

changes in the adventitia (Fig. 2). Occasionally mitotic nuclear figures were here met with.

A marked proliferation of the subpericardial connective tissue had also taken place and the resulting new cells had invaded the heart muscle to a considerable depth. The phenomena observed resulting from leucocytic invasion were: 1. Leucocytes of the polymorphous variety in transit through the vessel wall (Fig. 2). This was distinct and frequent, resulting



FIG. 2.—Showing the proliferation of the adventitia. a, intima of a small arteriole; b, nuclei of the muscle cells in the tunica media; c, leucocytes; d, muscle fibers.

in, 2, accumulations of leucocytes in the adventitia among the formative cells. 3. The occasional presence of single leucocytes at long distances from the vessels where all changes were slight and, 4, the accumulation of leucocytes in foci in which degeneration and necrosis of heart muscle fibers had taken place (Fig. 3). Not only had muscle fibers disappeared in such areas, but in some foci nuclear fragmentation of all the cells in the center of the focus had resulted and dust-like chromatin elements of the degenerated cells occupied that region. No bacteria were found in these foci of necrosis. Multinuclear cells were present in the perivascular cell increase, but the nuclei of such were closely set together and showed no peripheral arrangement or central necrosis as is so frequent in the giant-cells of acquired syphilis. No changes were found in or about the veins or in the endocardium.

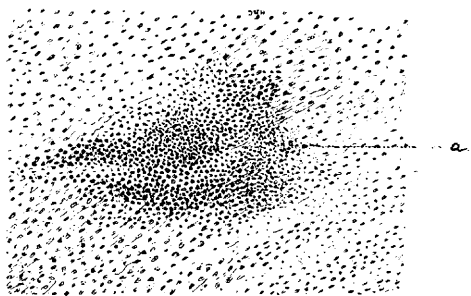


FIG. 3.—Area of necrosis and round cell infiltration. a, leucocytes.

The literature on congenital syphilis of the heart has been thoroughly summarized by Ludvig Hektoen in a case recently reported of "Multiple Foci of Interstitial Myocarditis in Hereditary Syphilis" (*Journal of Pathology and Bacteriology*, Edinburgh and London, January, 1896), and a search through the *Index Medicus* revealed no additional cases reported since his summary. The author above mentioned was able to find only nine previously recorded cases of hereditary syphilis of the heart, and these were collated in the well-known treatise by Mraček.² In 112 cases of heart syphilis considered by Mraček, nine had to do

with hereditary syphilis and the syphilitic nature of some of these was doubtful.

Conclusions.—That this is an instance of syphilitic myocarditis is conclusively proven by the changes present in other viscera and the syphilitic osteochondritis. The title of "gummata" is simply a matter of preference; multiple foci of interstitial myocarditis with leucocytic invasion, areas of degeneration of the heart muscle and the occurrence of multinuclear cells resulted in areas which to the naked eye were of limited extent, whitish, and appeared softened, in other words, gummatus.

WHAT WE EAT AND WHAT IT COSTS.

BY D. H. GALLOWAY, M.D.

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Few of us have any idea of the number of kinds of food which we eat in a year or of their absolute or relative cost. Man is said to be an omnivorous animal and this is generally taken to mean that he eats about equally of animal and vegetable food. The feeding of people collectively, as in the large public institutions, is not a test of the amount and variety of food consumed by the average man nor of the cost of it. Some time ago one of the Chicago papers instituted a prize competition for the best bill of fare which could be furnished for \$500 a year for a family of five persons. This brought forward a great many statements of the cost of living. Some of these were doubtless accurate, while many others bore such evidence of inaccuracies as to make them worthless.

There is no question but that some persons habitually eat vastly more than others; one family may eat more expensive food than another without necessarily being better fed; in fact the value of food may be in inverse ratio to its cost. While in college I had a roommate who weighed 250 pounds, which was just about twice my weight. We occupied the same room, were about the same age, attended the same classes and in many ways our habits were similar. We took our meals at a co-operative boarding club of thirty students. Without our knowledge, some of our fellow-boarders kept a record of the approximate quantity of food which we ate in a week and they found that my heavy roommate ate more than three times as much as I did. Obese people are not always extraordinarily large eaters, but they usually are and they eat excessively of heat- and fat-producing foods. Some persons eat too little and keep their vital fires too low, but there are many more who eat too much.

