Bowling (W. K.,)

AN ACCOUNT

OF

THE CHOLERA,

AS IT APPEARED

AT NASHVILLE

IN THE YEAR 1873.

BY

W. K. BOWLING, M. D.

NASHVILLE, TENN.:
PRINTED BY THE UNION AND AMERICAN PRINTING COMPANY.
1873.

1 City Hotel,
2 St. Charles Hotel,
3 Mansion House,
4 Maxwell House,
6 Commercial Hotel,
7 St. Cloud Block,
8 Stacy House Block,
9 Broadway House,
21 Planters Hotel,
5 Masonic Hall,
10 Old Theater,
22 New Theater,
11 First Presbyterian Church,
12 Cumberland Presbyterian Church,
13 McKendree Methodist Church,
14 Christ Episcopal Church,
15 Christian Church,
16 Church of the Advent (Episcopal),
17 Second Presbyterian Church,
18 German Methodist Church,
19 German Catholic Church,
20 Cathedral (Catholic),
23 Elm Street Methodist Church,
24 Trinity Episcopal Church,
25 Third Presbyterian Church,
26 Second Cumberl'd Presbyterian Church,

27 Andrew Charge (Methodist),
29 Colored Methodist Church,
33 First Baptist Church,
34 Baptist Church,
28 Medical College,
36 North Nashville Methodist Church,

30 St. Ann's Church (Episcopal), Edgefield
31 Tulip St. Church (Methodist), Edgefield
32 Catholic Church, Edgefield.
37 Primitive Baptist Church,
38 Central Baptist Church,
39 Fisk Chapel,
40 Methodist Episcopal Church.

PUBLIC SCHOOLS.

41 Hume High School,
42 Howard School,
43 Trimble School,
44 Hynes School,
45 Ninth Ward School,
46 Belleview School, (colored)

47 Jail,
48 Workhouse,
49 State Penitentary.

EDGEFIELD

CUMBERLAND RIVER

Race Track

Pump House
City Reservoir

University

Horticultural Gardens

Court House

City Hall

State Capitol

Upper Wharf

LOWER WHARF

CITY CEMETERY

Depot

Paper Mill

The plan of the City of Nashville published by E. D. KING, was compiled by me from Official Records of the City.

W. F. FOSTER,
Former City Engineer.

Plan of the City of
NASHVILLE
AND VICINITY.

Scale 800 ft. to 1 in.

WARD OR CORPORATION LINES, _____

RAILROADS, _____

STREET RAILROADS, _____

CIRCLES ARE DRAWN ¼ MILE APART.

E. D. KING, Publisher,

Ehrgott & Krebs, Lith. Cincinnati, O.

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From the first volume of the "Nashville Journal of Medicine and Surgery."

THE City of Nashville is built principally upon three high hills, coming in from the country, and approaching, at almost a right angle, the Cumberland river, where they terminate in high precipitous limestone bluffs. The central hill is cut off from its neighbors upon the right and left by two creeks, which discharge their waters into the Cumberland between the bluffs. These creeks have each considerable bottom-land of alluvial deposit extending to the neighboring hills, so that, to an observer standing upon the State Capitol, which is built upon the summit of the central hill, *this* hill, which is shorter and higher than the others, seems to arise from an extensive plain. This plain is the creek bottoms, which separate the hills. Capitol Hill, I have said, is *shorter* than the others—that is, it does not extend so far back into the country, but slopes gently from its summit some six hundred yards back, and terminates in an alluvial plain but little elevated above the lowlands which border the creeks, and which it connects, and thus serves further to give the idea of Capitol Hill having its base in a plain.

This entire plain, with the exception of an isthmus that connects Capitol Hill with the high lands in the rear, (and which itself is not sufficiently elevated to mar the idea of a plain), is subject to overflow at high tides in the Cumberland.

It is, notwithstanding, pretty thickly studded with dwelling houses, and is instinct with a large and bustling population.

Capitol Hill terminates at the river, by a perpendicular bluff of limestone, one hundred and fifty feet in height, the highest point of which is the terminus of the suspension bridge which here spans the Cumberland. This central, or Capitol Hill, constitutes the heart of the city, the streets running parallel with the river descending both up and down the river, from points opposite the mouth of the bridge, until the low lands above and below are crossed, when they ascend again the sides of the hills above and below the centre, or Capitol Hill. The streets through the low lands are constructed on elevated *fills*, passing over the creeks on stone arches. The hill above Capitol Hill, called College Hill, because of being the site of the University of Nashville, is now nearly as compactly built up with fine family residences, &c., as Capitol Hill. The lower hill, called McGavock's Hill, is now being rapidly improved, but is nothing like so densely populated as College Hill.

The river here runs nearly south and north.

Now that portion of the city in the low lands, particularly in those dividing Capitol from College Hill, combines, in an eminent degree, all the elements for the rapid generation of malaria. Twice, in the early part of last year, was the whole population forced to leave that district on account of high water, and the communications between Capitol Hill and College Hill above, and McGavock Hill below, were, for weeks, kept up by ferry-boats and skiffs.

What intermittent fever, and diseases universally recognized as of malarial origin, have prevailed in this city, have been confined almost exclusively to these districts; but the cholera has chosen as its theatre the top of College Hill! In 1833–4, but few houses existed on College Hill, but in 1849–50, the two last years the cholera has prevailed here, it has singled out the very summit of College Hill for its onslaught. I am aware that it has been ingeniously argued that miasm is rolled up a hill by the winds, and may follow the current of wind

from hill-top to hill-top, afflicting those who inhabit them, and passing harmlessly over those in the valley below. But in the particular case to meet which this argument was constructed, the British army in India had selected two heights to bivouac upon, as promising the greatest exemption from miasm. Multitudes were, however, assailed, and numbers, preferring the chances of the valley between the heights, moved below and escaped. But the *sides* of these hills were not inhabited, and the argument was at least plausible that miasm was rolled up one hill to the top, and was carried over the valley to the top of the neighboring hill, leaving the intermediate valley exempt.

But the side of College Hill is densely populated, and upon the malarial theory, those nearest the bottom ought to have been the first to be assailed, and upon the principle of miasm being rolled up the hill, those residing upon the top should have been the last to have been attacked. Whereas, it is notorious that the top of the hill was the first point assailed; and as the disease spread, the side of the hill was involved, and, with the exception of a few scattering cases, the valley was exempt.

With the word *valley*, let no one associate shade or greensward! The *fills* upon which the streets are elevated are from ten to twenty feet in height, and cross the valley in parallel lines. Under and between the fills the creek winds its tortuous course, cutting deeper and deeper the alluvion as it approximates the river. On each side of the creek, and between the *fills*, (each serving as a dam to keep from the river the accumulating filth above), exists a common deposit for every imaginable abomination, which lies rotting, seething, and weltering, in the unobstructed summer's sun. Here, in this hotbed of miasm, rejoicing in the luxuriant abundance of raw material thrown into its very lap by two recent overflows, the last of which had just subsided and left its debris to a fiery sun, when cholera assailed the heights above—here, in this elysium of fevers and fluxes, did the inhabitants, in houses a few weeks before filled with water, and yet festooned with

damp and mould, escape the scourge that was decimating the heights above.

We have said that the river here runs from south to north. This "slough of despond" is, then, nearly due north of College Hill, and the prevailing southern winds would have carried any exhalation arising from it, directly away from the hill, and rolled them up the side of Capitol Hill, facing College Hill.

So much for the valley north of College Hill.

The valley between Capitol Hill and McGavock Hill differs essentially from that we have described. It is broader and cleaner than the other. The creek that flows through it is larger, and, except near the river, has but slight depth of channel. The whole of it, however, is subject to overflow, and a general exodus of the inhabitants, as a consequence, had occurred but a month prior to the outbreak of cholera here in June last (1850). The houses were yet wet from the recent overflow, while cholera was ravaging College Hill; yet the inmates had returned to them, and, like their neighbors "over the hill," were rejoicing in an exemption from cholera.

It was late in the season ere a single case of cholera (I mean by a "case," a death,) occurred in the lower valley. It then assailed Mr. M.'s family, near the slope of McGavock's Hill, and destroyed some three or four of its members. There were also a few cases in that densely populated portion of this valley traversed by lower College street. But even on lower College street, where it passes through by far the most filthy portion of this valley, and where every house had been submerged the month before, there was not one case to ten among the same number of people that occurred near the Public Square, on the central, or Capitol Hill.

It may be inquired if there be not sources of malaria on these hills. We answer, that we are not acquainted with any region whose topography indicates so complete an exemption. Every rain sweeps off all accumulations into the valleys which flank the hills, where a portion of it escapes into the river, by

means of the creeks, and the remainder is kept "on deposit" by the *fills*.

The only street in the valley, between Capitol Hill and McGavock Hill, running at right angles with the river, and near the borders of the creek, is Crawford street. It is unpaved, without sidewalks, and is, perhaps, the filthiest street in the city. All the houses on the street were submerged during the overflow, yet upon this street but a single case of cholera appeared.

Line street is next to, and runs parallel with Crawford, and is upon the side of Capitol Hill. This street ascends as it passes along the side of the hill, and attains its greatest altitude opposite the capitol. It then descends, and is lost in the valley beyond. Of course all that portion of it in the valley is subject to overflow. That portion on the hill side, not subject to overflow, is well paved, while the end in the valley is neglected and dirty. On that portion of Line street on the side of the hill, not subject to overflow, and from whence all the elements of malaria would be washed by every rain down to Crawford street below, no less than forty persons died of cholera in June and July last, whereas on that portion of Line street that extended into the valley, not one died! Nay, the most fatal section of Line street was precisely its highest point. One family, upon the highest point of Line, and upon the upper side of the street, lost seven members.

If these facts, known to be such by all the practitioners of the city, are reconcileable with the notion of the miasmatic origin of cholera, I have not another word to say.

This we wrote for a paper on cholera, prepared by Dr. Dorris, of this city, and published in the first volume of the *Nashville Journal of Medicine and Surgery*. Since 1850, Cedar street, which passes from the Public Square by the southern side of Capitol Square, has been improved for about a mile west from Capitol Hill. At the bottom of the hill it is subject to overflow, and out to the west end of it, to the Char-

lotte Pike, it runs parallel with Cockrill's Creek, and about fifty yards from it. The creek crosses the street at its western terminus, and hugging it pretty closely for a mile, till, striking Capitol Hill, it leaves the street to the right, to pass directly over it, to wind itself along its base, and divide the low land between Capitol and McGavock Hills, and after appropriating the water from "Judge's Spring," and that of the great French Lick, it empties itself into the Cumberland. Parallel with Cedar street, and north of it, is Gay street, which lies north of Cockrill's Creek, so that the creek flows along between these two streets till, in the bottom, it cuts southwardly, through Gay street, and also Line street, to the north, and parallel with Gay.

Commencing opposite the Medical College, a hundred yards from the river, from Priestly street, is Fillmore street, which runs along a ravine that partially divides College Hill from Rolling-Mill Hill, about fifty yards from and parallel to the precipitous bluff of the Cumberland river, upon the highest point of which are the Water-works. Between this bluff and the river, above the Water-works, is an extensive bottom.

All of our physicians know that what few cases of intermittent fever they meet with in Nashville, exist on Cedar street, Gay street, beyond Clay, and Fillmore street, beyond the Reservoir, and in the low lands above mentioned. We have, in the last few days, asked our oldest and leading physicians how many cases of intermittent fever, originating in Nashville, would they average a year during their practice here, and not one has said he would average more than one a year, and this one would be in one of the localities indicated,—Cedar street, Gay street, or Fillmore street. I have never seen a case in the city proper, save in one of these localities.

If intermittent fever does not point out the presence of malaria, I do not know what does; and if the people of any district are strangers to intermittent fever, to pretend that malaria exists there, notwithstanding, is a base prostitution of medical language, for which no one can have any respect—a man being the only miasmatometer known to science.

McGavock Hill is partially cut in twain by McGavock's Spring branch; and along the margin of this branch, and on the slopes on either side of it, the few families that live there have chills every year; but this is outside of the Corporation.

