

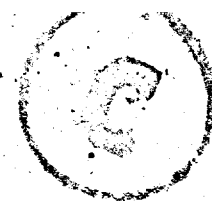
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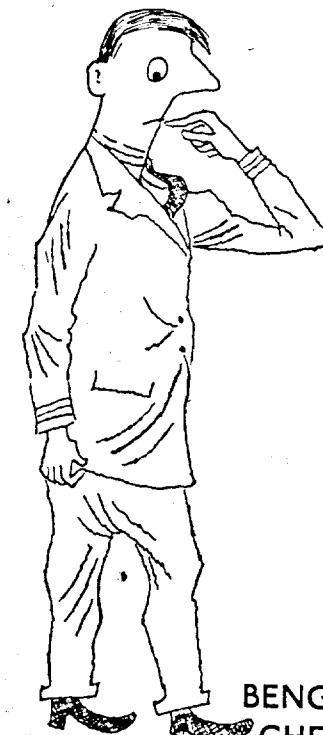
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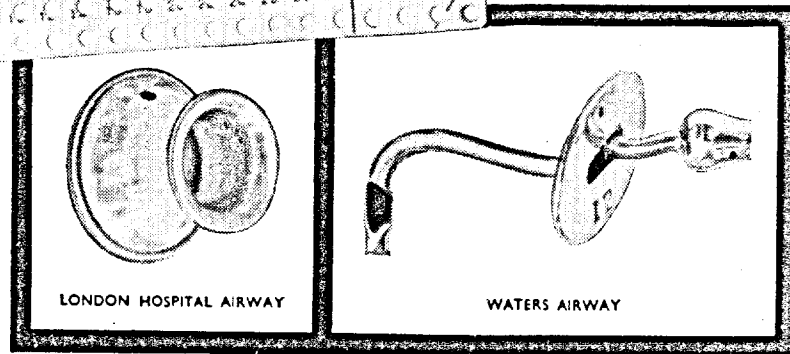
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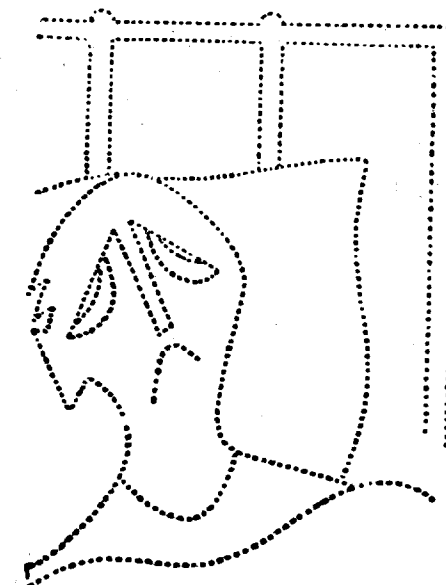
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NAME	Mrs. A. Sen
AGE	30 yrs.
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HT	5 ft 3 in
BP	120/80 mm Hg
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PULSE	94
RESPIRATIONS	18
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SURGICAL & MEDICAL NEWS

APRIL 1962

THE GENERAL PRACTITIONER AND RESEARCH

"HOW could I possibly do research? I am in general practice!" said the surprised doctor. Is there any need for such surprise for excellent work can be done by practitioners with minimal access to or facilities for special laboratory tests. The real reason for the surprise lies in the fact that the true meaning of research is not well understood. Too many tend to think that research needs big laboratories and big teams who are engaged in some tremendous project with large grants thrown in to boot. A very broad definition of research is to be found in the concise Oxford dictionary. It defines research as "careful search or enquiry after—endeavour to discover facts or the scientific study of a subject, a course of critical investigation."

When the dairymaid told Jenner, a general practitioner in Sudbury Gloucestershire "I've had the cowpox and girls who have had the cowpox cannot take the small-pox" the significance of what she was saying registered. Jenner's observant mind and his discovery has resulted in a lot of good to humanity and now vaccination is commonplace. Today many of our research projects in spite of having big grants given to them and a generous supply of laboratory aids and technical personnel cannot show equally useful or significant results. That does not of course mean, research has necessarily to produce materially beneficial results.

Katz (1956) admirably defines research as follows:

"Research is not done only in the laboratory. It may be conducted at the bedside, in the operating room, and in the field of public health and epidemiology. It is not the place that counts. It is the perspective. It is the original mind asking a question and designing an experiment to find an answer. It should not be pebble-picking—it should be the building of magnificent castles. I have no sympathy for the view that any kind of research is good. Research should advance a fundamental concept or it should have an obvious practical value and early application. Research is not gadgeteering. It is the pursuit of ideas. With the development of elaborate tools, like flame photometers, ultracentrifuges, angiocardographs, ballistocardiographs, electron microscopes, electrophoresis, and isotopes, there has developed a small group who play their instruments for all they are worth. Having acquired the equipment, the buildings, the technicians, and the project grants, they go madly searching for ideas. They scrutinize grant applications if they are on research-allocation committees, they scan published reports, they rush to meetings, they write to their friends, and they ask visiting colleagues for ideas. This is all wrong. Research should start from ideas, and then tools should be obtained, and not vice versa."

In 1941 an Australian ophthalmologist drew attention for the first time to the occurrence of cases of congenital cataract following rubella in the mother during early pregnancy. This epoch making discovery by Gregg was important in two ways. It put forward suggestive evidence on a completely new type of factor in the aetiology of congenital defects, and secondly it showed that rubella, hitherto regarded as a relatively

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Managing Editor: Dr. S. N. Dhananjay, M.B., B.S., C.I.H.

harmless disease, possessed dangers of a particularly sinister and unwelcome character. Gregg (1941) reviewed 78 cases of congenital cataract, usually bilateral and obvious from birth as dense white opacities completely occupying the pupillary areas. The cataracts were not of the usual type. Many of the babies affected were premature. In 44 of the series an associated congenital defect of the heart was present. The similarity of the eye defects, the frequency of the accompanying cardiac defects, and the widespread geographical incidence of the cases (New South Wales, Victoria and Queensland) suggested that they were the result of some constitutional condition of a toxic or infective nature rather than of purely developmental defect. In the cases reviewed the period of pregnancy corresponded with the peak of a widespread epidemic of rubella and a detailed inquiry into the medical history of the mothers during early pregnancy, showed that all but 10 gave a history of exposure to rubella. Gregg's research is based mainly on observation and he did not require highly complicated apparatus or personnel to make his epoch making observations which are of importance in the field of clinical medicine.

There are 4 methods of clinical research. The first is the recognition of clinical syndromes or recurring patterns of disease, commonly called "entities" or "diseases". These diseases are studied by all available techniques such as pathological, biochemical, epidemiological, radiological, statistical etc. Secondly there is the experimental method of laboratory research. This points the way to the interpretation of known clinical syndromes. Thirdly there is chance observation but it requires a mind prepared for it and lastly there are the major discoveries in the cognate sciences—physics, chemistry, biology, psychology and sociology—applied to the investigation of health and disease. It is mainly in the first of these that the general practitioner can try and do research. The single handed worker may observe and record his observations in a subject in which he is particularly interested. A group of practitioners interested in a particular subject may band together and pool their case material and their thoughts. The general practitioner can contribute to research mainly by the observational method. This requires an ability to observe carefully and to document his observations. The practitioner should not believe that he is not fit for any useful research simply because he is in general practice and has limited, and sometimes little in the way of access to special laboratory aids. He has one thing which others lack. He is able to see disease in its true perspective from the early symptoms to the end. Even when a practitioner refers a case to hospital for specialized treatment he should have the interest to follow up the patient and if possible resume his care when he returns home. There is much to be desired in our set up to enable the practitioner to benefit educationally by having his patient referred to hospital for specialized investigations and care.

The scope of research for the practitioner is probably best summed up by Sir Charles Symonds (1955) who wrote "There is much darkness in the world of medicine, and light may come from an unexpected quarter, so that the man who is compelled to shift his gaze from one point of the compass to the other may be better off than he who is always looking in one direction. It may happen to those wholly engaged in clinical research that they miss the opportunity of seeing in matters outside their scope something of fundamental importance to their inquiries, while to the practitioner chance may offer a new concept of disease from the observation in the same week of two cases which are clearly alike but like nothing else that has ever been seen."

INTERSEXUALITY

(Report of a case)

BY DR. VISHNU SARMA

M.A. (Cantab), M.D. (Cantab), B.Chir., M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.G.O. (Madras)
Fellow, The Royal Society of Medicine, London.

As from, The Govt. Women and Children's Hospital, Egmore, Madras

WHEN the sex of a patient is uncertain, the sex determining factors should be investigated and medical, surgical and social corrective measures designed to establish the individual as either male or female instituted as soon as possible.

The first and most basic feature determining sex is the chromosomal pattern of the individual's cells. Examination of the buccal smear or skin biopsy specimens will demonstrate whether the cells contain female or male chromosomes. The nature of the gonads is the next most important factor; this can be determined only by biopsy after surgical exposure. Gonadal and extragonadal hormones which influence growth and development, may be responsible for abnormalities of the sex organs. Chemical determination of the hormonal pattern particularly measurement of the 17-ketosteroids, may be helpful. Estimation of pregnanediol excretion may also be a useful diagnostic aid. The genitals and secondary sex characteristics, govern the adaptability of the individual to one sex or the other and careful examination of the genitals is most essential. A small hypospadiac penis may be indistinguishable from an enlarged clitoris. Although cystoscopy or radiographic study may show a uterovaginal complex, exploratory laparotomy is usually necessary to determine the exact nature of the internal genitals. The psychic pattern deserves study. X-ray examination of the sella turcica and epiphyseal areas is done and if possible the patient's electrolytic concentrations are determined.

It is only after a detailed evaluation of all these factors that assignment of sex is made. Usually, the sex which fits the gonadal, chromosomal and genital patterns is best. In some instances the final decision depends upon the potential adaptability of the sex organs.

These aspects of Intersexuality is brought out by the case, a report of which is given here.

CASE REPORT

A 17 year old patient was brought by her parents as she had not yet attained puberty. There were no other complaints.

The patient had never menstruated although about 2 years previously her breasts and other secondary sexual characters had developed.

She was betrothed to her husband 4 years ago but had not joined him as she had not come of age.

There was nothing relevant in the family history; she had an elder sister who was happily married and the mother of a child. Her social history was non-contributory. Her parents said she was a very docile girl who minded her own business and helped with the housework.

She had never previously consulted any doctor nor had had any hormonal or other treatment. She had never had any operation or anaesthetic.

General examination showed her to be a tall person with satisfactorily developed breasts and other sexual character (Figures 1, 2 and 3). She had a normal quota of axillary and pubic hair. The body shape and build were within normal limits for a female. Particulars regarding her physical build and measurements are tabulated under "Investigations". Her heart and lungs were normal on clinical examination.

Vaginal examination: She had a normal escutcheon. The labia majora were developed but in the inguinolabial canal of the left side there was a

A STATEMENT

By DR. M. G. CANDAU
Director-General, World Health Organization

SIGHT is one of man's most precious possessions. Partial or total blindness will always remain a tragedy although one that can be mitigated by training which in some countries is enabling blind people to work and earn their living in competition with the sighted. The greater part of the world's blind however—millions of people—still have to suffer the additional distress of being an unproductive burden on their families or communities.

Yet more than half of the world's blindness is preventable. With proper treatment by drugs and surgery, sight could be restored to millions who are now losing it; preventive measures can ensure that in the future the numbers of the blind will be a third or less of what they are today.