Eating too much food, or food that is unsuitable, or at an unsuitable time or in an unsuitable manner, is the principal cause of the great number of distressing affections which go by the various names of dyspepsia, indigestion, etc., and every physician will testify to the great prevalence of these diseases in this country. Probably more suffering is caused by errors of eating than by the use of alcoholic beverages, enormous as the latter undoubtedly is. Not all they pay for is eaten by every family. The margin of waste in some is a very large factor, while in others practically nothing is wasted. In households where the culinary department is left to servants who are not constantly watched, a larger or a smaller percentage of the food cooked finds its way into the garbage can. Quantities of meat and vegetables, too small to make another meal, are thrown out and stale bread is disposed of in the same manner. In other families these things

² "Die Syphilis des Herzens bei erworbener und erblicher Lues." Arch. f. Dermat. u. Syph., Wien, Ergänzungsheft, II, 1893.

are gathered up and go into hash or soup for the next meal, while the stale bread returns in wholesome bread pudding or as toast. Material which is wasted in one family often makes a wholesome, nutritious and appetizing meal for another.

It is not, however, so much the purpose of this article to show what we might live on as to indicate what we do live on and to present a table which has been carefully prepared from accounts which are accurate and from conditions which approximate those of the average comfortably situated American family. This table is made up from the books of Dr. Bayard Holmes' private hospital. The patients in this hospital were nearly all surgical cases and it is a well-known fact that patients who have undergone surgical operations eat as heartily as laborers during the period of convalescence. With one exception, these patients were all adults. I believe this table represents wholesome diet, adequate in quantity for the average family of equal size. It covers a period of 333 days, from May 1 of one year to March 29 of the next. The average number in this hospital family was 10.67 persons, so that we have listed here food sufficient for 3,582 persons one day or one person 3,582 days. It is equal to the board of 9.813 persons one year or one person 9.813 years. The first column of figures is the amount, where the amount can be given, of the item bought during the 333 days. The second column is the cost of the first. The third column is the amount consumed by one person in one year and the fourth column is the cost of the third. Of course, 158 loaves is not all the bread which was eaten by these ten people in 333 days, but only that which was bought as bread; most of the flour was made into bread in the house. This table is absolutely accurate in the main, though there may be small errors in a few things.

In order to obtain this record, I took the grocer's and butcher's books at the close of each month, checked up each entry and put all items of a kind together on a card. These cards were then ranged alphabetically and copied into a book. An item might appear in the grocer's book twenty times during the month, but it would appear but once in the account, the amount and cost including in one entry the total for the month. Since the numbers in the first column represent the amount consumed by 9.813 persons in one year, the amount consumed by one person is found by dividing the former number by the latter. Practically, I took the reciprocal of 9.813, which is approximately .102, and multiplied the numbers in the first column by this factor to get the numbers in the third column and by the same process the numbers in the fourth column are obtained from those in the second. There are 128 items in the table.

Article.	Amount bought.	Cost.	Amount Consumed.	Cost.
Baking powder	lbs., 9	\$ 4.05	.9181	\$.41819
Barley	lbs., 4	.21	.4080	.02142
Beef extract	lbs., 1	1.60	.1020	.16320
Bread, 158 loaves		10.05		1.02510
Breakfast food	lbs., 206	14.51	21.0120	1.48000
Butter	lbs., 324	82.81	33.048	8.44662
Butterine	lbs., 10	1.10	1.020	.11220
Cake		1.95		.19890
Canned cherries, 5 cans	lbs., 12.5	.73	1.275	.07446
Canned corn, 57 cans	lbs., 114	7.40	11.628	.75480
Canned peaches, 6 cans	lbs., 15	1.00	1.580	.10200
Canned peas, 42 cans	lbs., 84	7.17	8.568	.73134
Canned plums, 1 can	lbs., 2.5	.28	.255	.02856
Canned salmon, 53 cans	lbs., 53	10.60	5.406	1.08120
Canned shrimp, 1 can	lbs., 1	.25	.051	.02550
Canned succotash, 12 cans	lbs., 24	1.00	2.448	.10200
Canned tomatoes, 74 cans	lbs., 222	9.35	22.644	.95289
Capers, 1 bottle	pts., 17	4.25	1.734	.48350
Catsup	lbs., 7	1.80	.714	.13260
Cheese				
Chocolate20	.051	.02010

