

SUMMARY OF ADDRESS TO THE STAFF BY PROFESSOR HALDANE AT AN INFORMAL TEA PARTY ON 2ND DECEMBER, 1960

After a brief introduction by Dr. Salgado, Director, Coconut Research Institute, Professor Haldane addressed the members of the Staff. Senior, Junior and Minor — who had assembled in full force in the Library. The final year students of the Faculty of Agriculture of the University of Ceylon were also present*.

Professor Haldane thanked the Director for the arrangements made to show him round the Institute and the hospitality to himself and Mrs. Haldane and his colleague from the Indian Statistical Institute, and said that he wished he had spent at least a week to get into intimate contact with the work of the Institute, but he had only two days, which was crowded with a programme into which Dr. Salgado had included a considerable amount of social activities which may have been more profitably spent on Scientific discussions with Research workers.

Reviewing what he had seen more intimately during the last two days, he made particular mention of the studies on the mineral nutrition of the coconut palm being carried out by Mr. Nathanael, the Chemist, which he said were of fundamental importance, as the coconut palm appeared to be peculiar in its requirements. For example he said that this crop tolerated a very high concentration of common salt which no other crop did. He said he noted with interest the results obtained from the pot trials which he had just seen.

He then referred at length to the work of the Botanist Division and the discussions he had with Dr. Liyanage on the subject of Genetics of the coconut palm — a branch of Research with which he was intimately interested.

He made, among others, particular reference to the possible existence of a Lethal Recessive Factor as shown by the observations on 'Dikiri pol', which produced an abnormal endosperm; and where in such cases the nuts did not germinate some nuts in the same bunch were normal. This factor may be a very useful method of studying certain fundamental aspects of the Genetics of the coconut palm, and referred to maize where endosperm studies were of similar interest.

*Prof. Haldane said after having enjoyed the hospitality showered on him and his colleagues it may appear rude to criticise any aspects of the work of the Coconut Research Institute but as Scientists it is desirable to discuss things openly.

Reference was made in some detail to the necessity of studying at least as a preliminary investigation, the individual variation of nuts in the same palm, particularly their oil content; and this may be coupled with studies of the inorganic elements of the nut water (coconut milk) on the techniques already adopted by Dr. Salgado. He could not say what the possibilities of such studies were, at this stage, but if a preliminary study on a small population gives interesting results it may be worth while to proceed further, while no doubt selection for total nut weight and copra weight are the main determining facts; and though the coconut palm in Ceylon appears to be comparatively free of disease, study of the Genetics of disease resistance had to be kept in mind in a programme of work.

He further said that if the data of the Botanist Division, which he had seen, are sent to him he would be very happy to study them critically.

In studies on data on coconuts special Statistical techniques may have to be worked out.

There were great opportunities here for work on genetics of the coconut palm at the Coconut Research Institute and he said that work at the Coconut Research Institute would be of use to India too. He assured that in breeding and genetical work at the Coconut Research Institute 'they seem to be aware of the ultimate aim that they are after'.

Referring to work on Agrostology which he said he had noted with great interest, he said that in Kerala, at their experimental stations, there were plots of green manures such as *Gliricida et al* planted between coconuts, but he noted that on the other hand cultivators were inter-cropping cassava, pepper, etc. between the palms. But when he questioned the research workers, they had merely replied that no research work had been done on the effect of inter-cropping on coconut yields and they just assumed that such intercultivation was beneficial and that research on crops other than coconuts was not in their programmes of research.

On this basis he was very interested in the Statistical field experiment at the Coconut Research Institute to study the effect of cultivating grass between coconuts.

In this connection he referred to the observation of Pickering and the Duke of Bedford on the adverse affect of growing a grass under the orchards in England on the yield of fruit crops such as apples.

On the contrary, while in temperate climates, the range of distribution of plant species may be small, he noted that in the Tropics the range was more intensive and that, referring to the work of his colleague S.K. Roy — his papers are appearing in the current number of the *Journal of Genetics* — there was the possibility of a greater symbiotic effect of the plant arising out of interplanting, which in turn may be beneficial to the coconut palm.

This work on Agrostology — and yet more any systematic studies on the effect of interplanting of food crops at the Coconut Research Institute will be of immense value to India. Unlike in Ceylon where yet more jungle land is available for extending cultivation, in his own country (India) he said that the pressure of population and population density was very high compared to Ceylon, and there being no new land available for cultivation, the maximum use has to be made of the available land under coconuts. He therefore hoped that some crops other than grass interplanted with coconuts — e.g. Cassava, pepper, etc., will be studied in the Coconut Research Institute.

He then referred to Crop Protection and categorically stated that he did not accept as correct the modern approach to control pests by the wholesale spraying with chemical poisons. Such techniques which no doubt high power manufacturing firms developed on purely self interest was not the correct approach. As a Darwinian he said that he believed the correct approach was to study the bionomics of the insects as insect species ultimately developed tolerance to insecticides.

Commenting on possible lines of work, he said that, for example the rational approach was to develop a method by which, the females of the insect species were trapped and segregated, and confined to lead a MON-ASTIC LIFE. In a Buddhist country like Ceylon instead of killing insects, they can be forced to lead a celibate life, so that insect populations could not propagate. This was the correct biological approach.

Commenting further on Entomological work he said that Entomological Research was a severe discipline and referred to the work of Lindauer in Ceylon on the Bee, which unfortunately workers in Ceylon were not inclined to follow up.

In conclusion he thanked the Coconut Research Institute for the assistance rendered and arrangements made to make observations and recording the labourers both at Bandirippuwa and Ratmalagara, as well as the entire staff, and also referred to the fact that his colleague Mr. Davies who arrived on the 29th November ahead of himself was so interested in the Coconut Research Institute work that he decided not to return that evening with them, but join them later. He would no doubt report to him (Professor Haldane) other aspects of the interesting work at the Coconut Research Institute which he could not see for himself.

Dr. Salgado thanking Professor Haldane, said as the time was already late and he had to take Professor and Mrs. Haldane and his colleague back to Colombo in time for another engagement, he will be brief, but referred to Professor S.C. Harland, a Fellow of the Royal Society who had been at the Coconut Research Institute for a short time as Interim Director. Professor

Harland had told (Dr. Salgado) that he considered Professor Haldane a greater and mightier Fellow of the Royal Society than himself. Dr. Salgado continuing said that his visit had brought a breath of fresh air to the Scientific Circles in Ceylon and the Coconut Research Institute had received the unique honour in that two full days were devoted from his busy programme.

Dr. Salgado further assured Professor Haldane that if at any time he felt a change from Calcutta necessary, the Coconut Research Institute would welcome him and Mrs. Haldane with open arms and will give asylum here among the coconut groves and the fullest scientific co-operation and hospitality.