theory and practice of music. On this analogy we might speak of the psychology of child welfare or the psychology of child development. But this would hardly be appropriate in view of the large number of strong independent trends in other sciences within this field.

There is still another analogy which is illustrated by the term "musicology," which is now coming into use to designate all scientific approaches to the science of music. It already claims a number of distinct fields, such as the history of music, the theory of music, musical anthropology, the science of composition, phonetics and acoustics. Can euthenics be thus recognized as a comprehensive term within which a number of specific areas may function?

The term "eugenics" is now well established for both scientific and practical purposes as the science of being well born. This is a happy term and defines adequately one specific area in the immensely larger field of genetics. It is generally restricted to this one aspect of human genetics. It would be well if we could establish a term which would be an exact companion piece to denote the area of the development of well-being. The term "euthenics" seems to meet all the requirements for this.

Within the area of eugenics we recognize various segments; such as individual eugenics and racial eugenics, and various areas pertaining to controlling factors; such as eugenic birth control, eugenic climate and eugenic legislation: so in euthenics we might recognize logical divisions, such as child euthenics, adult euthenics and racial euthenics; and various areas pertaining to causal factors, such as medical euthenics, ethical euthenics and legislative euthenics. For all such purposes such terms as child welfare and child well-being would seem to be partial, inadequate and cumbersome.

As we make satisfactory distinctions between theoretical, experimental and practical eugenics, so we might to great advantage distinguish between theoretical, experimental and practical euthenics. A relatively new term such as this is something of a red rag because it is new. But like the child who takes pleasure in pronouncing long words, the educated public would soon recognize the appropriateness of the derivation of this word and quickly give it a place in the language of daily life to designate a field of universal human interest.

The adoption of this technical term would not discourage the continued use of such terms as child guidance, child welfare and child development, but would tend to give each such term a more specific connotation.

As in eugenics a person who is devoted to that science is spoken of as a *eugenist,* it would be convenient to have in the field of euthenics the provisional designation *euthenist.* We would hardly think of calling such a person a child developer. The listing of eugenics in the university catalogue might have some advantage over the present practices without any sacrifice of present interests. It would be advantageous to have such a technical term in the various rosters of the sciences.

As indicated above, the moment for the establishment of the mother institution of child welfare research stations was not a propitious moment for reinforcing the term "euthenics," but may it not be that the present time is the psychological moment to clarify the issue in the light of the extraordinarily rich experience gained within this field in the last twenty-five years? Scientists can look at the situation in an entirely different light now than they could before that movement began to crystallize.

And may we not also find it useful to distinguish between the science of euthenics and the art of euthenics? Each of these two distinct points of view is now clearly on the horizon as a fascinating, mandatory and profitable field of research which may be well centered and clarified in the interest of the theory and practice of wise living.

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ONE UNUSUAL OBSERVATION IN THE AURORAL DISPLAY OF SEPTEMBER 18

RECENTLY in discussing the auroral display of September 18 last with Dr. Harlan T. Stetson, I called attention to the amazing nearness of the overhead streamers at one time. Dr. Stetson explained that such an observation was not likely to be accepted, perhaps because of the nature and method of production of the streamers.

I am therefore making this belated record of certain of my observations on September 18. The observations were made near and about Bexley Hall, 50 Massachusetts Avenue, Cambridge.

The streamers were first observed somewhat after 8 P.M. At this time there were two quiet streamers in the north slightly to the west. These seemed to connect near the zenith with a searchlight beam emanating in Boston. Shortly the streamers began to cut capers, first by blinking on and off. From then until near midnight several distinct phenomena were seen. (I will not discuss the curtain of colored light which appeared so beautifully twice above the northern horizon, because there is nothing unusual to report, and in attempting such might disclose disqualification for reporting on the apparent nearness of the streamers at one time.)

Some of the general observations are as follows:

The number of the streamers varied in number from one to four, and usually terminated near the zenith. Sometimes they would pop on or off suddenly. Other times they would change from one state to another very slowly. Sometimes they would be blinking like stationary waves. Many times they appeared as moving waves of light, going from north toward the zenith. At irregular intervals the apparent distance of the streamers varied. They always appeared near in comparison with the northern curtain. The maximum distance never seemed more than forty miles, and several times seemed closer than cumulus clouds. The one observation that has stood out was made a little after 10 P.M. The one mass streamer seemed to be only twenty or thirty feet above my head. It was moving as waves in the general direction of Massachusetts Avenue toward Boston. It reminded me of fine particles of snow moving in a severe wind, as in a blizzard, when the snow is illuminated by a beam of light. The waves seemed to have much depth, as do the waves of moving snow in a blizzard. Nothing was visible beyond.

C. J. Taylor, of the Radiation Laboratory, Massachusetts Institute of Technology, made substantially the same observations from the roof of the Massachusetts Institute of Technology. While he was some fifty feet higher, the moving streamers were about the same distance above his head as they were above mine.

S. F. West reports that he observed the moving streamers or moving flashes of light to be barely over his head at about 10 : 30 on that evening. His observations were made on the roof of the Massachusetts Institute of Technology. It should be added that throughout the evening and night a very destructive fire was burning at Charlestown about two miles away. It is barely possible that the wind may have carried ionized air over our observation posts for a short interval. In general, however, the direction of the wind was toward Boston.

F. C. BROWN

QUOTATIONS

CHEMISTS AND THE NATIONAL DEFENSE

IN recent months many members of the American Chemical Society have expressed a desire to take an active part in the program of national defense. The number of letters which have been received by various officials in Washington from chemists all over the country offering their services to the Government is a clear manifestation of the great desire of the members of our profession to do their part in the present gigantic task of rearmament. Unfortunately, in many cases it has not been possible to take advantage of the talent thus offered. This is a physicist's war rather than a chemist's. For the present, at least, there appear to be more investigations of a physical nature than there are chemical military problems. But the situation may at any moment change rapidly. It is well to have a reservoir of research capacity in our colleges, universities, consulting laboratories and research institutes. It may not be long before this reservoir will be heavily drawn upon for tasks directly concerned with defense problems. And in the meantime it is of vital importance to the nation that our educational institutions continue to train young chemists and chemical engineers. Chemists in industry are, of course, engaged in work which almost without exception is in one way or another an integral part of the total defense activities of the country. More young men will be required every month for these tasks. Every teacher of chemistry, whether or not he is carrying on research for the Government, is playing an important part in the rearmament program of the nation.

Although physicists and electrical engineers rather than chemists are concerned with the most pressing research and development problems of the Army and the Navy, this does not mean there is no chemical work in progress. Quite the contrary. Both the Army and the Navy for years have maintained chemical laboratories where investigations are conducted on explosives, chemical warfare and a multitude of miscellaneous problems. In this period of unlimited national emergency, the work of these governmental laboratories must needs be supplemented. And to this end a number of chemists in universities and industrial laboratories have been called upon to assist. To some extent this has been done directly by the services, but to a large measure the task of assisting the scientific personnel of the armed forces has been the responsibility of the National Defense Research Committee. The effort has been to distribute the work as far as possible to a good many different laboratories and to draw on all branches of our profession. More than half the starred chemists in "American Men of Science" are now involved in one way or another in work pertaining directly to the national defense program.

The NDRC was created by presidential order in June, 1940. It came into being at a time when the shock of the fall of France had galvanized this country into action. The need for haste in the rearmament program was apparent to all. Industry was being called upon to perform miracles of speedy readjustment and expansion. A mobilization of scientific talent was evidently also a first order of the day. What was clearly needed was not another advisory