Nashville has the best natural drainage of any town on the continent. Every drop of water that falls upon College Hill finds its way either to Brown's Creek, to the south, or to Wilson Spring branch on the north, both of which go, with rapid currents, to the river. Spruce street in part, and Vine street in part, form the back bone of Capitol Hill, which stretches back to Fort Negley, the most elevated point in that animated and picturesque panorama which surrounds the city, while the head, on which this back-bone suddenly terminates, constitutes the site of our magnificent capitol. On each side of this ridge are many springs (Wilson's being one), whose branches find their way into the larger streams which divide the low-lands on each side of Capitol Hill. These streams drain thoroughly the north side of College Hill and the whole of the south side of Capitol Hill. The north side of Capitol Hill plays water-shed to Cockrill's Creek or Lick Branch, which also receives the water from the south side of McGavock Hill, while the north side of this hill is a part of the water-shed of McGavock Spring branch.

Such is a hasty but sufficiently accurate representation of the topography of the site of Nashville.

The late epidemic began here during the last days of May, at the culmination of the Exposition furore. The city was crowded to suffocation, and the trains from everywhere to everywhere burdened with human beings, coming to or going from "the show." Suddenly, on the last week of May, physicians would stop each other on the street and inquire, with long visages, "Anything strange in your practice?" "Well, we always have cholera morbus here in late spring," I said to many who asked me this question. The people began to whisper of strange cases, ending in death, they had heard of. About this time the regular monthly meeting of the City Society came on (June 3rd), and the subject of cholera was ven-

tilated. We presided at the meeting, and agreed with all that no cholera was in Nashville, and an account of the meeting was reported to the city papers. Still the enquiry was ever returning, go where you would, "Is there anything suspicious in your practice?" Mr. J——, No. 110 N. Summer street, in the very heart of the city, had diarrhœa on the 26th of May, on the 29th had vomiting, cramps, and colliquative diarrhœa, and died.

On the same day (May 29th), Mrs. Johnson, colored, living on Front street, near Dickey's mill, took a purging at 2 p. m., quickly followed by vomiting and cramp, and ending in death at 4 p. m. This produced great consternation in that neighborhood.

The death of some negroes near Hackberry Spring, between Market and Front streets, in the low lands, was reported about the same time.

On the 1st day of June, a little white girl, who staid at a fruit stand near the post-office, in the centre of the city, sickened with diarrhœa, and went to her boarding-house on Union street, between Summer and High, where she had vomiting and cramps, and was soon in a state of collapse. I saw this case with Dr. Hughes. She died in a few hours.

On this day, a colored woman died with the above symptoms on High street, near Broad. She was seen by Dr. Menees.

On the 4th of June, Mrs. J—— and child died at 166 N. Summer street. This is near the centre of the city.

During these first days of June, Dr. McMurray and Dr. Stephens reported several cases to me in the neighborhood of the brewery, on High street, and the region beyond. I visited one there with Dr. M. The patient was a stout laboring man, 63 years of age. He had no pulse, was cold, and bedewed with a slippery fluid. His eyes were sunken, and his hands sodden and corrugated. He was perfectly intelligent. Had eaten cabbage and potatoes, being perfectly well. Shortly after purged and threw up—potatoes, as he swallowed them, passed through him. He had had cramps, and had passed no water for six hours. Dr. McMurray had seen him, and or-

dered medicine, some hours before, but the old man had not sent for it, and had taken nothing. He died a few hours after.

Up to this time I had doubts about cholera having our devoted city in its grasp. I doubted no longer. This man died of cholera.

On the 7th of June and following days, the city papers got as correct a report from the various undertakers as it was possible to procure, which we give below, as follows, from the *Union and American:*

PROGRESS OF CHOLERA IN NASHVILLE.

There were a few cases of what, it is now clear, was cholera, in Nashville, during the last week in May and the first week in June, of which we have no record. Our record begins with the 7th of June, and shows the daily mortality of the pestilence to be as follows:

DATE.	WHITES.	COLORED.	TOTAL.
June 7	11	10	21
8	8	10	18
9	7	11	18
10	5	6	11
11	6	9	15
12	7	4	11
13	5	10	15
14	2	10	12
15	10	15	25
16	4	10	14
17	20	24	44
18	11	21	42
19	8	22	30
20	23	49	72
21	20	39	59
22	22	31	53
23	11	26	37
24	10	19	29
25	12	13	25
26	7	17	24
27	10	10	20
28	5	7	12
29	8	16	24
30	4	6	10
July 1	8	8	16
Total	244	403	647

In addition to these, a considerable number of negroes died in the suburbs, and were buried in vacant lands near the city, by parties of their own color, without applying to our regular undertakers. We have heard of fifty-three being buried in one place; not more than one-fourth or one-third procured coffins from the undertakers. The cases thus occurring, of which no account is had, added to those who died previous to the 7th of June, will, it is thought, bring the number fully up to 750, thus showing that the mortality of this year has been fully equal in number to that of 1866, while the death-rate, according to population, has been considerably larger.

We may call this pestilence by whatever name may suit the fancy, but the record shows that it has been more virulent than that which scourged our city so terribly in 1866. Thus we find that, from the 7th to the 30th of September, in that year, both days inclusive, the number who died from cholera was 659. This year, during the corresponding days in June, there were 631 deaths from cholera, of which the undertakers have a record, and then we know of from thirty to thirty-five negroes buried at one place who are not included in any undertaker's count. This clearly shows a greater mortality this year.

The epidemic was not preceded by premonitory diarrhœa, or cholerine. There was no complaint of diarrhœa among our citizens during the first week in June. Like the people of Pompii, they were in a high state of enjoyment when the smoke that adumbrated the explosion of the volcano hovered above them. Their country friends were sojourning with them; hotels and boarding houses were crammed; green grocers were active in receiving vegetables from the South, and exchanging them for fractional currency, while visions of strutting in a bank to clarket their cash accounts, made their eyes dance in a delirium of happiness. "Italia's black-eyed daughters" thronged the streets with violins and harps, and all public places were flooded with gas-light, and were animated with music. The Opera House, long silent as an oyster, was lighted up in her holiday habiliments, and sent forth song that reminded us of Jenny Lind, and the cormorant Barnum hawking tickets to the last moment for the last dime he could get for the last seat—"only one more, gentlemen!" Nashville was looking up—was going to have a Fifth National Bank and two more dailies. Real estate agents saw,

in their mind's eye, corner lots, in Jones's addition, going off like hot cakes, and had bought a couple with their profits, built large store houses upon them, and were "taking stock" with the promise to the public, on a tin sign, to "Open next Wednesday." Young men felt able to marry, and did marry, and George, with his beloved, could be seen at furniture stores, selecting the garlands of the honey-moon. People were really glad to see each other, as well as themselves, in the mirrors of shop windows. When, boom! The minute gun at sea!—"Doctor, Bettie has the whooping-cough! Do you not think I had better send her to the country with her mother?" "By all means." Next day papa was with Bettie, and the halls that were brighter than Tara's, on last evening, are as dark as Egyptian midnight on this. What of the little Italian harpist! Ah! we swung corners with him in the valley and shadow of death for forty-eight hours, and ten days after we had, at midnight, a serenade from the whole band, when the soul-force of the corps poured itself, in gushing song, upon the night,—the largest fee we ever secured. True, it could not buy a house; but a house could not buy that.

But while diarrhœa was not general, was it not prominent in individual cases—the music of the rattle before the poisoned fang festered in the vitals! In a few, not many, cases, this was so. Miss H——, aged 11 years, a fine healthy child, plump and ruddy, living on North College street, near Capitol avenue, retired to rest, on the 23rd of June, in perfect health, and arose, at 6 o'clock on the morning of the 24th, in the same condition. At 7 o'clock, an hour after she arose, her call to evacuate her bowels was so urgent that she could not run out, but squatting instantly upon a chamber, nearly filled it. I saw her in twenty minutes after. Rice-water was running from her bowels as she lay, and she threw up a similar material just after my arrival. Cramps now seized her, the pulse glided from beneath the finger, the skin was cold and damp, and she died in six hours after the first operation. This child had eaten twelve peanuts on the preceding evening; she had been otherwise rigidly dieted. There were cases, how-

ever, where diarrhœa had existed for days before vomiting and collapse.

WHENCE WAS IT?

We are under no special obligation to show how cholera came to Nashville, and we do not assume that it had or had not been at New Orleans or Memphis before we were honored by its presence. We believe, however, that cholera was at New Orleans, on the coast, and at Memphis, before it came here. We believe that no town on the American continent can originate cholera. That this may be so hereafter we think not impossible. Man himself, and all that has afflicted him, were of Eastern origin; not only the star of empire, but the pestilence that wasteth at noonday, westward holds its way. The small-pox and its congeners, measles and scarlet fever, came from the East, and for centuries the anxious eye of parents turned instinctively to the East at the bare mention of these dread words. Like cholera in modern times, the malign trio, every ten to seventeen years, swept through the land, uglifying, crippling, and killing the population. Now neither doctors nor people bother themselves as to whence they come or whither they goeth. They have doubtlessly become domesticated, Anglicised; and so cholera will finally be classed among the ordinary diseases of the country. While art has suppressed the explosive violence of one of the trio, the small-pox, our profoundest thinkers believe that the loss of power in one to damage the human family is made up by an increase of that of another, the scarlet fever, and that the past bad eminence of the one is to distinguish the future of the other. Cholera may become domesticated without losing any of its malignity.

Be this as it may, it comes to us now from Asia. Precious little is known about it. We know that its geographical prevalence is co-extensive with the habitable globe. But to the question why (and this is common to all great epidemics) it should delight to linger and destroy at one place rather than another, when so preëminently cosmopolitan, our science offers

no answer. To appeal to waters, or geological formations of particular areas, in explanation, is only ridiculous; and that made to exhalations from vegetable matter, "living, dying, or dead," or gasses from the earth, air, or water, or all, through solar heat or otherwise, the most unsatisfactory of all—for these things exist only in definite places, in definite seasons of the year; while no one has to learn that cholera exists, by turns, everywhere, and at all seasons. If it goes, as Frederick the Great said of an army, "upon its belly," has its poison elaborated in the body of a man, to be discharged from it with characteristic evacuations, the mystery about its manner of travelling disappears at once, and it seems to us difficult for any one to study this theory, with the facts recorded in illustration, without adopting it.

Railroad trains might scatter the discharges of a cholera patient on board, through a hundred miles or more. We can imagine a countryman crossing the road thus sown with cholera, and becoming poisoned, going home and dying of cholera, to the consternation of the neighborhood.

The first case of cholera I ever saw was in a negro woman, living on the Kentucky and Tennessee State line, in the centre of a wilderness. She died, and two of her fellow-servants died the same day. A public highway passed near the house, and the next day some emigrants, nine miles farther on the same road, were seized with cholera, and three of them died in a barn on the roadside. I also attended these, and the next day was seized myself and barely escaped.

The cholera being on this continent, with continuous lines of railroad from San Francisco to Galveston, and from ocean to ocean, it is not difficult to imagine how its seeds might be sown at thousands of places, while thousands of other places would escape. The very language employed by the ancients proves that the idea was familiar to them, of disease coming down upon a people, like the contents of Pandora's box, just as we see is the case with cholera to-day—*epi demos* upon the people; not from man to man, but upon.

No one pretends here that the disease entered the city like

an invading army, at one point, and diffused itself through it, for all our physicians know that the facts concerning the irruption of the disease here are just as we have stated them—the facts being, indeed, obtained from them. Every ward in the city, about the same time, offered up one or more victims. The disease *fell* upon them. The seed-cloud had spread itself over the city, and sifted its destructive missiles upon its population. Those who received the missiles in their bodies were more or less affected, according to their susceptibilities—very many of them, possibly, not so much so as that their bodies became, in turn, elaborators of cholera germs, to go up by sunlight, and fall, as their predecessors, upon the people.

That these germs are under the influence of a law that ensures them a vitality only for a very limited period, would seem probable, from the fact that the disease can only keep itself alive but for a very short period at any place; or which would seem more probable, the people at the points assailed rapidly lose their susceptibility to the power of these germs, if, indeed, it is not true that a very trifling per cent. of any population possess any susceptibility whatever. All people cannot be successfully vaccinated, and many will not take small-pox when exposed to its contagion. But few children seem susceptible to the power of scarlet fever, while almost every one takes influenza.

