

IS CONTROL OF OVULATION THE ANSWER TO BIRTH CONTROL AND POPULATION CONTROL?

The desire for pregnancy or the fear of pregnancy has dominated the minds of women and exercised the minds of men ever since man and woman were made for one another. While birth control is still essentially a *problem for the individual* living in a highly developed community under competitive circumstances, population control has become a desperately urgent *socio-economic problem* in most countries all over the world. In some of the overcrowded continents, for instance India, China, and some parts of Africa, overcrowding and famine still subject human beings to the law of the jungle—an unmitigated struggle for existence and the survival of the fittest. Present and potential increases in the world population are astronomical, and this fact is alarming to all thinking people; for food and *lebensraum* may well soon become completely insufficient to meet the needs of man—despite previously unheard-of technological advances.

In Japan legalized abortions have been sanctioned and are performed to the extent of about one million a year. In view of the magnitude of the problem it would, therefore, appear that basic principles and common-sense demand that this problem be approached on the basis of the prevention of conception rather than the termination of pregnancy. The problem of birth control is now merging into the wider problem of population control, and Malthus, who formulated his law of the disproportionate growth of population as early as 1798, is at last coming into his own.

Some easy, inexpensive, safe and successful method (with reference to both its use and effect) of popular birth control is urgently sought. These criteria for a satisfactory oral prophylactic drug are of extremely great importance, particularly to the masses, in any large-scale programme of population control. People in the higher socio-economic classes have, for many reasons, fewer children. Despite free availability and distribution in many areas of mechanical barrier-devices and chemical spermicides, and despite the application of the rhythm or 'safe period' method and even coitus interruptus, birth control has failed in the hands of the very people needing it most—because a liberal measure of intelligence, responsibility, and self-discipline is mandatory for the successful application of all these methods of birth control. In addition to this consideration, there is the fact that members of certain religions are not permitted to practise birth control.

It is against this background that the recent introduction of ovulation control must be seen. The administration of oestrogens and/or progesterone, and recently non-progestational compounds (synthetic progestins), place the ovaries on 'physiological rest' by inhibiting the formation of gonadotrophic hormone by the anterior pituitary. The progestins, when given from the 5th to the 25th day of a cycle, stimulate the development of a secretory (progestational, luteal) endometrium to resemble that of early pregnancy (pseudodecidual), with complete suppression of ovulation, and thus of fertility. The abrupt vaginal shift

of cells at the time of ovulation is, however, invariably absent. A normal type of period follows one to four days after withdrawal, usually on the 28th day.

Since 1956, well-documented studies on the mass use of 'enavid' for long-term control of ovulation (for purposes of birth control) have been available, mostly based on pioneer work in the fertile fields of Puerto Rico. Several thousands of women, for many thousands of cycles, have been closely studied, at first on 10 mg. and later 5 mg. of 'enavid' daily in cyclic administrations of this drug. Not one became pregnant while taking either dosage as directed. There are no known contra-indications, and 5 mg. daily is, on all evidence, quite satisfactory for consistent control of ovulation. The cost is 15c per tablet, i.e. R3 per cycle, or R36 *per annum*.

The manufacturers advise that 'for cyclic administration over prolonged periods, a total of 24 months should not be exceeded until continuing studies indicate that its present lack of undesirable reactions continues for even longer periods'. The first post-treatment intermenstrual interval is commonly delayed to 35 days or more; later cycles revert to those typical for the individual concerned. Subsequent fertility was not impaired in the least, and pregnancies which started after the administration of 'enavid' had been discontinued, proceeded to the delivery of infants who were normal in every respect.

'Enavid' must be taken daily and it must be taken regularly every month, for the probability of ovulation multiplies rapidly with each day of non-medication, and withdrawal bleeding may also ensue. While 5 mg. daily will consistently inhibit ovulation, about a third of women will have 'spotting' or 'break-through' bleeding—usually only for the first month or two, when doubling the dose for a few days usually suffices. If persistent 'spotting' occurs, a higher dosage will be needed. Patients should appreciate that in about 1 out of every 100 treated 'cycles' a missed or 'silent' menstruation occurs which is not due to pregnancy, and that medication should be resumed not later than 7 days after the previous course. Only rarely does menstruation stay away for 2 or 3 consecutive months. Side-effects resemble many of the symptoms and signs of pregnancy, e.g. nausea (10%, seldom severe, usually improving within days or, rarely, after 2 or 3 cycles; may need anti-emetics), breast enlargement or mild engorgement, and fluid retention. Pre-menstrual tension may thus be intensified, for which a diuretic may be prescribed.

