

as if reflecting insinuations of shortcomings. It is manifest that no sanitary service under the direction of such a board can be efficient. Sanitary surveillance should therefore be exercised by the health department of every city, town, county, or district, as the case may be, with that special care which the nature of the service demands.

The essay, as we have already said, is one of great value, and we would recommend every teacher in the State to send to the secretary of the Medical Society, William Manlius Smith, M.D., for a copy.

BASE-BALL PLAYERS.—Dr. Leuf contributes an article to the *Medical and Surgical Reporter* on the injuries of base-ball players. The doctor is a player himself, and speaks from personal experience as well as from observation. He says that one of his fingers was injured by a ball five times in one week, and that all his fingers have been injured at least once. His treatment is to continue playing, and at every opportunity—either in the street, in the office, or upon the field—to firmly grasp the finger about the middle, and rub towards the tip. Under this treatment, the swelling, stiffness, and soreness diminish, and after some weeks are entirely gone. The most marked swelling of the hand, accompanied by great pain, can be best relieved by the application of water as hot as can be borne, the hand remaining in the water for an hour, the temperature being maintained during the whole time. Nothing will do so much harm to a player as to abstain altogether from playing because he has some trivial injury or sore muscles.

DIPHTHERIA CARRIED BY THE COOK.—Dr. Jacobi sends the following letter to the health board of New York: “Ann Donnelly is a cook. She was in the house of Lieutenant Reed of West Point. She went to New York to bury a child of hers, who died of diphtheria at the house of a Mrs. McKee, No. 327 West 43d Street, about May 20. About ten or twelve days ago she unpacked a trunk in Lieutenant Reed’s house, in the presence of his children. The boy is recovering from diphtheria: the girl, of five years, died day before yesterday. The cook has disappeared from the house,—trunk and all,—ready to unpack again somewhere else, and go on murdering. If that woman cannot be sent to the State prison for sowing death wherever she goes, can she not be hunted up and stopped from doing mischief?”

TYPES OF BREATHING.—Dr. Mays of Philadelphia has been investigating the reasons for the abdominal or diaphragmatic type of breathing in the male, and the costal type in the female. That there is a fundamental difference in the two sexes was observed by Boerhaave as long ago as 1744. Hutchinson seemed to think that it might be a peculiar reservation against the period of gestation, when the abdomen cannot allow of so free a descent of the diaphragm; and to-day this is regarded as the reason for the difference. It occurred to Dr. Mays that an observation on the respiratory movements of females of a wild race, who had never been subjected to the constriction produced by civilized dress, would assist in solving the problem. With this object in view, he obtained permission to investigate the chest movements of the Indian girls of the Lincoln Institution. The instrument which he employed was a pneumograph of his own device, modelled somewhat after that of Paul Bert. It consists of a pair of calipers with two long and two short arms. The long arms are applied to the chest, and the short arms extend beyond the pinion which binds the instrument together. Between the two short arms, and by means of two small pinions, an air-drum is adjusted in such a way that the slightest motion produces either a rarefaction or a condensation of the air in the drum, which being connected by a column of air with a similar drum carrying a registering-lever, the movements of the chest are accurately marked on a revolving cylinder. In order to produce a slight and uniform pressure on the walls of the chest, the two long arms are connected near their union by a thin piece of elastic rubber. By means of this apparatus Dr. Mays examined the movements of eighty-two chests, and in each case took an abdominal and a costal tracing. The girls were partly pure, and partly mixed with white blood, and their ages ranged between ten and twenty years. There were thirty-three full-blooded Indians. Seventy-five of the entire number showed a decided abdominal type of breathing; three, a costal type; and in three

both types were about even. Those who showed the costal type, or a divergence from the abdominal type, came from the more civilized tribes, like the Mohawks and Chippewas, and were either one-half or three-fourths white; while in no single instance did a full-blooded Indian girl possess this type of breathing. From these observations Dr. Mays concludes, that, so far as the Indian is concerned, the abdominal is the original type of respiration in both male and female, and that the costal type in the civilized female is developed through the constricting influence of dress around the abdomen. It is very evident that the costal type of respiration in the civilized female is not due to the influence of gestation, as was believed by Boerhaave, Haller, and Hutchinson; for the influence of this process obtains as much among the uncivilized as it does among the civilized people. Dr. Mays directs attention to one result of his investigations which is well worthy of consideration. What is the influence of such abdominal constriction, as is practised by our civilized female, on the respiratory functions? he asks. Is it detrimental to health, or is it not? If, as is shown by these experiments, interference with the motion of the diaphragm produces a compensatory breathing in the costal portion of the chest, does not this tend to antagonize or counteract the sluggish respiratory movement of the lung apices? Is there any intimate relation between this induction and the fact that proportionally, and as a rule not without some exceptions, a less number of females than males die of pulmonary consumption?

