a really 'good' boy is morally precocious or diseased. This view does not lower one's estimate of a boy's virtues, but accents those that are suited to his years, as well as the importance of the gradual and timely appearance of the several instincts and emotions without which civilization would be impossible.

HEALTH MATTERS.

Chest-Expansion and Consumption.

IN *Science*, ix. No. 221, we gave a *résumé* of the views held by G. W. Hambleton, licentiate of the King's and Queen's College of Physicians, Ireland, on the origin and prevention of consumption. These views were presented last year at a meeting of the British Association for the Advancement of Science. Since then Mr. Hambleton has been engaged in certain experiments upon this important subject, and during this research his attention has been drawn to the fact that the size and shape of the human chest vary according as he varied its conditions. So constant was this variation as to make him doubt the present accepted theory of the inheritance of chest-types.

Taking a well-marked example of the so-called inherited consumptive chest, he subjected it to conditions that tend to develop the lungs, till it corresponded in size and shape, first with the town artisan, then with that of a man of the privileged class, and finally with that of a man of the best class of insurable lives in America. By subjecting the same chest to conditions that tend to reduce the breathing capacity, he brought it back through the same types to nearly that with which he commenced; and he claims to have produced similar results in other chests within a period measured by months. At birth the average male child of all classes has the same type of chest, but at maturity he has that of the class to which he belongs. The types of chest, Mr. Hambleton claims, vary with the conditions to which these types are subjected. Thus we have the type of chest of those who use wind-instruments, and another type of those who compress their chests in their work or by a corset. In these no one raised the question of inheritance. This variation of the chest is not peculiar to it: it is true of all other parts of the body. The shape of the head may be altered by direct pressure, and the shape and size of the feet in the same way.

According to this theory of Mr. Hambleton, the type of man after birth is solely produced by the conditions to which he is subject: hence the formation of race by man's continuance under the same conditions, and its subsequent divisions into sub-races and families by his migrations into new conditions and the minor differences therein. The field which is opened up for investigation by these views is, as Mr. Hambleton states, a wide and important one. When we have ascertained what the conditions are that produce these differences in man that together make a class or type, we shall be able to produce that class or type; and we shall also be able to tell what type of body is best suited for a given occupation, and for residence in a given country. "Then we shall train men so that we shall no longer send them into occupations with types of body unfitted for the conditions of that occupation, and consequently we shall be spared the misery and loss of those numerous breakdowns from unsuitability of type that are now daily brought before us."

These views have been referred to a committee of the association, with instructions to investigate them; and in a letter which we have received from Mr. Hambleton, he requests that they be thoroughly tested by scientific men in this country. It will, we are sure, be apparent to our readers, that, if all that is claimed for these opinions is true, a most important and valuable contribution to human knowledge has been made; and, if the practical results which are stated to have been obtained in isolated instances can be made general, the improvement in the human race which is certain to follow will be beyond all computation. We shall be glad to open our columns to those who desire to discuss the question, or have any facts bearing upon it.

FOODS CONSUMED IN WINTER. — In no particular does the difference between the customs of the people of the present day and those of their forefathers show itself more distinctly than in the amount and character of the food which they consume during the winter months. The diet of fifty years ago was characterized by simplicity, and want of variety: that of to-day is just the opposite. This is largely due to the improvements in the processes of food-preserving, by which every form of plant and animal life is as available at one season of the year as at another. Some of these processes are so simple that there is no reason for substituting questionable methods for them, while others require so much time and attention that packers are constantly on the alert to discover a way to shorten the time and lessen the necessary watchfulness. With this object in view, chemistry is often appealed to, to solve the problems which are constantly presenting themselves. It is in this way that chemical products of various kinds find their way into the food-supply. The improvement which takes place in coffee when it is transported in sailing-ships is, now that a quicker method of transportation is employed, counterfeited by polishing and coloring; and to avoid the trouble of long treatment by heat of some vegetables and fruits, and their consequent deterioration in appearance, preservatives of various kinds are employed. One of the most commonly used of these is salicylic acid. The effect of this acid upon health has been thoroughly investigated in France, and its use in foods and drinks has been prohibited in that country since 1881. Prof. E. H. Bartley, of the Long Island College Hospital, Brooklyn, has recently examined this question with great care, and in an article which appears in the *American Analyst* his views and those of other authorities are given in full. In the use of this acid in the treatment of rheumatism, clinical observation shows that it cannot be continued for a long period of time without impairing digestion, and in its elimination it passes out undecomposed through the kidneys. It has been recognized that under these circumstances it not only irritates but inflames these organs. In preserved food we have to do with smaller quantities of the acid, as a rule; though that this is not always the case is shown by Professor Bartley's figures. He says, "The quantity of salicylic acid usually employed in wines is from six to eight grains per gallon, and in beer from twelve to fifteen grains per gallon; or, in the case of beer, from one to one and a half grains to the glass. As many men habitually drink twenty-five glasses during the day, they take from twenty-five to thirty-seven grains of the acid per day. The medicinal dose is usually stated to be from ten to twenty grains." He also calls attention to the fact that nursing mothers are frequently recommended to drink ale, porter, or beer, with the idea that it stimulates the mammary gland, and to the additional fact that temporary renal disease is frequent during the first weeks of lactation. In conclusion, Professor Bartley says, "I should state that another serious objection to the use of salicylic acid is the fact that many samples found in the market contain more or less carbolic acid. It is now almost entirely manufactured from this very poisonous substance, and, unless great care is exercised, an appreciable amount of it is left in the finished product. Indeed, some writers think that some of the fatal accidents recorded from the use of salicylic acid have been due to the presence in it of carbolic acid. If the use of this acid is to be countenanced, impure articles will be used, and greater damage may be done than could come from the pure article. From a careful consideration of the whole subject, I am compelled to regard the use of salicylic acid in foods and drinks, and especially in lager beer, as at least open to serious objections. If it be harmless to healthy adults, the evidence of its deleterious action upon the aged and certain other classes of the community is too strong to be disregarded by sanitary authorities, and should prohibit its use for this purpose."

