the limits of time within which the disease may develop, and especially until we have from Pasteur a satisfactory explanation of the failure in the cases of the three wolf-bitten Russians who have recently died of hydrophobia after having submitted to his treatment.

In discussing the relation of bacteria to disease, the lecturer stated, that, in response to a question of his, Pasteur had told him, that, although careful and persistent search had been made, no organism had been found in the hydrophobic virus, and that no difference could be detected between virulent and non-virulent spinal cords. An investigator in Geneva has recently claimed to have discovered the germ of rabies, but the claim lacks confirmation.

In contagious pleuro-pneumonia no germ has yet been discovered which can be considered as the specific micro-organism of the disease. Sternberg, Councilman, and Welch have lately been at work at the problem, but have as yet been unsuccessful.

In the pus of acute abscesses micrococci are invariably found. That the bacillus of anthrax, the spirochaeta of relapsing-fever, the bacillus of tuberculosis, all stand in an etiological relation to those diseases, there now seems to be no doubt. The dispute between the Germans and the English, as to the *rôle* played by the cholera bacillus in the production of that disease, is still unsettled. The bacillus of typhoid-fever, discovered by Ebert in 1880, is claimed by Koch to be the undoubted germ of that disease. His assistant, Gaffky, invariably finds it in the spleen of those who have died from the fever. Koch thinks that it forms spores. When introduced into the circulation of lower animals, it does not produce typhoid; but nothing can be argued from this, as we do not know that this disease ever affects animals other than man.

ACCURATE MOUNTAIN HEIGHTS.[1]

OF the various methods of determining the height of a mountain, the best is undoubtedly that of running a line of levels to its summit. This method is accepted as the standard, and as that by which the errors of the other methods are to be judged. A surprising degree of accuracy can be attained in levelling an ordinary country. Many of the errors compensate, and the final results should generally be accurate within a small fraction of a foot. In ascending a mountain, much greater deviations must be expected. The back sights are usually longer than the fore sights, and therefore errors in the adjustment of the level or in the correction for atmospheric refraction are cumulative. The effect of the mass of the mountain on the level would produce an error which would not be compensated, and might be large enough to be appreciable. Finally, an error in the length of the levelling-rod would enter to its full proportionate amount. For these reasons much reliance should not be placed upon the fractions of a foot, unless the above sources of error have been considered and proper corrections applied. The precise heights as determined have, however, been given below. The labor and cost prevent its general application to the determination of mountain heights. A few lines of level have been run up the hills and mountains in this portion of the country [New England], generally by the enterprise and enthusiasm of volunteers. A description of several of these has been collected from various sources, in most cases from the local newspapers. The principal results are published below for permanent reference. Doubtless many similar measurements have been made, and it is hoped that they may be communicated to the writer as material for a second paper. As an example of the danger that such material may be totally lost, it may be mentioned that scarcely any of the results given below are contained in the excellent 'Dictionary of altitudes of the United States,' recently published by the U. S. geological survey.

The following table contains a number for reference, the name of the mountain or other object measured, and its height above the mean tide-level of the ocean. Additional information regarding many of these points is contained in the original article in *Appalachia*. Nos. 1 to 10 are taken from 'The geology of New Hampshire,' vol. i.; Nos. 11 to 17, from an article by Mr. J. J. Holbrook, *New Hampshire Sentinel*, Nov. 22, 1877, where the altitudes of several other points in Cheshire county, N.H., are also given. All of these stations are in New Hampshire; Nos. 18 to 43 are in Vermont, and Nos. 44 to 63 in New York.

	STATIONS.	FEET.
1.	Mount Washington	6,293.000
2.	Upper water-tank, Mount Washington railroad	5,800.000
3.	Second tank (Jacob's Ladder)	5,468.000
4.	Waumbek Junction	3,910.000
5.	Ammonoosuc Station	2,668.000
6.	Halfway House	3,840.000
7.	Glen House	1,632.000
8.	Kearsarge (S.)	2,942.790
9.	" Garden	2,622.500
10.	" Plumbago Point	1,705.000
11.	Monadnock	3,169.300
12.	" Mountain House	2,071.984
13.	John Mann's, near divide	1,487.602
14.	Jaffrey Schoolhouse No. 12 (threshold)	1,231.227
15.	Troy Schoolhouse No. 3 (lowest step)	1,166.112
16.	Beech Hill	1,060.566

[1] From *Appalachia*, iv. 215.