Providence has seen to it that epidemics are not to depopulate the world, and to do this it was necessary to secure a large exemption by withholding inherent susceptibility. This important truth is illustrated by the fact that opposite modes of treatment secure about the same results; or, to state it more accurately, the result is conditionally predetermined and inevitable, and in defiance of what art attempts to achieve, save by hygiene; God here, as elsewhere, helping those who help themselves.

That our cholera was not contagious is proved by the fact that no physician or professional nurse took it, and our first cases were among those who had been living quietly, for a long time, where assailed. This epidemic, then, was not con-

tagious—the precise conclusion of Dr. Drake concerning the cholera that prevailed at Cincinnati in 1832. Nor here, as there, had any particular part of the city a disobliging preference shown it. He says, "That it was not introduced from abroad, either by persons or things, is now universally believed; and I may add that, during its whole continuance, not a single fact occurred that went, in the slightest degree, to establish its contagious character. * * * Nor had miasmatic localities any apparent agency in its production, for it appeared in all parts of the city, high and low, thickly and thinly peopled, clean and dirty, nearly all at the same time." All this was preëminently so here.

We can, in perfect truth, say of our epidemic what Drake has recorded of his. Man here, as elsewhere, employs himself to find some one to find fault with; somebody, or something controlled by somebody, did it. At Cincinnati, there were twenty-one cases of well-marked cholera occurring between the 30th of September, 1832, and the 8th of October following. These cases, all ending in death, and given in detail by physicians, with name and place, sex, nationality, race, and social position, all happened before any *person*, with cholera, had arrived from the cholera district—then the valley of the great lakes and the St. Lawrence river. This is a clear record, now forty-one years old, from the pen of by far the greatest medical observer America has ever produced.

But on the afternoon of the 9th of October, 1832, a European, who had left Kingston, in Upper Canada, nine days before, and, crossing the State of Ohio from Cleveland, on the lake, by canal to Portsmouth, one hundred and twenty miles above Cincinnati, came from thence to the city on a steamboat. Down the Ohio river he was seized with cholera, and arrived at the quay of Cincinnati with what was conceded to be that disease, upon him. As the record does not show that he died, but only that he had cholera upon him, the presumption is that he did not die. But from that day to this, contagionists and favorers of quarantine regret that that poor fellow could not have been kept away from Cincinnati, though twen-

ty-one people had died of unmistakable cholera before he arrived there. And so they have already begun here.

Every one of our physicians agree that nobody did come here from any place, and die with, or recover from cholera, neither before our cholera commenced, during its progress, or since its departure. The great trouble with our doctors, in the beginning of cholera here, was, that the coming man didn't come. Parties to medical opinions diametrically opposite, all agree in this, that none of our citizens returned from a journey home, and had cholera, and that no one in the wide world came here with it from any where; and yet a flying medical peripatetic, sent, he says, from Gotham, knows, of his own "personal knowledge, that cholera was conveyed from New Orleans and Memphis, by steamboats, to Louisville and Cincinnati. I have also very positive information that cases were brought by railroad to Nashville, and died there." How he had personal knowledge that cholera was carried by steamboats to Louisville and Cincinnati, from New Orleans and Memphis, is incomprehensible. As well might a wild goose, after "honging" her way through the clouds from the lagoons of Louisiana to the sources of the Mississippi river, pretend to have collected and arranged, *en route*, the ornithology of the interior valley of North America. And as to his "very positive information that cases were brought by railroad to Nashville, and died there," we can apply no milder term to it, than that it is a sheer fabrication. One of our most distinguished physicians gave him a correct history of the advent of the disease here, assuring him that it had not come here through persons from anywhere. We will show, in the proper place, that his other cholera assertions about Nashville are equally unfounded and unreliable.

Had any stranger come here with cholera, it is impossible that all of our physicians should have been ignorant of the fact; and had one of our own people returned from a visit to infected places, and sickened, surely some one physician among us must have known it.

The cholera, then, of 1873, at Nashville, was not brought

here by persons or things, any more than was the cholera of 1832 carried to Cincinnati by persons or things; but, in both cases, the germs being in the air, passed over large districts of country, without injury to them, to fall finally upon the populations of these cities. It is not strange that these germs should be attracted by the murky atmosphere of crowded cities, and not by that purified by the foliage of trees in country places. City atmosphere, all know, is extremely prejudicial to malaria, which creeps away from crowds, and exercises its powers on the thin-spread inhabitants of the country. Now as city air has power to repel malaria, there is nothing illogical in the conclusion that it may attract the poison of cholera. It is only by conceding some such law that we can account for such facts as notoriously exist in association with the freaks of cholera.

PREFERRED SPOTS OR PLACES.

In the beginning of the epidemic here, as in that of Cincinnati in 1832, no preference was shown for localities. High places and low places, clean places and dirty places, were alike assailed. But, as the epidemic influence deepened, and the angel of death reached farther, and with a longer and keener blade, then all could see that wherever were poverty and destitution, the howl of anguish was loudest. If colored humanity suffered most, as all know was the fact, it was that portion of our colored fellow citizens who were crowded into noisome shanties, whether these hamlets were on the hill top, as Rolling-Mill Hill, or on the low valley of Sandy Bottom, the heights of New Bethel or the flats of Trestletown. But the truth is, the high hill selected for a fort by Union Generals during the war, on Tunnel street, or Granny White pike, in the neighborhood of the Rev. Mr. Ament, being thoroughly drained, but with a miserable colored population, suffered ten times more than any village of shanties in the low grounds. Says the Rev. Mr. Ament, in a letter to ex-Mayor Verbeke, of Harrisburg, Pennsylvania, published in the *Patriot* of that

city, "In my neighborhood, more than two hundred have died since the dread angel of death first spread his dark wings over it."

Since the above was written, I have visited New Bethel and adjacent villages of shanties. The ground is higher than the heights occupied by the reservoir or the State capitol, and consists of about two hundred acres of as finely-drained highland as exist in the State or out of it. I visited it with Dr. Currey, of this city, among the most distinguished of our physicians. He was born on the spot occupied by Fort Morton, two hundred and ninety-five feet above Cumberland river, and the territory of New Bethel was the play-ground of his childhood. He never so much as heard of a chill and fever on that great elevation and adjacent highlands, and yet nearly, if not quite, half of its population died of cholera from the 20th of June last to the 10th of July, or in *twenty days*. We visited the residence of the venerable Colonel Ament, who gave us chapter and verse for his published account of the two hundred deaths in his immediate neighborhood.

Let this well-verified mortality, in a locality where malaria was never heard of, settle forever the antagonism of the causes of cholera and intermittent fever.

This number is about one-fourth of the entire mortality.

We have taken the pains to have the mortality of regions subject to intermittent fever definitely ascertained by reputable physicians, by repeated visits to the localities since the subsidence of the epidemic.

Cedar street, from the foot of Capitol Hill to where it ends on the Charlotte pike, where Cockrill's Creek crosses it, a distance of three-fourths of a mile, lies on the bottom land of, and parallel with, the creek. The street is not provided with side-walks, but was once Charlotte pike, and is McAdamised. Both sides of it make a very respectable show of family residences and store houses, or retail family grocery houses, many of them well built and sightly; many buildings of a better class have gone up upon it the present and past season. The upper portion of this street is to a greater extent infected with

intermittent fever than any portion of Nashville; the lower part, as it approaches Capitol Hill, less so. There were four cholera deaths on this street; but upon that portion of it most subject to intermittent fever, not a single death occurred.

The street parallel with Cedar, on the other side of the creek, Gay street, having a handsome, well-built village upon it, was not afflicted with a single cholera death. The case reported for Gay street, and so marked, I ascertained myself, neither lived nor died upon that street, but did die somewhere on the low grounds not far off.

The next place most subject to intermittent fever is Fillmore street, beyond the reservoir. This street reports two deaths from cholera.

Rolling-Mill Hill lies between Fillmore street and the precipitous bluff of the river, a rocky hill densely populated with colored people in shanties. Dr. Bailey, who was long hospital physician in the neighborhood, tells me he was familiar with what sickness they had in this village during a period of four years, and that he had never known a case of intermittent there. During our late epidemic, this hamlet was known as Rolling-Mill village. Twenty-one died of cholera there, in a population of three hundred. A fine residence fronts this village, on the west side of Fillmore street, on an eminence higher than Rolling-Mill village—nay, higher than the reservoir. Two died of cholera at this house, who could not have contracted it anywhere else.

Thus it is shown that those localities subject to intermittent fever, our epidemic avoided in a striking and unmistakable manner, as was the case of all the choleras which preceded it here. Indeed this, after the first visitation here, ought to have been looked for ever after.

Of all the towns, from the lakes of the north to the Gulf of Mexico, Nashville is undoubtedly freest from malaria; and of all the towns in the same area, demonstrated the greatest *aptitude* for cholera at its first visitation. No wonder that this exalted aptitude should have been referred to dirt, to springs, &c., but how any one should look to malaria as a cause, surpasses all understanding.

Columbia, forty miles south of us, upon the Duck River, with its annual chills and fevers, was never visited by cholera, while Lebanon, amid her majestic cedars, and as innocent of chills as the heights of Kamskatka, is terribly scourged by it.

When it is remembered that cholera shuns the country, where malaria abounds, to prey upon cities that suffer but little from malaria; and again, that those cities most exposed to malaria, as Louisville and Clarksville, enjoy the greatest exemption from cholera, together with facts recorded above, going to prove that it has ever dodged malarious districts here, the conclusion is logical—I had almost said indisputable—that the *absence* of malaria here explains the ravages of our fair city by this pestilence that wasteth at noonday.

Cholera infantum is fearfully like cholera in its symptomatology and fatality. It exists almost exclusively in large towns, where there is no malaria, unless generated there by that sum of all follies, underground sewerage. In a slower form, under the name of "summer-complaint," all writers and practical observers agree that there is no remedy for it like country air—that is, malarious air. It acts like a charm. This truth, to say the least, must be regarded as suggestive.

We have mentioned above that McGavock's Spring branch is in a ravine that partially divides McGavock Hill. This is not at present in the Corporation. We have attended several families near this branch with chills—one family last year with five members of it down at once, and another of six members, all of whom have suffered with chills. We believe, out of the few houses fronting this branch, though some of them are a hundred yards from it, and sixty feet above it, not one has escaped intermittent fever among its inhabitants, any year since it was built. In this valley, commencing at the barracks and ending at the Horticultural Gardens, its entire extent, not one died of cholera during the late epidemic. But reaching the brow of the valley, and descending the slope on the north side, which has a natural drainage that secures it from intermittent fever, you pass over a region in which the death-rate from cholera, in June last, was appalling.

Now in the face of these facts, known to be such by our entire thinking population, does it not seem hard that the very opposite will go into history, and be believed and quoted for a thousand years?

Says Dr. Peters, (who came here on a flying visit from New York, to pick up cholera items,) in his report to the New York Board of Health, about Nashville: "The cholera was almost exclusively confined to the outer limits and low portions of the city, and carried off hundreds of those living near the small streams, or so-called branches, licks, and runs of water, especially lick branch, upon one side, and Wilson's spring branch upon the other."

We have shown that the terrific mortality in the hamlet of New Bethel, which carried off nearly half of its inhabitants, occurred in a high and dry region, thoroughly drained, and no branch or run in a mile of it. Also that of Rolling-Mill Hill, with no branch or run near it, except the Cumberland river, and that separated from the village by a bluff of rock two hundred feet high. Lick Branch (generally so called here) is Cockrill's Creek, which, on its way to the river, receives the Judge's Spring branch (one of the finest springs in the world), and two hundred yards below, and three hundred from the river, swallows up the Lick branch, from a glorious sulphur spring that bursts out on the side of the creek, and, a few yards below, mingles its delicious waters with those of the creek. This is the creek that runs between Cedar and Gay streets, and we have shown that there were but four deaths (and we now add that two of these were babies) on Cedar street, and none on Gay street, as far as it runs parallel with it to Clay street.