Chow-chow	2	.70		.07140
Cider	qts., 6	.72	.612	.07344
Citron22		.02244
Cocoa	6.5	2.88	.665	.26376
Cocconut, shredded68		.06986
Coffee	lbs., 57	21.66	5.814	2.20982
Cornstarch	lbs., 5	.50	.501	.05100
Crackers	lbs., 180	24.97	18.360	2.54694
Cream tartar	ozs., 2	.10	.204	.01020
Eggs	4,536	69.21	462.672	7.05942
Flour	lbs., 986	24.10	100.572	2.48520
Fruit, apples	pkts., 48	14.28	4.896	1.45656
Fruit, bananas	132	2.14	13.464	.21828
Fruit, blackberries	8	.44	.306	.04488
Fruit, cherries	boxes, 9	.88	.918	.08466
Fruit, cranberries	qts., 6	.80	.612	.08160
Fruit, gooseberries	boxes, 2	.20	.204	.02040
Fruit, grapes	bskts, 25	7.03	2.550	.71706
Fruit, lemons	621	14.24	63.342	1.45248
Fruit, melons—cantaloupes		8.24		.33048
Fruit, watermelons	18	5.40	1.836	.55080
Fruit, olives	pts., 6	1.39	.612	.16218
Fruit, oranges	738	19.63	75.276	2.00226
Fruit, peaches	bskts, 22	7.30	2.244	.74400
Fruit, pears	12	.25	1.224	.02550
Fruit, pineapples	17	2.59	1.734	.26418
Fruit, raspberries	boxes, 9	1.65	.918	.16830
Fruit, strawberries	boxes, 84	10.59	8.568	1.08018
Fruit, whortleberries	boxes, 2	.30	.204	.03040
Fruit, dried apricots	lbs., 16	2.80	1.632	.28560
Fruit, dried currants	lbs., 3	.39	.306	.03978
Fruit, dried figs	lbs., 16	3.10	1.632	.31620
Fruit, dried prunes	lbs., 21	3.43	2.142	.34986
Fruit, dried raisins	lbs., 12	1.55	1.224	.15810
Gelatin	ozs., 70	7.00	7.140	.71400
Ginger ale	bottle, 1	.20	.102	.02040
Hominy	lbs., 5	.20	.510	.02040
Honey	lbs., 3	.60	.306	.06120
Ice	lbs., 6,200	81.00	682.400	3.16200
Jelly	lbs., 13	6.40	1.326	.65280
Lard	lbs., 74	8.85	7.548	.90270
Macaroni	lbs., 3	.45	.306	.04590
Matzoon	qts., 107	24.85	10.911	2.48370
Meats		263.12		26.83824
Milk	qts., 3,558.5	208.25	362.967	21.25946
Nuts	lbs., 16	2.40	1.632	.24480
Okra18		.01886
Oysters	qts., 25	6.41		.65362
Pumpkin pie	1	.15		.01590
Rennet	1	.25	.102	.02560
Rice	lbs., 37	3.70	3.774	.37740
Spice, all15		.01530
Spice, bay leaves05		.00510
Spice, cassia06		.00510
Spice, celery seed05		.00510
Spice, celery salt15		.01530
Spice, cinnamon13		.01326
Spice, cloves83		.03366
Spice, ess. lemon35		.03570
Spice, ess. vanilla	9	2.00		.20000
Spice, ess. ginger	2	.25		.02550
Spice, horseradish30		.03060
Spice, mint25		.02550
Spice, mustard45		.04590
Spice, nutmeg	oz., 1	.10		.01020
Spice, pepper70		.07140
Spice, pickles05		.00510
Spice, sage05		.00510
Rock salt	lbs., 110	1.10	11.220	.11220
Table salt	lbs., 100	1.00	10.200	.10200
Spighetto	lbs., 3	.45	.306	.04590
Corn starch	lbs., 5	.50	.510	.05100
Sugar	lbs., 671	34.19	68.442	3.48780
Syrup	qts., 4	.60	.408	.06120
Maple syrup	oz., 64	.70	6.528	.07148
Tapioca	lbs., 1	.06	.102	.00610
Tea	lbs., 15.75	13.52	1.606	1.87900
Vegetables, green, soup behs52		.05302
Vegetables, asparagus		1.73		.17644
Vegetables, beans		3.16		.32234
Vegetables, beets		1.22		.12446
Vegetables, cabbage72		.07342
Vegetables, cauliflower25		.02554
Vegetables, celery		1.20		.12244
Vegetables, corn	ears, 222	3.04	22.644	.31008
Vegetables, watercress60		.06210
Vegetables, cucumbers88		.08976
Vegetables, eggplant	8	1.18	.816	.12086
Vegetables, lettuce		2.78		.28556
Vegetables, onions	qts., 12	1.12	1.224	.11424
Vegetables, oysterplant25		.02550
Vegetables, parsley		1.55		.15810
Vegetables, parsnip02		.00204
Vegetables, peas		5.00		.51000
Vegetables, potatoes	pkts., 120	20.56	12.24	2.09712
Vegetables, Saratoga chips15		.01530
Vegetables, sweet potatoes		4.48		.45696
Vegetables, pumpkins10		.01020
Vegetables, rhubarb04		.00408
Vegetables, radishes80		.08160
Vegetables, spinach35		.03570
Vegetables, squash	2	.17		.01734
Vegetables, tomatoes	bskts., 44	6.34		.64668
Vegetables, turnips10		.01020
Vermicelli25		.02550
Vinegar	qts., 36	1.13	4.080	.11526
Yeast cakes	237	4.74	24.174	.48384

