instructor in geology at Yale, and rapidly became known among literary men as a logical thinker and superior instructor. He acquired a knowledge of local botany that was considerably more extensive than was possessed by any other scientist in the city or state. Professor Marsh valued his assistant very highly, and the two geological works of which Professor Marsh is the author were given to the printers in Mr. Harger's handwriting, having been very largely prepared by him under the immediate direction of the professor. In 1878 Mr. Harger married Miss Jessie Craig, sister of James R. and Alexander Craig of New Haven. Mrs. Harger survives him, but he leaves no children.

— Mr. P. W. M. Trap of Leyden is about to issue the first number of the *Internationales Archiv für Ethnographie*, which will be edited by Dr. J. D. E. Schmelz, curator of the National Ethnographical Museum at Leyden. The principal object of the new journal is the study of 'descriptive ethnology;' i.e., of the material, form, method of manufacture, and use of objects made by peoples still extant. It will be illustrated by color-plates, a magnificent sample of which accompanies the publisher's announcement.

— In *Science* of Nov. 4, p. 226, 23d line of 'Search for Gems and Precious Stones,' '.792074' should read '.7920792.'

LETTERS TO THE EDITOR.

*** The attention of scientific men is called to the advantages of the correspondence columns of* SCIENCE *for placing promptly on record brief preliminary notices of their investigations. Twenty copies of the number containing his communication will be furnished free to any correspondent on request.*

The editor will be glad to publish any queries consonant with the character of the journal.

Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Cheyenne.

YOUR espousal of the true pronunciation of 'Arkansaw' should give a shock to New England self-conceit, unaware that the New England type of mind is essentially shallow.

In regard to the name 'Cheyenne.' In youth I was able to speak enough Sioux to trade with the Indians. The French trappers told me that the Sioux say that the first Cheyennes they ever saw had their thighs painted red, and they (Sioux) remarked to them, *Shah-ee-aie-loo-hah*, which means, 'You have painted yourselves red.' They call the Cheyennes '*Shy-aie-lah*,' an abbreviation of the above sentence. *Shah-shah* means 'red;' and *loo-yah*, 'you have.' The change to 'Cheyenne' might easily occur in the transfer from Indian to white, and the first attempt to spell it by Frenchmen would of course be with *ch* instead of *sh*. The 'squaw-men,' trappers and hunters, do not believe it has any connection with the French word *chien*, notwithstanding the name of the Cheyennes in the intertribal sign-language is 'wolf-ears made with forefingers and thumbs at sides of head.' GEO. WILSON.

Lexington, Mo., Nov. 5.

The American Physique.

LAST spring I received a letter from an English gentleman who is interested in anthropology and biology, asking me if there were any facts to sustain the impression abroad that the white man is deteriorating in size, weight, and condition in the United States. I had no positive information of my own to give, and I could only refer my correspondent to the data of the measurement of soldiers, and to some other investigations of less importance.

It occurred to me, however, that, since by far the greater part of the men of this country are clad in ready-made clothing, the experience of the clothiers might be valuable, and that, from their figures of the average sizes of the garments prepared by them for men's use, very clear deductions could be made as to the average size of the American man.

I therefore sent a letter to two clothiers in Boston who have been long in the business, one in Chicago, one in New York, one in Baltimore, one in Detroit, one in Texas, and one in Montreal. The information received in return is to this effect.

In any given thousand garments the average of all the returns is as follows: chest-measure, 38 inches; waist, 33½ inches; length of leg inside, 32½ inches; average height ranging from 5 feet 8½ to 5 feet 9 in New England, up to 5 feet 10 for the average at the South and West. A few deductions of weight are given from which one can infer that the average man weighs between 155 and 160 pounds.

These measures cover the average of the assorted sizes of garments which are made up by the thousand. There are a few small men who buy 'youths' sizes' so called, and a few larger men who buy 'extra sizes.' The remarks made in some of these letters are interesting.

My correspondent in Chicago states, "that, so far as relates to the assertion that the race in this country deteriorates, our experience teaches us that the contrary is the case. We are now, and have for several years past been, obliged to adopt a larger scale of sizes, and many more extra sizes in width as well as length, than were required ten years ago. I find that occupation and residence have a great deal to do with the difference in sizes, the average of sizes required for the cities and large towns being much less than that required for the country. Again, different sections vary very much in those requirements. For instance, an experienced stock-clerk will pick out for South and South-western trade, coats and vests, breast-measure 35 to 40, pants always one or two sizes smaller around the belly than the length of leg inside; for Western and Northern trade, coats and vests, breast-measure 37 to 42, pants 33 to 40 around the belly, 30 to 34 length of leg inside."