There are, it is true, some diseases leading to blindness against which we are powerless, but they affect a minority of sufferers. The great causes of blindness are still, on the one hand, accidents that need not happen, and on the other, preventable diseases such as trachoma, smallpox, and onchocerciasis—the “river blindness” of many parts of Africa. Vitamin deficiencies are still responsible for much loss of sight in some areas. Cataract, found all over the world, can be remedied by surgery, and even glaucoma, a leading cause of blindness in the more developed countries, can often be halted if discovered at an early stage. Research is still needed to increase our knowledge of eye diseases, but the tools and techniques we already possess for preventing blindness can be put to immediate use against most of these causes.

It cannot be repeated too often that the cost of preventive services is only a fraction of the amount that could be saved by reducing the burden which the blind inevitably represent for any country's economy.

On this World Health Day I would urge governments, health administrations and people everywhere to review what is being done and what could be done to prevent needless loss of sight. The knowledge is there—it remains to apply it on a wide enough scale to protect the sight of millions who, without this help, are doomed to darkness.

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Blindness in India : Its Causes and Prevention

By Dr. Y. K. C. PANDIT
Honorary General Secretary, All India Ophthalmological Society

THE term blindness though commonly used is not specifically defined. Its meaning varies from country to country as shown by the definitions prevalent in different countries.

The Report on Blindness in India, 1944, includes among the “blind” not only persons completely devoid of the faculty of seeing but also those with partial vision whose ability to see ranges from mere perception of light to a more useful vision sufficient to allow free movement in the streets.

In Britain an adult, unable to perform any task for which eyesight is essential, is blind but a child will come within the definition if he is too blind to read the ordinary books read by children.

In New Zealand blindness is defined as a degree of permanent and irremediable defect in which vision in each eye is not greater than 1/60. Any person who cannot see well enough to read even with the aid of glasses is regarded blind in the United States.

The census of 1921 in India revealed a total of 479 651 blind persons giving an incidence of 152 blind persons per 100 000 of the population. Ten years later the figures rose by 172 per 100 000. The total number of blind was estimated as 0.5 million. The definition employed by the census office was “a person who cannot count the fingers of a hand held at a distance of a yard”. The enumeration of the blind and the defectives was considered unreliable by the decennial census authorities and was excluded from the census of 1941. The 1931 census record is the most complete territorially but not a very accurate statistical record as related to the blind in India.

STATISTICAL PROBLEMS

The special committee appointed by the Government of India in 1944 to inquire into the incidence of blindness was confronted with such statistical problems as the following :

(a) The 1931 census figures give a ratio of 172

blind persons per 100 000 of the population while specific counts in Bengal at that time give a figure of 233 per 100 000, Bombay 260 per 100 000 and U. P. 900 per 100 000.

- (b) Census figures in other countries seldom showed more than half the true number of the blind and probably in India, too, a much lower figure had been revealed by the enumeration.
- (c) The figures, while including a proportion of totally blind persons, did not cover the partially blind who also need assistance from the blind welfare services.

The Committee, on the basis of the above, concluded that an estimate of 250 blind persons per 100 000 was a more legitimate figure and to this should be added an equal number of partially blind, thus arriving at 500 partially and totally blind per 100 000 or 2 000 000 blind in a population of 400 000 000. The population of the country has since gone up to 460 000 000. The feeling among Indian ophthalmologists is that there are at least 2 500 000 blind in the country.

The comparative figures for some other countries are : Belgium 43 ; Bulgaria 57 ; Germany 60 ; France 102 ; Canada 150 ; United Kingdom 175 and U. S. A. 175.

The Report on Blindness of the Government of India, 1944, covers blindness in age groups as follows :

Age group	Males	Females	Total
0-20	108 668	72 793	181 461
21-40	42 503	57 695	100 198
Over 40	132 630	185 448	318 078
age unspecified	940	693	1 633
		Total	601 370

Considering the age group in which sight is lost and the number of years of expectancy of life we arrive at the following table :

Age group in which sight is lost	Total No.	Life expectancy in years	Total blind years	Percentage	Blind years
Under 21	181 461	40	7 258 440	58.3	24 139 700
21 to 40	100 198	20	2 003 960	16.1	6 664 600
Over 40	318 078	10	3 180 780	25.6	10 578 400
Age unspecified	1 633				
Total	601 370		12 443 180	100	41 382 700

It will be seen from the above that 30 per cent of India's blind lost their sight before the age of 20 and most of them in the first five years. They suffer 58.3% of the sum total of the years of blindness. The expectancy of life in India has now increased and is now placed at 45. This increases the sum total of the blindness years also. The blindchild is therefore a big responsibility of the nation.

CAUSES OF BLINDNESS

- Trachoma and epidemic conjunctivitis
- Cataract and glaucoma
- Smallpox
- Venereal diseases
- Malnutrition
- Injuries in childhood, youth and industry
- Myopia
- Uveitis
- Eales's disease
- Neurological diseases leading to blindness

Among predisposing factors may be mentioned :

- Poor standards of health
- Poverty and ignorance
- Heat, glare, dust and flies
- Economic distress (malnutrition and diet deficiencies)
- Lack of medical facilities in rural areas.
This leads to a reliance on quacks and use of some dangerous home remedies.
- Poor illumination, wrong posture during work and badly printed text books.

TRACHOMA

Trachoma is a dread disease more common in Bihar, Gujarat, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh. The Government of India, in

collaboration with the World Health Organization, has launched a Trachoma Pilot Project based on the Mahatma Gandhi Eye Hospital, Aligarh, under control of the Indian Council of Medical Research. Very good work is being carried out under this project by a team of expert ophthalmologists.

Epidemic conjunctivitis is common in the country during the premonsoon and post-monsoon periods when the climate is hot and humid. It is more common among the poorer classes. In the rural areas as well as in cities and towns, treatment is often attempted through home remedies in the form of a red dye, human milk, sugar-candy and copper sometimes with disastrous results. Very often the eye is lost through perforation and other complications. Communicable eye diseases are the main cause of blindness among all ages of the population including children below 10.

CATARACT AND GLAUCOMA

In the northern part of the country the incidence of cataract and glaucoma has been found to be higher. These are afflictions mainly of the adults—in age groups above 40. Statistics from Aligarh Eye Hospital give the following figures for 1959: Cases examined: 30 320; Number of cataracts operated upon: 2 161; other operations: 2 072.

The Bombay State holds eye camps under Government control and statistics for some of the camps are as follows:

Site of camp	Patients	Operated upon for cataract
Pandharpur	3 372	876
Srirampur	5 200	1 294
Pachora	5 146	1 364

Most of the cases of glaucoma go undetected till the sufferer is totally blind. In many persons whose eyes are prone to glaucoma the attacks are precipitated by the use of *surma* (a common home remedy containing belladonna and antimony etc. which dilate the pupil). It is also caused in some by the injudicious use of homatropine used as a routine instillation for refraction.

SMALLPOX

Vaccination should prevent complications of smallpox but in spite of vaccination we do get epidemics and in some places the disease is endemic. The old superstition that the disease is the expression of wrath of the goddess and no treatment should be carried out, leads to a great deal of blindness. The reluctance generally shown to take a patient to an isolation hospital, where adequate care can be taken, is another important factor. After communicable diseases of the eye smallpox is the most important cause of blindness among children in India.

VENEREAL DISEASES

Venereal disease is directly related to the problem of blindness, especially in the larger cities and in areas where the disease is endemic. It is responsible for one-fifth of the blind population. It is met with in three forms: venereal syphilis, endemic syphilis and yaws (common in the Andamans, Orissa, Assam Hill States and Madhya Pradesh). The common ocular conditions among venereal disease patients, which may lead to blindness, are complications of meningal and meningo-vascular syphilis; uveitis; choroiditis; keratitis; diseases of the retina and optic nerve.

Ophthalmia neonatorum has considerably decreased with a rigid adoption of the Credé method and lately with the instillation of penicillin.

LACK OF NUTRITION

Dietary surveys carried out in 1935 showed that the diet of the people was generally deficient in quality as well as quantity. The economic strain of World War II further reduced the level of nutrition with the shortage of foodstuffs, high cost of living and steep rise in commodity prices. After partition the country was and still is short of foodstuffs and high prices prevent the large majority of people from having foods rich in quality and sufficient in quantity.

Our Government is aware of the problem and efforts are being made to meet the food shortage by long and short term plans for irrigation, raising crop yields, procurement of food from countries having surpluses, milk schemes, improved methods of agriculture and various other measures. These efforts, however, merely touch the fringe of the problem.

A change in dietary regimen is often advocated but it is easier said than done. The ingrained food habits die hard and the alternatives prescribed are equally, and sometimes more, costly.

FOOD AND INCOME

Our hotels and restaurants and the community kitchens used by the common man are sadly lacking: where cleanliness and quality of food is concerned. Food sanitation, community hygiene, refrigeration of food, air-conditioning of the restaurants, classification and grading of fruit, can help raise nutritional standards but if these measures raise the cost of the food and place it beyond the means of the common people the purpose will be defeated. Until proper food can be made available to people at prices they can afford pharmaceutical concerns will continue to flourish in their trade of nutritive pills and vitamins. The purchasing power of the people is therefore an important factor to consider and this depends on the national income.

ACCIDENTS AND INJURIES

Blindness resulting from injuries is common from childhood to adult age. The child has to be safeguarded against injuries. In recent years we have come across trivial injuries to children's eyes leading to blindness. This occurs mostly in the care-free schoolgoing age. Injuries resulting in blindness have been by kernels of plums, pencil points, writing nibs and crackers during the Diwali festival.

Eye injuries in the course of factory work are also becoming common. With the rapidly expanding industrial programme of India, it is necessary that adequate stress should be laid on protective measures, such as, education of the workmen, display of precautionary posters, incorporation of safety devices in the machines, where possible, and wearing of safety goggles and screens at work where necessary.

The Factories Act should be modified and all preventive measures against eye injuries made compulsory and strictly enforced. A safety training programme for workers, with periodical repetitions, should be introduced in the factories. The machine, the workroom and the working area of the men on duty should have illumination as prescribed by the industry's engineers.

Education of the people plays an important part in the prevention of eye injuries. During the solar eclipse of 1954, for example, a number of people suffered from solar burns of the retina because they did not know that looking at the eclipse could harm their eyes. The Bombay Ophthalmological Society, with the co-operation of the State Government and the Press took special care on that occasion to warn the people against the danger. Much of the damage done could have been avoided by advance publicity of this kind in other States also.

SCHOOL CHILD'S PROBLEMS

Myopia is definitely on the increase among school-going children. Among the several factors responsible are: sub-standard nutrition, poorly or badly printed books, bad quality of paper used in the text-books, poorly illuminated low-roofed classrooms and the long hours of study that the pupils have to spend under these conditions. The popular prejudice against young children—specially girls—wearing glasses should also be taken into the consideration.

Medical examinations in schools should be compulsory and the school authorities should see to it that the school doctor's instructions are carried out by parents.

Eales's Disease is another cause of blindness in the young. It is considered to be caused by a tubercular condition and involves recurrent hæmorrhages inside the eye which, with complications, gradually becomes blind. The disease is hardly amenable to treatment. In fact it progresses in spite of the treatment. Each relapse makes the condition worse. A large number of cases of blindness resulting from tubercular meningitis is observed these days with bilateral optic atrophy caused by meningitis. Blindness caused by neurological diseases is now observed more frequently with the advance in the technique of neurosurgery.