111.72262

The following table is a synopsis of the foregoing one. I have grouped the items by classes and arranged them in the order of expense. The amount

in the column of figures is the cost of the article named for one person for one year.

Meats (including fish, oysters and lard)	\$29.28082
Milk (cream and matzoon)	23.72816
Fruit (fresh, canned and dry)	10.79096
Vegetables (green and canned)	8.50791
Butter	8.44052
Breadstuffs (bread, flour, crackers and cereals)	7.55866
Eggs	7.05942
Coffee, tea and chocolate	8.60876
Sugar	3.48738
Ice	3.16200

Add together the foods of animal origin, meat, milk butter and eggs and a few more small items and we have \$69.85516 as the cost of animal food which each one of us eats in a year, against \$41.86736 for foods of vegetable origin which we eat in the same time.

It will be seen by reference to the table that in a year the average man eats 33 pounds of butter and pays \$8.44 for it, 63 lemons at a cost of \$1.45, 75 oranges at \$2, uses 632 pounds of ice at \$3.16, consumes 363 quarts of milk at a cost of \$21.23, 462 eggs at a cost of \$7 and 10 pounds of salt at 10 cents. It shows also that we spend as much for oranges as we do for potatoes, and more for fruit than for vegetables.

We paid for rent for each person \$72.93. I looked over my private accounts and found that I paid for clothing in ten years (from the time I was 20 till I was 30 years of age) \$525.73, an average of \$52.57 for each year. Taking these figures as a reasonable average I find that it costs for the three principal necessities of life as follows: Food, \$111.72; shelter, \$72.93, clothing, \$52.57.