ETHNOLOGY.

Dwarfish Races.

A. DE QUATREFAGES has recently published an historical review of the ancient and modern reports on dwarfish tribes. While formerly the descriptions of ancient geographers were considered not trustworthy, many of them have been confirmed by recent explorations. Among these are the tales on the pygmies. Aristotle and Pliny state that a dwarfish people lived near the swamps of the upper part of the Nile. De Quatrefages considers this tribe identical with Schweinfurth's Akka, who at the present time live a little farther south. Pomponius Mela mentions dwarfs who inhabited the neighborhood of the Red Sea. This report was confirmed by

Léon des Avancher's discovery of the dwarfish Wa Berikomo, who are said to be only four and one-half feet high, and by D'Abbadie's visit to the Maze-Mollea, who live a little farther to the north.

Herodotus tells of a dwarfish black people on the banks of the Niger. His description of the land still holds good; but, instead of negroes, Berbers and Tuareg inhabit those regions. At the present time the most northern place in West Africa which is inhabited by dwarfs is Tenda-Maje, where they were met with by Mollien in 1818.

Pliny mentions, besides the dwarfs on the sources of the Nile, others living in what is now south-eastern Belutchistan, where the Brahui, a people of Dravida lineage, are found. Ktesias speaks of pygmies who inhabited Central India. Mr. Rousselet found in that region the dwarfish Bandra-Lok, who live in the Vindhias Mountains.

De Quatrefages considers all Asiatic dwarfish tribes as one group, which he calls Negrito, while the African ones are called Negrillo. His researches lead him to the conclusion that the traces of this race are found from India to the eastern extremity of New Guinea, and from Ceylon throughout India, Farther India, the Philippines, to Japan. In most regions they are mixed with other races. He considers the Dravida one of the most characteristic results of this mixture. It is only on the Andaman Islands and a few other isolated points that the pure race is still in existence. The author shows that individuals of Negrito type occur among the Pariahs of India, and that isolated communities in many parts of south-eastern Asia have retained the anthropological character of this dwarfish race.

De Quatrefages considers the Negrito of all these widely separated regions one race, which originated in southern Asia. When the yellow race migrated southward and the white race eastward, they were compelled to take refuge on the islands, and to migrate to more southerly countries. Thus they populated the Eastern Archipelago, and crossed to Africa.

COELHO ON ROMANIC DIALECTS. — A recent number of the *Boletim da Sociedade de Geographia de Lisboa* contains a third article by Adolpho Coelho on Romanic dialects of Africa, Asia, and America. The principal object of these researches is a study of the development of languages by isolation and admixture of foreign elements, and much new and interesting material has been collected by the author. There is a wide field for researches of this kind in North America. Coelho gives some examples of the French of Louisiana, and a brief bibliography of jargons based on English and other Teutonic tongues, many of which are spoken on our continent. The study of these would be an important goal for an American dialect society, the organization of which was lately proposed.

