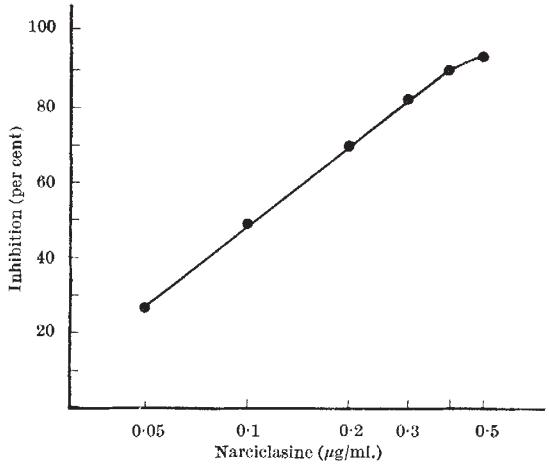

Fig. 2. Linear relationship between the per cent inhibition of growth of the lateral radicles and the log of concentration of narciclasine.

at very low doses and the subcutaneous route appeared the most effective. A colchicine-like effect was present at 0·5 mg/kg. A drastic decrease of the number of mitoses was seen 2 h after injection of 0·9 mg/kg, and after 4 h no more mitotic figures could be detected. As the dosage was increased the mitoses disappeared more rapidly and disrupted cells with globular clumps of chromatin appeared more frequently.

Mitoses reappeared sometimes at 18 h after the injection according to the dosage and the route of administration used. From an analysis of its antimitotic effect, "narciclasine" seems to act essentially as a metaphasic or a prephasic poison and to have a mitoclasic activity especially at high doses. An LD_{50} of 5 mg/kg has been determined in mice by subcutaneous injection.

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Phagocytosis in Mammalian Hair

On the basis of electron microscope investigations of the human hair follicle Birbeck and Mercer[1] suggested that pigment granules enter the cortical cells by phagocytosis. Swift[2] gave support to this suggestion by illustrating the close association between pigment granules and cortical cell membranes in human hair. During recent investigations on a range of less common animal hairs we have obtained much additional evidence in support of the view that phagocytosis is responsible for the ingestation of pigment granules into cortical cells.

Birbeck and Mercer[1] stated that they had never observed granules in the cuticular cells, although Swift (personal communication) has only rarely seen single granules in the cuticle of human hair. My work on guanaco and vicuna hair (two species of *Llama*), and swamp wallaby hair, has revealed the not infrequent presence of pigment granules within cuticular cells. To my knowledge this has not been previously reported.

Hairs were first reduced with a 0·5 molar solution of thioglycollic acid and then treated with a 0·05 molar solution of silver nitrate in accordance with the method of Dobb *et al.*[3–5]. Treated fibres were embedded in 'Araldite', sectioned on an ultratome, collected from deionized water on to uncoated 'Now 200' grids, and examined in an electron microscope.

While single pigment granules have fairly frequently been observed in cuticular cells, the most interesting example is shown in Fig. 1, where a cluster of small granules is clearly evident in a cuticular cell of swamp wallaby hair. Guanaco hair also occasionally has clusters of this type, but so far the greatest incidence of these pigment inclusions has been found in the swamp wallaby hair, which also shows excessive pigmentation of the cortical cells, not only in large clusters, but also in strings, which often contain more than twenty granules.

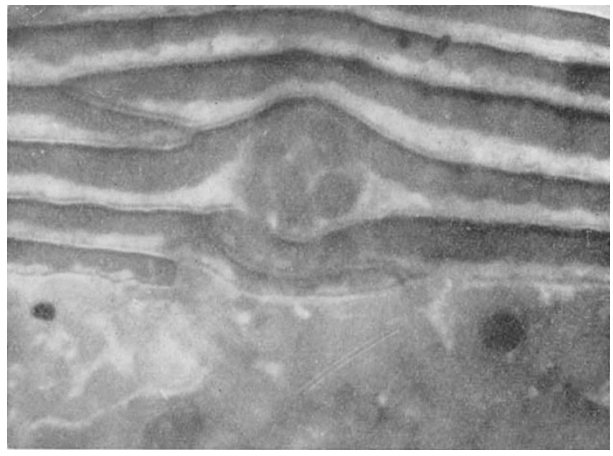

Fig. 1. Thin section of the cuticle of swamp wallaby hair (silver treated, × 24,000).

In the cortex of swamp wallaby hair, in particular, there is ample evidence to support the view that a phagocytotic process is used to facilitate the entry of pigment granules into cortical cells, because there are numerous examples of the association between pigment granules and cortical cell membranes; and it is suggested that phagocytosis is also responsible for the inclusion of pigment granules in the cuticular cells.

The fact that pigment granules are rarely observed in cuticular cells of human hair, but are frequently found in the other hairs studied, suggests that differences exist between the various hairs in some of the stages of fibre growth in the region of the papilla. This point will require further investigation.

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Time required for Tumour Initiation by *Agrobacterium tumefaciens* on Pinto Bean Leaves

The mechanism of tumorogenesis by *Agrobacterium tumefaciens*, the organism responsible for crown-gall tumours in plants, may be subject to critical experimental analysis in a host-pathogen complex only when the precise time during which tumour initiation occurs and the time required for the initiation of individual tumours are known. Knowledge of these time requirements and the factors influencing them may also provide insight into the number and kinds of processes involved in crown-gall tumour formation.

The initiation of crown-gall tumours in other host systems is remarkably sensitive to temperature[1,2]. The induction of normal tumours takes place at temperatures as high as 27° C but is completely suppressed at 32° C. By maintaining infected plants at 32° C and then at 25° C