expansion. Daily attempts were made to explore the track of the tube, as before, without any results. The general health was improved; appetite and sleep were better; there was less complaint of pain from the bandages, and much less fretfulness.

October 8th, there having been no discharge since the 3d, Dr. Minot advised shortening the tube, which was accordingly done to the extent of an inch.

During this time, that is, since the reopening of the eighth space, that in the seventh had entirely closed, and nothing was left except a small granulating surface. With the shortening of the tube, which was daily made, the temperature began to fall, and the patient to improve. Finally, October 16th, about four weeks after first operation, it was removed altogether. The temperature continued to jump about in the most remarkable manner, and it was thought advisable to remove the dressings altogether. The spray was accordingly abandoned, and a light carbolic gauze compress, sufficient to keep the granulating surface aseptic, substituted. Morning temperature was below normal, and evening not taken, and two days later it was omitted altogether, having become a source of great annoyance to the patient, anxiety to the mother, and bewilderment to the physician.

From this time convalescence, already begun, proceeded with astonishing rapidity. There had been no cough during the latter days of the Lister; the appetite had become enormous, and the general appearance of the patient wonderfully improved. By November 1st his clothes were too small for him, and before Christmas he weighed eighty-seven pounds, and could not be recognized as the same boy who had been limping about with so much difficulty three months before.

In reviewing this case the interesting points to me are, first, the apparently clear diagnosis of purulent effusion, which the aspirators failed to verify; the unfavorable prognosis which made the operation an almost hopeless last resort; the difficulty experienced in finding the pus cavity, and having found it of keeping it open long enough for the lung to expand and fill it; the remarkable absence of any and all discharge when the drainage was certainly free; and, finally, the almost instantaneous establishment of convalescence on removing the tube and dressings.

With regard to the first point it is my opinion that the pus was too thick to run through the needle, — or it was flocculent, — and that the existence of a fluid-filled cavity could have been demonstrated with the exploring probe. The prognosis, though unfavorable, was not absolutely so, because there were no signs of disorganization on auscultation or percussion.

The difficulty in penetrating to the pus cavity was due, I think, to the existence of fibrinous tissues, found between the diaphragm and base of lung, of considerable thickness. Had the opening been made three or four inches from the spine in the same space, I believe we should have had no difficulty in immediate and easily maintained drainage.

The absence of discharge seems to me remarkable even in the light of modern aseptic operations for empyema. There was not even a serous discharge. The lung must have expanded immediately, and thereby filled entirely the pleural sac. The rapid convalescence and sudden cessation of high temperature are explained, I think, by the patient's very great irritability. He complained excessively of the discomfort of any and all restraining bandages, was very much

annoyed by the tubes, and, as a result, I am inclined to think he worried himself into a fever. He was so intelligent that he always was much depressed by an unfavorably high temperature, and that improvement was thereby retarded I am sure. For this reason I omitted it altogether. In the light of the later days of the case I am convinced that the tubes might have been removed a week sooner.

REPORT UPON THE INSPECTION AND ADULTERATION OF FOOD AND DRUGS.

BY DR. B. F. DAVENPORT.

A BILL to take away the execution of the Adulteration of Food and Drugs Act of the year 1882 from the control of the State Board of Health, Lunacy, and Charity was defeated in the Senate on May 31st. The two analysts appointed under the provision of that act are therefore continuing their work of examining series of samples of the more important articles of food and drugs sold in the markets of this State, to ascertain which of these are at present adulterated, as well as the constituents and proportions of the foreign substances. Their monthly reports made to the State Board have not yet been published, as the first year of the work has not been completed. These analysts have, however, thus far reported upon some five to six hundred samples examined by them.

The inspector of vinegar for the city of Boston, in his last annual report upon some 300 samples of vinegar, says that of the cider vinegars obtained by him from stores in the city only about one sample in ten proved to be of good quality. The rest were commonly either some variety of so-called white wine vinegar colored and flavored with a little more or less of true cider vinegar, to imitate the genuine article, or else a partially made and watered cider vinegar, which has had its acidity somewhat increased by the addition of acetic acid.