METLAKAHTLA. — The *American Magazine* for July contains a paper by Z. L. White on Metlakahtla, the famous missionary station on the north-west coast of America, which contains some interesting information on the Indians of that mission. The same subject is treated in the recently published book, 'The Story of Metlakahtla,' by S. Wellcome. Though the purpose of both publications is to extol the work of Mr. A. Duncan, the missionary of the village, and to support him in a bitter contest against the Canadian Government, some valuable ethnological information is contained in them. The horrible cannibal ceremonies of the Tsimpshian, the inhabitants of Metlakahtla, are described according to Mr. Duncan's statements. The initiation of young men who are to become members of this order takes place as follows: Early in the morning the novices would be out on the beach, or on the rocks, in a state of nudity. Each had a place in front of his own gens. After he had crept about, jerking his head and screaming for some time, a party of men would rush out, and, surrounding him, would begin singing. There are three orders among the Tsimpshian and their neighbors, — the cannibals, the dog-eaters, and the dancers. The dog-eating order occasionally carried a dead dog to their novice, who forthwith began to tear it in the most dog-like manner. The party of attendants kept up a low, growling noise, or a whoop, which was seconded by a screeching noise made by means of an instrument which they believe to be the abode (or voice?) of a spirit. In a little time the naked youth would start up again, and proceed a few yards in a crouching posture, with his arm pushed out behind him, and tossing his flowing black hair. All the while he is earnestly watched by the groups around him; and when he pleases to sit down, they again surround him and begin singing. This kind of performance goes on, with several little additions, for some time. Before the novice finally retires, he takes a run into every house belonging to his gens, and is followed by his train. When this is done, in some cases he has a ramble on the tops of the same houses, during which he is anxiously watched by his attendants, as if they expected his flight. After a while he comes down, and they then follow him to his den, which is signified by a rope made of red-cedar bark being hung over the doorway, so as to prevent any person from ignorantly intruding into its precincts. Another remarkable performance noticed by Duncan is the following: At low tide an illuminated disk with the figure of a man upon it was lit up at the water's edge. It represented the moon, and the Indians suppose that the shamans are there holding converse with the man in the moon. Metlakahtla is at the present time a thriving village, with a saw-mill and canneries. It was founded in 1862 by a party of Christian Indians, who were converted by Mr. Duncan, and emigrated with him from Fort Simpson. In course of time disagreements arose between Mr. Duncan and the Church Missionary Society, to which he belonged. In behalf of his Indians, and for developing the resources of his village, it was Duncan's policy to keep new settlers out of the northern coast of British Columbia, and his influence helped greatly to suppress the disastrous whiskey trade. But, as the white population on the coast was increasing, his policy proved detrimental to the interests of the new settlers, as Duncan had practically attained a ruling power over the whole country, from the boundary of Alaska to Vancouver Island. This was the first reason for his disagreement with the Church Missionary Society and with the Canadian Government. The outcome of these disputes is the resolution of the Metlakahtlans to emigrate to Alaska.

BOOK-REVIEWS.

Die Culturvölker Alt-Amerika's. By DR. GUSTAV BRUEHL. Cincinnati, Benziger Bros. 8°.

DR. GUSTAV BRUEHL'S recent work on the civilized nations of ancient America is of great interest, as it is a comprehensive review of the culture of the Mexicans, Maya, Chibcha, and Peruvians from the point of view first expressed and developed by Morgan and Bandelier. While the Spanish chroniclers considered the constitution of these states as similar to those of Europe, Brühl endeavors to show, by an enormous mass of testimony compiled from all available sources, that there were no despots and no feudal institutions, but that the gens was the sole basis of the social organization of all American nations, even in the highest state of their civilization. The first part of the work was printed as early as 1875; but while it was in progress the views of the author were so much modified, and the amount of new material added by his own excavations and researches in Central America and furnished by other writers on this subject grew to be so large, that the publication was delayed for twelve years. The first part of the book deals with the ruins of the Mississippi valley, of Mexico, Chiapas and Yucatan, Central America, Colombia, and ancient Peru, and with those in the region of the Rio Colorado and Rio Grande. As it was printed in 1875, some of the statements made at this place must be modified; but nevertheless it is an extremely valuable handbook on this subject, on account of the clearness of the arrangement, and the care the author has taken in giving the sources of his information. A review of the methods of writing and of the calendar concludes the first part.

The second part is far more important, as here the author uses his extensive knowledge of the subject for proving the theory that the division into gentes was the foundation of the states of all American nations. He discusses the separate centres of civilization, and expresses his view that the heroes who first brought civilization to the rude tribes became their deities. He discusses the distribution of property, particularly that of land, the plan of the towns and houses, the giving of names, the religious worship, and finds his views confirmed in all these phenomena. Therefore the chapter on the social organization is by far the most important one