Gay street is the north border of Capitol Square, and opposite the capitol, and within a stone's throw of it, is one hundred feet above the level cut by Lick branch; it then descends, crossing Vine, Spruce, and McLemore streets, into the low lands, and crosses Lick Branch, or Cockrill's Creek, and continuing through the low lands, mounts higher land at Clay street, and is pretty well improved from this point as far as it

goes. Where it passes down to Cockrill's Creek, and just before reaching and a little beyond it, are shantied hamlets, inhabited mostly by colored people. Here were nineteen deaths from cholera, and these are all the deaths that occurred from cholera (adding the four on Cedar street, which runs parallel with the creek,) from the beginning of Cockrill's Creek, at Cockrill's Spring, at the Fair Grounds, two miles out, to its confluence with the Cumberland River.

And on Wilson's Spring branch, taking in a territory of a hundred yards on each side of it, from the spring to the river there were six deaths from cholera.

Hackberry Spring is near Wilson's Spring branch, between Market and Front streets. Near this spring lived Mary Payne, colored. She was the first to die of cholera in this epidemic. Being in good health, she washed all day on Wednesday, the 28th of May, 1873. On Thursday morning, the 29th, at 3 o'clock, she was seized with diarrhœa and vomiting, collapsed, and died at 11 a. m. Sick eight hours. In the immediate neighborhood, and on the day Mary Payne died, Mrs. Patterson, colored, who had been with Mary Payne, took sick with diarrhœa, which continued through the 30th and 31st, and on the 1st day of June she had vomiting and cramps, and going into collapse, died. On this day Jim McKisic, who had seen Mrs. Patterson in her sickness, and lived near her, was seized with similar symptoms, and on the next day (June 2nd) died. On this day a colored man at the same house was taken at 5 a. m., and died at 9 p. m. This is the great mortality of Wilson's Spring branch.

Peters' report, a tissue of misrepresentations from beginning to end, will figure in sanitary science hereafter, and serve a purpose for ring-makers and job-hunters. Here is the naked truth, that contradicts everything he says; but what will that amount to, when, with the money collected from the solid men of Gotham to put more money in the pockets of some of them at the expense of others, a palpable contradiction of truth will be sent to the four winds of heaven, and by them kept in motion for ever.

This wandering collector of cholera items shows, by certain expressions, that he is in the service of a ring. The italics I put in the quotation are mine, and I make them to show what I state above: "At Nashville, the *localizing causes* were so extended and apparent, that no importation of the disease was looked for or generally believed in." If it wasn't looked for, how could it be generally believed in? "They are so patent" (these localizing causes) "that they force themselves upon every one's attention." Now these localizing causes, if they mean anything, mean filth. Dr. Peters leaves the impression that filth in Nashville is lying piled up all around, and everywhere, when I assert, without the slightest apprehension of successful contradiction, that there is more filth, this day, on Broadway, in the city of New York, than there is in the entire city of Nashville. And further, I believe this day, July 28th, 1873, that it is the cleanest city upon the American continent, having been washed yesterday, by a great rain, as clean as a bride's face.

The truth is, Nashville has been lied upon and belied so long that half of its population believe that they are living up to their eyes in filth, and employ not a little time in cursing the authorities for not giving them a cleaner city. Sometimes they vent their pent-up spleen upon the swine, for contributing their part to nastying up things, and the hogs are voted to the work-house, where, refusing to work, they are worked upon, and disappear from human view; then, as the hogs are all gone, there is no use for a hog-law, and the law is repealed; and then, somehow, the hogs all come back again, and are seen as busy all day, eating watermelon-rinds, wasted peanuts, and cast-away apple-cores, as if they were paid so much a day as scavengers. Presently Mr. hog, by economy and constant application, gets into a good condition, and he awakens visions of ham-gravy wherever he goes. Then his scavenger service is forgotten, and the cry of "down with the hog!" is raised along our thoroughfares.

N. P. Willis, "the literary fop," said, when speaking of mowing lawns, that sheep were cheaper than folks, for after

Mr. sheep had done the mowing, you could settle with him by eating him. Ah! filthy Nashville! Sewer, screw her, and renew her, till she is purer. Give her insides, that she may have bowels of compassion for her poor cholera-bedeviled citizens. Then the Gospel of soap and water will foreshadow her millenium. Wash well her outside, and pour the soap-suds down her inside, and let them deposit their solid filth in the convolutions of her bowels, to belch up such stinks upon every vibration of the atmosphere, as would amaze one not accustomed to it, like myself, who, having a hole at my office door, to let the surface-water of the street into a sewer, reaching to the river, have the advantage of a mile of concentrated stink, composed of such a combination of gases as would bewilder a chemist.

We said to the man, when preparing that nuisance under the supervision of a street committee-man, "What do you want to tap that infernal sum of all villanies and depository of mingled stinks right at my door for?" "I want to let the water from the gutter, along the east side of High street, into the great sewer." "But you can't let the water in without letting the stink out. Why not let the water run along the gutter down hill to Summer street, through Union; down Summer to Cedar, down Cedar to Cherry, and down Cherry to Lick branch, and clean the gutters with its torrent, instead of losing the great cleanser here, and sending forty carts and spade-men to clean out these gutters by force of muscle. Why don't your folk of the Board use more brain and less muscle?" "I suppose," said the man, "because they have more muscle than brain."

The cholera, then, was not brought here by man, nor kept here by filth, so that Nashville could no more, unaided, get up this slaughter than could Diogenes lift himself, by the handles of his tub, forty feet in the air.

We have just returned from Fort Gillem. It is one of the villages upon the outskirts of the town. The plateau upon which it stands is of the same elevation as that of the water-works. It embraces the territory around Fort Gillem, from

the Northwestern railroad to Jefferson street, extended, and from Harding's spring to Clay street, east. The site of the village embraces five hundred acres of ground. The inhabitants number fifteen hundred, two-thirds of whom are colored. The houses are generally comfortable, and many of them substantial brick dwellings. The natural drainage is perfect, and the intermittent fever unknown. The loss from cholera here was about one and a half per cent. Dr. Brooks (who resides there), the editor of *The Working Man*, assured me that, in his opinion, the population of Fort Gillem were the most industrious, sober, and orderly, of any villagers in the United States. The Fort, around which the village is built, is nearly of the same elevation as our capitol, and is about one mile and a half from it. The four Forts—Negley, Houston, Morton, and Gillem—all occupy great elevations; the three first named being south of the capitol, and Fort Gillem to the west. These were the nuclei around which negro villages naturally formed during the war; New Bethel, lying about and between Fort Houston and Fort Morton, being called, until very lately, "Contraband Camp."

HOW WAS IT FOR HIGH?

It loved the high places, and the clean places—clean because high—and did not flourish on runs, or licks, or branches. Thanks to the faithfulness of the reporters of our city papers, we have before us irrefragable evidence of the correctness of this statement. The name, sex, race, and place of residence, of each victim of the remorseless invader, is given for each day. This record, and a map of the city, are before me. We have given a few of the first deaths that occurred; that of Mary Payne, on the 29th of May, being the first, as all of our physicians believe. We made diligent inquiries of her intelligent neighbors. She had been living quietly and industriously where she died, for many years. She died in eight hours after the first symptom. She lived near the mouth of Wilson's Spring branch, near the river, and it was this death, and those

in the immediate vicinage, that gave that "branch" an infamous celebrity, which was subsequently intensified by the death of two estimable ladies, higher up, and in a well-improved portion of the city, but within a hundred yards of this "branch."

The record of deaths begin on the 7th of June, and we copy from the record the places where, and the names of all who died of cholera on that day:

1. Mrs. Rose, corner of Spruce and Fogg—a clean and elevated portion of the city, well drained, and not within half a mile of any "branch."
2. L. P. Cook, Ewing avenue—high and clean, and well drained.
3. Charles A. Payne, Park street—the street on which is the great carriage entrance to the grounds of the Capitol, one of the highest and best improved streets in the city, consequently clean and well drained.
4. V. Otto, corner of Jackson and Market streets—ground not very high, but a hundred feet above the bed of the river; clean, and well drained.
5. Miss C. Ullan, corner of High and Ash streets—an elevation nearly equal to that of the reservoir or the University, from the entrance gate of which Ash street leads; clean, and thoroughly drained.
6. Miss Hamilton, Rutledge Hill—the hill on which the University stands, the highest and cleanest in the city.
7. Patrick, son of P. M. Ryan, corner of South Union and Spruce—high ground, well improved and drained, and remote from streams.

This was the first day's cholera report, which was mixed up with deaths from other causes, making eleven whites in all; but we have above separated the cholera deaths from the others. All of them, except one, occurred on high ground, and dotted an area of three miles in extent. The other, though not on high ground, is not on low ground, and is remote from "runs," and in a well-built portion of the city.

We give now, on the same day, the cholera deaths among our colored population:

1. David McEwen, Murfreesboro' pike—the portion of this pike just beyond the city limits is very high, and the adjacent country well drained.
2. Monroe Hadley, North Summer, below Line street—this borders on the low ground through which runs Lick branch.
3. Stephen Wilson, Line street, portion not mentioned—the street is high, except where it crosses Cockrill's Creek.

4 and 5. Two colored women, names unknown, near Wilson's Spring—Wilson's Spring bursts out of a limestone bluff.

6. James Bunch, South Summer street, exact locality not designated—the greater part of this street runs over high ground.
7. Child, six months old, place not given.

Of these seven, one only is known to be from low land; but like the whites, the deaths come from all parts of the city.

June 13th.—The following white persons died:

1. Mrs. Hosse, German, South Summer street—elevated ground.
2. Jno. McCormack's child, Gay, below McLemore street—low ground.
3. Maria Allen, Gay street, no number given.
4. Mrs. McFadden, West Broad street—high ground.
5. Mrs. McFadden's child, West Broad street—high ground.

June 13th.—The following is a list of colored persons who died this day:

1. Sydney O'Neal, corner of Summer and Monroe streets—high ground.
2. David Hadley, North Front street—not high, but well drained.

3. David Isor, Thirteenth District, near the northwest limits of the city—high ground.
4. Jo. Davis, Franklin pike—high ground.
5. Delia Martin, corner Line and McLemore—bordering on the low ground.
6. Eli Dodd, Cherry street, south of Broad, no number.
7. Woman at the Work-house—high bluff of the river.
8. Sarah Brown, Criddle street—low ground.
9. Lewis Williams, near the Howard School—high ground.
10. Child of Henry Rankin, locality not designated.

June 20th.—The following persons died on the 20th, the day of greatest mortality:

WHITE.

1. James Hinton, South Cherry street, number not given.
2. James A. Halley, Decatur Depot—high, dry, and well drained.
3. Mr. Lannom's child, North Summer street, No. not given.
4. E. H. Conley, Franklin pike—high ground.
5. James Ryan, Cedar street, below Trestle—low ground.
6. Charles Luxford, Spruce street—high ground.
7. James Thurman, corner Payne and Walnut streets—high ground.
8. T. Dorgan's wife, South Vine street—high ground.
9. W. H. Nance, McGavock street, West Nashville—high ground.
10. I. K. Jenkins, book-keeper at the Jail—high land, thoroughly drained.
11. B. Lighter, corner College and Jackson streets—land not high, but well drained, and a hundred feet above the bed of the river. Near no "branch."
12. Miss Sallie Show, South College street, number not given—College street passes through the low grounds, but even there is on a high "fill," above high tides, and the other portions of it are all high.

13. A. L. Sullivan, Gay street, Thirteenth District—high ground, well drained.
14. Mrs. L. Hale, South Vine street—high land, well drained.
15. —— Dandridge, Fillmore street—high, and well drained.
16. George Dale's child, corner Lee and Wharf avenue—high and well drained.
17. W. L. Terrill, 140 South Front street—high ground, well drained.
18. Alfred Victory, South College street, no number given.
19. W. R. Boon, at White Bluff—high ground.
20. Martin Barret's child, corner Gleaves and Overton streets —high ground.
21. Miss Beasley, Franklin pike—high ground.
22. Miss Spain, Maple street, South Nashville—high ground.

These deaths are reported from every part of the city.

COLORED.

