

century, a considerable part of the developments during the eighteenth century, and a very minor part of later developments. The unequal emphasis which such a section would thus place on the different chapters in the history of mathematics would be partly compensated by the fact that it would prepare the way for a more sympathetic attitude towards mathematical history in general.

If such a section is formed it should be understood that the more technical and perhaps the more important part of the history of science is of such a nature that it can be appreciated only by the specialists in the fields to which it relates. There is, however, a great need for work on intercommunicating roads in science and such a section might tend to improve these roads.

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VITAMIN TESTS WITH CHICKS

OUR experience recently with the use of chicks for the purpose of demonstrating to classes in elementary physiology the rôle of vitamins in a diet has been so satisfactory that we thought it might be of interest to other teachers.

The day-old chick is so universally available, so easily reared, and its growth is so rapid that it makes an admirable laboratory animal for such a demonstration. Because of their hardiness Leghorn chicks were selected and divided into two groups of equal number and weight. Both the control group and the one to be tested (such chicks being easily marked with dye) were placed in the same large cage with free access to water, grit, shell, etc. Both groups were allowed to partake freely from food kept in a feeder. The food thus accessible consisted of either highly milled corn-meal, crumbs of unleavened white flour bread, or cakes baked from rice flour, or combinations of any or all of these. Changes were frequently made so that the chicks ate readily of the food furnished. In addition to this the normal or control group was fed once a day with small amounts of food containing vitamins.

After the second day the curve of the daily average weights showed a marked difference between the two groups. After approximately two weeks the one group began to exhibit the typical symptoms of lack of vitamins. Death occurs so promptly in the young chicks after the onset of symptoms that care must be taken to at once feed the ailing chicks with vitamin containing food. Small amounts of milk, scraped apple, lettuce, etc., sufficed to cause prompt recovery with marked acceleration in the rate of growth.

We of course recognize that no new results have been achieved but felt that the method of demonstration was worthy of note.

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QUOTATIONS

THE BRITISH AIR-FORCE ESTIMATES AND AERONAUTICAL RESEARCH

THE development of military aviation has been one of the wonders of the war, but we have naturally been kept somewhat in the dark as to the exact extent of such development while the war was still in progress. The veil has now been lifted, and General Seely, in speaking on the Air Estimates in the House of Commons on March 13, has given us a striking summary of the progress made during the past four years. The fact that the expenditure on the Air Force has increased two-hundred-fold since the outbreak of hostilities is a sufficient comment on the enormous advances that have taken place in the aeronautical world. General Seely states that if the armistice had not been signed, this year's estimates would have reached the sum of £200,000,000—an amount which is practically four times our pre-war expenditure on the entire navy! Even with the signing of peace in sight the sum of £66,500,000 is asked for, in order to ensure the maintenance of the aerial supremacy which we have gained during the war.

It is exceedingly gratifying to note that the true value of research is at last being appreciated, and the specific provision of £3,000,000