The inspector of milk for the city has reported upon his inspection of 1153 samples of milk, of which he had only 14 analyzed as adulterated, as they all proved to be. The analyst of food for the State Board, however, who himself analyzes *all* of his samples, has found only about ten per cent. of his samples to be *unadulterated* with water. This, like the observations made by the present inspector of vinegar, shows the different results which are obtained by skilled scientists, amply able to do all their own work, as compared with those inspectors who have hitherto been appointed under the former various anti-adulteration laws in this State. Under those provisions contained in Chapter 208 of the Public Statutes, although they have been the law so long, a single conviction has never yet been obtained, and they might as well be now repealed.

The last Report of the New Jersey State Board of Health, which acts under a similar law to that of Massachusetts and New York, contains an important article upon Health, Invalid and Infant Foods, by Prof. A. R. Leeds, of the Stevens Institute in Hoboken, one of the Public Analysts. It ends with the following table of analyses of infant foods and conclusions therefrom, which should be compared with the average human milk containing its natural amount of water, and also with the same reduced to a nine percentage of water: —

	Water.	Fat.	Sugar.	Starch.	Albumi- noids.	Salts.
Natural human milk has	89.00	3.00	5.00	0	2.65	0.35
Same reduced to 9 per cent. of water	9	24.82	41.36	0	21.93	2.89

INFANTS' FOODS.

	Moisture.	Fat.	Grape Sugar.	Cane Sugar.	Starch.	Soluble Carbohydrates (Dextrine, Grape and Cane Sugars).	Albuminoids.	Gum, Cellulose, etc.	Insoluble Residue.	Total.	Reaction.
Baby sup. No. 1.....	5.54	1.28	2.20	11.70	61.99	14.35	9.75	7.09	—	100.00	Neutral.
Baby sup. No. 2.....	11.48	0.62	2.44	2.48	51.95	22.79	7.92	5.24	—	100.00	Slightly alkaline.
Guber & Co.'s Milk Food.....	6.78	2.21	6.06	30.50	38.48	44.76	9.56	—	—	101.79	Slightly acid.
Ridge's Food for Infants.....	9.23	0.63	2.40	2.20	77.96	6.19	9.24	—	—	102.25	Neutral.
Victor Baby Food.....	7.49	1.62	0.62	19.92	73.45	20.54	8.87	—	—	101.97	Slightly acid.
Anglo-Swiss Milk Food.....	6.54	2.72	23.29	21.40	63.45	46.43	10.26	—	—	100.00	Slightly acid.
Horlick's Food for Infants.....	3.39	0.08	34.99	12.45	87.20	81.20	6.71	—	2.62	100.00	Slightly acid.
K. & M. Infants' Food.....	27.95	—	38.75	7.58	—	71.50	—	—	0.55	100.00	Neutral.
Nestle's Milk Food.....	4.72	1.91	6.02	32.93	40.16	44.88	8.23	—	0.08	100.00	Slightly alkaline.
Hawley's Liebig's Food.....	6.60	0.61	40.57	8.44	10.37	76.54	5.88	—	—	100.00	Slightly acid.
Hazard's Graham Farina.....	9.12	0.81	2.19	2.49	69.68	6.85	8.48	5.56	—	100.00	Neutral.
Cereal Milk.....	9.33	1.01	4.60	15.40	58.42	20.00	11.08	—	—	100.00	Neutral.
Mellin's Food.....	5.00	0.15	44.69	8.51	—	85.44	6.95	—	—	100.00	Slightly alkaline.
Blair's Prepared Wheat Food.....	9.85	1.56	1.75	1.71	64.80	13.69	7.16	2.94	3.46	100.00	Slightly acid.
Savory & Moore's Infants' Food.....	8.84	0.40	20.41	9.08	36.36	44.83	9.63	0.44	—	100.00	Slightly alkaline.
Hubbell's Prepared Wheat Food.....	7.78	0.41	7.56	4.87	67.60	14.29	10.13	—	—	100.00	Neutral.
American Swiss Milk Product Co.....	5.68	6.81	5.78	38.43	30.85	45.35	10.54	—	—	100.00	Neutral.
Wheat Flour for Hubbell's Wheat Food.....	9.02	1.01	2.34	2.46	76.07	6.96	6.40	0.77	—	100.00	Acid.
Imperial Granum.....	5.49	1.01	traces.	traces.	78.93	8.56	10.51	—	—	100.00	Neutral.
Robinson's Patent Barley.....	10.10	0.97	3.08	0.90	77.76	4.11	5.13	1.93	—	100.00	Neutral.
Farwell and Rhine's Gluten Flour.....	12.67	0.84	2.23	1.42	68.36	7.23	10.39	0.51	—	100.00	Neutral.