1. Isaac Hobb, Rolling-Mill Hill.
2. Granville McGavock, South College street, No. not given.
3. Child of Dave Wilkin, place not given.
4. Frankey Bonner, Rolling-Mill Hill—high land.
5. Elmira Bomont, Jefferson street—high land.
6. Melinda Graham, Murfreesboro' pike, near Brown's Creek, four miles out.
7. Jerry Olwill, Granny White pike—high ground.
8. Eliza Adaline Brown, Granny White pike—high ground.
9. Child of Reuben Payne, Eighth Ward—high ground, remote from any stream.
10. Mary Harvey, Clark street—high ground.
11. Israel Mason, South Spruce street—high ground.
12. Mary Lewis, Broad street—high ground.
13. Pauper at New Bethel—high, dry, and well drained.
14. " " " "
15. " " " "
16. Adaline Bell, Red Row, Rock Town—high land.
17. Child of A. W. Beaty, place not given.

18. Eliza Duncan, New Bethel—high ground.
19. Margaret Smart, Demombreun street—street runs from high land to the low.
20. Jacob, New Bethel—high land.
21. Lizzie Queen, New Bethel—high land.
22. A. Bell, Franklin pike—high land.
23. George King, residence unknown.
24. Lucinda White, Crawford street—low ground.
25. Dilsey Pearl, corner Cherry and Gay streets—high ground.
26. Felix Rains, back of McCann's Mill, on Market street——high ground.
27. George Sledge, near Belleview, North Nashville—high land if beyond; low, if on the city side.
28. Wife of Peter Bosley, place not given.
29. Colored man on South Cherry street, number not given.
30. George Smith, North Front street—near the river.
31. Child of Ed. Easley, Rock Town—high land.
32. Wife " " " "
33. Child " " " "
34. Nolan, Trimble's Spring—low land.
35. Infant of Albert Cabler, Market street, number not given.
36. Infant of S. Leech, Murfreesboro' pike—high land.
37. Rose Buchanan, Jefferson street—high land.
38. Colored man, Franklin pike—high land.
39. Alice Brown, Hillsboro' pike, two and a half miles out—high country, well drained.

Ten colored persons, in addition, died, and were buried by the colored undertaker, whose names and residences he did not learn. These deaths are distributed over an area of three miles by four, an overwhelming majority occurring on high, well-drained land, and remote from "creeks."

Black Friday, June the 20th, 1873, the disease culminated. Seventy-two deaths are recorded from cholera, and six from other causes. The reports show that the columns of deaths from cholera and other causes lengthen and shorten together, as the mercury in parallel thermometers would ascend and descend

at the same time. The reporters did all they could to get the deaths on this day of horrors, but how many were buried can never be known. We learn that in some places, as at New Bethel, funeral ceremonies were remarkably primitive, and that the dead, in many instances, found such resting-places as the dreadful circumstances of their survivors determined, or enabled, them to procure. Houses there were with all the inmates dead; one man assured me, while pointing out the house, that six corpses were found in it, and no live one to tell of it. New Bethel was a great slaughter-house. From this hamlet it is known that forty-nine were buried in New Bethel grave-yard, fifty-three at Mount Ararat, forty at Bosley's grave-yard, thirty-eight at Fort Zollicoffer, and twenty-eight at Mill Creek. To this number the deaths of three whites are to be added.

We have thus taken from the reports of cholera deaths those occurring on three days—First, the day on which the record begins, June 7th; second, those occurring on the 13th of June; third, the day on which the greatest number of deaths occurred, June 20th—"Black Friday." These days will certainly be taken as a fair sample of the whole. We can only point out the fact that they occurred in every part of the city, high, low, thinly and thickly populated, near "branches" and on hills, which in height and magnitude might be called, and have been called, mountains, and that, too, by book-makers.

These reports show that, in the city and beyond its limits—

On the 7th of June fourteen died. Of these, seven are shown to have occurred in high places, six doubtful, and one in the low lands.

On the 13th of June, fifteen died. Of these, eight are known to have lived on high ground, three on low ground, and four doubtful.

On the 20th of June—"Black Friday,"—there were seventy-two deaths. Of these, forty-two were from high places, three from low, and the remainder doubtful.

The bottom through which Wilson's Spring branch passes,

bounded north by Broad street, and south by Lincoln alley and Franklin street, east by the river, and west by High street, over which bottom pass, on "fills," Front street, Market street, College street, Cherry street, and Summer street. The area is about three hundred yards by six hundred. This space is pretty densely populated, containing several of the largest warehouses in the city, and many substantial family residences. It embraces the south side of Broad street, the fronts of the houses giving them the appearance of being upon high ground, while the basement story, to place the front above the street, requires to be from twelve to twenty feet high. These basement stories are full of water at high tides in the Cumberland. It is said, by old citizens, that in former years intermittent fever was common among the few people who lived there, but for twenty years I have never seen a case of intermittent fever in that area.

Seamed by other spring branches, running into Wilson's Spring branch, this bottom is thoroughly drained, and the dip of the rock, upon which the alluvion, of two or three feet in thickness, lies, being very considerable, as is seen from the bottom of Wilson's Spring branch, as it passes under College and Market streets, the water that falls upon it soon finds its way into the river. Since being built upon extensively, it is, moreover, no longer a deposit of garbage, but really a handsome portion of the city.

In these low grounds there were thirty-five deaths in all, from cholera.

The number of deaths in this entire area we have had definitely ascertained in the last few hours; and if any portion of our history seems to overlap ground already discussed, we beg, in apology, to say to the reader that definite information, from personal observation on the field, and diligent inquiry, enlarged and enriched by the assistance of medical friends, grows upon me while I write, and while I am obliged to write, under the mingled cries of go here and go there—copy! copy! Again, much of this minute detail I would have gladly omitted but for a systematic attempt, from parties at a distance, to

make falsehood, and not truth, give form and pressure to our late scourge. What becomes of Peters' assertion, after a day or two with us *after* the enemy had decamped, that "the cholera was almost exclusively confined to the outer limits and low portions of the city, especially to Wilson's Spring and Lick branch." On these branches, and all the low grounds they and their tributaries drain, there were but sixty out of eight hundred deaths, seven hundred and forty being on high land.

PREVENTION OF CHOLERA.

A homely and a truthful adage is that an ounce of preventive is worth a pound of cure. A number of the prophylactic ideas that have obtained pretty generally in regard to cholera, have been suggested by those evolved in the discussion of yellow fever. Every reading physician knows this. Filth, as a "localizing cause," is connected with both of these diseases; so is malaria; and, as an exciting cause, water, holding organic matters in solution, figures conspicuously. When we come to the treatment, we will find that these ideas modify or control it. Dr. Drake assures us that the clean places and the dirty ones fared alike at Cincinnati, in 1832. But then, it must be allowed, if filth possesses the power attributed to it, though it exist but at one or two places in a city, it might send off exhalations that would taint the atmosphere of clean places. But we hold, if filth can operate as a "localizing cause" of cholera in June, 1873, it ought to have done it in some of the Junes since 1850, which it did not, in this city. If the filth of Nashville could become a "localizing cause" of cholera in September, 1866, the filth of September in some of the long years since the introduction of cholera in this country, in 1832, ought to have operated to the same end, which it did not. If filth only becomes active when cholera breathes upon it, which would seem to be the case, if it have any effect under any circumstance, then cholera affects the filth as it does the people, and neither filth nor the people affect cholera. It is well known that the most offensive places in cities, to sight and

smell, are the most healthy in a cholera season. It has never been known, I believe, to attack the operatives or the managers of livery stables. This had been asserted in Cincinnati, in 1832, and we had it examined into in 1850, in 1866, and during the late epidemic in this city, and believe these places are exempt, and, as far as I have been able to ascertain, cow-houses, the filthiest houses in the world, are exempt. Portions of every city, more than others, become the depositories of the *exuviæ* of slaughtered animals, and where soap factories naturally find a foot-hold, and fill the air for a great distance with a suffocating stench. Cholera shuns such places as naturally as folks.

We have visited, in person, the street-car and other stables of the city—one, at the corner of Broad and Spruce streets, exists in the midst of filth. No cholera at any stable.

The *Evansville Journal* of July 18th, says of the cholera at Mount Vernon, Indiana: "It has almost depopulated the town. All the people who could get away have left. The banks and business housss are all closed, and the town seems without population. Every person in the place has had cholera symptoms, and of some large families only two members are left. * * * The city is a clean one, and on one of the highest points between Evansville and Cairo."

Filth, then, is not a localizing cause of cholera, or a cause without localization, or any sort of a cause. I am not writing a commentary on Carlyle's Gospel of Soap-and-Water, where such admissions as the above would be out of place, but simply engaged in the pursuit of truth, which is never out of place. Indeed, it is known that none of the deadly poisons that produce the whole class of zymotic diseases, is cognizable to the senses. Among these non-cognizable causes of diseases is that of cholera. If a stink be above ground, with the only true disinfectants operating on its cause—the circumambient air and gorgeous sunshine—there can be no reason, but that of folly, for expending money to place this same filth beyond the reach of the disinfectants of nature, with breathing holes for the escape of poisonous and noisome emanations.

"As to the causes of epidemic cholera, it is well to remember that it is not given to man to penetrate the origin or to know the principle of pestilential diseases. There, using the expressions of Littré, all is invisible, mysterious; all is caused by powers, the effects of which alone are revealed to us. Nevertheless, there is no subject upon which so many theories and vain hypotheses have been heaped. For ourselves, well satisfied of the sterility of such efforts, we will not seek for the cause of cholera; but are content to accept, as a fact, the pestilential principle itself, and to refer to this principle the epidemic character, the mode of propagation, and the terrible action of the scourge."—*Tardieux's Dictionaire D'Hygiene.*

CAN WATER EXCITE CHOLERA?

We said, in 1850, that those who drank the strong limestone water of our city springs fared worse than others. We think that the same fact has been observed in the late epidemic; but what we said then we repeat now—that the class of people who drank spring water is precisely that most obnoxious to cholera from other causes. Hackberry Spring, where the disease began, offers water delightfully cool, but having a good-bye to it that lingers long with the drinker. Poor Mary Payne had drunk it for years, and it seemed unnatural that it should "go back upon her." Mrs. Murray and family, white, lived near this spring, and drank its water. After the death of Mary Payne, Mrs. Murray moved up on Market street, between Church and Broad, and opened a boarding-house. She and two sons, nearly grown, a few days after occupied the same grave, their last dinner being enriched by snaps and other vegetables.

An old lady living at Columbia, in this State, believes in Duck River—she says: "Where Duck River is, cholera aint; and where Duck River aint, cholera is." Said Herodotus to the Alexandrians, on the Nile, "My objection to your country is, that if it should fail to rain in other people's country, away up the river, you would all dry up and starve out." "And

how much," replied the Alexandrian, "would you lack of drying up and starving out, if it should fail to rain in Greece?" Cholera, some fine morning, may, in an excess of devotion to voting humanity and their great Republic, cry out, "Hail Columbia!"

Neither malaria nor filth, here, had anything whatever to do in localizing cholera, nor, in our opinion, had water. The little apple-girl, on Union street, and Mrs. Jones and child, on Summer street—among the first victims—drank hydrant water, while the river was at high tide, and whose contents were chiefly rain-water, while the colored people of Hackberry Spring drank of that water. If any of these things localized the disease, art might abate them; but, in truth, they do not, and whoever insists that any one of these does so, misdirects his force, mentally and scientifically, to consummate self-emasculation. The facts are all against him, twist them and torture them as he may.

Are there, then, no localizing causes? Yes, one—DESTITUTION! What is the great preventive? MONEY! Money, as we have reiterated for more than forty years, to bar out the ferocious invader; and, thank God, we have lived to see money drive out the arch fiend from the haunts where he held high carnival, and our citizens—thanks to them—spill it like water to that glorious end. Fellow philanthropist, you need not blow up the rock foundations of your grand little city to make pockets to hide filth, or let foolish Boards of Representatives blow *you* up, as a cholera precaution. The father of Frederick the Great would not have a carpet in his house, or any other contrivance of human ingenuity, "to hide dirt." Keep your city as clean as the shirt-bosom of Beau Brummel, not to keep away cholera, but to keep the filth away, because it is unsightly, and offensive to eyes and noses polite. Let the rains of heaven do their best as scavengers, with air and sunshine as disinfectants; not under that name to substitute one stink for another, and what these cannot do, then to the front with scraper, cart, and spade. Force the completion of side-walks to the grade of the City Engineer, let every street

be graded, and flanked by good gutters, and every drop of water that falls from heaven upon them will carry its weight in dirt to the Cumberland, and a great rain, succeeded by a flood of sunshine, will leave your city like a bride purified for the nuptials.

