world politics ever since. A better appraisal of the importance of the population statistics which I and a few others had so carefully prepared, together with an indication of their bearing on the political situation, might have changed the whole course of international relations in the Near East. I hope and pray that our politicians to-day will not display the same indifference to vital statistics as they did in Palestine twenty-six years ago. —I am, etc.,

Cheshire. W. N. LEAK.

The "Intractable" Vesico-vaginal Fistula

SIR,—With reference to Prof. Chassar Moir's letter (May 18, p. 774), I should like to support him in his denunciation of colonic transplantation of the ureter as common practice for the cure of urinary fistula. A point on which one has to disagree with him is his impression that fistulae can invariably be cured by vaginal operation. One disagrees in spite of his praiseworthy triumph in curing 30 consecutive fistulae by the vaginal route. His success, however, shows what can be done. A further statement that Mahfouz Pasha[1] cured 95 of his last 100 cases is incorrectly referred to Mahfouz's 1938 article. It is possible that Mahfouz may have made a personal statement to this effect when he gave his lecture at the British Postgraduate School; and, if this high cure rate is substantiated, Mahfouz's triumph must be unparalleled if the nature of his material is taken into account.

I have done nearly 100 operations for vesico-vaginal fistula in the Bantu, and I have at no time had more than six consecutive successful operations. Two complications which militate against success are extensive loss of vaginal tissue and loss of the urethra. Inaccessibility of the fistula can be a serious problem, but this can usually be overcome by patience. All our fistulae occur in the Bantu, who have usually had no trained attendant during parturition, and in the difficult case there is so extensive a loss of vaginal tissue that grafting is required to cover the outer aspect of the bladder suture. I have never failed to close the hole in the bladder adequately, but difficulty in bringing the vaginal edges together has led to failure repeatedly. I believe that we shall succeed now with skin grafts, and the nylon suture—even for the bladder—and local penicillin will make a 90% cure rate possible. For the average case good nursing is more important than good surgery, and non-European hospitals in this country are still so overcrowded that intensive nursing care remains beyond our reach.

At the Johannesburg Non-European Hospital we have resorted to ureteric transplantation in some cases of fistula. Vaginal operation has always been attempted first, and in the cases regarded as frankly inoperable the degree of pelvic inflammation present has usually been found to preclude transplantation. Our impression is that the vast majority of cases in which colonic transplantation of the ureter is possible could without difficulty be cured by the vaginal route. In this respect, therefore, one is in agreement with Chassar Moir. But urinary fistula in the Bantu can be a formidable condition. As parturients, these women are primitive and independent, and in the conviction that death is the alternative to spontaneous delivery they persevere in labour in a manner which is unknown amongst Europeans. Fistula arises not because of some small error, as in the European, but because of a second stage which sometimes persists for days. Very severe trauma results, and this is accompanied by the pelvic inflammation which we have found present in attempting to perform ureteric transplantation.

In 1938 Mahfouz reported that Egyptian midwifery had improved and that severe labour trauma was diminishing. Even during the eight years that I have been observing these cases a change has become apparent. Bantu women living in or near towns avail themselves of midwifery services, and cases of incontinence come in mainly from the outlying country. Before the war I seldom saw a fistula case in possession of a cervix, but cases with cervix and a vagina of reasonable mobility are now frequently seen.

This indicates that the average type of urinary fistula occurring in a particular region must be assessed before operability and cure rates are analysed. Counsellor[3] in America does not think that these cases offer a serious problem, but analysis will show that the series in Rochester contain a high proportion of post-operative fistulae, which indeed should present difficulty to no surgeon; Moir has had phenomenal success, but in Britain where obstetrics has reached its highest peak; Mahfouz[2] cured 86.5% in Egypt in 1929, but he eliminated from his series certain cases and counted colpocleisis under his cures. In South Africa we hope to have 90% of cures in Bantu postpartum fistulae before long. I have until now considered Sims's achievement of 74% cures in 312 cases as the most outstanding in this field of surgery; but if Mahfouz cured 95 cases out of 100 he has gained the summit, for no man will cure more than this percentage of any large series of patients presenting themselves with urinary fistulae.—I am, etc.,

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REFERENCES

1 Mahfouz, N. (1938). *J. Obstet. Gynaec.*, **45**, 405.
2 —— (1929). Ibid., **36**, 581.
3 Counsellor, V. S. (1942). *Surg. Gynec. Obstet.*, **74**, 738.

SIR,—Prof. Chassar Moir must be congratulated on his sequence of 30 cures. However, his criticism of Dr. Mackay's views (April 27, p. 650) cannot be allowed to pass unchallenged. I refer in particular to the following: "I deplore the pessimistic impression conveyed in Dr. Mackay's report regarding the curability of vesico-vaginal fistulae, and the implication that transplantation of the ureters is an operation frequently required." And, "In view of this satisfactory experience with the vaginal operation I disagree with the pessimism so often expressed."

It is obvious to those "in the know" that Prof. Chassar Moir and Dr. Mackay are discussing different clinical pictures, and anyone with experience in the Bantu native reserves will easily assess the different aspects of the problem. Over a period of ten years I have seen at least eight cases in which the only solution was uretero-colic anastomosis. This is not surprising when one realizes that "second stages" lasting three, four, and five days are not unknown.

I entirely agree with Prof. Chassar Moir that many surgeons take the easy way out and that uretero-colic anastomosis is carried out too often. It must be emphasized that transplantation of the ureters must be regarded as a sign of surgical failure as far as the fistula is concerned, and must only be used as a last resource. Three attempts to cure the fistula *without any improvement* is the earliest indication which should be accepted. With these criteria I have found it necessary to do eight transplantations over a period of six years. In the native reserves I would regard a cure rate of 75% as bordering on the miraculous, particularly in districts where the witch doctor practises his crude primitive obstetrics.

While congratulating Prof. Chassar Moir on his excellent and very encouraging work, I must express sympathy with Dr. Mackay's alleged pessimistic outlook. This, however, must not prevent us from looking ahead, and doing all we can to improve our techniques and conditions of work, and aiming at the present apparent impossibility of 30 consecutive cures.—I am, etc.,

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Rh Factors

SIR,—Dr. Wiener's paper (June 29, 1946) will doubtless provoke comment from the experts. I only venture to write as one of the many who, though not serologists, wish to understand this theoretically fascinating and practically important chapter in human genetics, and who thereafter may wish to teach it to others. The difficulty does not lie in understanding the genetic behaviour of a system of eight or more multiple allelomorphs, but in the fact that each gene, according to Dr. Wiener, or each compound gene, according to Prof. Fisher, determines not a single reaction but a complex and overlapping pattern of reactions. This is bewildering to those who have not become familiar with them in the course of laboratory work. I must admit that I found the story very heavy going until one day Dr. Race was kind enough to explain to me the new CDE scheme that Prof. Fisher had just devised. Illumination came almost in a flash. All the pieces of the puzzle fell neatly into place. Each gene is named according to the reactions it determines with the various antisera, which in turn are named according to the elementary antigens with which they react, anti-C, anti-e, etc., for in this matter Prof. Cappell's modification seems a desirable simplication of Prof. Fisher's Greek