During this time (333 days with an average of 10.67 persons) we used 37,500 matches, 399 bars of laundry soap, 79 bars of cleaning soap and 206 bars of toilet soap. This indicates that each person uses 3,750 matches a year, or more than ten every day, and this is below the real number consumed, as we had one or two thousand on hand when this account began. It will be seen also that each person uses 20 cakes of toilet soap in a year or nearly two each month. This includes bath soap, and in this hospital every patient got at least one bath every day. During the entire time this hospital was under my management there was not sent out of it one pound of garbage nor any combustible refuse whatsoever; nothing but ashes and broken glassware and crockery was put out for the scavenger. Everything combustible was made into bundles with old newspapers and burned in the furnaces both in winter and in summer.

During this period we used 92,000 cubic feet of illuminating gas, for which we paid \$99.54, equivalent to 9,384 cubic feet, at a cost of \$10.15 per person per year. I have since looked up the amount of gas consumed for lighting purposes by a family of four people and found it to be 38,400 cubic feet, which makes 9,600 cubic feet for each person, and this corresponds very closely with the previous statement.

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THOUGHTS ON THE APPENDIX.

Read at the meeting of the Middle Tennessee Medical Society,
Nov. 18, 1897.

BY S. T. HARDISON, M.D.

LEWISBURG, TENN.

For the last decade the mind of the medical world has been turned to the region of the appendix, and possibly no part of the body has been so often before the profession for attention, both medical and surgical. The professional gentleman who has not had

numerous cases of appendicitis to treat has either been careless in his diagnosis and investigations, or has had a clientele that is far behind in medical fads and fancies. The increased frequency of troubles that involve the appendix either primarily or secondarily, has caused much thought and many theories in regard to its treatment both medical and surgical, conservative and radical.

Many learned men of wide experience have espoused the conservative course, but possibly a greater number favor prompt surgical interference. Quite a degree of success has been attained, and many are almost entitled to be called experts in its management, and if failure to bring relief is the result, it is almost always attributable to the lateness of the operation. Indeed, some have advocated the removal of the appendix as a superfluous organ, a menace to health and comfort. Doubtless, this is a wise conclusion if it has no function to perform. When I mention the use of function of the appendix, I am aware of the fact that I am approaching a subject that not only has not been investigated, but one so unimportant and prospectively so barren and uninviting as to forbid investigation. Years have come and gone, medical students with scapel in hand have carefully studied the anatomy of the appendix and have often asked the question, What purpose do you serve in the mysterious make-up and mechanism of this creature so fearfully and wonderfully made? Up to the present moment no satisfactory answer has been returned. Some have suggested that it is a rudimentary appendage, and that possibly man in his early existence had different viscera from what he now has, and as his condition changed, his anatomic make-up changed to keep in harmony with his environments. Another theory is that the troublesome appendix is an accidental formation which never had any mission. I think that both these theories are unsatisfactory and humiliating, and without intent are a reflection on the wisdom, power and goodness of Him who not only doeth all things well, but who doeth all things perfectly. No imperfections can be attributed to Him. No accident can happen to mar His work. And man the last, most wonderful and most exalted of all His creatures could not come from His hands with defects and imperfections that are unknown to the make-up of his inferior creatures. Therefore, I must be permitted to emphasize the statement that the appendix is not a useless appendage, occupying its place without use or function; and while I may not be able to explain to you its function clearly and satisfactorily and demonstrate it beyond doubt or cavil, I do hope to encourage you to examine the matter, and not cast it aside as did the builders of the temple, that stone that was to become the head of the corner, because we already know that the appendage often becomes an important tail on the corner.

Let us look for a moment at the anatomy of the parts. First, we have the valve at the termination of the ileum that prevents almost completely the regurgitation of the contents of the bowels. We have the cecum as a kind of the receptacle or depot, and the ascending colon is indeed an elevator whose power to remove the accumulations in the cecum, opposed by gravitation when in the upright position, smaller diameter, dependent alone upon peristaltic action, and the least failure on its part to do the work produces stoppage and accumulation in the cecum. Now we want more power. The colon, the elevator is ready