My correspondent in Texas gives the average 38 inches chest, 33 to 34 inches waist, 32½ leg-measure, 5 feet 10 inches height, adding, "We find that the waist-measure has increased from an average of 32, to 33 inches during the past five years, and we think our people are becoming stouter built."

My correspondent in Baltimore had previously made the same statement; to wit, "Since the late war we have noticed that the average-sized suits for our Southern trade has increased fully one inch around the chest and waist, while there has been no apparent change in the length of pants."

I asked this firm if the change could be due to the fact that the colored people had become buyers of ready-made clothing, but have for reply that the fact that the negroes are buying more ready-made clothing now than previous to the war, accounts in only a small degree for the increase of the size, but is due almost entirely to the increased physical activity on the part of the whites. The experiences of this firm covers thirty-five years.

My correspondent in New York states that "for the last thirty years our clothing, numbering at least 750,000 garments yearly, has been exclusively sold in the Southern States. We find the average man to measure 37 inches around the chest, 32 to 33 around the waist, 33 to 34 inches length of leg inside, average height 5 feet 10 inches. The Southerner measures more in the leg than around the waist, — a peculiarity in direct contrast to the Western man, who measures more around the waist than in the leg."

My correspondent in Canada gives the following details; experience covers twenty years, about 300,000 garments a year: —

Breast-measure	36,	37,	38,	39,	40,	41,	42,	44.
Waist "	32,	33,	34,	35,	36,	37½,	39,	42.
Cut per 1,000 of above sizes	80,	160,	240,	240,	140,	60,	60,	20.
Average weight for each size	140,	150,	160,	168,	175,	180,	200,	225.

"The information about the weight I got from a custom tailor of some years' experience, and cannot, of course, vouch for its correctness."

My correspondent in Detroit says, "We notice marked peculiarities in regions where dwell people of one nationality. The Germans need large waists and short legs; the French, small waists and legs; the Yankees, small waists and long legs; the Jews, medium waists and short legs. We have found a decided demand for larger sizes than we formerly used."

This subject is foreign to my customary work. I give these statements as a matter of general interest, and perhaps some of the students who are engaged in this branch of investigation may take a hint from this method and extend it still further.

Possibly the average size for a woman could be deduced from the data of the manufacturers of knit goods. From what I know of the business of the clothiers to whom I made application, I should infer that the figures which I have submitted above would cover more than one hundred million garments; and I know of no better

method of coming at a rough-and-ready conclusion regarding the size of men, than the one which I have adopted.

This subject has interested me from the standpoint of better nutrition. It will be observed that the American man is decidedly gaining in size and weight. If this has happened during twenty years of the American frying-pan, dyspeptic bread, pale pie, and cooking in general under the supervision of cooks who were sent from the wrong place where the meat did not come from, what may be expected when the American woman learns how to cook? Cannot some one obtain data for comparison with these sizes from the statistics of military recruits and conscripts in Europe, or from the contractors for army clothing?

EDWARD ATKINSON.

Boston, Nov. 3.

The Sense of Smell.

IT is quite customary, when treating of the senses, to speak slightingly of smell and taste, as if they were of little importance in the economy of life. When the subject of training the senses is under consideration, little is ever said of training the nose, while much space is devoted to educating the eye, the ear, and the hand. It is certainly true that smell does not rank with sight and hearing, and demands less care, perhaps, for its cultivation; and yet it plays an important *rôle*, and should receive its due share of attention in any scheme of education.

The function of smell is fourfold. Like the higher senses, it belongs to the intellectual endowments. It is a part of the mind. Through it the mind is reached, roused, and quickened. The percepts and concepts gained through the sense of smell can be named, described, analyzed, compared, and classified. They may thus become the means of a good degree of intellectual life. Smell is a source of knowledge. Through it the mind discerns those qualities in things which we denominate odor. This knowledge it can obtain in no other way. A surprisingly large number of objects have their own peculiar odor. The onion, the carrot, the beet, and all other vegetables have characteristic odors; so have fruits, flowers, spices, and many gases, as well as animals, meats, etc. The knowledge of the kind, quality, and condition of things that can be obtained by the sense of smell, is very extensive. Not only the druggist, the chemist, the cook, but others likewise, make much practical use of the nose as a source of knowledge, having its own special scientific interest. But smell does a highly important work in enabling us to detect foul, hurtful odors. The nose is placed at the entrance to the mouth as a sentinel to guard it from receiving unwholesome food. It is the watch-dog of the stomach. A fourth, scarcely less important function of smell is that of giving pleasure. The nose is capable of ministering to our happiness even more, perhaps, than the touch or the taste. One with a cultivated nose has delights that another knows not.