MAN-MADE BLINDNESS

The quack surgeon or eye coucher, who abounds in the rural areas of India, is responsible for a good deal of blindness. Couching is an old style operation whereby a cataractous lens is tumbled posteriorly. The poor villager, without any practitioner of modern medicine to guide him, prefers the services of the coucher, who offers to restore sight immediately, to the prospect of lying up bandaged in an eye-hospital for a week. He comes to the eye hospital eventually when vision is lost and nothing can be done to restore it.

The eye couchers, known under different names in the various States and parts of the country ('Hakim', 'Kaviraj', 'Rawal' and 'Mal' etc.) are travelling most of the time in connection with their nefarious activities and thus manage to escape the law.

RELIEF AND PREVENTION MEASURES

The first steps for the relief of blindness in this country were started in Khandesh (Western India) by a Mr. Hamilton in 1913 after he had a child born blind. Eradication of ophthalmia neonatorum was the most important objective in his blindness prevention mission. He carried out his work in Khandesh, Surat, Broach, Tharparkar (Sind) and Ratnagiri.

In 1919 the Bombay Blind Relief Association was founded and some years later the All India Blind Relief Association. The programme of work adopted by the association had two main aspects (a) a village field workers' association based on a centrally located hospital; and (b) a travelling hospital for areas where the population was scattered, as in Sind. Records were maintained for totally and partially blind persons, cases requiring operation, treatment given and the results of treatment, inspection of the newborn children and the cases with complications of smallpox and measles. Several hospitals and camps were conducted by the association.

An association for the prevention of blindness was set up in Bengal in 1930. The association's first travelling dispensary came into being in 1936. In U.P. ophthalmic relief work was carried out by three hospitals at Lucknow, Agra and Allahabad. Delhi had several blind relief associations which held eye camps in different parts of India. One of our surgeons, Dr. Mathradas Pahwa, attained great fame

as a mass operator at Mogha. In most of the provinces, however, the work was patchy and irregular.

In the years after independence the tendency has been to multiply the medical colleges with a view to increasing medical manpower and providing curative services in the areas where the colleges are located. There are 52 medical colleges in the country today and each of them has a fairly well-organized eye department.

Several States have set up mobile ophthalmic units which tour the rural areas, examine cases at the homes of the patients and operate upon them and send the more difficult ones to the nearest civil hospitals. One such unit during the period 1949 to 1954 examined 44,389 patients, performed 4,943 operations and 5,732 refractions.

The Government of Bombay appointed an Adviser in Ophthalmology and organized ophthalmic camps under State arrangements, sending teams of surgeons to particular areas. Bombay was the first State to pass, in 1958, the Corneal Grafting Act. An Eye Bank was established in 1960.

In U.P. two large eye hospitals—at Aligarh and Sitapur—launched a state-wide scheme approved by the Government. The Aligarh Eye Hospital has 300 beds and under the zonal scheme it covers 18 districts. Each district is expected to have an eye clinic in the course of 15 years. In the interim period the area is being served by four mobile ophthalmic units with an operation theatre and a bed capacity of 100, which can be laid out anywhere like the army casualty clearing stations. The Aligarh Muslim University Institute of Ophthalmology is located in the hospital which has also served as the base of the Trachoma Pilot Project carried out by ICMR with WHO assistance. The Sitapur Eye Hospital serves 21 districts and has 350 beds. It is a well equipped hospital with enthusiastic workers.

In Madras, the work is limited to curative services provided by the medical colleges. This was the first State to have corneal grafting rules on a temporary basis.

Mobile eye camps have become a regular feature in Rajasthan, Bihar, Bengal and Gujarat. In Bihar, these are sponsored by the Government and run by the State's ophthalmic surgeons. One important develop-

ment is the establishment by a private committee of a well equipped eye hospital at a cost of Rs. 6 lakhs at Jamshedpur, the steel town.

In Mysore, the camps are managed by the State Ophthalmological Society in co-operation with the local bodies and the Medical and Health Departments of the State.

A special feature of eye relief work in Bengal is the close co-operation between the health centres and the mobile units. These centres have a bed strength varying from 20 to 50 beds depending on the size of the population. The travelling eye clinics work in conjunction with these hospitals and thus have the advantage of carrying out operations in proper surroundings. They can also afford to travel light. The rural population has come to respect the scientific approach to the ailments of the eyes and quack practices are being uprooted. Andhra Pradesh has followed a pattern of its own and has now developed the Sarojini Devi Eye Hospital and Institute of Ophthalmology.

The formation of the Society for the Prevention of Blindness in India, under the chairmanship of Rajkumari Amrit Kaur, with its head office at Delhi, is an important event. The Society, it is hoped, will give the right lead in the formulation and carrying out of blindness prevention programmes.

GOVERNMENT EFFORTS

With the limited resources of the country diverted in many development programmes during the past decade the problem of prevention of blindness has not received adequate attention. In fact any progress in the field has been the indirect result of the expansion of medical facilities in general. Mention may also be made of the child health programme being carried out by the various States. There is little doubt that the success of these programmes will result in lowering the figure for the child blind in the country. This, however, touches only the fringe of the problem which needs many avenues of approach for its solution.

The direction of health policies being mostly in the hands of Directors functioning under the heavy workload of routine administration, it is not unusual for matters of a specialized nature to receive inadequate attention. Nor is it possible for health officials to be all-round experts in this age of specialization. It is therefore, in my opinion, necessary that a Director

of Ophthalmology should be appointed at the Centre with a small committee of experts to advise him. He should deal with the problem of prevention of blindness on an all-India basis. His counterparts in the States should be advisers in ophthalmology assisted by a team of experts.

In the rural areas the importance of eye care and prevention of eye diseases should be emphasized at child welfare centres. Social welfare workers, nurses and other health workers should be trained to detect diseases of the eye which may lead to blindness and to give proper preliminary advice to the patients.

Education of the public by films, posters and lectures with some demonstrations must form an integral part of a programme for the prevention of blindness. Popular misconceptions about eye diseases and the prejudices against modern methods of treatment must be fought systematically.

Medical examination of school children should be undertaken methodically and the authorities should see to it that the treatment prescribed is followed up. The practice of appointing a medical practitioner for the short period of a medical examination has very little to commend itself.

In industry emphasis should be laid on the prevention of accidents. Rules for wearing protective devices should be strictly enforced and educational programmes on accident prevention should be carried out for the benefit of the workman.

NEED FOR RESEARCH

There is also great need for research in the subject. Research centres should be set up to inquire into the nature and cause of diseases leading to blindness. The country has an abundance of clinical material of all shades and varieties and there is no lack of young and promising ophthalmologists to take up the arduous task of research, provided adequate facilities are provided.

In all countries where progress has been made in the control of eye diseases and prevention of blindness

research has received due attention. The United States, for instance, has during the post-war period developed ophthalmic research on a planned basis and its expenditure on the subject has increased enormously. In Great Britain, thanks to the foresight of Sir Stewart Duke-Elder, it has been possible to create an Institute of Ophthalmic Research. In India, unfortunately, this aspect of the problem is not fully appreciated. I hope that we can look to the good offices of WHO to help this country build up ophthalmic research centres in the country.

I have to thank Dr. V. K. Chitnis for his kind help in the preparation of this paper.

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Blindness : The Problem in India

By SURESH C. AHUJA

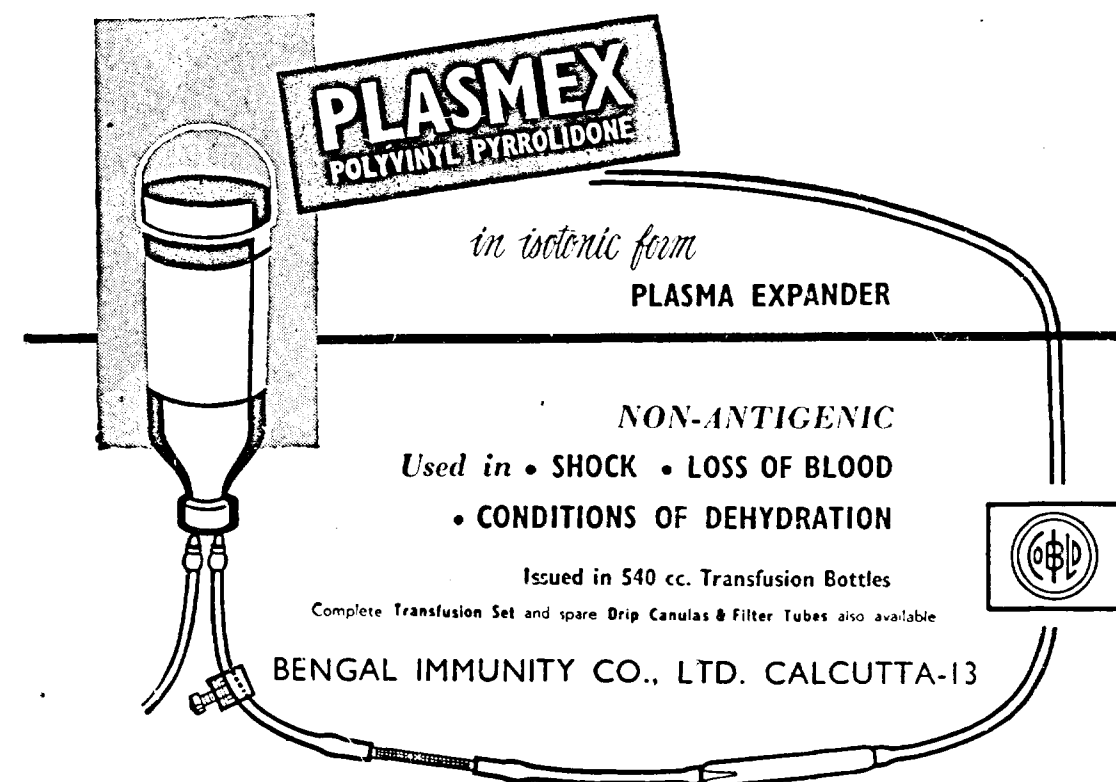
Executive Officer, The National Association for the Blind, Bombay

One-fifth of the blindness in the world (10 million cases) is found in India. "It is tragic," says the author; "that much of the blindness in our country.... is the result of causes which are preventable and diseases which, if treated early, are curable".

THE last two decades have been a growing awareness, both on the part of the Government and the public, of the problem of blindness in India. Many more schools and institutions for the education and training of the blind have been established both by the Government and voluntary agencies and a beginning has also been made in the employment of the blind. Today over 1,000 blind persons are under the care of institutions and approximately 500 have been found gainful employment alongside the sighted in factories, mills and

at a variety of other occupations. In spite of these efforts, however, only the fringe of the problem seems to have been touched and much still remains to be done.

What is most surprising is that hardly any attention appears to have been paid to the all-important problem of preventing blindness. In the more progressive countries blindness is now regarded mainly as a disease of old age. In India, however, a large number of children and adults of working



age still lose their sight as a result of diseases which have been eradicated in the West, such as smallpox, ophthalmia neonatorum etc.

There are no reliable statistics relating to the blind in India. The last attempt at estimating the blind population of India was made in 1944. According to the Government of India "Report on Blindness" published in that year the incidence of blindness in India was estimated at 250 totally blind persons per 100,000 of the population. For every totally blind person it was believed that there was at least one person "whose sight was so damaged as to make it impossible for him to earn a living without the special assistance of blind welfare services". Thus the incidence of blindness in India correctly would be 500 per 100,000 of the population. In comparison the incidence of blindness in Britain is 205 per 100,000 and in the U. S. A. 198. Except for Egypt and a few areas in Africa, the incidence of blindness in India is the highest in the world.

