is practised and all pregnancies are illegally aborted. The lowest levels, however, are not associated with the use of a 100 per cent effective contraceptive, using the "excess mortality" rate, but with a situation where less effective but "completely safe" contraceptive usage (for example, diaphragm or condom) is combined with hospital abortions of pregnancies resulting from contraceptive failures. This yields a rate almost one tenth of that of the three deaths per 100,000 users per year taken by Tietze to be associated with oral contraception. Even if there were no abortion, so that all pregnancies resulting from failures of "safe" contraceptives led to births, the overall mortality would still be less than that of the 100 per cent effective, "excess risk" contraceptive, though the position is reversed, of course, if the methods are evaluated in terms of numbers of births prevented.

Tietze's conclusion that "in terms of the risk to life, the most rational procedure for regulating fertility is the use of a perfectly safe, although not 100 per cent effective, method of contraception and the termination of pregnancies resulting from contraceptive failure . . . in the operating room of a hospital" may not be welcome to those propagandists who use concern for the family unit to oppose the provision of abortion facilities.

ATHEROSCLEROSIS

Progress of a Disease

from a Correspondent

ALL aspects of atherosclerosis, familiar in the form of coronary heart disease, were discussed at the second international symposium on this subject which was held in Chicago from November 2 to 5. The task of integration was touched on in two short general sessions on pathogenesis and in a summary by Dr H. Sinclair (University of Oxford) at the end of the symposium, but there were still unreconciled schools of thought and a tendency not always to recognize that various processes may interact in the development of the lesions.

The role of lipids in atherosclerosis has provided a great stimulus to the study of the metabolism and physiology of plasma lipids, a fact which was evident in many contributions. Dr B. Shore (University of California) pointed out that there is now a concentration of information about the detailed substructure of the apoproteins of the lipoprotein molecules which may be important in determining their properties of lipid binding and solubility. Drs R. S. Levy and C. E. Day (University of Louisville) discussed how the amino-acid residues of the low-density lipoproteins give them a unique surface polycationic character, which may account for their interaction with components of the arterial intima. Contributions concerned with the lipids within the cell wall emphasized the importance of relating the chemical findings to particular structural components. Dr Elspeth Smith (University of Aberdeen) pointed to the differences between the lipids in fat-filled cells and those in the extracellular accumulation, and Dr A. J. Day (University of Adelaide) showed that the synthesis of phospholipid and cholesterol ester which occurs in the wall in atherosclerosis takes place predominantly in the foam cells. The wall may react to cholesterol more rapidly than previously thought. Dr W. A. Thomas and his colleagues (Albany Medical College) have shown that after only three days feeding on cholesterol there are metabolic changes in the aortic endothelium and smooth muscle of swine indicative of injury and repair. An inherited hyperlipoproteinaemia in rhesus monkeys which may provide a useful experimental model in the study of plasma lipoproteins was described by Dr M. D. Morris (University of Arkansas).

An important part of the symposium was concerned with the relatively new epidemiological approach to coronary heart disease. Speakers from Africa, Asia and Australia emphasized the unique opportunities available for this type of research when peoples of the same or different ethnic origin undergo rapid social and environmental changes. But they stressed that there is a need to obtain this information rapidly in communities such as those in Israel where the way of life can quickly become standardized. Dr G. Rose (London School of Hygiene), reviewing the epidemiological studies now being carried out in Europe, remarked on the suggestion from studies of British civil servants that physical activity, represented by as little as a twenty minute walk to work each day, might help to protect from coronary heart disease.

There was general agreement that the so-called risk factors at present recognized do not account fully for the incidence of coronary heart disease and that others must be sought. Two other factors, increased heart rate and more variable blood pressure, were added by Dr D. M. Berkson (Chicago Health Research Foundation) and by Dr Stewart Wolf (University of Oklahoma), while Dr J. J. Groen (University Hospital, Leiden) called for the help of sociologists and social psychologists. On the topic of prevention, trials now in progress were reported, but very few results are available. It was emphasized that different measures may be required for primary prevention of the onset of clinical disease and secondary prevention of the recurrence of a first attack. Dr O. L. Peterson (Harvard University Medical School) sounded a note of caution; prevention of coronary heart disease may demand more cooperation from the population than has been required in the public health measures which have been successful in the past.

MAMMALS

Biochemical Individuals

THE attractions of biochemistry and rodents seem to be dominating evolutionary studies of mammals at the moment. This at least was the impression to be gained at the symposium on variation in mammalian populations held by the Mammal Society and the Zoological Society in London on November 14 and 15. More than half of the contributions, with themes varying from taxonomy and ecology to cytogenetics, were concerned with rodents, especially mice. And it became increasingly clear that biochemical variation is considered to be a powerful tool for revealing relationships between groups.

Although biochemical genetics began in 1910 when some rabbits were found to have atropine esterase in their blood, while others lacked the enzyme, the topic only got under way with the advent of starch gel electrophoresis. Dr I. E. Lush (Royal Free Hospital) explained that during the past three years about 140