the past 25 years by my colleagues at the National Hospital and myself. Long-term follow-up of patients treated for facial spasm by the various forms of surgery of the facial nerve alone has in our experience shown that unless its continuity is interrupted the spasm returns to its former or a more severe state in most patients after a varying period of time, at times as much as 2-3 years, usually much less. Selective division of the terminal branches of the facial nerve by the method advocated by Reynolds,¹ Nosik,² and McCabe³ has the advantage of producing relief of the spasm for, in most cases, a longer period than after partial division of the nerve trunk, and if a palsy results it is usually limited to the muscles supplied by the nerve branches. In many of the patients the spasms are so severe and widespread that operations such as these are not practical.

In the past 3-4 years several patients with severe unilateral spasm have been treated by section of the seventh nerve close to its division in the parotid gland and anastomosing the distal portion to the hypoglossal nerve. Though the anastomosis was successful in restoring facial movement, in the first two cases the spasm returned within a year of operation owing to growth of the seventh nerve fibres into the anastomosis. This was easily remedied by a short second operation to evulse the facial nerve fibres from the facio-hypoglossal anastomosis and ligate the proximal section of the facial nerve with silk thread.—I am, etc.,

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¹ Reynolds, D. H., Smith, J. L., and Walsh, T. J., *Transactions of the American Academy of Ophthalmology and Otolaryngology*, 1967, 71, 656.

² Nosik, W. A. and Weil, A. A., *Journal of Neurosurgery* 1956, 13, 596.

³ McCabe, B. F., *Annals of Otolaryngology, Rhinology and Laryngology*, 1970, 79, 252.

Radiotherapy and Carcinoma of the Parotid

SIR,—My colleagues and I have established¹ that a high percentage of carcinomas of the parotid arise in pleomorphic adenomas, primary or recurrent. The only clear predisposing factor in our series was the presence of the pleomorphic adenoma for a long time, histories of 10-20 years and even much longer being common. More recently, however, Saksela *et al.*² have reported from Helsinki that three out of six patients with clinical and histological evidence of carcinoma superimposed on a pleomorphic adenoma had been irradiated 8-24 years previously for a parotid tumour not surgically removed, these being the only cases of pleomorphic adenoma so treated. In view of the suggestion that the radiotherapy may have exercised a causative influence on the development of the carcinoma, two previously unreported personal cases are of interest.

In 1954 I saw a man aged 27 with a recurrence of a pleomorphic adenoma of the left parotid following enucleation. I advised conservative parotidectomy, which was refused, and the patient subsequently had a full course of radiotherapy. I next saw him in 1960, when he presented with an enormous, rapidly growing mass in the left parotid region, extensively infiltrating outside the anatomical limits of the parotid.

Exploration at another hospital established the diagnosis of carcinoma superimposed on a pleomorphic adenoma, and not long afterwards he died from generalization of the disease.

The second case is that of a man aged 30 who presented in November 1971 with a history that two years previously he had noticed a lump in the right parotid. A technically uneventful total conservative parotidectomy was performed for what proved to be a tumour lying in the subfacial parotid deep to the facial nerve. Macroscopically, the tumour was a typical lobulated pleomorphic adenoma. Microscopically, the diagnosis of pleomorphic adenoma was confirmed, but there was "one area of malignant change where carcinoma infiltrates the capsule." The patient was given a course of radiotherapy and remains well to date. After the operation the patient mentioned incidentally that at the age of 11, following recurrence of his adenoids after surgery, he was given a course of radiotherapy through two lateral portals which cleared the trouble up. Conclusions must be guarded from what, so far as I am aware, is a unique case, but the question arises whether this is a comparable sequence to the well-established development of carcinoma of the thyroid following irradiation of the thymus in childhood.—I am, etc.,

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¹ Patey, D. H., Thackray, A. C., and Keeling, D. H., *British Journal of Cancer*, 1965, 19, 712.

² Saksela, E., Tarkkanen, J., and Kohonen, A., *Acta Otolaryngologica*, 1970, 70, 62.