Dr. Leeds finds certain imperfections unavoidable in the above foods, which he classifies as the farinaceous, the Liebig's, and the milk variety of foods. The first variety are in no case, and cannot be by any process of cooking or baking at present known, so far altered in composition that the largest part of their starch is converted into sugar and dextrine. They

are of necessity mainly starch, and for this reason are not well adapted for infant food. The Liebig's foods are very deficient in albuminoids as compared with the carbohydrates. This objection would be fatal to their continued use unless when accompanied by a sufficient amount of milk to change entirely the relative proportion of ingredients. This being the case, and the amount of milk being large, their quality as food would largely depend upon the quality of the milk used in connection with them. They cannot be made even in this way to exhibit such a ratio of carbohydrates to albuminoids as exists in human milk. The third class, the milk foods, has about half the amount of starch which is present in the first class, and about the same amount of albuminoids. It is open to the great objection that its ratio of saccharine matters to the albuminoids is still too high. Thus while the market supplies many more or less excellent infant foods, one not open to these objections and entirely satisfactory has yet to be made.

Under the New York State law, similar to that passed in this State in 1882, the Sanitary Committee, in their last returns to the State Board of Health, report that of 119 samples of food examined, 50 had been found to be adulterated, while of 75 samples of drugs 32 had been found to be adulterated.

The food samples were as follows :—

Articles.	Number Examined.	Found Adultersted.
Allspice	5	3
Arrowroot	1	0
Baking powder,.....	1	0
Baking soda	21	1
Butter.....	1	0
Catsup.....	1	0
Candy	1	0
Coffee	18	4
Coffee extract.....	2	2
Cinnamon	7	4
Cream tartar.....	28	22
Cloves.....	6	4
Flour	3	0
Ginger	2	0
Isinglass	1	0
Mustard	6	6
Pepper	8	4
Saleratus	2	0
Sugar.....	1	0
Vinegar pickles	4	0
	119	50

The drug samples were:—

Articles.	Number Examined.	Found Adulterated.
Arrowroot	4	2
Bismuth subnitrate	1	0
Cocoa butter	4	2
Cream tartar	7	0
Ipecac root	7	4
Jalap	4	1
Magnesia citrate	1	1
Mustard	6	4
Orris root	5	2
Opium	1	0
Quinine sulphate	4	1
Rhubarb	9	4
Sarsaparilla root	1	0
Saffron, Spanish	7	3
Sulphur precip	13	7
Wax, white	1	1
	76	32

The last Report on Adulteration of Food in Canada, made by the Commissioner of Inland Revenue, shows that out of 1122 samples 288 were surely adulterated, while 25 were doubtful. They were as follows :—

Names of Samples.	Number.	Adulterated.	Doubtful.
Baking powder.....	17	0	0
Bread.....	81	1	1
Butter.....	197	48	8
Canned fruit.....	26	2	0
Chocolate.....	54	0	0
Cocoa.....	53	10	0
Coffee.....	69	47	0
Flour.....	18	0	0
Ginger.....	23	16	0
Milk.....	202	59	13
Pepper.....	43	28	1
Potted Meats and Fish.....	23	3	0
Spices.....	66	32	0
Sugar.....	65	0	0
Sweets.....	66	5	0
Tea.....	88	23	2
Water.....	29	14	0
	1122	288	25

The last annual Report of the Society of Public Analysts of Great Britain shows that out of the 17,868 samples examined by the seventy-eight analysts 2960 samples were found to be adulterated, that is, 16.56 per cent., while for the five preceding years the percentages had been 17.47, 17.25, 16.58, 17.70, and 18.10. The following was found to be the percentage rate of adulteration found in the following classes of samples:—