The provisional returns of the 1961 Census estimate the total population of India at 438 million. On this basis the blind population of India amounts to over two million. The figures published by the Royal Commonwealth Society for the Blind in 1956 estimate the world blind population at approximately 9½ millions. India therefore has more than 1/4th of the world blind population. It is also believed that 90% of blindness in India is preventable. These figures, although displaying a somewhat gloomy and dismal picture, should, I think, help to shock us out of our complacency and to urge upon the authorities concerned the need to devote greater attention to the vast task of preventing blindness. It is also worth remembering that 80% of India's population is to be found in the rural areas. Hence it is only to be expected that 80% of the blind population would also be found in the rural areas. Any attempt at a reduction in the incidence of blindness must include measures for prevention of blindness among the rural population.

The main causes of blindness in India are (a) trachoma and allied inflammatory conditions of the conjunctiva and cornea, (b) cataract and glaucoma, (c) smallpox, (d) keratomalacia and other results of malnutrition, (e) venereal diseases etc. To these causes may be added the effects of ignorance and poverty of the masses with the resultant insanitary conditions of personal hygiene and daily living and most important of all the inadequate medical services available in the rural areas.

Most of the causes of blindness are today preventable. Trachoma and conjunctivitis if treated in the early stages would not result in blindness. In the rural areas a large proportion of blindness results from the use of irritants and 'surmas' offered to the simple-minded villagers by quacks. Wide-spread publicity as to their injurious effects and the availability of adequate medical facilities would in time put an end to this. Vaccination and revaccination would almost certainly take smallpox off the list of main causes of blindness in India.

Under proper conditions almost 90% of cataract operations are successful in restoring useful vision. Unfortunately, many persons have lost their sight as a result of 'couching'. The itinerant 'couch' offers immediate restoration of sight by means of needling. In 90% of these cases sight is lost either immediately or soon after. Glaucoma is often mistaken for cataract and treatment is sought only when it is too late and sight is completely lost.

It is tragic that so much of blindness in our country with its resultant hardships and misery is the result of causes which are preventable and diseases which, if treated early in their onset, are curable. It is time that a determined effort was made to reduce the unnecessarily high incidence of blindness in our country. As stated in the Government of India (Report on Blindness, 1944,) "Our attack upon the whole vast incidence of blindness must therefore be twofold—the medical work of dealing with eye diseases as they occur; and secondly the vast task of removing the indirect causes".

It is essential that adequate medical facilities are provided throughout the country. All district hospitals should have an ophthalmic section under a qualified ophthalmologist. Wherever mobile health units are developed these should include an eye specialist. Visits to rural primary health centres by the ophthalmologist attached to the nearest hospital should also be encouraged just as visits from other specialists.

It would be relevant here also to refer to eye camps which have been the subject of so much controversy. In the past they have been regarded as the only means of offering treatment to the mass of people who find their way to these camps. Most of them followed a set pattern, widespread publicity, cursory examinations and operations by the thousands.

The Problem of Blindness in India : Its Causes and Methods of Prevention

BY DR. SATNAM SINGH

W.H.O. Medical Consultant, Trachoma Control Project, Thailand

THE world of the blind is difficult to imagine. Of the various physical handicaps loss of vision is perhaps the most dreaded. Not only does the afflicted person fail to realise himself, he is often a burden to the family and the community at large. Gone are the days when blindness was considered a visitation of forces beyond our control. Scientific methods have been applied to understanding the factors which cause eye diseases leading to blindness. The prevalence of many of these diseases has been studied in various population groups and methods have been developed to tackle the problem early, effectively and on a community-wide basis.

TWO MILLION BLIND

In 1944, the Government of India's Central Advisory Boards of Health and Education, reporting on the problem of blindness in India, justifiably concluded that "250 per 100,000 represents the probable ratio of the totally blind, with a similar ratio of partially blind in need of welfare services, giving a total figure of 500 per 100,000; and this proportion applied to a gross population of 400,000,000 people, gives a blind population of 2,000,000."

This figure, of course, was not easy to get at

(Continued from page 18)

Newspaper accounts included such items as "500 operations per day" or "one operation per minute". No one bothered to find out how many of the patients ultimately recovered their sight and retained vision. In cataract operations the post-operative care is regarded as most important but this unfortunately was rarely available at these eye camps. However, it would be wrong to say that eye camps should be banned entirely. Eye camps, if properly organised, can be a great blessing. They should be allowed only if adequate facilities for examination of patients, operations and post operative care are available.

In addition to providing increased and improved medical services it is important that steps are taken to educate the people in the simple methods of preventing blindness and the care of the eyes. All available means of propaganda may be used for this purpose e.g. the press, radio, films, posters, etc. In this campaign the services of the health visitor, the midwife, and school teacher could be used to good purpose. A short course of lectures on the care of the eyes could be included in the training courses for the "Dais" and "Gram Sevikas" who are in close contact with the women of the rural areas. For

example, if the Dai or midwife used a few drops of silver nitrate solution as a matter of routine at the birth of a baby it would save the sight of so many babies who lose their sight as a result of ophthalmia neonatorum ("babies' sore eyes").

The task of preventing blindness is an enormous one which so far has received very little attention. The Association for the Prevention of Blindness in Bengal and the Blind Relief Association in Bombay have been struggling with this task for several years but their efforts have been confined to limited areas. Realizing the need for a national agency which could devote its efforts to this problem, workers for the blind in India at the Second All India Conference for the Blind held at Bombay in June 1959 adopted a resolution bringing into existence "The National Society for the Prevention of Blindness". A number of eminent ophthalmologists in the country have associated themselves with the society and the society has been fortunate in having Raj Kumari Amrit Kaur as its first President. The Society, which aims at preventing blindness and eliminating the causes which lead to it, will, we hope, in the years to come, succeed in reducing the high incidence of blindness in our country.

because allowance had to be made for the fact that the definition of blindness differed in different regions of the country and that census figures had their own limitations. However, the figure was supported by more intensive surveys carried out in smaller areas of the country later.

Today we have more specific and detailed information on the prevalence and causes of blindness in India, on the district as well as State basis, as a result of the random sample survey carried out as part of the activities of the Government of India's trachoma Control Pilot Project (T.C.P.P.) which is assisted by WHO and UNICEF.

According to this survey, the total number of economically blind (persons who, with both eyes open cannot count fingers beyond a 2-meter distance) in the rural areas of India is nearly *three million*. The T.C.P.P. figures also reveal that for every economically blind individual there are four suffering from mild to moderate degrees of visual handicap in one or both eyes. That means a total of *fifteen million economically blind and/or visually handicapped*, a staggering total, which becomes all the more tragic when one considers that most of this blindness is preventable.

TRACHOMA AND ITS ASSOCIATES

Among the various causes of preventable blindness, trachoma or granular conjunctivitis (familiar to the Indian villager as 'Rohe', 'Kukre' or 'Dane') tops the list. This is a communicable disease caused by a large sized virus and leads to serious blinding complications, especially in populations having poor personal hygiene and environmental sanitation.

In the northern and north-western States (Rajasthan, Punjab, Uttar Pradesh, Gujerat, Bihar and Madhya Pradesh), the prevalence rate of trachoma is very high, ranging between 35 and 78 per cent. There is no doubt that in these States the disease is a major public health problem. In the remaining States, though the overall prevalence rate is 25% only, pockets of high endemicity have been found, particularly in Mysore, Assam and Jammu and Kashmir.

Attempts to bring out the extent of visual damage caused by trachoma and associated bacterial infections revealed that 0.01% to 0.42% of the population examined were 'economically blind'. According to this assessment, it would appear that (based on the

1951 census of the rural population) there are about 450,000 economically blind persons in the country solely due to trachoma and associated infections. If mild or moderate degrees of visual impairment were also to be taken into account, the total would run to 2.7 million.

CHILDREN AND WOMEN VICTIMS

The intensive epidemiological studies, though confined to a relatively small area of western Uttar Pradesh, brought to light certain important findings. The disease was usually either moderate or severe in intensity, the latter being more common in women. The age of onset was between 1 and 3 years and the main victims of active trachoma were children under 10 years of age. Sub-acute and acute bacterial conjunctivitis complicating trachoma was encountered frequently among children, especially those under two years of age.

The incidence of active trachoma as well as bacterial conjunctivitis increased markedly during March-April and again during July-September. The higher temperature, rainfall and the increase in the fly population in these periods, were perhaps partly responsible for the high incidence.

An observation of particular importance is that these diseases were more widely prevalent in communities with low standards of personal and environmental hygiene. These studies have been of great value in indicating the lines along which control measures should be developed.

LACK OF VITAMINS

Smallpox complications of the eyes and gross malnutrition especially in infants and children are other important causes of preventable blindness. Lack of vitamins, especially vitamin A, and proteins over long periods grossly affect general health leading to irreversible changes in the eyes and, in many cases, permanent loss of vision. Unfortunately, treatment is usually sought very late when it is impossible to save the eyes.

In middle age and the years beyond, cataractous changes in the lenses are an important cause of blindness. Though the various factors causing this disease are not fully known to medical science, it may be considered a type of aging process. Unfortunately, compared

to many Western countries, the age of onset of cataract in India is early, especially in rural populations. Though with the help of modern optical aids and surgical operations every cataract case can look forward to an almost full productive life not many seek early treatment and are instead content to live in a dim world and risk serious visual complications.

Among the many other ocular diseases leading to impairment of vision, squint and injuries are more frequently encountered. Early diagnosis and efficient treatment, which is often time-consuming, can correct the squint in a large number of cases, but it unfortunately continues to cause blindness often because advice is sought very late. It is also a fact that the number of medical centres capable of giving efficient treatment is much too small to meet the needs of this vast country.

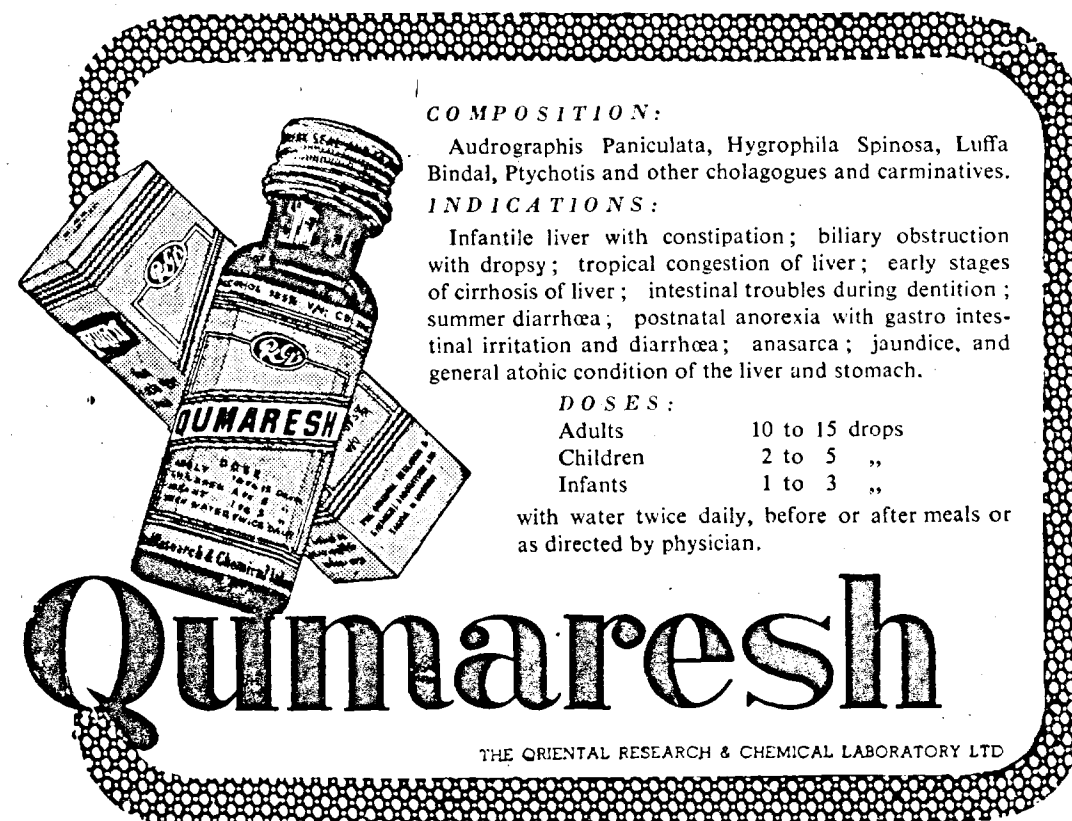
LIVING STANDARDS

As infections and malnutrition, singly or combined,

are the chief causes leading to blindness or impairment of vision in this country, it is obvious that our long-term aim should be to improve the standard of living, hygiene and education of the people. While this is a slow process which may take years to complete, work in this direction has already started.

