barren districts give forth rank malarial emanations.

The essential factors in the production of malaria are three: (1) Moisture in the surface soil, a slight amount being sufficient, if the ferment is present; (2) A temperature of at least 36° C.—it is well known that malarial regions become wholesome whenever freezing weather sets in; (3) the presence of cold air, upon the oxygen of which the ferment depends for growth. If any one of these three conditions is wanting, the development of the malarial poison stops.

The methods suggested for preventing the growth of the malarial ferment are: (1) A high cultivation of the soil, which in some places has proved highly successful, while in other places it has been a partial or complete failure, if not a cause of increased production of malaria; (2) Some system of drainage, which to be successful must be extensive and thorough, the ground water being lowered and kept at such a level that the surface layers of the soil are always practically dry; (3) The covering of infected layers of soil with earth or water, so that the ferment shall not be in contact with the oxygen of the air. If the district is marshy, the latter may frequently be best done by flooding. The entire marsh should be kept completely and continuously under water. If this be done, the production of malaria ceases, but recommences whenever any portion of the infected soil is again exposed to the action of the air. Here, no doubt, is an explanation of the otherwise inexplicable sudden increase of malarial fevers, in summer and fall, in the vicinity of certain lakes and millponds, whenever the waters are drawn off and the sides and bottom left exposed for some time to the action of sun and air. If the malarial district is not marshy, and cannot be conveniently flooded or covered with layers of non-malarious earth, the same end (the starvation of the bacteric ferment by the withdrawal of the oxygen of the air) may be attained by allowing the soil to become grassed over with a thick turf; or in towns by the construction of buildings and pavements, as demonstrated in certain quarters of Rome.

If none of the foregoing preventive measures can be adopted, partial immunity from malarial poisoning may be obtained by avoiding exposure to infected air in early morning and in the evening when malarial influences are believed to be most active; and by sleeping in upper stories of buildings, or, if this be impossible, by securing air for the ventilation of sleeping apartments from some distance above ground (4 to 5 meters). The habit of sleeping at some distance from the ground is common among the modern Greeks and some Italian races, who are compelled to live in malarial places, and there is reason to believe that in infected districts those who sleep some distance above the lower stratum of atmosphere enjoy a greater immunity from malarial fevers than those who sleep on or near the ground.

The malaria of the Roman Campagna is so virulent that whole districts are practically uninhabitable during the warm months, and bad seasons are marked by many deaths. The number of deaths, however, is not a proper criterion for judging of the miseries of the rural Italian population. To appreciate their condition one must be conversant with the great and pitiful physical deterioration going on in whole communities under the influence of chronic malarial cachexy. Any method of removing this scourge would be a great boon to Italy. Various medicinal agents, as quinine and eucalyptus, have been tried with but limited success. Quinine is often injurious, and much too expensive; while the eucalyptus, so much vaunted as a preventive, especially in the vicinity of Tre Fontane, where there are extensive groves

under the care of the Trappist monks, has entirely failed to meet expectations. For some years after the groves were planted, Tre Fontane enjoyed an immunity which was attributed to the eucalyptus, but in 1880 the locality was terribly scourged by fever under the very shadow of the groves, and again in 1882. Last year, however, the experiment of using white arsenic as a prophylactic was tried on a large scale, and with the happiest results. In districts of the Campagna where experience has shown it to be well nigh impossible to remain during the warm weather on account of the fevers, by the daily use of small quantities of arsenic, large bodies of railroad employes were enabled to work almost interruptedly throughout the bad season. No ill effect was experienced from the use of the mineral. Experiments on a large scale will be continued to determine the exact value of arsenic. Italy experiences great financial loss on account of malaria, and the Italian government, aware of this has, with commendable good sense, set her *savants* to discover the remedy. The report of this year's investigations will be awaited with interest.

### A CASE OF TRIPLETS.

BY C. W. COOPER, M.D., BATAVIA, ILL.