	STATIONS.	FEET.
17.	Beech Hill Reservoir	594.589
18.	Mount Mansfield (chin)	4,389.080
19.	" " (nose)	4,056.390
20.	Summit House	3,841.640
21.	Ridge south-east of Summit House	3,612.380
22.	Halfway House	2,306.380
23.	Junction of Notch Road	1,291.850
24.	Bench near J. Houston's	955.050
25.	Mansfield House, Stowe	720.270
26.	Methodist Church, Waterbury Centre	712.530
27.	Killington Peak	4,220.870
28.	Summit of the second ridge	3,546.310
29.	Rock, summit of the first ridge	3,385.480
30.	Bench, rock near Manley's barn	2,097.610
31.	Bench, rock near R. Maxham's	1,812.720
32.	Junction of the mountain road, Sherburne	1,504.770
33.	Hotel, Sherburne	1,211.210
34.	Congregational Church, Bridgewater	892.390
35.	Mount Tom (north peak) Woodstock	1,351.220
36.	" " (south peak) "	1,244.120
37.	Little Killington	3,951.000
38.	Base of the town hall, Woodstock	697.690
39.	Pico	3,935.000
40.	Shrewsbury Mountain	3,707.000
41.	" Peak	3,838.000
42.	Camel's Hump	4,077.000
43.	Ascutney	3,163.000
44.	Whiteface Mountain	4,871.655
45.	" " (spring)	2,817.958
46.	" " (brook, second crossing on trail)	2,023.965
47.	Whiteface Mountain (brook, first crossing on trail)	1,959.996
48.	Lake Placid	1,863.715
49.	Mount Marcy	5,344.243
50.	" " (hump)	4,998.278
51.	Lake Tear of the Clouds	4,321.958
52.	" " " " (summit of notch)	4,355.313
53.	Panther Gorge	3,353.687
54.	Mount MacIntyre	5,112.730
55.	Mackenzie Pond Mountain	3,789.322
56.	Mount Skylight	4,889.626
57.	Gray Peak	4,902.000
58.	Haystack	4,918.626
59.	Bartlett (west shoulder)	2,785.512
60.	St. Regis Mountain	2,888.298
61.	Lyon Mountain	3,809.000
62.	St. Regis Lake (lower)	1,623.162
63.	Raquette Lake	1,774.249

The height of Mount Washington was determined in 1853 by Captain Cram of the U. S. coast survey. Nos. 8 to 10 are from the carriage-road survey by Mr. R. S. Howe. Nos. 11 to 17 were levelled by Mr. J. J. Holbrook; and Nos. 18 to 26, by Mr. Hosea Doton, who started from the railway-station at Waterbury, and assumed the height of the top of the sleepers at that point to be 425 feet. Nos. 27 to 37 were determined in 1863 by Mr. Doton, who ran a line of levels, starting from White River Junction. The height of White River Junction was assumed to be 351 feet. Nos. 38 to 41 were determined trigonometrically from No. 27. No. 42 was levelled by Mr. Charles Collins at the time of the building of the Vermont central railroad; and No. 43, by Messrs. H. F. Dunham and D. C. Bell, from a bench in Harland. The bench appears to have been the summit of Garvin Hill. Nos. 44 to 63 are taken from the 'Seventh report of the Adirondack survey,' by Mr. Verplanck Colvin. No. 61 was not determined by levelling, but from the mean of two months' observation with the barometer.

E. C. PICKERING.

PROPOSED NEW TRADE OUTLET ON THE BLACK SEA.

THE Russian government has very recently, says *Engineering*, partially approved of a new scheme for doing away completely with commerce at Sebastopol, and diverting the stream of trade to Theodosia, at the eastern extremity of the Crimea. To achieve this it is projected to construct a railway, some eighty miles in length, from the Djanski station of the Lozova-Sebastopol line, and build a regular port at the Theodosian extremity. Of course, the building of the railway and port will be an expensive business, to say nothing of the inconvenience and loss incurred by the numerous merchants and trades-people, who will be compelled *bon gré mal gré* to transfer their operations from Sebastopol to Theodosia. But the Russian government never allows commerce to interfere with its military and naval plans; and certain high authorities having advocated the conversion of Sebastopol into a naval station, pure and simple, there is a probability that the rapidly increasing trade of the port will be summarily shifted to the other end of the Crimea. Such a despotic transfer is very little relished by the business-people of Sebastopol, to whom is really due the credit of having restored the place from a mass of ruins to a respectable town, and who have no inclination to have to repeat the process amidst the broken relics of Genoese, Turkish, and early Russian rule at Theodosia. Moreover, the port is a very inferior one compared with Sebastopol, being quite open to the sea; and although Chardin, when he visited the place two centuries ago, stated that there were more than 4,000 houses and 80,000 people in Theodosia, and 400 ships in the bay, it is not easy to believe that it was a very commodious port for shipping. In ancient times Theodosia was called Kaffa, and is reported by classic writers to have shipped as much as 3,000,000 bushels of wheat in one year, serving during the period in question as the 'granary of Greece.' In later times the Genoese did a large trade here; but the Turks knocked the place to pieces when they took it from the Genoese, the Russians again when they seized it from the Turks, and finally Hobart Pacha bombarded it in 1878. The population is about 10,000 souls, housed in hovels amidst a vast