Taking advantage of the recent discoveries in broad spectrum antibiotics simple, effective and economical therapeutic procedures have been worked out against trachoma and associated bacterial infections, at the Trachoma Control Pilot Project of the Indian Council of Medical Research. The co-operation available from the parents and/or school teachers in carrying out the treatment has also been evaluated.

Based on the experience gained in the above therapeutic trials, studies have been extended to larger areas (Community Development Blocks) in order to find out the feasibility of application of this method as a public health measure. Activities directed towards the control of trachoma have now been initiated on a small scale



COMPOSITION:
 Audrographis Paniculata, Hygrophila Spinosa, Luffa Bindal, Ptychotis and other cholagogues and carminatives.

INDICATIONS:
 Infantile liver with constipation; biliary obstruction with dropsy; tropical congestion of liver; early stages of cirrhosis of liver; intestinal troubles during dentition; summer diarrhoea; postnatal anorexia with gastro intestinal irritation and diarrhoea; anasarca; jaundice, and general atonic condition of the liver and stomach.

DOSES:

Adults	10 to 15 drops
Children	2 to 5 "
Infants	1 to 3 "

with water twice daily, before or after meals or as directed by physician.

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Thousands can be saved from going blind

BY DR. U. C. GUPTA

Trachoma Control Pilot Project, Mahatma Gandhi Eye Hospital, Aligarh (India)

BLINDNESS is a double tragedy. It deprives its victim of one of the most precious gifts of nature which make life worthwhile and it casts an unnecessary burden on the community which must support its unproductive blind population.

India is estimated to have about 2 million blind—which is about one-fifth of the world's blind population. The fact that 60 to 80% of this blindness is preventable, makes the tragedy even more poignant. But, even though ways to prevent many forms of blindness are known, we cannot hope to achieve cent per cent success in view of our paucity of funds and technical manpower and the competing calls on our resources. The present standards of living,

education, personal hygiene and environmental sanitation, all have a bearing on the problem of blindness and its prevention. It has to be tackled on a long as well as short-term basis.

Causes of blindness in India may be classified as follows: congenital abnormalities (cataract of childhood etc.); hereditary diseases (optic atrophy, retinitis pigmentosa etc.); inflammatory diseases (ophthalmias of various origins); trachoma; smallpox; cataract; glaucoma; venereal diseases; malnutrition; injuries (associated with sports, industries and war or caused by the use of irritants and interference in the eye by couchers and quacks); diabetes; ill effects of faulty posture, glare, poor lighting and badly printed books; and refractive

(Continued from page 21)

in seven States i.e. Uttar Pradesh, Punjab, Bihar, Rajasthan, Madhya Pradesh, Gujarat and Jammu and Kashmir.

A country-wide smallpox eradication campaign is on and we can look forward hopefully to almost complete prevention of smallpox blindness.

EARLY TREATMENT

We are all familiar with prevention at various levels. Certain eye diseases like cataract, squint and glaucoma etc. are not preventable but their early recognition and efficient treatment and follow-up often prevent loss of eye-sight. Unfortunately, facilities for prevention at this level are limited, especially in the rural areas. To complicate the situation further, communities to whom these facilities are available are often not aware of them and not uncommonly medical advice is sought at a very late stage when irreparable damage to the eye has occurred. Intensive health education is called for in such situations, but most of the therapeutic centres are overworked and they have no separate wing to educate and assist the population which they are supposed to serve.

The existing network of medical and public health

organizations in the various States will have to be gradually involved in planned programmes to prevent blindness and, where feasible, active collaboration with the various voluntary organizations obtained. As in other public health programmes, health education of the people is vital to the success of blindness prevention programmes and efforts in this direction are being made in various States.

Considering the serious problem of blindness in India and with full faith in the maxim 'prevention is better than cure' efforts are being made to start a national institute for the prevention of blindness, wherein the science of ophthalmology and public health will be yoked together for research, training and advice in the field of preventive ophthalmology.

In recent years, a trend towards the formation of voluntary societies for the prevention of blindness has been noticed in various States. A National Society for the Prevention of Blindness has been in existence for the last two years. A heavy responsibility rests on the leadership of these organizations. Through continuous service and education, it is hoped, they will succeed in making the people understand that blindness is a tragedy which is largely preventable and in spreading knowledge of the ways to prevent it.

errors. This list, though not comprehensive, gives a fair picture of the causes of blindness in this country, many of which are preventable.

It would be obvious that measures to prevent blindness from many of these causes should include prevention of diseases, such as trachoma and smallpox, which may lead to blindness; treatment of eye diseases, which if not taken up in time, may lead to incurable blindness; correction of eye defects caused by diseases like cataract; introduction of accident prevention programmes in factories and elsewhere; and education of the people in healthful living with particular reference to the care of the eye. Disease goes hand in hand with poverty, ignorance and poor living conditions. Therefore, efforts to raise standards of living, education and environmental sanitation and hygiene and to educate the people about a balanced diet, must go on simultaneously with a blindness prevention programme.

YOUNG VICTIMS

According to the available data, 30% of the blind in India lose their eyesight under the age of 21, in most cases during the first 5 years of life. The main causes are ophthalmia neonatorum, smallpox, poor or unbalanced diet, and trachoma and/or associated conjunctivitis, all of which are preventable diseases.

Measures to control these diseases have been initiated by the Government of India, in some cases with the support of international organizations. The efforts are beginning to bear fruit. Cases of ophthalmia neonatorum are getting less and less with the availability of proper midwifery service in rural areas. Smallpox, once the major cause of blindness, is largely under control, and it is hoped that with the extension of the smallpox eradication programme people will be free from this disease and its threat to eyesight.

Trachoma, often in association with conjunctivitis, is responsible for about 60% of preventable blindness in this country. Epidemiological studies carried out by the Trachoma Control Pilot Project of the Indian Council of Medical Research have brought to light valuable knowledge about this disease. Various field trials have also been carried out to use this knowledge in the most economical, practical and efficacious methods of control. Even as the trials continue a patent fact that has emerged is that the success of

any mass programme will depend on the simultaneous rise in the standard of living of the people.

EYE CARE IN SCHOOLS

In order to prevent loss of sight due to ill effects of bad posture, glare, bad lighting and badly printed books—it is essential that schools be made aware of their responsibility in the matter. (Negligence in schools costs many young students their eyes.) It should be made compulsory for the schools to teach and practise the principles of good posture, proper lighting, avoidance of glare, proper distance and angle between the books and the eyes and use of suitable type in text books.

We must admit the unpleasant fact that so far as the health of the child is concerned, appalling conditions exist in a majority of schools, especially the new ones coming up like mushrooms under private managements, which seem to think their duty ends with making some kind of arrangement for book learning. It is in recognition of this fact that the Government of India have set up a School Health Committee. It is a laudable step and the practical achievements of the committee are awaited with interest.

BLIGHTED YOUTH

In the 21—40 year age group the main causes may be classified, in that order, as trachoma and/or associated conjunctivitis; venereal diseases; injuries and diabetes. This is generally the age when the after-effects of trachoma such as trichiasis, entropions or corneal opacities begin to manifest themselves. The solution is prevention of trachoma in the early years.

This age group is most vulnerable to venereal infections which, left untreated, may lead to loss of sight. The factors to be taken into consideration in a preventive programme are lack of proper sex education, the popular prejudice against open discussion of sex matters, the social stigma attaching to these diseases which makes a patient hide his illness and the lack of effective Government control on prostitution.

ACCIDENTAL INJURIES

People working in factories and workshops belong mostly to this age group—the most productive age.

Accidental injuries, including those to the eye, are therefore not uncommon in this age group. There are many provisions in our factory safety Acts which are not observed in actual practice. Particularly relevant to the problem of blindness is the provision for workers to use protective goggles where there is possibility of danger to the eye. And yet, many workers, including doctors, are known to have developed premature cataracts while exposed to X-rays, ultra-violet rays or high temperature heat-waves.

Strict enforcement of safety rules is the only sure way of avoiding injury to the eye in the course of work.

In recent years diabetes has been observed as one of the causes of blindness. Once the eye develops conditions such as diabetic retinopathy cure is very difficult. But diabetes itself is preventable, and if detected early and treated properly ophthalmic changes can be avoided to a great extent.

AFFLICTIONS OF OLD AGE

Eye diseases commonly met with in the 21—40 age group are also found among older people. To these may be added cataract and glaucoma. No preventive measures can be suggested against cataract. People must know, however, that cataract is a normal pathological change which occurs with advancing age and the various metabolic changes in the body. It is like greying of the hair. Blindness due to cataract, however, is curable. Surgery of the cataract is very much advanced today and India has contributed substantially to the subject. The percentage of failures in cataract surgery today has been reduced to a negligible minimum.

Glaucoma is responsible for a high percentage of blindness among older people. Glaucoma blindness is unfortunately incurable, but the disease itself is preventable.

"A large number of cases of glaucoma", to quote Sir J. Duggan, "go undiagnosed or are diagnosed as cataract in early stages and allowed to continue till sight is completely lost. An attack of acute glaucoma is sometimes treated as a bilious attack by physicians and the ophthalmic surgeon is not consulted. Atropin is often grossly misused by medical advisers, and ignorant people do not hesitate to use atropin drops prescribed for others because this stopped pain in their

eyes. The practice of using 'surma' which sometimes contains belladonna for dilating pupils is also responsible for causing glaucoma. The majority of cases admitted to hospitals are too far advanced to respond to treatment."

It may be a long time before this can be done on a mass scale but if every person above 40 is subjected to a routine check-up and early cases detected and controlled, the disease can be prevented. Further research on the causative factors of glaucoma is also essential.

QUACKS AND COUCHERS

Eye couchers and quacks contribute a good deal to the country's blind population by their pernicious activities. Intensive propaganda against these unqualified persons who pose as eye specialists is very necessary. Many people have lost their eyes because of the irritants used by these persons and their crude efforts to operate on cataract cases. India's villages and towns abound with these quack healers. With the lack of medical facilities in the countryside the poor villager falls an easy prey to these heartless cheats. Corneal opacities, phthisis bulbi, glaucoma due to dislocated lens and iritis are the common features with which the poor villagers present themselves at the district or eye hospital, after they have been dealt with by the quack surgeons.

Until and unless a law is enacted against this quackery and strictly enforced it may be years before the villager learns to shun it. There is also need to place the scientific system of medicine within easy reach of village people. Development of primary health centres and sub-centres is a proper step in this direction.