The control of ovulation is, therefore, a safe, easy, and successful form of birth control for the responsible individual, as indeed are the other considerably more inexpensive methods. When a contraceptive fails, it is usually because of failure on the part of the user, not because of any inherent defect in the device itself. Daily dosage on a strict cyclical régime may not succeed in the hands of less responsible persons. Is 'enavid', then, the solution to the urgent, almost universal, appeal for an

easy, inexpensive, safe, and successful method of popular population control? The answer is probably 'no' at this

stage, but any further developments will be awaited with eager interest.

### LANDSWYE INENTING TEEN POLIOMIËLITIS

Dr. Albert Hertzog, die Minister van Gesondheid, het op Vrydag 3 Maart in 'n radiopraatjie gesê dat die Regering besluit het om 'n landswye kampanje te onderneem, in Mei hierdie jaar, om alle vatbare persone van alle rasse teen poliomiëlitis te immuniseer. Ongeveer 6,000,000 persone sal dan ingeënt word, en die kampanje is daarop gerig om hierdie siekte totaal uit te delg. Suid-Afrika sal dan die eerste land ter wêreld wees, behalwe Rusland, wat so 'n omvangryke veldtog op so 'n groot skaal onderneem.

Teen hierdie tyd is almal wat in die saak belang stel reeds goed bekend met die hele agtergrond van die probleem. Onderzoekers soos Enders, Weller en Robbins<sup>1</sup> het die weg gebaan om Salk in staat te stel om aan die wêreld 'n entstof te gee van virus wat met formalien doodgemaak is, en wat in staat was om 'n immuniteit te weeg te bring wat vatbare persone beskerm teen dié vorms van poliomiëlitis wat verlamming veroorsaak. Daarna het navorsing onophoudelik voortgegaan en Koprowski, Cox en Sabin het daarin geslaag om 'n slukentstof van lewende, verswakke poliovirus voort te bring wat nie net verlammeende vorms van polio voorkom op die basis van 'n aktiewe immuniteit nie, maar wat ook die spysverteringskanaal van die virus wat polio veroorsaak, suiwer.

Op grond van uitgebreide toetse wil dit voorkom of die stamme wat Sabin gebruik het die mees effektiewe sowel as die veiligste stamme is om 'n bevredigende slukentstof van nie-kwaadaardige, verswakke, lewende virus mee te maak. Dit is dan ook hierdie stamme wat gebruik is in die skitterende navorsing van dr. J. H. Gear en sy medewerkers, op grond waarvan ons eie slukentstof in hierdie land tot stand gekom het. Eksperimente in Mauritius en Kenia en, teen die einde van verlede jaar, in ons eie land, het aangetoon dat die entstof wat tot ons beskikking is, veilig en skynbaar doeltreffend is.

Om die immuniteitsgrondslag van die gemeenskap op 'n bevredigende grondslag te plaas, is dit nodig om so 'n groot persentasie as wat moontlik is (ten minste 80%) van die vatbare deel van die bevolking te immuniseer. Want slegs dan sal ons voorkom dat daar nie vatbare reste in die samelewing oorbly wat tot latere en kwaaiere epidemies kan lei nie. Dit beteken dat die entstof aan mense gegee moet word wat versprei is oor die lengte en

die breedte van die land — in die stede, in die dorpe, op die plase, in lokasies, en in die groot reserwes. Elke vatbare persoon moet bereik word, en dit veronderstel aansienlike uitgawes en 'n baie groot organisasie.

Die Regering het besluit om die entstof vry beskikbaar te stel, 'n Onderneming van hierdie aard kan egter alleen slaag as die hulp en ondersteuning van 'n groot aantal vrywillige werkers uit alle sferes verkry kan word. Onder die leiding van sy beplanningsraad, is die Departement van Gesondheid alreeds besig om die planne vir die reuse-organisasie in gereedheid te bring; in medewerking met Provinsiale Administrasies, Stadsrade, Afdelingsrade, Regeringsdepartemente, Bantoe-outeiteite, skole, hospitale, en veral met die mediese professie en lede van die gewone publiek wat vol gees is vir die algemene welsyn. Daar word die hoop en verwagting gekoester dat alle dokters heelhartig sal saamwerk op die grondslag van 'n ware gemeenskapdiens.