WHAT SHALL WE DO TO BE SAVED ALIVE?

It was the great Johnson who said, if the people could agree, there would not be an occupied throne in Europe twenty-four hours after the agreement; and so, I am sure, if physicians in the United States could agree upon asserted facts concerning this pestilence, it could never get a foot-hold again upon our continent. But until the millenium, this agreement will hardly occur. Every physician I have seen in this city, since the cholera, assures me that it is his belief that no man or woman or child dies of cholera who is not overtaken by that disease with fruit or vegetables, or one or more animal products, as milk, butter, cheese, eggs, or honey, in the stomach. That if a threatened people will religiously avoid these things, and keep a little paragoric by them, and in the event of diarrhœa, take a teaspoonful of it, and repeat it after each operation, being in bed, not one will die. Not one died here in 1850, 1854, 1866, or 1873, that observed this rule. We predicted, at the beginning of each of these visitations, that not one would die who obeyed this simple rule, and the prediction, in each case, was verified by the result—none died. So simple and inexpensive an expedient, and one capable of saving all—every one—demonstrated in all these years to be adequate to this end, and now thoroughly believed by all of our leading physicians, and doubtless obeyed by thirty thousand people in this city and county during the late epidemic, to be sneered at, betrays a defective moral mechanism in the scorner.

There is, doubtless, less susceptibility to cholera than to any other epidemic influence. Let the citizens of any town eat as they may, and live as they may, during cholera among them, and not above three per cent. will die; so that after its

departure, ninety-seven gormandizers out of a hundred might present themselves alive and fat, as demonstrable evidence that gormandising was the best possible prophylactic against cholera! It must be upon some such philosophy that very eminent men insist on fruits and vegetables as good things to be eaten during the prevalence of cholera. Nor can I find anywhere that they are excluded. In every case, terminating in death here, in the person of any one generally known, it was as generally known that the party belonged to the vegetable and fruit eaters. Ice cream and strawberries carried off numbers, and snap-beans were as fatal as arsenic. Buttermilk was found almost unerring in its death-aim. Blackberries were a sure shot, but cabbage and potatoes, being more easily procured, were the most fatal. Two poor little boys over the river (published in our papers at the time), went a little distance from home to a plumb-tree, and procured and ate a quantity of the fruit. The little fellows were both found dead in the path homeward, with evident signs of cholera about them. A fine little negro boy came into Mrs. Terrell's grocery, on South Market street, at 9 a. m., with a paper of blackberries in his hand, eating them, and offered some to Mrs. Terrell's boy. Mrs. Terrell seized the berries, and threw them in the slop-tub. The colored boy was buried that evening. Two little boys, sons of Mr. J., Main street, in Edgefield, ate of mulberries from a tree in their father's yard, and died the same day, within an hour of each other. An old man on Foster street, Edgefield, boasted, for many days, that *he* ate as he always had; he died of cholera. Our Janitor, of the Medical College, well on the morning of the 13th of June, took two glasses of buttermilk, and was buried the same evening. No one was sick in his neighborhood.

Similar instances would, if recorded, make a book of many pages.

New Bethel is a neat hamlet, each cottage having a kitchen-garden, with an abundant growing crop of potatoes, cabbage, beans, corn, &c. Their chief man told me that there was no cholera there until the 19th or 20th of June. That the dis-

ease in the city put an end to work, and it being impossible to get meal or meat, the inhabitants were forced, to prevent starvation, to resort to their gardens—to potatoes and cabbage. Poor creatures! they divided with each other as long as meal and meat were in the hands of any, and up to that time they were spared; and then, between the lingering death of starvation, and the quick exit by cholera, none could hesitate, and they marched in throngs, uncomplaining, through their gardens to their graves. Two hundred people hurried into eternity that twice as many dollars would have saved! Not but what thousands could have been raised in an hour, for men went about with hundreds in their hands, enquiring where they must leave it for the good of the sick.

But all the talking, and gas-ing, and printers' ink, and resolving, and meeting, and discussing, and deliberating, and burning tar and brimstone on the streets, to kill the cholera-gnats, did poor New Bethel no good. We begged the deliberators to strap coffins on their backs, and deliberately walk off to the cholera jungles; it would help some.

Vegetables? "Why, did not Dr. Hamilton drive the cholera off Blackwell's Island with cabbages and potatoes?" Certainly. And did not St. Patrick drive all the snakes out of Ireland? To be sure he did; but in snake-time and cholera-time it is not every place in the wide world, like New York and Ireland, that is blessed with a Hamilton or a St. Patrick.

Professor B. died, towards the close of the season, on Cedar street, near Summer. He had dieted through the season. The day before he died he resolved to try a glass or two of buttermilk. He tried the buttermilk, and it killed him.

Mrs. L——, on Church, near McLemore street, a German woman, in good health, in a portion of the city where there was no cholera, being constipated, concluded to use a common expedient of the old country—she stirred up two raw eggs in a pint of sweet milk, and swallowed it, and slept that night in her grave.

A poor negro woman, a patient of Dr. C. K. Winston,

boiled some cabbage with a little grease of some kind, made a dinner of it, and slept that night in her grave.

A woman on South Market street, settled her coffee one morning with the white of an egg, and fried and ate the yolk. She did not die, but vibrated between life and death an entire night. An intelligent Irish woman in the neighborhood, hearing this patient was dead, said of it: "Sure, and it was with the white of an egg she settled her coffee, and with the yolk she settled herself; for she fried it and she ate it. Oh! is it not dreadful to think of a poor woman, and a mother, too, rolling along into the other world upon the yolk of an egg!"

Mrs. Murray, on South Market street, with two sons and one son-in-law, ate beans for dinner. The mother and two sons occupy the same grave, and the son-in-law I saw in the afternoon, with Dr. V. S. Lindsley, who thought he also was dying with cholera; but he had, when his mother-in-law died, (and she was the first of the trio to die), determined to get rid of his beans. For this purpose he took a large dose of tartar emetic, which gave him an artificial cholera, throwing out of his organism every bean, and every fragment of a bean, when he was well, and passed through the cholera season without a symptom.

Mr. Adler, merchant on Broad street, ate a piece of fresh fish for supper. Not a member of a large family would touch it but himself. He went to bed well, and got up well. During the morning he was seized with cholera, and before bed-time he was dead! Not one of his family took cholera.

A lady on South Cherry street ate, with milk, some raspberries for dinner, and was dead before bed-time.

One of the most beautiful and accomplished young ladies in the city, ate two or three pickles, and died.

Of the cholera at Union City, in this State, the *Union City Courier* says: "We have yet to learn of one case that was not developed by imprudence in diet. * * * Of the eleven persons who ate of the apple-dumpling on Tuesday, at Mrs. Blakemore's nine have died of the cholera, two of Mrs. Blakemore's children among the number."

Let any medical book-making or journalistic physician, who advises fruit and vegetables in cholera times, read these details and think;—a complex process, and irksome to the self-indulgent, with whom it is a law never to do anything they can make any one else do for them.

The following appeared in the New York *American Medical Monthly* during the cholera in New York city in 1866:

"If we contemplate the harmony and order which prevail in the recurrence of the seasons, and the productions of a vegetable character peculiar to each, we must arrive at the conclusion that in each providing so great a variety, in such abundance, and of such grateful and pleasant qualities at this season of the year, God, in his wise providence, intended that his creatures should avail themselves freely of his abundance and goodness. We find not only this peculiar supply granted us in our climate at this season, but we observe that in other countries where the climate more or less resembles our summer, the same benevolent provision of succulent and nutritious fruits obtain. Nor is this all that can be said—for it is now generally well understood, by all intelligent people, that there are, in every climate and at every season, certain productions which are peculiarly adapted as correctives—possessing, in fact, medicinal as well as nutritive properties, in addition to their palatable qualities. The spices and condiments of tropical climates, most sparsely produced in temperate regions—produced, in fine, in proportion to the amount and kind of vegetable diet growing and employed by their inhabitants; the juicy, sub-acid, and fragrant orange and berry tribes, so plentiful in hot seasons—the former in tropical, the latter in temperate countries; the melon, common to both; *cum pluribus aliis.*

"We have written enough for illustration; our deduction from those examples is, that all this wholesome and abundant supply of nutritious and beneficial articles of diet has been bestowed designedly for our use, under the circumstances when they were most required, and that, therefore, it is not only right to eat fruit at this season, notwithstanding the cholera,

but that it would be wrong and ungrateful to abstain from the use of that which was intended for our benefit and gratification."

To which we replied at the time—

"All this is very pretty and very logical, and precisely agrees with the thoughts and opinions of Napoleon's soldiers while retreating, with their faces to the enemy, before a foreign foe, in their own country, just before the abdication of their great chieftain and his banishment to Elba. They argued as our friend argues, and the historian tells us that fruit destroyed more soldiers than the *foreign* enemy. An intelligent old female acquaintance of ours, very fond of apples, always insisted on eating the peel, alleging that if Providence had not intended it to be eaten, He would have provided no peel. 'If you would extend your argument a little,' said a friend to her one day, 'the world would become barefoot; for upon the same hypothesis, you might insist upon eating the skin of bullocks.' Our own belief is, that the fruit arrangement, in the providence of nature, dates considerably back of the cholera arrangement, geologically speaking, making the former an older *formation;* and when the latter was brought into the world, it received its laws without any reference to the former. However this may be,

'Sage experience bids us to declare,'

that while fruit will not excite cholera, *possibly*, yet it almost insures the fatality of an attack of that disease.

"When a non-vegetable and non-fruit-eater is assailed with cholera, his system responds instantly to medicine, while the system of the fruit and vegetable eater will frequently not respond at all, and his physician will find the result the same, whether he put the medicine in the patient's boot or in his stomach."

Dr. Hamilton claims to have driven the cholera off Blackwell's Island in 1866, and enumerates vegetables as one of the means. Think of vegetables from the New York city market! We have shown that, in the driving, fifteen per cent. of

the drivees went under, and that the same per cent. of loss in driving cholera from New York, Brooklyn, and Jersey City, would send two hundred and twenty thousand of their inhabitants, as emigrants to the pale nations of the dead; and long since this showing, Dr. Austin Flint says, in his book on *The Practice of Medicine*, intended, among other things, to teach students how to manage cholera, that Dr. Hamilton *did* drive away the cholera from Blackwell's Island, and that among other things, vegetables were a whip in the hands of the driver.

Says Dr. T. S. Bell, in June last, in the *Louisville Courier*, a newspaper of extensive circulation in Kentucky and Tennessee, where Dr. Bell is known as among the most learned medical men in America, and as Professor of the Practice of Medicine, and of forty-one years' observation, that "the lot, stable, and everything connected with the premises, should be clean and dry. If all these duties are thoroughly performed, people may eat whatever agrees with them, and this without any fear. * * * No one expects to avoid itch by not eating potatoes, cabbage, peas, or fruits of any kind."

That no man can eat himself into itch is very true, but that itch can eat itself into man is also true, which is the same thing in Dutch. The Duke of Wellington, all know, ate himself into fits, and there being no fit-doctor at hand, the illustrious killer of Frenchmen sought quiet from the "battle-field's dreadful array," in the bosom of Abraham.

There was a fearful odds against us, but the cholera itself becoming umpire, has decided in my favor, and written the decision in blood, which, like the blood of the murdered, will not fade, though you cry till you are hoarse, "Out, out, damned spot!"

I have not gone beyond the pale prescribed for me by my great masters, Drake and Gross. I have addressed medical men alone, through exclusive medical channels, while my opposers have had no scruples as to means, and the quickest and the shortest led through newspapers and magazines to a general public, and an easy jury. Our converts of the public, in

every instance, have been through medical men, who were my first converts, and many of them equals, in learning and genius, to any of my country.

The Sanitarian for August, 1873, published in New York, says "twelve laundry women, working for cholera patients at a large work-house on Blackwell's Island, near New York, lost their lives in 1866, apparently because they failed to obey Dr. Hamilton's directions, which were to put the infected clothing and bedding into boiling water, some hours before washing them. Such hot water kills the germs of cholera. This not being done, they killed the wash-women. Dr. Hamilton was remarkably successful in 'stamping out the disease in a few days, by killing its seed!'" Still harping, etc., was the cholera of the twelve the result of cholera seed or cabbage seed?