MENTAL SCIENCE.

Good and Bad Temper.

MR. FRANCIS GALTON, whose researches on the hereditary and other characteristics of mental faculty have introduced science into subjects usually given over to opinion, publishes, in the *Fortnightly Review* for July, an analysis of statistics on good and bad temper. Some time ago Mr. Galton drew up an extensive series of questions concerning the physical and mental traits of families, and offered prizes for the most complete set of answers embracing the record of several generations. Fully recognizing the sources of inaccuracy inherent in such reports, Mr. Galton has ingeniously tested their reliability, and is extremely careful not to treat them in a more accurate manner than they justify. The statistics, embracing descriptions of the tempers of 1,981 persons, are sufficiently extensive to warrant the general conclusions which they suggest.

‘Temper’ is a convenient word wherewith to describe that general complex of emotional traits which serves in common life to distinguish personal characteristics that lead to sociability from those that do not. Every one knows what it means, and, consciously or unconsciously, guides his social intercourse accordingly. It is this that is most tangibly referred to as the source of family feuds and social quarrels. Its variability and fundamental importance make it difficult to describe. It is curious to note that Mr. Galton has only fifteen epithets for good temper, and forty-six for bad.

These are again grouped into five main classes,—mild, docile, fretful, violent, masterful; the three former predominating in women, the two latter in men. The number of persons, however, in the two groups of good and bad temper, is about equal; one set of data making it 48 good to 52 bad, and another 47 to 53. There is likewise little difference between the sexes; but what there is, is in favor of the gentler sex, there being 45 per cent of bad tempers amongst them, and 55 per cent amongst men. Altogether 36 per cent were mild in temper, 15 per cent docile, 29 per cent fretful, 12 per cent violent, and 8 per cent masterful.

It is curious to note how well the number of persons recorded as good, bad, or neutral in temper coincides with what theoretical considerations demand. Of 1,361 persons, 321 are described as good, 342 as bad, and 705 as neutral (most of the last not being described at all); that is, these observers unconsciously divide persons into four equal classes,—good-tempered, bad-tempered, not decidedly either but with more of a tendency to good, and similarly towards the bad. This shows that the line of average temper was placed where it belongs, with equal deviations in either direction. Another mark of reliability is to be found in the fact that near relatives are spoken of as bad-tempered quite as unreservedly as more distant ones.

Whether temper is hereditary is a question not easily answered; but when asked of couples in which both parents are good-tempered, or both parents bad-tempered, the answer is emphatically in the affirmative. 30 per cent of the children of the former are spoken of as good-tempered, and only 10 per cent as bad; while, with regard to the children of the bad-tempered, only 4 per cent are good-tempered, and 52 per cent bad. Similarly, by a method necessarily somewhat arbitrary and not easily described, Mr. Galton concludes that in the ancestry of good-tempered persons, three persons of good temper will occur to two of bad temper, and *vice versa* in the ancestry of a bad-tempered person. Apart from direct heredity, education and circumstances evidently affect temper. A large class of such influences are about as favorable to good as to bad temper, and so tend to produce a variety of tempers. Another class of influences, typically illustrated in the case of a not unusually docile woman becoming very docile as the wife of a masterful husband, tends to divide persons (and this applies particularly to the offspring) into distinct groups; while the effect of a prepotent ancestor may be working to continue one kind of temper through many members of the family. Mr. Galton finds, that, in 14 cases of 49, these domestic and social influences are too weak to overcome the secondary influences in course of heredity, either by the prepotent temper of one member or the general concurrence of temper in several. Finally, it may be noted, that, though so important and readily observed a trait, temper is not a prime consideration in marriage, men of each kind of temper about as frequently choosing a wife of one temper as of another.

This research, though necessarily not very definite, is well calculated to bring out the great variety of this important trait, and to show, amidst this diversity, its tendency to continue its kind.