There is even a greater need for some systematic training of the sense of smell than of the so-called higher senses. The ordinary experiences of life and the regular work of the school-room necessarily give to the eye, ear, and mind considerable exercise; while the smell is called into use much less frequently out of school, and scarcely at all in school. Besides, the words expressive of smell percepts and concepts are far less numerous and exact than corresponding words for sight and hearing; so that the training incident to the use of language is likely to be far less extensive and accurate in the case of the nose than in that of the eye, ear, and hand. Add to this the low estimate generally placed upon the sense of smell, and the popular indifference to its training, as shown in the fact, that, while we have elaborate schemes for training the eye in knowledge of form and color, we have practically none for training the nose in the performance of its proper functions, and we may challenge for this useful member the sympathy and interest due to neglected merit and overlooked modesty.

In every primary school there should be some special attention paid to the education of this sense. This should aim to secure, first, the frequent exercise of the sense until it acquires strength proportionate to its duties. It should not be overworked, nor called into undue prominence, but should receive its proper share of attention till it acquires both strength and sensitiveness. Second, the training should be such as to develop a high power of discrimination, so that the pupil can discern quickly and accurately the different odors that are presented. Third, the growth in discriminative power should be accompanied *pari passu* with language. Each distinct odor should be named, and the closest association should be created between the idea and the word, so that the one shall recall the other. The pupil should be exercised in analyzing complex odors, so as to be able to detect the presence of different substances in the same compound. He should be instructed in noxious smells, which indicate the presence of harmful substances, and should have some knowledge of the disagreeable odors, their origin, and the method of their removal.

Boys might receive a little special training as a preparation for laboratory or scientific work, and girls be instructed in view of their possible duties as cooks or housekeepers. A few very simple principles suffice for suggesting a plan of carrying this scheme into effect. The work should be begun in the primary grades. This is a period of sense-activity, when the child is being aroused to mental life through sense-perception, acquainting itself with the sense-qualities of the universe, and storing up ideas for future use. If the senses are neglected at this period, the opportunity for training them may never return. At first the work should be simple, making very light demands upon the sense. A few common fruits, flowers, and spices or gums may be used, with a view of forming a sharp discrimination, quick recognition, and accurate naming. The drill exercises should be very brief, aiming at thoroughness rather than multiplicity, and may be alternated with lessons in form, color, place, number, etc. The lessons should be graded so as to increase in difficulty, and should be so systematized as to secure the fourfold end of varied activity, knowledge, health, and pleasure. Each step forward in sense-discrimination should be accompanied with drill in oral and written language. For ordinary purposes it will be sufficient to make the child well acquainted with perhaps one hundred distinct odors, separate and in combination; and these for the most part should be of those things a knowledge of which will be of most service in daily life.

When the sense has been properly trained in childhood, and a habit of wise use established, the pupil will be able to call it into exercise on all needful occasions, and, on the basis of this general culture, can, if need be, secure a highly specialized development of the sense, meeting all the requirements of extraordinary occasions.

THOMAS J. MORGAN.

Providence, R.I., Nov. 3.

Answers.

15. IS THE TRUMPET-CREEPER POISONOUS?—The belief is general in many parts of the South and South-west that both the trumpet-creeper and the Virginia creeper (*Ampelopsis quinquefolia*) are poisonous. I have always acted upon the opinion that this belief is as unfounded in the one case as in the other. A little experience of the poisonous *Rhus* will make an ignorant person afraid of every vine found growing in the woods. JOHN C. BRANNER.

Little Rock, Ark., Oct. 31.

15. IS THE TRUMPET-CREEPER POISONOUS? — No. This is *Tecoma radicans*, and climbs trees, posts, walls, etc., by means of thousands of rootlets. It is trained around many verandas and about door-yards for ornament. No one was ever poisoned by it. It has been often mistaken for *Rhus radicans* of Linnæus (the climbing variety of *R. toxicodendron*), which also climbs by means of thousands of rootlets. The stems of the two clinging to trees resemble each other very much. I have had many cases of *Rhus*-poisoning, but never heard of any thing being poisoned by the *Tecoma*. Many times when persons have exclaimed in alarm, "That is poison-vine, don't touch it!" I have, to their consternation, seized the leaves of *Tecoma*, rubbed them over my face and hands, and even chewed them. With sixty years of daily intimacy with these plants, I feel justified in these statements. D. L. PHARES.

Agricultural College P.O., Miss., Nov. 5.

16. The Archbald pot-holes were described by Dr. John C. Branner in the Proceedings of the American Philosophical Society, vol. xxiii., pp. 353–357 (read Feb. 19, 1887), and Mr. Charles A. Ashburner in the 'Annual Report of the Pennsylvania Geological Survey for 1885,' pp. 615–626. CHARLES S. PROSSER.

Cornell Univ., Ithaca, N.Y., Nov. 7.