The Lessees of our Penitentiary employed Dr. Menees, on the 9th of June, to see to the convicts, the first case of cholera in the prison being on the 6th, after a dinner of peas or beans, which was contrary to the order of the prison physician, Dr. Henry. No fruits or vegetables, or animal products, were allowed afterwards. To the close of the season there were but seven deaths, and most of these, if not all, occurred among such of the convicts as were taken out into the city every day to work. Dr. Henry nor Dr. Menees could not say all of the deaths occurred among those who worked out and had chances of fruit, &c., but those that did occur among such, after the "bean dinner," and those who died from that dinner, both physicians believe, embrace about all of the deaths.

Dr. Menees, like Dr. Hamilton, was employed to drive cholera off *our* Blackwell's Island, or prison ground. I learn from Dr. Henry that those who live in and eat in the prison, number five hundred. Now, then, Drs. Menees and Henry stamped out the cholera seed at our Blackwell, with a loss of seven in five hundred; and so far from making a flourish about it, are disposed to apologise for the loss of a single one; while Dr. Hamilton, in *his* stamping, lost one hundred and twenty-three out of eight hundred, and the New York magazines are boasting of it to this hour. Moreover, the clothes

and bedding of those who died from cholera were not soaked in hot water, to kill the cholera germs preparatory to washing, and not a single wash-woman died, and not a single wash-woman could, or did, get any fruit or vegetables in her stomach!

Dr. Hull, in his great discussion with Dr. Harrison on Spiritualism, here, in May last, said he had himself seen a spirit take an apple out of a basket, and eat it. If his spirit had done that a month later, and had not taken the cholera in two hours, I should have voted it the freedom of the city, with privilege to re-visit the glympses of the moon as leisure, inclination, or opportunity, determined, during the cholera season. We could afford to be liberal, as it would have been about all the visitor Nashville could boast of during that period. Nashville, like her distinguished invader, was more conspicuous for *exosmosis* than *endosmosis* about that time.

To carry the clothes and bedding to the laundry, and not get the germs on you, and to put the clothes in hot water before washing! To handle the clothes from the death-bed to the hot water was innocent, but to handle them *in* the hot water, before they had been there long enough to get themselves very much killed, was for the handler to get herself killed. We suppose hot water, at first, made the little fellows lively, but during acclimation, they, like many of their betters, turned up their bellies and gave up the ghost.

TREATMENT.

The cholera years of 1865 and 1866, in England and in France, shed light upon the treatment of the disease not before known. The observation of Guérin (*Gaz. Méd.*, 46, 1865), "Premonitory diarrhœa," he says, "is arrested by opiates and astringents; but in a certain number of cases, in spite of the suppression of diarrhœa, the disease passes on to confirmed cholera." This was not so here in preliminary diarrhœa, except among vegetable and fruit eaters. But we all noticed it in confirmed cholera. Here the stopping of the wasting diarrhœa was often fatal, because of the opium administered to

effect it. The arrest of the elimination of the cholera poison through the gastro-intestinal mucous membrane, added to the additional poison of the opium, many thought did a great deal of harm in our epidemic.

The following assertion of Guérin had its influence on a few, and modified a practice they had adopted in other cholera seasons—that, "physiologically considered, diarrhœa is the means by which the cholera poison is eliminated. * * * The contact with the intestine of the toxic element cannot but have an effect upon the intestine, and to it alone can be referred the colic, the excessive secretion, the gradual changes in the secreted liquid, and the alterations undergone by the follicles and epithelium." This mode of reasoning was attractive, because common sense was its companion throughout, and it had its effect here.

If we could deal with this poison as we do with that of intermittent fever—neutralize it, eliminate it, or drive it out of the blood into some pocket of the organism—as the spleen—and get at least a respite from it, this would, no doubt, be the correct practice. But the means are not within our reach; we cannot do it. Says Guérin, then, "we must favor elimination, and protect the eliminating organs."

The object of treatment then would be—

1. To protect the eliminating process in its spontaneous action.

2. To aid elimination, and, if necessary, provoke it.

3. To prevent and combat the accidents with which it may be complicated.

As to astringents, they did no good here. When cholera precipitates itself in force upon a victim, and, as a consequence, violent purging and puking ensue, followed quickly by cramps and loss of pulse, the patient will die ninety-nine times in a hundred. Opium, in such a case, does harm, and other astringents do no good. Stimulants, in the form of whisky and pepper, internally, are unsatisfactory, and those applied to the body add their punishment to that of the disease. The best treatment here is the Mist. Rubra of the London Hospital, or

no treatment—sugar and water. The tabular statement of that hospital, showing the result of different plans of treatment, proves that with sugar and water alone, twenty-eight recovered out of fifty-six—one half—a better result than I have ever witnessed. Or saline lemonade, which the table shows cured fourteen out of twenty, nearly two-thirds. [See *London Hospital Reports*, 1866.] This is a much better result than any we got here, with any quantity of calomel and opium.

Mr. J. G. French (*Medical Times and Gazette*, July, 1866,) says: "This purging and vomiting is not merely a relief to the congestion of the important intestinal organs, but also the means of carrying off the poison, which is plainly seen by the power of the evacuations, when swallowed, to produce cholera in other persons. The only treatment which is of any use, is to give the patient iced water or Seltzer water, which assuages the thirst, and to pay strict attention to his sensations as to temperature."

Jacquez mentions that it is his observation that when, in the cold stage, the vomiting stops, the patient dies. We all noticed that, in severe cases, the vomiting almost always stops when collapse begins. Now if the vomiting continues, no matter how bad the patient is—pulseless, cold, and clammy, no kidney secretion, and the voice sepulchral, yet he may recover. The practical application of this fact consists in provoking vomiting when it has ceased. This must not be attempted by nauseants, but the very thing the patient most desires, iced water. All our old writers agree that when excitability is gone—that is, the incapacity of the organism to respond to the application of an excitant—that there are two reliable means to re-accumulate excitability—the lancet and the emetic effort. Then it was shown (Edwards, on *Physical Agents*,) that heat lowered and cold, to a certain degree, elevated the tonicity of the muscular fibre, upon which excitability depended.

It was these facts that suggested the cold dash in congestive fever, and for which so much was, at one time, claimed. Collapse in congestive fever and in cholera present the same phe-

nomena, and ought to be amenable to the same means; but they are not, and this proves the efficient cause to be essentially different. The tendency in one is always to recovery, that in the other always to death. The patient comes out of one into a curable fever, out of the other into an incurable one.

On these views I constructed my practice in the late epidemic. In the worst cases I had nothing to offer but mist. rubra and iced saline lemonade, and crushed ice and iced water, *ad libitum*. The iced water would continue the vomiting, and renew, to some extent, lost excitability, and favor endosmosis. The body being rubbed with ice, operated to the same end. My hardest cases recovered without opium. Dr. V. S. Lindsley accompanied me to the cholera jungles, and assisted me in applying these principles to practice. In addition, not a few, nearly dead, took one-sixth of a grain of calomel, rubbed up with a grain of sugar, every thirty minutes, till death or recovery. An abundance of chicken soup, with rice boiled in it, as soon as the patient would take it; sometimes iced lime-water and sweet milk. Many lying in bed, unable to get out, with rice-water dripping from the under surface of the mattress on the floor, with severe cramps in their extremities, and almost without pulse, were entirely recovered in this way.

Quinine.—Some gave it throughout the epidemic. Dr. Currey "tried it every way, the first ten days, gave away his hypodermic syringe, and abandoned the drug as worthless." Dr. C. K. Winston tried it, and abandoned it. Dr. Briggs found advantage from it. Dr. Maddin never gave it, save during convalescence. Dr. Menees was doubtful about its power to do good. Dr. Holloway was sure he had received benefit from it. Dr. Bailey, one sent by the city, never used it. Neither Dr. Lindsley nor myself used it.

I knew Prof. W. L. Nichol, M. D., had given a fair trial to the usual medicines, and was eminently competent to judge of the quantum of good or harm any drug might produce in the epidemic, and I asked his experience, which he kindly gives, as follows:

DR. W. K. BOWLING—

MY DEAR DR.: In response to your question relative to the effect of medicine in the late epidemic with which our city has been scourged, I do not think it necessary to discuss the nature or cause of the disease, but simply to state the remedies which my experience taught me were the most efficacious. In all of the cases which came under my care, I relied chiefly upon quinine, with calomel. I did, in many cases, use small doses of opium or some of its salts. I would state, however, that in no case did I administer, at any time, more than half a grain of opium or a quarter of a grain of morphia at a dose; and the largest given in any single case was one and a half grains of morphia. My experience, Doctor, with the remedies quinine and calomel, goes far to establish the correctness of the idea proposed by you in a pamphlet put forth some years since, showing the therapeutical connection between mercury and cinchona. They are both liver medicines; and I can say to you, in proof of this, that I have seen the character of discharges, which we recognize as bilious, follow the use of quinine as promptly as that of mercury.

Yours, &c. W. L. NICHOL.

The bad practice, here, consisted—

1. In a mad effort to stop the purging. Dreadful quantities of opium were sometimes given to this end.

2. In an unwise effort to stimulate the system into reaction.

Said a father to me, expecting my approval of his heroism, "I *tormented* my child with mustard for four hours, but it died!" Hot cloths and blankets, to warm the patient, tormented him, and lessened his chances for recovery; lowered the tonicity and irritability of the moving fibre, the basis of the much-needed excitability.

"Organized matter, living, dying, or dead, is the worst possible conductor of caloric." A man's foot might be burnt off without elevating the temperature of the leg a degree; and a quart of brandy in the stomach of a collapsed cholera patient, had as well be in his boot, each having about the same quantum of excitability.

The primary indication is to procure excitability, and the scientific means are the emetic effort and cold—ice water to vomiting, and rubbing the surface with ice.

RECAPITULATION.

Cholera is a zymotic—its cause something differing from all other things in nature, impalpable, invisible, non-cognizable—whose habitat is India, but which is endowed with power to encircle the world; being outside of a man, gets possession of the inside, and forces upon his organism a series of abnormal demonstrations to which, in the aggregate, mankind has agreed to give the name of *Cholera*. While on the inside, it reproduces itself in a wonderfully rapid manner, forcing the organism to rid itself, through certain organs, of its abundant offspring. Man's body is thus converted into an elaborator of cholera germs, which are as malignant, when thus evolved, as the parent poison in the jungles of India. These germs are thrown off in the diarrhœa and gastorrhœa of the cholera patient, and, while *wet*, are innocuous. "These discharges are comparatively non-infective when first passed."—[*Simon, Official Memorandum*, July, 1866.] When dry, unless imprisoned, they rise up from specific levety, as thistle-seed in August, and, without regard to the temperature of the air, will float on it, and under favorable circumstances, descend through it, enter windows and doors of dwellings, and be breathed, as impalpable atoms of dust, to the possible destruction of the breather. Wherever man is, this germ is, or is capable of going, in a certain epidemic distemperature.

"Il serait inutile de donner une enumeration détaillée des lieux parcourus; il suffira de faire remarquer combien ils sont variés dans leur situation géographique aussi bien que dans la nature de leur sol, à ce point qu' à part les regions polaires, le choléra s'est montré presque à toutes les latitudes, et presque aux deux extrêmes des longitudes orientale et occidentale. Il

ne parait pas avoir atteint à une grande hauteur au-dessus du riveau de la mer, mais il a séri également dans les plaines les plus arides et dans les bas-fonds les plus humides, dans les lieux les plus diversement opposées, dans ceux qui sont battus par les vents comme dans les vallées les mieux abritées. Il n'ya donc a signaler à cet égard que la prodigieuse extension du choléra, dont les irruptions épidémiques n'ont épargné qu'une trés petite partiè du globe."—*Tardieux's dictionaire d'hygiene.*

This germ can affect nothing injuriously but man. It has no affiliation with filth, or any of the poisons capable of producing other diseases. It is governed by its own laws, and when in the body of a man, forces upon it that behavior which people call cholera. And this whether the man is on the misty mountain-top or in the fog-curtained valley below, in the land of the orange and magnolia, or near the perennial snows of the Andes. Just as whiskey, or strychnine, or tartar-emetic, will force upon him a series of abnormalities peculiar to each, whether he be king or peasant, the resident of a palace or a hovel, in rags or robes of purple,

"A man's a man for a' that."