Dr. F. A. Cook's Diaries

SIR,—Your readers may wish to know of the existence of notes and letters by Dr. Frederick A. Cook that are preserved in the Center for Polar Archives, Washington D.C. My own interest in them stems from research which led me to examine women reported to have significantly different fecundities, among them the Hutterites in Canada and, more recently, the Eskimos. Most medical papers^{1,2} on Eskimo fertility and related matters are based on or opposed to the observations published by Cook,^{3,4} who studied the Arctic Highlanders (Eskimos of north-west Greenland) while serving with Robert E. Peary's North Greenland expedition, 1891.

Cook's later claims to have been the first to ascend Mount McKinley and to attain the North Pole have been the subjects of violent controversy, and a generally unfavourable press has caused his other and undoubted achievements to be neglected. I was therefore delighted to learn, through the Scott Polar Research Institute, of Cook's papers in Washington, and I examined them in June 1972 while in that city. They form part of the Peary Papers, a voluminous collection that includes diaries, letters, notes, etc., of other members of Peary's many Arctic expeditions.⁵ Some of Cook's notes describe the Arctic Highlanders and a census (partly Cook's work) for the years 1891-6 contains detailed personal and genealogical information on some 230 primitive Eskimos. There is also a photographic index and remarks in the notes to indicate that some hundreds of photographs had been taken of Eskimos during this period. The photographs are in the vaults of the National Geographic Society, and I was permitted

limited access to them. Clearly they are somehow related to the census forms, and the photographs themselves—nude frontal, rear, and side views—are of great anthropological and medical interest.

Cook's diaries have not yet been found, however, and I hope some reader may have advice or suggestions for locating them or may be able to supply other information related to the subject.—I am, etc.,

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¹ Llewellyn, J., *Nature*, 1932, 129, 868.

² Whitaker, W. L., *Science*, 1938, 88, 214.

³ Cook, F. A., *New York Journal of Gynecology and Obstetrics*, 1894, 4, 282.

⁴ Cook, F. A., *Brooklyn Medical Journal*, 1894, 8, 154.

⁵ Wilson, A., *Polar Record*, in press.

Hypotension and Methylmethacrylate Cement

SIR,—Drs. G. T. G. Brittain and D. J. Ryan (16 December, p. 667) state that "a careful surgical appraisal of the degree of plasticity of the [acrylic] cement prior to its insertion [into the femoral shaft during arthroplasty], preceded by a careful technique of preparation, are the important factors which really reduce subsequent hypotension to a minimum." Such a dogmatic assertion is unsatisfactory and bound to cause confusion. The importance of aeration of the mixture to allow excess monomer to evaporate into the room air rather than to diffuse into the patient's blood is obvious, but there is no evidence to support the contention that this is the all-important factor. In two clinical studies^{1,2} adequate time was allowed for evaporation of excess monomer, but hypotension still occurred, as did two episodes of cardiac arrest in cases in which the established technique of mixing was used.³ It is much more likely that the freedom from cardiovascular complications of the patients at Wrightington is due to the care with which their medical fitness for operation is assessed. This has already been stressed by Charnley and his other colleagues.⁴

Confusion may also arise because of a discrepancy concerning the effect of hypotensive anaesthesia on the fall in blood pressure which follows the use of acrylic cement. Drs. Brittain and Ryan state that induced hypotensive anaesthesia does not modify the fall in blood pressure even though Charnley (observing the same group of patients) has asserted that such a technique regularly abolishes this effect of the cement.⁵ These two statements are clearly incompatible and it will be important to learn which is correct.—I am, etc.,

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¹ Thomas, T. A., Sutherland, I. C., and Waterhouse, T. D., *Anaesthesia*, 1971, 26, 298.

² Phillips, H., Cole, P. V., and Lettitt, A. W. F., *British Medical Journal*, 1971, 3, 460.

³ Powell, J. N., McGrath, P. J., Lahiri, S. K., and Hill, P., *British Medical Journal*, 1970, 3, 326.

⁴ Charnley, J., Murphy, J. C. M., and Pitkeathly, D. A., *British Medical Journal*, 1971, 3, 474.

⁵ Charnley, J., *Acrylic Cement in Orthopaedic Surgery*. Edinburgh, Livingstone, 1970.

ABO Blood Groups and Sex Ratio at Birth

SIR,—I have shown¹ that in the aggregate of the 15 series of white newborn babies and their mothers reported in the period 1924-72 there exists in respect of the ratio