Milk	19.95%
Butter	12.67%
Groceries	9.70%
Drugs	19.09%
Wine, Spirits, Beer	23.94%
Bread and Flour	4.23%
Water	26.17%
Sundries	5.00%

In France food analysis for the suppression of adulteration is carried on in the municipal laboratories, established under the general national law, in Paris and most all of the other large cities of the country. M. Ch. Girard, chief of the Paris laboratory, has made a very elaborate report to the Prefect de Police of the last year's work, which the city has published in a quarto volume of 548 pages. This laboratory has directed its attention not only to the matter of adulteration in the samples of food submitted to it by the police and by the public at large, but also to the determining by means of numerous analyses of the average composition of all of the most commonly used articles of food. For this work the chief is very liberally supplied with all the desirable means for his twenty-five employees. The inspectors visited 24,655 shops, inspected 1570 beer pumps, attended to the retinning of 5572 copper cooking utensils, destroyed 394 samples of manifestly damaged provisions, and made 6258 analyses of samples of which 1565 were found to be good, 1523 passable, 2608 bad (but not injurious), while 562 were bad and injurious. The report covers the subjects of waters, wines, beers, ciders, alcohols and liquors, vinegars, milk, butter, oils, flour, bread, pastry, preserves, chocolate, coffee, tea, pepper, sugars, honey, dried fruits, vegetable juices, syrups, confectionery, tinning of copper cooking utensils, colors on children's toys, meats, perfumery and toilet articles, photography as related to the microscope, and other uses of interest to the analyst, the employment of the electric light in theatres, and the inspection of beer pumps, all of which are elaborately treated. This report and Dr. J. König's *Chemische Zusammensetzung der Menschlichen Nahrungs- und Genussmittel*, 2 Auf., Berlin, 1882, are two of the

most important contributions to the subject of food adulteration published during the past year.

In Germany the general imperial law, passed May, 1879, is the one still in force, very many of the different provinces and cities having their further special statutes. In Austria the law was passed in 1870, and in Switzerland the laws in the various cantons have been passed since 1875. In Italy there is not as yet any general national law, but in all the cities there are health commissions which have the supervision of trade in articles of food. Since 1870 there have been fourteen stations for investigations in agricultural chemistry established where many analyses of foods have been made. Of these that at Turin has been the most active in this direction.

In Holland Amsterdam alone has a bureau for the examination of food. This acts under the law passed in 1878.

In Sweden there are no special government officers appointed for the inspection of foods, examination of such being, however, carried on at the agricultural institutions, founded since 1856, in the university cities of Stockholm and Upsala, and at some five more chemical agricultural stations in smaller cities, founded since 1877. In Norway the Agricultural Institute is at Aas.

In Russia the only inspection of food is by the medical authorities except at Riga and Charkow, where there are chemical institutes aided by the cities. The same is true in Poland, except that Warsaw does it by its city medical authorities.

Fuller details of these laws upon the Continent are given by König in his *Beatand und Einrichtungen der Untersuchungsämter für Nahrungs- und Genussmittel*, Berlin, 1882.

Reports of Societies.

THE AMERICAN SURGICAL ASSOCIATION.¹

SECOND DAY.

AN executive session was held at the beginning of the morning session at which Drs. James McCann, of Pittsburgh, Christian Fenger, of Chicago, W. E. Taylor, of California, W. F. Peek, of Iowa, and N. P. Dandridge, of Cincinnati, were elected by ballot to Fellowship in the Association.

PROF. S. D. GROSS read a paper on

THE VALUE OF EARLY OPERATIONS IN SURGERY,

especially considering the application of this principle of early operation to morbid growths, both malignant and non-malignant. The local origin of morbid growths was insisted upon, and the danger of extension of malignant cells, by infiltration to surrounding tissues, was cited as affording the strongest grounds for early extirpation.

DR. BASIL NORRIS, United States Army, of Washington, read a paper detailing a number of cases of

DISLOCATION OF THE ASTRAGALUS,

based particularly upon an experience with the injury in question in his own person. The following description of the phenomena attendant upon this in-

¹ Concluded from page 543.