It desires no aid to do its work on man—neither the aid of high places nor low places, of filth nor malaria, nor anything under the sun. These things may be present or absent—it cares not, nor heeds not; man is its destination, renewer and regenerator. Whiskey will produce unmistakable phenomena. The man and the whiskey are all we want for a full and complete paroxysm of drunkenness—a man and whiskey, without reference to the age, social position, or worldly condition, of the man, or the "fineness" or "rot-gut" character of the whiskey; or whether the man and the whiskey are on the hill, in the valley, in the North or the South, the East or the West, all that we want for the phenomena of drunkenness is that the whiskey, being upon the outside of the man, shall get possession of the inside, and have a sufficient quantity of alcohol in

it. So with cholera. Its phenomena are not accidental or haphazard, but determinate and inevitable. The cholera poison does the whole work; it is the man, solitary and alone, foreordained and predestinated, in the providence of God, to be the striker of Mr. William Patterson. It loves the city because there is much people there, and its geographical preference, after this, is caused by atmospherical and geological conditions, of which man has no knowledge whatever. For a man to get cholera, without this germ in him, is as much impossible as it would be for him to get a quarter section of land in Minnesota without paying the government price, or the reputation of a prophet among his neighbors and his blood relations, or an invitation to dine with his religious or political opponents. He may swallow brick-bats like a cassowary, and get a fit of indigestion, or the theories and formulæ of recent cholera tinkers, and fall into a state of chronic bewilderment creditable to his understanding, but cholera—not a bit of it.

Now a man having this cholera germ in him at the same time with vegetables, fruit, or animal products, he explodes; the same harmony existing between them as between fire and gunpowder. The reason of this relation is just as apparent to me in the one case as in the other. I know the fact, but no philosophy that I can muster extends to the reason of it. "Explosive" cholera I thus explain, and it may be easily prevented, and non-explosive cholera will not kill—so man has his foot upon the neck of the demon.

Dr. Pettenkofer has given us the following tabular statement, as showing the influence of season. Suppose I were to say that it exhibits, in so remarkable a manner as to seem a revelation, the influence of fruits and vegetables?

"In regard to the influence of season on the development of the epidemic, the cholera statistics of Prussia, from 1848 to 1860, gives a clear picture. * * * In these figures," says Dr. Pettenkofer, "is expressed an undeniable influence of the season. This seasonal influence is connected, in all probability, with climate and temperature, which have a different

effect in different geographical localities, and on different soils."

From 1848 to 1860, by Cholera,	DIED.
From April 1 to 15	50
" April 16 to 30	62
" May 1 to 15	112
" May 16 to 31	354
" June 1 to 15	1,961
" June 16 to 30	2,431
" July 1 to 15	3,050
" July 16 to 31	5,430
" August 1 to 15	11,674
" August 16 to 31	21,966
" September 1 to 15	31,048
" September 16 to 30	25,513
" October 1 to 15	19,062
" October 16 to 31	15,809
" November 1 to 15	11,353
" November 16 to 30	6,267
" December 1 to 15	4,256
" December 16 to 31	3,038
" January 1 to 15	1,424
" January 16 to 31	893
" February 1 to 15	510
" February 16 to 28	332
" March 1 to 15	150
" March 16 to 31	55

The notion of intermediate causes, elaborated by Simon, in 1866, repeated by Pettenkofer, recently, and huckstered by small brains generally, is an absurdity that must strike every one who will think. Does any one suppose that the poison of small-pox, or of a rattle-snake, needs anything between it and the man? Or whiskey, or tartar-emetic, or belladonna, or prussic acid? Or malaria? No, certainly. But when it comes to cholera, though they concede the poison, the best of

them go down on their knees in the old mortar of yellow fever, like so many eels in the mud, and are lost to the vision of common sense. If a man sleep but a night on the Alentejo land, on the Tagus, a sandy plain, and cleaner than the hand of a Congressman, he dies there and then. Malaria kills him. But if a cholera germ is to dispatch him, it has previously to somersault in "localizing causes," or get itself lively by being baptized in hot water, or join hands and swing corners with filth, or organic water, or malaria, or any thing on the face of the earth or in its bowels, so that it can say, "help me, Cassius!" It is as logical to suppose that the lightning, before it splits the oak or the man wide open, must secure to itself the potent allies of moonshine or starlight, a Jack-o'-lanthorn, or the shadows of phantoms.

NOTE.

A thousand times, during our epidemic, the question was asked, "Did not Penitentiary convicts bring the cholera here from Memphis?" To Tennessee's eternal shame, our convicts are sold for a price, and as the ownership is not perpetual, it is the interest of the purchaser to get all he can out of the convict; and to that end he hires him out, or re-sells him. Many of these poor devils were engaged on a railroad on Wolf River, at a point not far from Memphis. Wolf River is, in many respects, similar to the Chickahominy valley, made memorable, in 1862, by scorbutic fever, "change of base," and the introduction of a hybrid medical term for a hybrid fever, "Typho-malarial." The convicts on Wolf River fared very much like the soldiers on the Chickahominy in 1862. The convicts were on Wolf River in the hot months of 1872, and I treated, in the autumn of that year, a young man brought here from that place, where he was serving as a guard, in a miserable condition from Chickahominy fever. We get

from Dr. Henry, the Physician of the Penitentiary, the facts in regard to these convicts:

"On the 12th day of May, 1873, sixty-two of these prisoners arrived here. On the 13th, one died. In a few days twelve or fifteen more came up, all troubled with fever, diarrhœa, and scurvy, including the former arrival of sixty-two. Sent twelve or fifteen of these Memphis prisoners to Sewanee coal-mines, two or three days after their arrival. Treated all the cases with quinine and iron. Fed them on cabbage, sauer kraut, buttermilk, &c."

These cases came to the Penitentiary on the 12th of May, and the cholera broke out in the prison on the 6th of June following. The cholera broke out in the city on the 29th of of May, more than a week before it commenced in the Penitentiary. All reading physicians well know that these convicts had Chickahominy fever. The cure, if anything else was wanting, proves this.

P. S.—That portion of our article reflecting somewhat severely on Dr. Peters, was in print before we had definite information concerning him. We are sorry that we said he was possibly connected with parties serving their own, rather than the public interest. Dr. Peters was a properly accredited agent here for the object specified. But he is tapped too often by interviewers, and goes too fast to learn anything. He has made his book, had his say, and flies too rapidly to see anything to contradict. His report on cholera here is entitled to no respect whatever. He lets out more than he takes in. Instead of taking knowledge, he takes the bit in his teeth, and goes "kiting."

In the recent epidemic, Dr. V. S. Lindsley, with me, repeated, with a powerful instrument, such microscopical observations as we regarded of interest—they confirmed what is recorded, but without finding anything new.

We brought Huxley's definition of science to bear during the whole course of the epidemic, viz.: "Science is, I believe, nothing but trained and organized common sense, differing from the latter only as a veteran may differ from a raw recruit."—*Huxley's Lay Sermons.**

Every physician of the city, that I applied to, has cheerfully given me every assistance in his power to make this account of cholera truthful in every particular. Dr. V. S. Lindsley, Dr. F. M. Hughes, and Dr. G. W. Currey, especially, have placed me under deep obligation in quitting their business to collect, in all parts of the city and its liberties, data and statistics so necessary to a correct report.

APPEAL.

Fellow citizens, some day cholera will re-visit you. Instantly put all the money you can raise in the hands of all the preachers in the city, without the slightest reference to color or denomination. Let the preachers meet, and appoint, from among themselves, a Treasurer. Summon twenty educated young men as volunteers; let them receive a lecture from the Professor of the Practice of Medicine in the University of Nashville, whoever he may be, as to what to do in the cholera. Let them go forth, fearlessly, to all sufferers, and those likely to become such. Let each have the power to draw upon the Treasurer for money, sending in his account every night. The whole arrangement must be quick as the passage of a meteor. Let these missionaries roll back the wave of destitution in which cholera revels as a strong man in a bath. Bacon, meal, and chickens, in abundance!

* The New York "Medical Record" thought our article on Cholera, in 1866, not "scientific." This criticism, so common and so unmeaning, suggested Huxley's definition of "science."

Such a corps, headed by a preacher of the Gospel, went out from my office, being organized there, when the colored people were sending two to the grave to the white people's one, though there were three white to one colored in our city, and in twenty-four hours the colored death-rate was reduced one-half, and in forty-eight hours more whites died that colored. The Robertson Association furnished money, and the blood of chickens stained the front yard of many a hovel.

EXPLANATION.

My allusion to "vegetables," and "animal products," is thought, by good judges, to be vague. My cholera diet, to be explicit, embraces mutton, beef, bacon, venison, spring chickens, matured chickens, corn meal, flour, rice, tea and coffee. It excludes everything else—fruit, garden vegetables, every one, for I have traced death to each; nuts of all kinds. Animal products are the great table luxuries directly from animals, as milk, butter, cheese, eggs, and honey.

If one will observe these rules, I assert that he can save himself from cholera death, though cholera kill the whole world beside. This observation began in the cholera of 1832, and all the cholera epidemics since, have confirmed the truth of it. In the cholera of 1866, two eminent preachers here ate, one of them apples and the other watermelons, publicly, and in derision of the doctrine here asserted, and of that delivered to man in the beginning, that the stomach, under all conditions and circumstances of man, was not an uncomplaining depot to everything forwarded to it by the mouth or the gullet route, and they both died.

Col. Ament asserts, and, after much inquiry, I believe it,

that notwithstanding the awful mortality among our colored people, not one of them died who lived in a white family; and it is notorious here that all the white families likely to keep colored servants, religiously adhered to the above cholera diet, as our physicians, thanks to their good sense, generally enforced it. One clergyman died, but no lawyer or physician was lost. The clergyman was a highly-educated, good man, of a good Connecticut family, and died from that innocent New England dish, strawberry short-cake.

During the height of the epidemic, a little grand daughter of the late John Bell, a patient of mine, and restive under the restraints of a cholera regimen, gave vent to her feelings in the following lines, which got into one of our morning papers, and which, that I might, perchance, expand with a smile the long visages of our stricken population, I replied to next morning, in the same paper. The two waifs will serve as a picture of the mode of living forced on those who did not die of our epidemic, and the inherent rebellion of the human soul against salvation.

"LELA'S SOLILOQUY."

I am hungry, O! so hungry,
Yet I cannot break my fast;
I must not touch a cherry,
Though there's plenty in that glass.
"Old Starvation"—Doctor BOWLING—
Says from fruit we must abstain,
So, farewell to all the berries
Till the season comes again.

And the table—O! the table!
It looks so sadly bare
That one might easily imagine
There had been some cholera there,
Which had swept from out their places
Young potatoes, corn and beans;
I would give a whole plantation
To restore them, by some means.

As for thee, my dear loved butter,
I am forced to "let you slide";

"Old Starvation" says to eat you
Would be merest suicide.
So I sit and eat my biscuit
Sans thy lubricating aid,
Though there's danger of my choking,
But, to eat you, I'm afraid.

And even thy companion, milk,
As innocent as you,
That old fogy, Doctor Bowling,
Says Nashvillians must eschew;
But if the cholera spares me,
(And I only hope it may),
I will make amends for starving
When the scourge has passed away.

I am hungry, O! so hungry!
Hark! the tantalizing cry,
"Here are your nice fresh raspberries,
Come buy, come buy, come buy."
Go home, thou poor fruit-vendor,
For your berries will not sell;
You must say farewell to buyers,
And we to fruits—"farewell."

TO "LELA." (By W. K. B.)

Not hungry, darling, hungry,
Why, sure that cannot be,
After eating half a chicken,
Washed down with strong Bohea!
And as for unctuous butter,
To help a biscuit go,
In lieu of good ham-gravy!
How can you go on so?

And beef-steak, hot and smoking,
And mutton-chops aglow,
With fiery rolls in waiting
To go where good things go!
And call you this starvation?
Unconscionable child,
When next again you venture
Be pleased to draw it mild.