CORNEA GRAFTING

Until now there was no hope for persons gone blind due to corneal opacities caused by an attack of smallpox or corneal injury. The technique of corneal transplantation holds out new hope to these blind. But it has its own limitations. Corneal transplantation depends on donor material i.e. healthy cornea of another person which in our country is very difficult to obtain. The cornea to be grafted should be taken out within 30 to 40 minutes of death, but our age-old customs do not permit interference with the body after death. It is only when public conscience is aroused

Need for Public Support of blindness prevention programmes

World Health Day Statement by W.H.O. Regional Director

DR. C. MANI, Director of the WHO Regional Office for South East Asia, has issued the following statement on the occasion of World Health Day—April 7, 1962.

When we talk of the problem of blindness our thoughts turn to the tragic life of those who are condemned to spend their lives in darkness. It is natural that we should be struck by this aspect of the problem because there are no fewer than 10 million blind people in the world. But when we realize that two-thirds of this blindness is preventable it becomes clear that we have a duty not only towards the blind but also towards the sighted who risk blindness either because they do not know how to take care of their eyes or because the diseases causing blindness remain unchecked.

That is why the stress in this year's theme for World Health Day is on the *prevention* of blindness. Sight once lost can be restored by treatment in rare cases only and the blind population becomes an economic burden on society. Preventive measures cost less and

yield more in terms of human happiness and economic output.

The leading causes of blindness in the South East Asia Region of WHO are trachoma and smallpox, both communicable diseases and both preventable.

In India, where statistics have been collected in the course of a large scale WHO-assisted campaign against trachoma, it is estimated that 60 per cent of preventable blindness in the country is caused by this disease and infections associated with it. In some of the villages in northern India 80 to 90 per cent of the people, especially children, have been known to suffer from trachoma. Smallpox alone is responsible for 400,000 of India's two million blind.

Campaigns against trachoma are based on a mass scale treatment with an antibiotic ointment and prevention of its spread from person to person by the proper observance of personal hygiene and cleanliness. Against smallpox, vaccination is an excellent safeguard. This has been proved by the experience of many

(Continued from page 24)

that enough donor material will be available to meet the requirements.

Legislation authorising removal of the eyes after death in hospitals is now under consideration of the Government of India. The States of Madras, Bombay and Bihar have enacted a corneal grafting law.

NOT AN EASY TASK

It is obvious from the above that blindness in India is a major public health problem which is not easy of solution. In view of its close relationship with the general health and living standards of the nation, it will take some time before it ceases to be a major problem. In the meantime, steps should be taken to prevent it as far as possible notwithstanding our limited resources.

In the propagation and implementation of preventive measures, Government efforts can be effectively supplemented by private organizations. Every effort should be made to strengthen the National Society for the Prevention of Blindness to play this role in a worthy manner. Co-operation should also be sought from social service organizations, practising doctors, rural health workers, indeed any one who is sensitive enough to respond to this great challenge.

To a child born blind the world of light and colour does not exist. But to a person who has known the flower in bloom and the moon in its glory and felt the human warmth which comes from being a useful member of society, loss of sight is a tragedy with hardly a parallel. It is therefore the sighted no less than the blind that need constant vigilance and care. And it is of them that we must think when planning our fight against blindness.



Surgeons' Training Plan Expanding in Asia

By LINDSAY CARROLL

Melbourne, Australia

THE Royal Australasian College of Surgeons, in close co-operation with the Colombo Plan, is expanding its teaching programme in South and South-East Asia.

Last year, the college, which consists of the surgeons of Australia and New Zealand, launched its first public appeal for funds to assist its programme.

Since 1957, teams of up to three surgeons and six lecturers of the college have gone to Singapore to conduct courses and examination for surgeons from Singapore and Malaya.

They are all specialists in various branches of their profession, who give their time and services free. Their expenses are met by the Australian Government under the Colombo Plan.

The examinations are for the first part of the qualification as a fellow of the college, and the fourth of the series since 1957 is expected to be held at Singapore early next year.

So far, 24 surgeons have passed at these primary examination. A number have completed their courses in Australia, and are now surgeons and teachers in their own countries.

One of the most recent to do so was Dr. T. Dorairajan, M. S. (Madras) who qualified as a Fellow of the Royal Australasian College of Surgeons in October, 1961.

He came to Australia as one of the first fellows under the Commonwealth Scholarship and Fellowship scheme, and is now Surgical Registrar of the Royal Children's Hospital at Melbourne, Australia.

He will return to India soon as assistant surgeon at the General Hospital, Madras.

PERSONAL VISITS

It was at the suggestion of some of its fellows that the Royal Australasian College of Surgeons became associated as a body with Colombo Plan programmes, but even before this, a considerable two-way traffic had been built up by personal visits.

In the past 10 years many fellows of the college have undertaken personal missions of teaching and demonstration to most of Australia's neighbour countries in South and South-East Asia, some of them on five or six occasions.

At the same time, they were able to arrange for

(Continued from page 25)

countries in the West which had a high incidence of smallpox only a few decades ago and which are completely free from it today. Smallpox vaccination campaigns in various stages of progress are now going on in a number of countries in the Region but this effort needs much greater impetus, better field organization and more money. WHO and UNICEF are assisting countries to become self-sufficient in vaccine production.

The responsibility for carrying out effective programmes for the control and eventual eradication of these diseases rests primarily on the health administrations but very active public support is essential to the success of these plans.

In the efforts to fight trachoma and smallpox especially the man in the street can make a very effective contribution. Trachoma control is largely a matter of personal hygiene and environmental cleanliness and once people realize the close relationship between insanitary living conditions and this disease, its chances of spreading from person to person will greatly diminish.

A valuable service can be rendered by the better-informed members of the public if they will set themselves to fight the prejudice which still persists against smallpox vaccination.

Asian doctors to come to Australia for specific programmes of study, experience or research in advanced surgery.

Thanks to air travel, Australian hospitals have always been able to help desperately ill patients, whose only prospect of survival lay in the success of intricate operating techniques not available in their own countries.

DRAMATIC PROGRESS

In all branches of surgery and in anaesthesia, the indispensable ally of surgical teamwork, there has been dramatic progress in the past 20 years.

Surgeons say that there is almost no part or structure of the human body now which is inaccessible—nor in which surgery cannot be performed with a good chance of success.

The development of these highly specialised skills and operating team techniques demands progressively higher standards of training and experience on the part of the surgeons themselves, and it is for this reason that the Royal Australian College of Surgeons is appealing for funds to expand its educational facilities.

Lord Casey is president of the appeal, which has attracted widespread support from fellows of the college, state governments in Australia and the public of Australia and New Zealand.

"The college is not only the trustee of the Standards of surgical science and practice in Australia and New Zealand; it is also alive to the possibility of helping our neighbour countries", Lord Casey wrote in launching the appeal.

LONG TRAINING

The skill of a qualified surgeon is the result of long study and training, including several years of post-graduate work. A typical course after graduation includes two years' experience as a resident medical officer of a hospital, plus a year of study for the primary F.R.A.C.S. examination.

After this primary qualification comes a "surgical apprenticeship" of at least two more years, as a registrar or assistant to senior surgeons, before the applicant can sit for the F.R.A.C.S. diploma, which qualifies him for hospital appointments.

The Australasian College of surgeons has arranged for surgeons from overseas to complete this final phase of their training also at approved hospitals in Australia, under the Colombo Plan.

Study courses advertised recently by the college have brought up to twice as many applicants as could be accommodated. Those who were disappointed either had to forgo a career in surgery, or travel overseas to obtain their higher qualifications.

If the outlook of the surgeons were limited only to the needs of Australia and New Zealand, this would be serious enough but the fellows of the college see their responsibility for surgical education as extending beyond national boundaries.

They accept it as an obligation to humanity which takes in the need of many more millions of people, in countries near Australia and New Zealand, for the stronger hold on life that modern surgery can give them.

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GONORRHOEA TODAY

By A W.H.O. Expert Committee Member

THE hopes aroused in the nineteen-thirties by the introduction of the sulfonamides for the treatment of gonorrhœa were subsequently disappointed because of increasing drug resistance on the part of the gonococcus. The advent of penicillin at the end of the Second World War gave new hope for the control of the disease. However, despite initial success particularly in Europe and America (in Canada the incidence of the disease fell by 57% between 1946 and 1956), such control has not been achieved and the reservoir of the disease was never reduced by penicillin to the same extent as in syphilis. The initial decline became a steady state and now the curve has been reversed in many countries. In others the infection has never come under control at all; endemic areas and areas of increasing incidence continue to be found in many parts of Africa and Asia.

In 1959 a WHO Expert Committee reported that the disease was on the increase in 15 of 22 countries studied and that "gonorrhœa is widespread, remains uncontrolled and is one of the most challenging health problems in many parts of the world". The disease remains common and is spreading in some areas, particularly among young persons. Moreover, the actual incidence is higher than the reported figures indicate because of failure to notify every case. In the USA the total number of cases is perhaps 5-10 times the official return; but, on the basis of the official figures alone, gonorrhœa was in 1959 the third most common infectious disease, exceeded only by measles and streptococcal infections, syphilis being fourth.

Similar increases are reported from many countries and this trend was amply confirmed from a number of sources at a European Symposium on Gonorrhœa, organized by the Polish Ministry of Health and the International Union against Venereal Diseases and Treponematoses, which met at Krakow, Poland, in 1960. While it is true that many of the classical complications of the disease, such as arthritis and iritis, have now become rarities, salpingitis still occurs in no less than 10% of infected women and causes 2-3% of all cases of sterility.

That this should be so despite technical progress and initial success shows how recalcitrant the problems of communicable disease control can be. Only from careful study of the reasons for this setback can new measures emerge to deal with the present situation. In a recent issue of the WHO Bulletin a number of experts assess the reasons for the present failure to control gonorrhœa on a large scale. Some proposals for the future are also made. Reasons for the failure of control include difficulties in defining the reservoir of infection, difficulties in diagnosis, and increasing difficulties in therapy.

FACTORS RESPONSIBLE FOR RECRUDESCENCE

Epidemiological factors

Gonorrhœa has a relatively short incubation period. Symptoms are usually apparent a few days after exposure. This means that even the most efficient treatment of the individual case may not prevent spread of infection before further sexual contacts have been located. This is in contrast to syphilis with its longer incubation period during which the contacts can be found (accounting, in part, for the greater success in its control). Further, gonorrhœa is a much more common disease than syphilis. The probability of infection is greater, any immunity is short-lived, repeated attacks and reinfections occur. Both parties to an infection are not treated simultaneously often enough and certainly not as often as in syphilis. These and other epidemiological peculiarities of the disease must be taken into consideration in planning future campaigns.

Waning interest

One of the outcomes of the early success of penicillin therapy was a feeling, widespread among patients and extending to some doctors, that gonorrhœa had now become a minor infection of little consequence, curable by a single injection. On the part of both patients and doctors standards of responsibility with regard to notification, treatment and the search for contacts declined. This is in

analogy with the effect of the use of antibiotics on standards of care in dealing with hospital staphylococcal infections, and has had the same adverse consequences.