Ons het alreeds by 'n vorige geleentheid<sup>2</sup> 'n artikel geplaas deur dr. Cooper, Mediese gesondheidsbeampte van die stad Kaapstad, en dr. Robertson, waarin hulle hul ondervindinge beskryf wat hulle gedurende die Oktober-November kampanje verlede jaar opgedoen het. Hierdie waarnemings behoort van groot waarde te wees by die beplanning van die voorgenome veldtog. Ons hoop ook om lede van die mediese professie op die hoogte van sake te hou deur die publikasie in die *Tydskrif* van alle verwickelinge in hierdie verband. Informasie aangaande die organisatoriese, tegniese, en wetenskaplike aspekte van die veldtog, sal gepubliseer word soos dit ontvang word van die Departement van Gesondheid of van sy beplanningsraad.

Laat ons as 'n mediese professie soos een man saamstaan om hierdie unieke geleentheid om 'n ware volksdiens te bewys, ten volle te benut. Ons sal daardeur nie net die naam en status van ons eie land op mediese gebied verhoog nie, maar ons sal aan die wêreld toon dat ons as 'n professie, ten spyte van wat daar tot ons nadeel gesê en gedink is gedurende die laaste aantal jare, nog die grootste voorrang gee aan die ideaal van selflose naaste-diens.

1. Enders, J. F., Weller, T. H. en Robbins, F. C. (1949); *Science*, **109**, 85.  
2. Cooper, E. D. en Robertson, W. I. (1961); *S. Afr. T. Geneesk.*, **35**, 232

### CAMPAIGN TO WIPE OUT POLIOMYELITIS

Further points of information have been received from the Chairman of the Advisory Council, Department of Health, concerning the National Campaign for immunization against poliomyelitis, which was announced by Dr. Albert Hertzog in a broadcast on Friday 3 March. Reference to the Minister's announcement was made in an Editorial article which was published in the *Journal* on 18 March. The announcement is also discussed (Van die Redaksie) in this issue of the *Journal*.

The campaign will take place from the end of May to August 1961 and the exact dates for various areas are to be fixed as soon as information from the numerous local

authorities becomes available. As announced by the Minister, the vaccine itself will be supplied free of charge to everyone. The Laboratories at Rietfontein will take care of the packaging and distribution of vaccine to the main centres indicated by the Department of Health. The Department of Health is the sole authorized supplier of vaccine to the local authorities and the teams under its own direct control; general practitioners will, therefore, not be able to obtain vaccine for private patients. This decision was taken after due deliberation and in the light of the facts that the campaign will be unique; that the handling in frozen containers is essential and may be



difficult; that vaccination is to take place in a restricted period of time (within 4 days) as simultaneously as possible with Union-wide coverage; and that uniformity is to be achieved and the potency of the vaccine to be tested by follow-up.

As indicated in the memorandum on oral poliomyelitis vaccine, which is published elsewhere in this issue of the *Journal*, the population at risk is based on the following age and racial groups: Bantu (reserves) 3 months - 6 years; Bantu (other) 3 months - 9 years; Asians (Natal rural) 3 months - 9 years; Asians (other) 3 months - 29 years; Coloured people 3 months - 29 years; and Europeans 3 months - 29 years. This means that approximately 5.7

million people will be vaccinated during this campaign. Serological surveys in South Africa have shown that the Bantu at the age of 10 years has the same immune status, i.e. almost complete protection against all three poliovirus types, as the European at 30 years of age. About 80% of paralytic poliomyelitis occurs in European children of 6 years and under, and in Bantu children of 5 years and under.

Each vaccinee is to receive 3 doses of vaccine, so that the total number of doses approximates 18 million. In addition to the above groups, all pregnant women and all immigrants from Europe and North America will receive cover.

## ANATOMY AMENDMENT BILL

From Our Parliamentary Correspondent

Both Houses of Parliament have agreed in principle to legislation designed to make adequate supplies of clinical material more readily available to the anatomy departments of medical schools. Having been approved by the Senate, the Anatomy Amendment Bill, which has already passed the second reading stage in the House of Assembly, now only has to be considered in committee and be read a third time in the Lower House before it becomes law.