IS GENIUS UNIVERSAL?—The question, when asked with a due appreciation of the kind of evidence upon which it is to be answered, is by no means an idle one. To know whether the activity for which the world reserves its highest prizes is dependent upon an unusual strength of mental capacity in all directions, or upon the acute specialization of one faculty of mind to the exclusion of any thing like equal development of other faculties, is certainly an important piece of knowledge. Carlyle had no respect for a genius that could not be any kind of genius, and his view is quite generally repeated with approval by persons with less right to an opinion. This is a mistake of all hero-worshippers. They exaggerate the abilities of their hero in all directions in which he had a somewhat more than average gift, and also exaggerate the share due to circumstances in his development. It is easy to cite quite a long list of men eminent in more than one direction; but, as Mr. Sully, whose train of thought (*Gentleman's Magazine*, July, 1887) we are now repeating, well points out, if we are careful to count only such kinds of eminence as imply markedly different modes of mental power, and demand first-rate ability in each, the number of 'double-firsts' is enormously diminished. We find that polynathy has been mistaken for universal genius; that the poet-scientist, for example, was a great poet, but only an average scientist; and that the few eminent names that shine in several departments are decidedly exceptional. "True genius very rarely shows itself in more than one well-defined region of human activity." That this is due to a more or less innate fitness for that kind of activity in which greatness is won, is shown not only by the fact that it is a marked characteristic of genius to show a decided bent that overcomes all obstacles in the direction of future greatness, but also that often tentative excursions in various directions result in failure, until the right activity is found, and success follows. This conception of genius is in harmony with the little we know of its physical substratum. "Universal genius is a biological absurdity," says Mr. Sully. Genius depends upon the abnormal development of a certain group of brain-centres. Widely versatile talent is the outcome of a splendid, generally excellent brain; and perhaps this is the clew to the tendency of genius to go over to abnormal one-sidedness, while talent keeps healthy as an "exalted common sense."

THE editor of *Petermann's Mittheilungen* is in receipt of a letter containing the news that Lupton Bey is safe in Khartum, although still a prisoner of Osman Digma.

BOOK—REVIEWS.

The Pleasures of Life. By Sir JOHN LUBBOCK. London and New York, Macmillan. 16°.

THERE are in every age certain leaders of thought, who, by their successes already won, have gained for themselves the right to speak on topics important to the general culture of the age which they represent. In an age in whose culture science occupies a place exalted far beyond what was ever allotted it before, it is natural to find in the eminent scientist the spokesman of culture. Amongst those entitled to such a distinction, Sir John Lubbock stands amongst the first. The versatility of his talents, the success with which he has utilized them in so many directions, the practical interest he has always taken in the doings of the nation to which he belongs,—all have contributed to his well-merited fame. The author of the 'Origin of Civilization' and of 'Pre-historic Times' does not think it a whit less worthy to minutely record the doings of 'ants, bees, and wasps;' and that, too, in the leisure hours of a busy parliamentary career. In educational and all scientific movements his name has always been prominent. Such a man is naturally often called upon to make short addresses of welcome or of congratulation on the many occasions on which such are customary. These addresses are here collected, and make a very pleasing volume. "Being myself naturally rather prone to suffer from low spirits," says the author, "I have at several of these gatherings taken the opportunity of dwelling on the privileges and blessings we enjoy," etc.

The changed conditions of modern life form the subject of many an essay. That these changes cause a variation in the order and importance of the pleasures of life, goes without saying. This change Sir John Lubbock fully appreciates, and the liveliness of his little book is beyond question. That much of what he says is not new, will be foreseen: such a volume must be judged by lenient standards. If what is said is well and pleasantly said, if it appeals to the good sense of cultured people by the liberality and nobility of the thought, it answers its purpose. It must certainly have been a privilege to have heard these addresses: in the reading of them many will find a 'pleasure of life.'

Under the two titles 'The Duty of Happiness' and 'The Happiness of Duty' is advocated a scientifically justifiable optimism the practical realization of which will be a universal blessing. The importance of literature in the lives of the people at large is represented in 'A Song of Books,' and in the much-disputed 'The Choice of Books.' The social virtues find their praises recorded in 'The Blessings of Friends' and 'The Pleasures of Home.' The practical problems of modern life are touched upon in the essays on the value of time, on science, and on education. The plea for science is a just one: it aims to dispel the notion that science is all drudgery, or all grossly and immediately practical; the scientist a bug-hunter, and nothing more. The culture-worth of science, the educational value of its instructions, are amongst the most precious treasures of our civilization. The office of these in widening the mental horizon, in checking a narrowing dogmatism, in keeping alive a healthy communion with nature, can hardly be exaggerated. In the education of the future, science is destined to play a still more important part than it does now. One may well join the author in the wish for a glimpse of a science-primer of the twentieth century.

Home Sanitation: A Manual for Housekeepers. By the SANITARY SCIENCE CLUB of the Association of Collegiate Alumnae. Boston, Ticknor. 16°.

THE Sanitary Science Club of the Association of Collegiate Alumnae was organized in 1883, for the study of home sanitation. Two years were devoted to general study and research before any attempt was made to extend the work beyond the limits of the club. Since that time the material presented in this little book of eighty pages has gradually taken form. It consists of a series of short essays on the different subjects connected with home sanitation, each of which is followed by a series of questions formulated with reference to the topics discussed, and so framed that an affirmative answer implies a satisfactory arrangement of that part of the home, while, if the answer is negative, a remedy for the defect is suggested. These questions have been practically tested by the