Sexual behaviour

There is some evidence suggesting that promiscuous sexual behaviour in young persons is an important factor in the spread of gonorrhœa today. The periodically examined prostitute has given place, in many parts of the world, to the "good-time girl", the enthusiastic amateur who is often a potent source of infection. Teen-age promiscuity has become prevalent in many communities and some prison studies show that more than half of the infected prostitutes are girls under 20 years of age. Hitch-hikers and lorry-girls function as "vectors" for the disease from ports to the interior; and several investigators are convinced of the increasing importance of male homosexuality in spreading infection. Another important factor is population movement. In the case of large-scale immigration, as from the West Indies into the United Kingdom, a new community is formed with a strong preponderance of males whose sexual relations are limited in many cases to a small number of prostitutes. Within any one country similar results follow large shifts of population to industrial centres; a large proportion of infection in any large town is contributed by men and women from other districts. In seaports the effects of promiscuity in transients, and also of homosexuality, are most marked.

Failure of diagnosis

As between men and women. The reported attack rate is usually in the proportion of from 2:1 to 4:1 as between men and women. This cannot be accounted for by a greater degree of promiscuity in men. It suggests, at least in part, a large undiagnosed latent reservoir of infection in women. An infected man with conspicuous symptoms usually reports for treatment; many women do not, or do not know they are infected, so that the disease lingers on unnoticed and undiagnosed. The importance of this lies in the high risk of reinfection run by an adequately treated man who returns to his customary sexual contacts. To improve case finding, efficient epidemiological contact studies are needed on a much wider scale than at present. Even in countries such as Denmark where there are extensive legal powers to

trace sources of infection, the problem remains serious.

In female infants and young girls. Although vulvovaginitis in children under 12 is now uncommon in Western Europe, it is still frequently reported from Poland—where it is separately notifiable. The infection may involve the urethra, cervix and rectum. It is difficult to diagnose and often resistant to both penicillin and streptomycin.

Through faulty laboratory technique. This is allied to the preceding point about the undiagnosed female case, since ordinary laboratory methods often fail to provide a definitive diagnosis. Culture is usually regarded as the best method, but sometimes less than half of the cases are discovered by culture despite improvements in technique by the use of special media and of the oxidase test. Where immediate inoculation of media and growth of specimens are not possible, the results after transportation to the laboratory are often poor. The gonococcus is sensitive and capricious in its behaviour; even the use of wooden instead of aluminium spatulae in transferring material may prejudice the result. Serologically, the complement-fixation test has proved unreliable and it is not widely used; in some centres the clinical findings are mainly relied on for diagnosis and assessment of cure. It is clear that better laboratory methods for obtaining rapid, early and convincing diagnosis are required.

Misdiagnosis. The situation is further complicated because non-gonococcal urethritis or vaginitis in many cases either coexist with gonorrhœa or are mistaken for gonorrhœa. Very little is known about these infections, but culture often demonstrates the presence of *Trichomonas vaginalis* or of *Candida albicans*. Some infections can be shown to be of viral origin, but the etiology of many genito-urinary infections remains obscure. Much microbiological research is needed before they can be properly defined and treated; how essential this is is indicated by the finding of non-gonococcal infections in no less than 25% of men examined at one gonorrhœa clinic. Since the response of these infections to antibiotics may differ, a great deal of confusion may result.

Failure of treatment

Many factors must be considered if confusion is to be avoided. It is desirable to distinguish between

relapse and true reinfection. Failure to do so will give an unduly pessimistic picture of the results of penicillin therapy. Probably most of the so-called "resistant cases" are reinfection. But true failures do also exist. Penicillin may be given in too small a dosage or for too short a time, or both, particularly if the convenient oral route is substituted for injections; and, if an effective penicillinemia is not maintained, phagocytized but living gonococci can survive and produce relapse. Even with an adequate concentration of antibiotic in the blood over a reasonable period, there is still the difficulty of ensuring that enough of it reaches the localized genital pockets of infection; this is particularly so in women who may require higher dosages than men. Other host variables which may vitiate treatment include unusually high rates of renal penicillin excretion; the production of tissue penicillinases or antibodies; and, possibly, the effects of alcoholic or sexual excesses.

Penicillin resistance

Not until all these factors have been considered and diagnosis has been confirmed by culture, the maintenance of effective blood concentrations of penicillin checked, and reinfection excluded, can the existence of true penicillin-resistant organisms be postulated as responsible for the failure of treatment. Even then, there must be confirmation from *in vitro* studies. Much has recently been written on this subject, and resistance has been credited with most of the responsibility for the recrudescence of gonorrhoea. There is little doubt that a moderate decrease of penicillin sensitivity in some strains of gonococci is a real and increasing problem. But the situation remains indeterminate because most reports are not well enough substantiated and because there is no generally accepted standard method for measuring sensitivity. Failure to cure with adequate doses of penicillin does not, in itself, imply that the micro-organism is resistant: the *in vivo* results must be correlated with *in vitro* studies. Unfortunately, the methods used and the inhibitory concentrations of penicillin adopted in making such studies are at present far from uniform. "It is impossible to compare gonococcal sensitivity determined by one author with that found by others. This is due to the lack of a common method for performing sensitivity testing." The importance of this cannot be overstated, for if sensitivity to penicillin is really declining we should—bearing in mind experience with the sulfonamides—look to

curative agents other than penicillin. This would be unsatisfactory since penicillin, by virtue of its low cost and certainty of administration by injection, together with its relative lack of toxicity, remains the drug of choice.

Some definition of the term "resistance" is necessary. It is usually defined in terms of an arbitrarily fixed concentration of the antibiotic concerned; an organism inhibited by this concentration or less is said to be sensitive or, if not, "resistant." But this is relative resistance, varying from one laboratory to another, and can be overcome *in vitro* by raising the drug concentration. It might be better to think in terms of absolute resistance, where the organism can be inhibited only by concentrations of antibiotic that cannot be achieved or maintained in the body. It is clear that no agreement on the extent of resistance can be expected while there is no internationally recognized standard for measuring the phenomenon. The number of resistant strains, expressed as a percentage of all strains, does not appear to be increasing; different workers report it as from 10% to 25%. However, resistant strains do not appear to regain their sensitivity on continued culture. Further, a comparison of present-day strains with strains preserved from 1944 reveals the emergence in "stepwise" fashion of a small group of highly resistant strains, which suggest a recent more rapid, and possibly mutational, trend in the evolution of penicillin resistance. Some of these strains require for their complete inhibition a concentration of penicillin 20 times as great as was required for the most resistant strains from 1944. There is a close correlation between *in vitro* and *in vivo* resistance and it is the resistant organisms which are mainly responsible for the failure of treatment. The relapse rate is 5 times greater in patients with resistant strains.

Resistance to other drugs

The appearance of penicillin resistance naturally directed attention towards sensitivity to other antibiotics, of which streptomycin is the only one in common use. Some 23.5% of strains are uninhibited by a concentration of 50 µg/ml of streptomycin and may be regarded as resistant; but above 1000 µg/ml a resistant organism cannot be inhibited however large the dose employed, i.e., in practice this is an all-or-none phenomenon: there is either complete sensitivity or

complete resistance, and there is a very close correlation between *in vitro* resistance and clinical failure rate. Resistant strains are increasing and it may be predicted from the laboratory data that the wide-scale use of streptomycin would eventually lead to all strains becoming resistant. Clinical experience in France bears this out. Penicillin has not been widely used in France in gonorrhoea for fear of masking a possible concomitantly acquired syphilis, and in 1954 the Ministry of Health recommended the use of streptomycin. The standard treatment dose has been 2 g of dihydrostreptomycin but currently nearly a quarter of all strains require for laboratory inhibition a concentration unattainable in man, and the clinical failure rate in 1958 was 13.6%. Since then it has been necessary to supplement treatment with penicillin or sulfathiazole; so far, most streptomycin-resistant gonococci have remained sensitive to adequate doses of penicillin.

Thayer et al. have studied the effects on both penicillin-resistant and penicillin-sensitive strains of a number of other antibiotics: kanamycin, leucomycin, chloramphenicol, dextrosulphenidol, oxytetracycline, chlortetracycline, tetracycline, dimethylchlortetracycline and synnematin B. In general, gonococci are sensitive to these agents irrespective of their degree of penicillin sensitivity, though this does not apply to synnematin B, a penicillin derivative. There is however, some evidence of increasing tetracycline resistance and for this and other reasons the tetracyclines are not to be recommended for routine treatment. Spiramycin, erythromycin and polymyxin are at present practically 100% effective; but they are very expensive and in any case should be kept as a "strategic reserve".

It is interesting to note that acquired resistance of gonococci to the sulfonamides, which had become almost complete by 1946-48, has largely disappeared since their use in gonorrhoea was abandoned. Only some 5-10% of strains of gonococci are not inhibited by a concentration of 50 µg/ml of sulfathiazole, which means that the drug is once more nearly 100% effective and may be used as a supplementary weapon in treatment. Its disadvantages are that, as it is taken orally, dosage is unreliable, side effects are common, and inevitably any large-scale use will lead to a return of resistance.

FUTURE POSSIBILITIES

Any improvement in the management of gonorrhoea must come, first, from a more thorough application of existing methods of control, particularly epidemiological casefinding, and from the introduction of new techniques. Both the WHO Expert Committee of 1959 and the Krakow Symposium in 1960 emphasized that penicillin must remain the sheet anchor of treatment and that resistance should be met by using larger doses than the original standard of 300 000 units. A mixture of a short-acting form, to produce effective penicillinemia rapidly, with a more slowly acting compound, to maintain this level, should ensure that gonococci are destroyed even after phagocytosis and so prevent relapse. A total dosage of 1.8 mega-units is recommended, given as 1.2 mega-units of procaine penicillin on the first day and 0.6 mega-units of penicillin aluminium monostearate (PAM) or benzathine penicillin on the second day. Some workers have suggested much larger doses still; the dangers of penicillin reactions remain and resuscitation facilities should be at hand. The supplementing of penicillin therapy with sulfonamides is unlikely to yield more than temporary benefit and would probably make sulfonamide resistance reappear before long. The use of other antibiotics is probably undesirable at present, except when infection does not respond even to large doses of penicillin. Resistance to streptomycin, the only commonly employed alternative, is growing. The newer antibiotics should not be used indiscriminately and injudiciously but kept in reserve.

It is important to improve the recognition and treatment of non-gonococcal genitourinary infections; the discovery of the effectiveness of metronidazole for *Trichomonas* infestation offers great promise for the control of this frequent condition in the male and female alike.

Various advances are being made in the pathological field. The results of swab cultures to be transported to the laboratory have been much improved by the use of Stuart's reducing thioglycollate medium; and the oxidase technique for identifying gonococci in smears and cultures has proved its value. In the recent WHO Bulletin devoted to gonorrhoea Deacon describes the fluorescent antibody technique

in which fluorescein-labelled antiserum is used to define the capsular antigens of the gonococcus; this may prove helpful as a definitive diagnosis may now be made within 16-24 hours compared with up to 10 days by available culture methods. This new technique has also yielded positive results with cultures obtained from women that would otherwise have been reported negative. There is thus some hope that it may be helpful in the solution of the epidemiological problems involved in defining the latent reservoir of infection in women and in the rapid spread of the disease before diagnosis can be made. Of great potential value, but still at an early stage, is the work of Tauber and Russell, also described in the Bulletin, on the identification of the gonococcal endotoxin, thought to be a lipopolysaccharide. This work may lead to the discovery of efficient serodiagnostic tests and even, possibly, to methods of immunization. In the meantime, however, the most valuable help from the

pathologists would be agreement on a standard for measuring penicillin resistance. It is noteworthy in this connexion that in 1958 the first WHO Venereal Disease Control Seminar in the Western Pacific Region recommended setting up an International Gonococcus Reference Laboratory.

