

Society of America on the loss of farm land to other uses. It was planned to draw attention to the facts of the loss of farm land, chiefly for urban uses, to consider whether they constituted a serious problem, and to report on what is being done about it. The essays are timely, since it is clear that the loss of farm land has only recently become a topic of concern in America, and there is not yet an agreed evaluation of the situation.

It is interesting and significant to compare the situation in the USA with that in England described by Newby. Many factors are similar. In both countries the

erosion of farm land to meet the demands of urban users is very great, and losses are heaviest from the best land categories. Both have experienced a long-continued drain of the rural population to the towns, and equally they now have to accept a reverse migration. Indeed, they are also alike in the propensity of the urban migrants to become defenders of the sanctity of the countryside. To quote: "Oregon is the victim of tremendous immigration, yet the newest immigrant is the first to want to slam the gate".

There are also fundamental differences. The underprivileged farm workers are the

historical consequence of the 'Master and Man' structure of English farming, which has no counterpart in the 'Family Farming' tradition of America. The American urban sprawl has been largely forestalled in England by planning legislation that would in America be an infringement of rights of property.

These essays will help to crystallize what is at present a rather amorphous debate.

Sir Joseph Hutchinson is Drapers' Professor of Agriculture Emeritus at the University of Cambridge, UK.

Flood adjustment

Malcolm D. Newson

Human Adjustment to the Flood Hazard. By K. Smith and G.A. Tobin. Pp.130. (Longman: Harlow, UK, 1979.) Paperback £3.95.

THE reviewer has just spent 48 hours monitoring the silt load of a Welsh river in high flood but, along with others who study the purely physical properties of flooded rivers, he is almost ashamed of the satisfaction such studies provide; to the general public and especially to those who suffer from disruption, damage or even bereavement from floods, they are nothing more nor less than a hazard to life. The authors' premise for this book is that the physical approach to floods, which has its eventual utility in incorporation by engineers into flood protection schemes, is divorced entirely in this country from the behavioural approach.

They begin their book by describing the flood as a hazard, adding financial figures in pounds or dollars lost by flood damage — as we all do these days to point to an economic justification for research! However, the striking thing is not that floods comprise 30% of all natural disasters, nor that they may be increasing in frequency, but that Man courts disaster so assiduously by developing floodplain sites for housing and industry. The book divides the remedies society provides into structural (mainly engineering solutions, but including land-use control upstream of the floodable area) and non-structural (insurance, flood-zoning and the fast-developing field of flood forecasting are included). By the middle of the book the largely review material is dispensed with in favour of a statement of the ideal form of comprehensive floodplain development, one in which hydrological technology is matched, not only with cost-benefit analysis, but also with studies of social feasibility and the whole operated on a planned basis. The original material, researched along the River Eden in Cumbria, describes how both Appleby

(a loss-bearing upland case) and Carlisle (a case of muddled floodplain adjustment) treat the threat of flooding from the Eden. The date of the most recent damaging flood is important in both local and regional studies (on the Eden it was 1968) and this makes the reviewer very anxious about how flood adjustment studies can ever become more widespread.

Other doubts about ever attaining the authors' ideals come from questionnaire survey results, illustrating just what an unmanageable lot we all are when confronted by hazard! Just as planner will never get all the people in one road to have grey front-doors they are unlikely to standardize the response to hazard. Here the authors' use of the word 'authoritarian' response to describe 'official' response to floods produces a

shudder that the cure might be worse than the ailment!

Admitting the bias of the reviewer, it is of great interest to read that advances in hydrology and in technology have now given Britain something of a lead in flood warning; after the Lynmouth disaster in 1952 no-one in the water industry believed we would ever be in a position to give an hour's warning of flooding; but now we could.

The book is well illustrated, copiously referenced and shows that, whilst the engineer and sociologist do not seem to be talking, the geographer holds a substantial key; will it be used to open doors outside Eden? □

Malcolm D. Newson is Resident Hydrologist at the Institute of Hydrology, Plympton, UK.

Protologic

Peter Bryant

The Origins of Logic (Six to Twelve Months). By Jonas Langer. Pp.437. (Academic: New York and London, 1979.) \$26.50, £15.

QUITE a common move in psychological research with babies these days is to look for what are called 'precursors'. The idea, most frequently applied to language acquisition, is that the things babies have to do and particularly the social routines which develop between them and their parents are sufficiently complex for them to pick up certain abstract rules which will help them a year or so later on when they begin to learn grammar. Analogies are made between the rules of the earlier social habits and grammatical rules, and it is argued that the one lays the basis for the other. This argument is often used in attacks on Chomsky's idea of an innate language acquisition device. The rules are learned not innately, it said, but they are learned before. The argument is attractive, but it has the flaw that it is very difficult to support empirically. How do you establish a causal link between the earlier and the later events? Simply to appeal to an

analogy between the two is glib.

The same unsolved problem, as well as several others, stalks the pages of Professor Langer's book, which is an attempt to discover the precursors of logic. He gives babies in their first year sets of objects to play with. If they put two things together here is said to be the precursor of addition — protoaddition it is called. Protosubtraction, protomultiplication, proto one-to-one correspondence, protoinference follow thick and fast. When a six-month-old baby puts a brick in his mouth, takes it out, but leaves his mouth open we are told that this is protosymbolic behaviour, because the gesture is detached from the object. The author hardly considers the possibility that what the babies are doing has nothing to do with logic, and he never questions his often-repeated assertion that the experiences they have playing with objects lays the basis for their later understanding of logic. Yet he gives no evidence, because no evidence is possible, for this central assumption. The observations are often acute, but the assumptions behind them, hedged though they are with impressive terms and often impenetrable prose, are very insecure. □

Peter Bryant is in the Department of Experimental Psychology, University of Oxford, UK.