The observations described indicate that congenital non-obstructive, non-hæmolytic jaundice is a result of a reduced rate of glucuronide formation. Since bilirubin must compete with other normally occurring aglycones for a deficient glucuronide-forming enzyme system, the consequence of this defect is an accumulation of free bilirubin in the plasma.

A detailed report of this work will be given elsewhere.

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Utilization of 4-Amino 5-Imidazole Carboxamide in Plant Tissues

THE diazotizable amine which accumulated in cultures of *Escherichia coli* during sulphonamide bacteriostasis has been isolated and its identity with 4-amino 5-imidazole carboxamide has been established[1,2]. Evidence to show that this compound was not merely a product of aberrant metabolism but a normal precursor of purines has been obtained[3] and its role in purine biosynthesis is well established[4]. Recently, it was demonstrated that the carboxamide was rapidly utilized in rat liver homogenates and preparations from actively growing tissues[5,6]. The present report deals with the preliminary experiments carried out to assess the role of this compound as a potential precursor of purines in plants. Resting, as well as germinating, seeds of *Phaseolus radiatus* (green gram) were used in this investigation.

The plant tissues were homogenized thoroughly with 2–3 volumes of $M/15$ phosphate buffer, *p*H 7·4, centrifuged briefly at low speed and 1 ml. of the supernatant was incubated with an equal volume of a solution containing succinate ($2 \times 10^{-2}\,M$), formate ($2 \times 10^{-3}\,M$), niacinamide ($2 \times 10^{-3}\,M$), diphosphopyridine nucleotide ($4 \times 10^{-4}\,M$), adenosine triphosphate ($1 \times 10^{-3}\,M$), magnesium sulphate ($3{\cdot}0 \times 10^{-4}\,M$) and carboxamide ($2 \times 10^{-3}\,M$) for 4 hr. at 37° C. The reaction was arrested by the addition of 0·1 volume of perchloric acid (60 per cent). Residual carboxamide was estimated in the supernatants by the Bratton–Marshall reaction[7]. Sodium 1 : 2 naphthoquinone 4-sulphonate (Folin's reagent) as a reagent for carboxamide after paper chromatography[8] was also used. Protein estimation was done by the biuret method. The results are summarized in Table 1.

Table 1. UTILIZATION OF 4-AMINO 5-IMIDAZOLE CARBOXAMIDE BY EXTRACTS OF *Phaseolus radiatus*

Tissue	Resting seeds	Germinating seeds		
		24 hr.	48 hr.	72 hr.
Carboxamide utilized* μgm./mgm. protein/4 hr. at 37° C.	0·78	1·03	1·49	2·00

* Average of triplicate values

Thus preparations from germinating seeds were found to metabolize carboxamide to greater extents than resting seeds. This increased metabolism of carboxamide in germinating plants is of interest since tissue growth implies cellular multiplication which, in turn, according to all available evidence, involves the presence of nucleic acids. Investigations on the nature of the individual steps in the overall utilization of this compound in plants should be of interest. Further work on these aspects is in progress.

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Induction of Immunological Tolerance in Rats to Foreign Erythrocytes

THE term 'acquired immunological tolerance' was used by Medawar and co-workers[1] for describing the toleration of skin homografts in mice which had been injected *in utero* with a cell suspension from mice of the donor strain. Since then, many workers have tried to produce a similar tolerance to antigens which give rise to antibodies of the classical circulating type. Both positive[2–4] and negative[5–7] attempts have been reported. One of the systems that has been investigated recently is the anti-sheep erythrocyte system. Bauer *et al.*[7] have reported failure to produce immunological tolerance in rats by intra-uterine injection of fœtuses with sheep red cells. They point out that in many of the successful experiments quoted above, large doses of antigens had to be injected for prolonged periods to produce non-reactivity. They maintain that the whole range of phenomena included under the heading of immunological tolerance may well be an expression of the phenomenon of immune paralysis, such as can be produced by the injection of pneumococcal polysaccharides into mice[8].

We have been studying the effects of injecting neonatal rats with both mouse and sheep erythrocytes, starting the injections within 36 hr. of birth, and giving repeated doses twice a week for three to eight weeks. Using large doses (0·25 ml. of washed 20 per cent cells per injection, given intraperitoneally) we