New epidemiological techniques include the so-called "speed zone" and "cluster" techniques, which aim at reaching both sexual and social contacts with the minimum of delay. These methods may not be applicable in all types of society. There is also the possibility of mass treatment for relatively small and separate communities where the disease is highly prevalent. From the sociological aspect some reduction in the incidence of gonorrhoea may be expected from an extension of social work and legislation in cities in so far as these touch on sexual behaviour in young people and on prostitution.

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EPILEPSY AFTER BLUNT HEAD INJURIES—

By W. Bryan Jennett M.D., F.R.C.S. With a foreword by Lord Cohen of Birkenhead, William Heinemann Medical Books Ltd., London. Price: 21 s. net.

This 150 page monograph is a study of an important subject in which serious studies have only rarely

been made. The author evaluates the problem of traumatic epilepsy following blunt head injuries. His experience was gained at the well known neuro-surgical centres at Cardiff, Oxford and Manchester. The monograph is divided into three parts. The first outlines the problem, the second describes the investigation and the last part the conclusions reached from a study of over 500 patients. There is an extensive review of the literature, for the problem itself is an

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important one not only for neurosurgeons but also for medico-legal work where litigation involving post-traumatic epilepsy often figures. Perhaps the clarity of the work is represented in the way the summary has been written, for it puts out the authors conclusions without any confusion.

The conclusions are: Epilepsy in the first week after injury occurs in less than 5 percent of patients admitted to hospital; its importance is that it presages late epilepsy. Late traumatic epilepsy (after the first week) occurs in about 5 per cent of all blunt injuries followed for more than 4 years, but the risk varies widely in different types of cases. Between a quarter and a third of patients who have had early epilepsy, and a similar proportion of those with intracranial haematoma, develop late epilepsy. Depressed fracture increases the risk of epilepsy only in adults, and then only if the dura is penetrated, or if there has been early epilepsy, of the post-traumatic amnesia (PTA) has exceeded 24 hours. The risk in such cases is over 50 percent but the risk in the remaining fractures is only 3 percent. The risk of epilepsy is about 1 percent for all injuries uncomplicated by early epilepsy, haematoma or depressed fracture, even when the PTA is more than 24 hours in duration. Although just over half the cases of late epilepsy have the first fit within a year of injury, this is delayed beyond the fourth year in more than a quarter of the cases. Traumatic epilepsy is often severe and persistent, no matter what kind of injury it follows or after what interval it makes its appearance. A normal, or an abnormal but non-epileptic E.E.G. is common at any time after injury in patients who develop late epilepsy, and is therefore of no help in predicting the likelihood of this complication.

This monograph, the result of a careful and scientific study of the problem contains several tables to illustrate the point made by the author. No neurosurgical or neurological department should be without this book for reference.

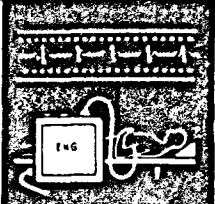
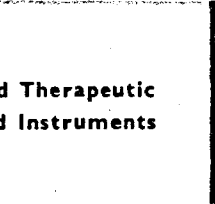
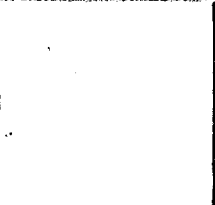
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PYE'S SURGICAL HANDICRAFT—

Being a practical guide for the general practitioner, the house surgeon, the surgical dresser, and the specialist surgical nurse. Edited by Hamiltone Bailey F.R.C.S. (Eng) F.A.C.S., F.R.S. (Edin). 18th edition, largely rewritten with many new illustrations

Volume 1. General. Bristol: John Wright and Sons Ltd. 1962. Price: not stated.

Pye's Surgical Handicraft is such a well known book that it hardly needs reviewing; the latest edition of this famous book, edited by a distinguished surgeon whose death we mourn, is a very handy sized book packed with useful information for anyone who practises surgery. The book, got up in the usual elegant manner by John Wright and Sons contains 486 pages and the subject matter is divided into 42 chapters. There are 414 illustrations. There are a number of contributory chapters by well known authorities. Chapter 1 is on resuscitation. The arrest of haemorrhage is dealt with in chapter 2. The treatment of shock (Chapter 3) includes a section on the treatment of shock in infants and children. Chapter 4 is on the treatment of burns and scalds. Chapter 5 deals with hollow needle technique in injection therapy. A very important subject, Establishing and maintaining water and electrolyte balance is considered in chapter 6. Blood transfusion is adequately covered in chapter 7. Chapter 8 deals with the administration of sera, and chapter 9 with the clinical use of anticoagulants. The initial treatment of minor wounds and the dressing of wounds is dealt with in chapter 10. Chapter 11 on Antibiotic therapy contains an account of all the recent antibiotics, including tetracyclines, polymyxin, erythromycin, novobiocin, oleandomycin, neomycin and nystatin. Sulphonamide and nitrofurantoin therapy is dealt with in chapter 12. Chapter 13 and 14 are on the application of roller bandages and adhesive strapping techniques respectively. Plaster of paris technique is described in chapter 15. Chapter 16 is on preparation for operation, and chapter 17 with preparation of the diabetic patient for operation. Preoperative medication and basal narcosis, analgesics sedatives and hypnotics with special reference to the postoperative period and post-operative pulmonary complications are dealt with in chapters 18, 19 and 20 respectively. Chapter 21 is on gastric duodenal and intestinal aspiration. Chapter 22 describes the methods of administering enemata. The management of head injuries is dealt with in chapter 23. Chapter 24 concerns the management of harelip and cleft palate cases. Chapter 25 deals with the management of thyroid cases. The management of surgical thoracic cases is considered in chapter 26. Chapter 27 is on the management of oesophageal cases, and chapter 28 on the management of gastroduodenal cases. Chapter 29 is on the management of biliary tract and pancreatic cases. The management of patients with portal hypertension is considered in

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Organization of Leprosy Control

THE countries and territories covered by the EURO/EMRO Inter-Regional Conference on Leprosy, held by WHO in Istanbul, Turkey, in October 1961, contain more than 223 million inhabitants of different races, religions and habits, living in varying climatic and social conditions. The pattern of leprosy thus differs considerably from country to country in the area. Attempts to gain a true picture of the situation are complicated by the diversity of the available epidemiological data, which are provided sometimes for a whole country, sometimes only for certain parts.

According to figures assembled by WHO for the Conference, the number of registered cases in the area amounts to 37,866; of this number, only a little more than half, i. e., 19,311, are still under treatment. It is estimated however, that the actual number of cases is about 100,000.

In respect of leprosy prevalence, the countries concerned can be divided into three groups: (a) those where the prevalence rate is under 1 per 100,000, suggesting that the disease is on the decline; (b) those where the prevalence rate is less than 1 per 1000, and the disease is stationary and can be expected to decline rapidly with appropriate control measures; and (c) those where the prevalence is round about 1 per 1000 and the disease remains a serious problem.

Bulgaria, Italy and Yugoslavia are examples of countries in group (a). The epidemiological data supplied by these three countries suggest that leprosy is

gradually disappearing from them, and that this may be due to social and economic factors. In Bulgaria, there are only 7 leprosy patients in a population of over 8 million; in Italy there are 525 cases (91.8% of them lepromatous), the prevalence rate being 0.01 per 1000; in Yugoslavia, there are 35 known cases, making a prevalence rate of 0.003 per 1000, the percentage of lepromatous cases being 86.

Several countries in the area belong to group (b), the prevalence rates varying between 0.14 and 0.53 per 1000. The data available for countries in this group are summarized below.

Country	Prevalence (per 1000)	Percentage of lepromatous cases
Greece	0.16	39.5
Iran	0.28	41.0
Iraq	0.16	43.0
Malta	0.53	79.6
Portugal	0.28	61.1
Spain	0.14	51.9

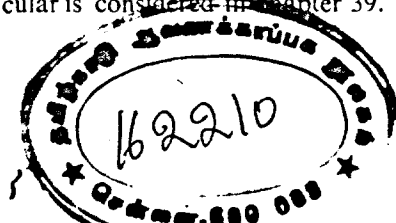
Group (c) contains Egypt, Morocco and Turkey. In Egypt, the estimated prevalence is 1.15 per 1000, while in Turkey it is 0.9 per 1000. The proportion of lepromatous cases in Egypt is only 19%, the lowest in the area; this figure probably reflects the high standard of case-finding in Egypt, which has made a special effort in this respect, and also the influence on Egypt of the leprosy patterns prevailing in Africa.

(Continued from page 34)

chapter 30. Chapter 31 is on the management of lower abdominal cases. Ileostomy and its management is considered in chapter 32. Urethral catheters and catheterization is described in chapter 33. Chapter 34 describes the renal function tests. The management of renal and adrenal cases and the management of renal cases are considered in chapter 35. Chapter 36 concerns the management of bladder and prostatic cases. Chapter 37 is on the management of rectal cases. The management of the gynaecological patient is dealt with in chapter 38 and contains useful practical information as of course does the other chapters in the book, each contributed by a well known authority. The management of some complications after operations in general, and abdominal operations in particular is considered in chapter 39. Chapter 40 is on

the management of acute ischaemia of a limb (threatened or actual). There is a fascinating chapter on the administrative duties of the house surgeon in chapter 41 and there is much wise counsel for the young and inexperienced surgeon. Chapter 42 concerns the treatment of acute poisoning.

The object of reproducing the subject matter of each chapter is to give an indication of the value of the contents of the book. Pye's surgical handicraft has served several generations of surgeons and will not doubt serve many more for it is an extremely practical handbook to guide the young surgeon. We hope the publishers will allow us the privilege of reviewing the 2nd volume of the handicraft and share with them the grief in the loss of their illustrious, Editor, Mr. Hamilton Bailey.



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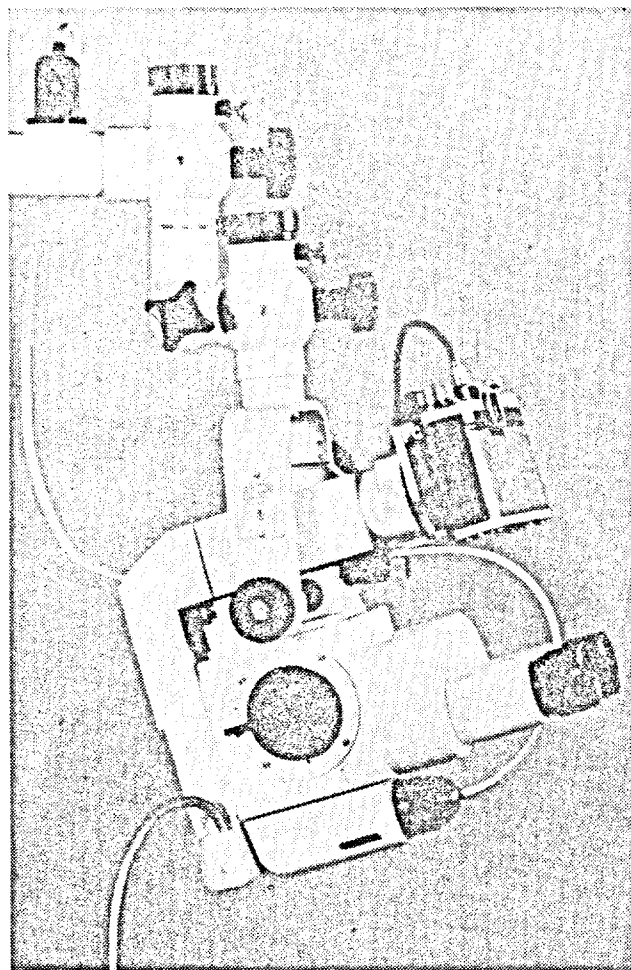
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