additional mesoderm between them. This additional mesoderm induces the hepatic endoderm to form the liver. The formation of the foregut is essential to the full fusion of the cardiac primordia (Szepsenwohl, J., *Arch. d'Anat. d'Hist. et d'Embryol.*, 17, 307; 1933). Excepting the omission of references to Szepsenwohl, to the apparent inability of the medial endoderm to facilitate fusion except by forming the foregut, and to C. Dareste who first produced double heart embryos and inferred that the heart arises from a pair of bilateral primordia, the readable review by Robert Dehaan of cardiac morphogenesis is comprehensive. Y. Croisille and N. M. LeDouarin discuss the morphogenetic and biochemical differentiations of the liver. The discussion of lactate dehydrogenase might have made fuller use of the quantitative data of Joel Solomon. On p. 450, the authors strip the subject of growth regulation of its semantic gloss and reveal its chemical inadequacies.

Sergei Sorokin, Thomas Shepard and Robert Auerbach discuss the lung, the thyroid, and the thymus, respectively. Sorokin's paper is a model of authoritative elegance and Shepard's is a clear exposition. The functions of the thymus have been elucidated because of Auerbach's restatement of the origin of the thymus. There must be very few instances of embryological work which prompted new insight into adult physiology.

Adesanya Grillo and Theodore Torrey discuss the pancreas and the kidney, respectively. Grillo's discussion includes the effects of insulin on the embryo. Torrey argues for the concept of a 'holonephros' for which some of the evidence has been provided by the electron microscopy of T. S. Leeson.

The final section is devoted to the reproductive system. L. G. Gallien reviews the genetic control of sex differentiation. On p. 595, in referring to fertile ovaries of XO mice, the wording should read "an insufficient quantity of masculinizing genes". Alfred Jost suggests that the mammalian testis secretes an inhibitor of the ovary and the Müllerian duct which is not identical with the steroid androgens. Dorothy Price and Evelina Ortiz suggest that the inhibitor is a steroid androgen. Giovanni Chieffi places this difference of opinion in perspective by comparing mammals with other vertebrates. He infers that the gonads secrete sex-determining substances which are not identical with the classical oestrogens and androgens. Lemen Wells briefly reports some of the evidence for endocrine function in the foetus. Terrell Hamilton and Ching-sung Teng report increased ribonuclease and decreased RNA in regressing Müllerian ducts. Helene Charniaux-Cotton summarizes the hormonal control of sex among the invertebrates.

The text is unusually free of bromides: "it is tempting to" (conclude or postulate) occurs twice. The authors and editors deserve congratulations for a coherent, sometimes eloquent, summation and projection of animal development. Their task took effort and co-operation which show. We find here a re-assertion of the importance of tissue structure in determining development and a recurrent implication that the essential mechanisms are located in the periphery of each cell. The assertion and the implication are timely reminders that metazoan cells depend on each other and their environment in ways that microbes do not know.

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picture begins to emerge. There is clear evidence of the difficulty of interpreting retrospective investigations where the level of reliability of the information on which these are based is variable; also of planning realistic prospective studies. This leads to "the use of generalizations based upon data known by informed research workers to be faulty". Such generalizations are then contradicted, leading to confusion and lack of confidence in the result of such enquiries. Many examples of conclusions based on inadequate information and issued with official authority are cited, particularly in relation to road traffic accidents. It is argued that "in many situations it is not practicable to conduct research that is completely adequate in every respect; but some would hold that so long as the research is done honestly and with complete awareness of the deficiencies of both material and methods employed such efforts may produce worth while contributions". This is a considerable pitfall in accident research. For example, because investigators are convinced that one or two factors play an important part in accidents of all or any kind, they investigate only these factors and even ignore the need for controls. An example given here is the statement that 20 per cent of those involved in accidents exceeded the speed limit, therefore 80 per cent of those involved were not exceeding the speed limit, therefore if 50 per cent of drivers exceed the speed limit they are safer than the ones who do not! The same kind of argument can be applied to accidents in the home, in industry, age groups, etc. As already mentioned, this is pointed out in the book, but should perhaps appear a bit more often and in bolder type.

The risk taken in crossing a road is reported from "studies representing highly original experimental work on the kind of decisions that are made by individuals in everyday life". The authors afterwards became aware that similar work had already been done and reported that the agreed conclusion was that "pedestrians are concerned with a time gap and not a distance gap in the traffic".

The risk of driving under the influence of drink, or drugs, is another case in which confusion has been produced by conflicting statistics, and support can be found in this volume for almost any point of view. Figures bearing on the influence of this factor in accidents vary from 0.5 to 50 per cent. However it is investigated, there is no doubt that an increasing quantity of alcohol influences first judgment then performance, and the two together in direct proportion to the quantity.

There is no doubt that some people are "accident-prone", and investigations are reported into various aspects of this problem. It is not surprising in view of factors already mentioned that no very firm conclusions are reached in, for example, an investigation "designed to test the hypotheses that accident prone children have greater aggressive drive as a result of nurturance frustration in an authoritarian home environment and greater aggression anxiety as a result of punishment for expression of aggression when compared with accident free children".

There is much valuable information painstakingly collected and appraised, making a start at trying to apply scientific parameters to preventive medicine in the accident field. There are many difficulties and pitfalls, but the effort and the volume are very worth while.

J. C. SCOTT

INVESTIGATING ACCIDENTS

Accident Research

Methods and Approaches. By William Haddon, jun., Edward A. Suchman and David Klein. Pp. xvi + 752. (New York and London: Harper and Row, Publishers, 1964.) 15 dollars.

THERE is evidence in this book of the extent to which accidents cut across established medical disciplines and how many approaches are required before a composite

MYXOMATOSIS

Myxomatosis

By Frank Fenner and F. N. Ratcliffe. Pp. xiv + 379 + 15 plates. (London: Cambridge University Press, 1965.) 100s. net; 19.50 dollars.

IN 1859 a Thomas Austin imported twenty-four rabbits into Victoria, Australia. Rabbits had previously been imported into the country from the time of the first