About 8:30 on the morning of May 13, 1882, I was called to attend Mrs. N. in confinement. She was a Swede, age 40, a multipara. I found the membranes protruding from the vagina, and a foot just within. Her pains were not very severe. From all appearances I was satisfied there were twins. I ruptured the membranes, when a large quantity of fluid escaped. The pains now became stronger, but the foot did not descend much. The mother was weak from the burden she had been carrying, and from her inability to lie down, which had now existed nearly a month. By pressure upon the abdomen and slight traction upon the foot I assisted the delivery, which was accomplished a few minutes after nine. The child was a boy weighing  $6\frac{1}{2}$  pounds. The second child presented the vertex and was delivered naturally at 9:45. This also was a boy, and weighed  $7\frac{1}{2}$  pounds. Placing my hand upon the abdomen to insure uterine contraction, I was not a little surprised at the size and hardness of the uterus, and by vaginal touch I detected a third child lying directly across the pelvis, with membranes intact. The head was to the left and too far away to warrant the hope of getting it down. I introduced my hand into the womb and had the good fortune to readily seize both feet. This third child was delivered at 10:30. It was a girl weighing  $5\frac{3}{4}$  pounds. A single dose of ergot was followed by good uterine contraction, and Mrs. N. recovered from her confinement promptly. The children are all living, hearty, robust, and as forward in every respect as the average of children of their age.

BATAVIA, ILL., Mar, 20, 1884.

## MEDICAL PROGRESS.

### MEDICINE.

**INTRAVENOUS INJECTION OF MILK.**—Dr. Miglioranza gives the results of a series of experiments on dogs in the *Archives Italiennes de Biologie*, which are referred to in an editorial by the *Lancet*. He takes the ground that milk must be first digested to be properly prepared for the blood, and if it be injected as milk it will simply give up its albuminoid and fatty matters to the kidney, to pass out by the urine. He says that transfused sugar of milk passes in part into the saliva, as dogs afterwards lick their lips on account of the sweet taste. The butyric element of milk, transfused without a previous digestion, produces fatty infiltration of the kidneys and chyluria. In the treatment of cholera the serum of milk may be used to advantage, but not pure milk. The sudden introduction of a large quantity of milk into the circulation produces great diminution of blood pressure, due to collapse of the force of the cardiac systole, and unless the milk be filtered to prevent corpuscles larger than those of the blood from entering, obstruction may ensue in the pulmonary and cerebral circulation. As to the injection of the serum of milk, Albertoni has injected from 9 to 100 grammes into the veins of dogs without observing any ill effects. Casein, after being digested, if introduced directly into the blood is more apt to be transformed into urea than into nutrient material. Fresh urine may be directly injected into the blood without causing poisonous symptoms, but if decomposition has commenced serious symptoms immediately follow. Carbonate of ammonia introduced into the blood, notwithstanding the opposite statement of Ritter and Feltz, produces symptoms that precisely resemble those of uræmic fever, viz.: tetanic convulsions, dyspnoea, excitement of the circulation, hyperæsthesia, and coma.

**CALCIFICATION OF THE PLEURA COSTALIS.**—At the post-mortem examination of a man who had died of cancer of the stomach at the Hopital St. Antoine, M. Gilbert found a thick plate of bone-like material covering the internal surface of the ribs on the right side, from the sternum to the vertebral column. This plate measured 12 centimeters in height, and 20 in breadth. Its external surface was smooth and separated from the ribs by connective tissue, while the internal was rough, and adherent in some places to the lung. Chemically, the plate had very nearly the same composition as bone, but the microscopical examination showed that it was only fibrous tissue loaded with lime salts.—*British Medical Journal*.

**THE MICRO-ORGANISM OF BERI-BERI.**—M. de Lacerda, in examining drops of blood from individuals suffering from beri-beri, has found long, cylindrical branched filaments with genuine joints, and sometimes with refracting brilliant points, which are believed to be spores. These filaments have been cultivated in bouillons prepared after Pasteur's method