All reports from Societies must reach us by noon on Thursday to insure

DR. WALLACE'S LECTURES.

II. THE ORIGIN AND USES OF COLOUR IN NATURE.

Dr. Alfred Russell Wallace delivered his second lecture to a large audience on Friday evening. The Hon. G. W. Allan, Chancellor of Trinity College, presided, and in a few introductory remarks referred to the distinction Dr. Wallace had acquired for himself as a naturalist and as a scientific writer. Dr. Wallace first proceeded to show the fallacy of different cur-

Dr. Wallace first proceeded to show the fallacy of different current theories of colour, and said that it is only recently the rich development of colour found in nature has been ascertained to have any close connection with the well-being of animals. He defined colour as the normal product of complex chemical elements; variations of colour resulting from the differentiation of external structural changes. Colour must, therefore, be expected in nature and its presence need not be accounted for. What we require to give an account of is the variations of colour and the uses of these variations.

The Darwinian theory gave the first impulse to scientific enquiry as to colour and its different variations, for according to that theory, it is held that the presence of colour in nature is not meaningless -that colour has its uses. These uses Dr. Wallace classifies thus: (I) Protective; (2) As a means of recognition; and (3) Mimicry. (This last division falls properly under the first.) One of the fort theore that attract attention when we examine

One of the first things that attract attention when we examine the colour of animals is that there is a general harmony between colour and environment. For example, in Arctic regions the prevailing colour is white; in tropical climates the bright colours are developed, green predominating: in temperate zones we have the more sombre shades and tints; while in desert regions the colour corresponds with that of the arid sands. Stereopticon views were exhibited in illustration, showing land and sea animals, birds and insects. A very curious adaptation of colour to surroundonly beautifully tinted green, but is also quite transparent, so as scarcely to be distinguished from the sea water in which it is found. The animal commonly known as the Sea Horse, too, illustrates the same thing. It takes on the same colour as the sea weeds among which it swims, and from its peculiar external structure is with difficulty distinguished from these. Similar adaptations of colour are found on land. Spotted cats inhabit places where trees abound, Animals of the same species in deserts are not spotted. The tiger furnishes the best specimen in colour-marking in the cat tribe. Its colour serves as an extraordinary means of protection. Living, as it does, In hot climates, its habit is to roam among the long grass which is, for a great part of the year, burnt up and browned by the intense heat of the sun. The marking of the tiger corresponds so closely to the light and shade of the grass that it is quite be unable to distinguish it.

Insects show best the uses of colour for protective purposes. Many species of beetle are accustomed to take on the colour of their habitat, or to frequent places where the colour of the surroundings is identical with their own. These may be taken as exemplifying the directly protective use of colour in nature. The indirectly protective use of colour is seen in different species of spider, which inhabit flowers of the same colour with themselves, the faculty of assuming the form of flowers which they resemble in None can know the habits of these different insects without recoging the utility of colour.

Name can know the habits of these cannot be an arrived to be a series of the series of

bird. Colour, the lecturer said, is a purely subjective phenomenon, caused by different waves of light. Different objects absorb different parts of the white light and that which is not absorbed is any direct action in producing animal colours, for the colouring in climates, except in particular species. His opinion regarding the is always to be expected; then, all development, chemical and structural, is accompanied, by changes of colour. This is shown

by the fact that in wild animals, as a rule, colour is fixed and symmetrical; but when these animals are domesticated their colour changes greatly. Certain animals, caterpillars, butterflies, &c., are of the same colour as the leaves upon which they feed. This is a natural result, and at the same time serves a purpose. The animal is protected by its colour. Several examples were given to illustrate these facts.

Passing to the higher animals, Dr. Wallace said that colouring for protective purposes is comparatively rare. He instanced one exception to this—the resemblance of a certain species of antelope to anthills among which they feed. Exceptions to the rule of colour in particular climates were also given. The raven is the most northerly of all birds. It remains throughout the entire winter at a higher latitude than any other bird and still retains its jet black colour. There is no necessity for a change of colour for protective purposes. The same is true of the sable. Again, the humming bird of tropical countries is of the richest and most varied hue. Its source of protection is its power of rapid flight. It appears, however, that where there is need of protection or concealment, other means not being provided, suitable colour is found. A very useful form of colouring is that which enables an animal to recognize a member of its own species. The tabit is accustomed, when running, to hold its short tail erect. This being always white serves as a warning or summons to its fellows, who follow and thus escape danger. One species of gazelle is particularly marked in this way for protective purposes. This form of colouring is useful to animals which herd together, for purposes of travel and defence.

Mains which herd together, for purposes of traver and defence. Mimicry was the next phenomenon explained. Certain animals are inedible and consequently do not need any special colours for purposes of concealment. They are highly coloured, on the contrary, their colours serving as a warning to the enemy. Other animals which have no peculiar means of protection gradually obtain similar markings, and in time become almost indistinguishable from the inedible species. This is exemplified in butterflies, bettles and in one or two species of snake. In the case of butterflies it is remarkable to note that the imitating fly along with those they imitate. The difference in colour between the male and female was also noted by the lecturer, and reasons given why such difference occurs, and why sometimes the female is more highly coloured than the male.

The lecture was both interesting and instructive, and was much appreciated by all who heard it. At the close the chairman thanked Dr. Wallace, on behalf of the University and Institute, for the great favour he had done them by his two lectures.

The Year Book may be had at Rowsell & Hutchison's. Price 75 cents.

"K" Co. with its usual enterprise is having a \$3.50 photograph taken at Bryce's.

Cheques are now ready for distribution in payment of College Scholarships. Apply to the registrar.

Miss Bauld, B.A., graduate of 1885, who has for some time taught in the High School at Essex Centre, has been appointed to a position in Brantford.

Prof. R. Ramsay Wright is completing the course of lectures in the Veterinary College which the late Dr. Barrett was engaged in delivering previous to the time of his death.

Last Wednesday afternoon the committee of the Inter-Collegiate Literary Union had to be adjourned for want of a quorum. The committee will meet again next Wednesdey at 5 p.m., and the evident importance of completing the constitution as soon as possible should induce a larger attendance on that day.

The examination for the McCaul medal in classics will be held on Friday and Saturday, March 25th and 26th, and on Friday and Saturday, April 1st and 2nd. The librarian has kindly consented to the use of the library for the occasion. Two papers will be set each day, one at 9.30 a.m. and one at 1.30 p.m.

ASSOCIATION FOOT BALL CLUB.—At the annual meeting of the club on Tuesday, 15th, the following officers were elected : Hon. Pres., D. R. Keys, B.A.; Pres., F. McLeay; Vice Pres., W. P. Thompson; Corresponding Sec., R. J. Gibson; Rec. Sec., Wm. Prendergast; Treasurer, B. M. Aikins; 4th year Councillors, H. F. La Flamme, E. C. Senkler; 3rd year Councillors, F. Cook, J. R. Blake; 2nd year Councillors, R. E. Jamieson, G. A. Ball.

UNIVERSITY COLLEGE Y. M. C. A.—The question, "What must I do to be saved?" Acts xvi. 30, was discussed at the Thursday evening meeting this week. The leader, Mr. T. C. DesBarres, opened the meeting in his easy, though forcible style, by a tenminute speech, dwelling especially on the importance of accepting the Bible as a plain, simple message, easy to be understood. He was followed by a number of speakers who suggested different