the individual contributors are to be congratulated on providing so much information in such a palatable form.

MARY BARBER.

Uterine Cytology

The Cells of Uterine Adenocarcinoma. Clinical Cytology. Vol. 1. By James W. Reagan and Alan B. P. Ng. (Pp. 130; illustrated. S.Fr./DM.32.) Basel and New York: S. Karger. 1965.

This volume is the first of a series of monographs which will eventually cover the whole field of clinical diagnostic cytology. An editorial board of four distinguished American pathologists has planned to publish several each year until the subject is satisfactorily covered. Revised or amplified versions of previously published monographs will be prepared as new developments warrant.

The first two chapters of this work deal with variations in histological structure and general and nuclear characteristics of the cells of the endometrium during the normal menstrual cycle and after the menopause. Three chapters are devoted to the variations in histological structure and the cytology of intrauterine aspirates from cases of adenocarcinoma of the body of the uterus. Three further chapters deal with the characteristics of endocervical adenocarcinoma. The characteristics of the cells reaching the uterine cavity through invasion of the uterus by extrauterine growths are described, and a final and valuable chapter contrasts the cytology of cells aspirated from the uterus in adenocarcinoma of the body with those arising from endocervical growths. In this chapter and throughout the book it is strongly emphasized that any reliable study of uterine cytology must be based on preparations containing an adequate number of cancer cells, and that the morphology of at least fifty such cells must be studied in each case.

Whenever possible the characteristics of the normal cells of the endometrium and those of the malignant growths arising from it were measured, counted, or graded. The mean number of cells per sq. cm. in each film was estimated. The percentage of single tumour cells was compared with the percentage of clumps of adherent cells. The mean areas of the cells and their nuclei were measured in square microns by planimetry, and the percentage of the cell area occupied by the nucleus was estimated. Characteristics such as the depth of nuclear staining and its degree of granularity were graded, and a careful estimate was made of the percentage of tumour cells whose nuclei were in mitosis in a statistically significant total of cells.

The method of collecting the specimen for cytological diagnosis was proved to have vital significance. For example, when specimens were collected from the posterior vaginal fornix or the cervical canal a cytological diagnosis of adenocarcinoma of the body of the uterus, which subsequently proved to be correct, was made in 75% of a large series of cases. On the other hand, when smears were made from material collected by introducing a small-bored pipette into the uterine cavity and directly aspirating its contents the disease was correctly diagnosed by cytology in 90% of cases.

The senior author of this monograph is the professor of pathology in the Western Reserve University, Cleveland, Ohio, where there is a central department of cytology which serves all the university hospitals of Cleveland and has a staff of seven cytologists. With these facilities at hand Professor Reagan's monograph is a highly successful attempt to assess the basic characteristics of the cells of the uterine adenocarcinomata.

It would be impossible for pathologists in Great Britain who are solely responsible for all the pathology of a non-teaching hospital to employ this detailed and time-consuming method. On the other hand, Professor Reagan's statistical approach clearly and accurately defines the basic cytological characteristics of the isolated cells of the uterine adenocarcinomata, and his monograph, which is profusely illustrated by photomicrographs of high standard, will be of immense service in routine diagnostic cytology.

GEOFFREY HADFIELD.

Nerve Fibres of the Heart

The Afferent Innervation of the Heart. By A. Ya. Khabarova. Authorized translation from the Russian by Basil Haigh, M.A., M.B., B.Chir. (Pp. 175; illustrated. $12.50). New York: Consultants Bureau. 1963.

This is a purely descriptive monograph. The first part is devoted to the morphology of the afferent nerve fibres from the human heart. The material came from 40 hearts taken at necropsy within 24 hours of death, and the area studied included the atrial and ventricular walls and the interatrial septa. The age of the patients ranged from 18 to 79 years. All the material was taken from diseased hearts because it was found that the nerves in these stained better than in normal hearts. The staining-techniques used were methylene blue and silver (Bielschowsky-Gros), though the former proved too unreliable and was abandoned early on in the series.

The second half of the monograph is devoted to an examination of comparable areas of heart from 16 normal cats, and 48 cats, sheep, and goats after a division of either one or both vagi or the extirpation of cervical and thoracic spinal ganglia. The optimal time for taking material after operation in the animals proved to be six days.

As a result of these investigations the following conclusions were drawn. (1) In both man and animals there are afferent terminals with parent fibres which run in common with the plexuses containing the efferent fibres. (2) There are two types of afferent endings, one compact and served by fibres of large diameter, the other diffuse and served by fibres of small diameter. Both types are either uniformly distributed or densely grouped in receptive fields. No areas of the heart were free from terminals. In animals, and by analogy in man, there were three afferent plexuses, one bulbar with parent nerve cells in both vagal ganglia, and two spinal. Terminals from one of the spinal afferent plexuses did not form receptive fields, but were uniformly distributed throughout the heart.

The book is well illustrated, mainly by black-and-white drawings, though one or two photomicrographs have been included. The only functional conclusion which the author draws is that, when operating on the human heart, care should be taken not to incise those areas in which there are focal receptive fields. By and large these areas correspond with those which have already been determined physiologically.

G. WEDDELL.

Doping of Athletes

Doping. Proceedings of International Seminar, Belgium, 1964. Edited by A. de Schaepdryver, and M. Hebbelinck. (Pp. 180+xi; illustrated. 60s.) Oxford, London, Edinburgh, New York, Paris, and Frankfurt: Pergamon. 1965.

The two great problems which threaten to blacken the good name of sport are "doping" and "shamateurism." The problem of doping was bravely tackled by an International Seminar held in Brussels last year. The three main aspects of the subject were extensively discussed—the definition of doping, its prevalence, and its effectiveness. As in the case of "amateur," it is almost impossible to hit upon a satisfactory definition. This seminar has produced a definition that has fewer loopholes and is less pedantic than most. The second problem was to discover how many athletes actually do dope themselves. Since athletes know it to be dangerous, illegal, and morally wrong, it is surprising that so much evidence has come to light.

Beecher and Smith provide the best evidence of the effectiveness of drugs in improving athletic performance, but I remain unconvinced that doping can consistently help an athlete. Whatever the effect these drugs may have, there can be no argument about the ethics of doping. This book shows that the attempts of certain authorities to control doping have drastically reduced its prevalence. The knowledge that there are now simple scientific methods of finding by means of urine examination whether an athlete has taken drugs makes me feel that the time has come for the International Olympic Committee to legislate against doping. A declaration by athletes, as part of the Olympic oath, would presumably give legal right to the organizers of the Olympic Games to test specimens in cases where athletes were suspected of having used drugs. If individual disqualification were ineffective, then team disqualification might be necessary, for sometimes coaches may be as much to blame as the athletes themselves. I should be surprised if "doping" were still a problem after a few years of discipline of this kind. But critical vigilance and common sense are necessary to guard against corruption of sport. As Ardiëns, a contributor to this seminar, concludes, doping is only one of the symptoms of a much more generalized ailment of sport—namely, the commercialization of sport in the hands of the "captains of the public entertainment and amusement industry."

ROGER BANNISTER.