It was an unusual subject for members of Parliament, and they were unusually solemn as they considered its implications. The Deputy Minister of Education (Mr. John Vorster), who introduced the Bill, prefaced his remarks by saying that it was a short piece of legislation, 'morbid on the one hand, but very necessary on the other'.

### *The Meaning and Implications of the Bill.*

He said the Bill had two principles, one of which was to make adequate supplies of clinical material more readily available, and the other to facilitate the administration of existing legislation relating to anatomy studies.

Previously the bodies used at medical schools were those of paupers who had been maintained by the state, but in terms of the new legislation it would be possible to use the body of anyone who was known to be a pauper at the time of his death, as long as it was not claimed by relatives or friends.

The Bill was also designed to make it possible for a person to make his body available for study purposes by his expressing a desire to do so in front of two competent witnesses. A spouse would now also be allowed to give the body of his or her deceased wife or husband to a medical school, and the parents of a dead or stillborn child could act in the same way regarding the body.

It would now be possible, too, for bodies to be kept for two years instead of 18 months, and the Anatomy Inspector would be allowed to delegate some of the duties which he previously was supposed to carry out personally.

### *Discussion.*

Dr. Louis Steenkamp (U.P., Hillbrow) assured the Deputy Minister of his party's support and congratulated him on the Bill.

Dr. Ephraim Fisher (U.P., Rosettenville) said he did not think the Bill was going to meet the purpose for which it was designed. 'I cannot see any rush of people to will their bodies to medical schools; I cannot see a sudden rush of bodies to the dissecting tables', he said. He appealed for an extension to 30 days of the existing 14-day period that a body had to be kept before it could be used for anatomy purposes. He cited the example of Natives in the territories having difficulty in claiming their dead on the Rand within the prescribed 14 days.

Dr. Fisher did not like the idea of a person who was ill being entitled to bequeath his body orally, in front of any two witnesses, to a medical school. It might come as a shock to the person's family and for this reason a member of the family should be one of the witnesses. He said: 'If two probationers say "so-and-so said this to us" it is going

to take an awful lot of investigation to get that dead man to deny that he said it'.

The Minister of Transport (Mr. Ben Schoeman): 'He will not worry about it.'

Dr. Fisher: 'No, he will not worry about it, but where does it say that his next of kin can argue the case for him?'

The doctor also objected to the principle of parts of a body being removed for study and the rest being buried—mutilation, as he put it. 'Excavators at some distant date might come across a body with three arms and five legs', he said.

Greater use should be made of synthetic materials for studying anatomy. 'It is amazing what can be done today with plastics', he added. 'The models that are being used are almost as good as the real thing.'

The Minister of Lands (Mr. Paul Sauer): 'Is it difficult to tell the difference between synthetic brains and ordinary brains?'

Dr. Fisher also suggested that the bodies of habitual criminals and other individuals who had been a burden on the State for many years should be used.

Capt. B. H. Henwood (U.P., Maritzburg District): 'A sort of *quid pro quo*?'

When Dr. Aubrey Radford (U.P., Durban Central), who is Inspector of anatomy examinations for the South African Medical Council, entered the debate he seemed to do so somewhat reluctantly. He said he was perhaps even more surprised than most members by Dr. Fisher's contribution to the debate. The latter had created a wrong impression when he said that bodies were not kept together. 'I did not intend to describe the sombre details of the anatomy room', he said, 'but I should hate honourable members to think that parts are thrown about the room, that they are mixed up and that they are tumbled together in a sack and later thrown into a hole'.

He did not agree that if a man had said in front of two witnesses that he wanted to help medicine that that should be disputed. Nor did he agree with Dr. Fisher's impression of a man on his deathbed wanting to make his body available for study. People did not think about such things at such times, he said. He emphasized the importance of anatomy to medical science and said that no amount of plastic or synthetic substances could take the place of actual body tissues.

Dr. Radford painted a picture for the House of the jealousy with which a group of students guarded the various parts of the body allocated to them. He told them how all parts were kept together and eventually buried together.

After thanking Dr. Radford for the erudite manner in which he had assisted him to put over a rather ticklish subject, the Deputy Minister said: 'I somehow got the idea that he would have liked the honourable member sitting next to him (he and Dr. Fisher share a bench) to have been a student of his just at that moment, because I think he would have taken great pleasure in plugging him'.

Mr. Vorster said he was not prepared to consider having the bodies of habitual criminals used for anatomy purposes, and he intimated that there might be some amendment on the question of willing of bodies so that relatives might have some say.