

## MORBIDITY YESTERDAY AND TO-DAY

BY

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"The number of patients annually receiving advice and medical assistance . . . will afford another valuable document to estimate the state of health enjoyed by the community." These words are not, as may be imagined, the latest inspiration of the Ministry of Health; they appear in a book published in the year 1833 and entitled *The Manufacturing Population of England*, by P. Gaskell, Esq.\* This book contains a wealth of information on medical and sociological subjects. The author seems, indeed, to have been a pioneer in what is now called social medicine. Writing at a time when the industrialization of the country was in its acutest phase, he surveys the effect of the environment upon health from every point of view—industrial diseases, child labour, housing conditions, and expenditure on food, alcohol, and tobacco. Like many writers, from Rousseau to those of the present day, he is inclined to idealize rural life, but he gives a singularly objective view of the social scene, free from the censoriousness with which many modern accounts of the Industrial Revolution are tainted.

In the eighteenth and the early nineteenth century, writers, among them Sir William Petty, William Heberden, jun., Malthus, Bissett Hawkins, and Robert Watt, were much interested in the relative incidence of diseases, and especially in the changes in incidence caused by the disappearance of plague and the control of smallpox (Roberts, 1955). Their observations, however, were based for the most part on mortality, the scanty references to morbidity being derived from general impressions interesting only on account of the fanciful explanations which were readily forthcoming. Heberden (1801), for instance, says that the disappearance of plague was followed by an increase in consumption, paralysis, gout, lunacy, and smallpox, due to "idleness, intemperance, covetousness, anxiety, and manufactures"; and some years later Bissett Hawkins (1829), evidently from experience with wealthy patients, attributed the increase in scarlet fever, consumption, gout, dropsy, and all diseases of brain and nerves to "great opulence, less manual labour, more intellectual pursuits, sedentary occupations and multiplication of political interests." While medical men of the period were writing in this vein, only Gaskell, a layman, recognized the value of morbidity statistics; a man, born a century before his time, whose views were engulfed by preoccupation with mortality. Gaskell bases his statistics on 5,829 patients who came under the care of "a medical gentleman attached to the Manchester Infirmary" in the years 1826-30. These are shown in Table I.

"This singular table," says Gaskell, "very clearly and satisfactorily shows the prevailing character of diseases among the operative population, medically considered. . . . In these towns disease generally assumes a chronic type; its progress is slow, and often interferes but little with the proper functional actions which are essential to life. Neither, in many instances, does it of necessity shorten its duration; but rather, by keeping the standard of vital energy somewhat below par, it abstracts

\*I have been unable to find any biographical information about the author. Dr. J. F. Gaskell, Cambridge, has very kindly made inquiries among his kinsmen, but without result.

TABLE I.—Gaskell's Statistics on 5,829 Patients, 1826-30

Inflammation of the brain, etc.	6	Secondary syphilis	48
" " " tonsils	41	Bronchocele	5
" " " bronchiae	31	Dentition	1
Pleurisy, etc.	80	Abortion	18
Affections of liver, etc.	32	Scrofula, common	62
Inflammation of the bowels, etc.	26	Haemorrhage	203
" " bladder, etc.	17	Dyspepsia, etc.	19
Rheumatism	569	Jaundice	45
Intermittent fevers	47	Cholera	191
Remittent	11	Diarrhoea	323
Common continued fever	861	Dysentery	755
Common catarrhal fever (cold)	550	Constipation	44
Measles	8	Colic	72
Scarlet fever	24	Vermination	15
Smallpox	19	Haemorrhoids	28
Chicken-pox	2	Hypochondrism	51
Erysipelas	26	Headaches	1
Purpura	4	Apoplexy	50
Nettle rash, etc.	47	Paralysis	25
Simple cough	640	Epilepsy	20
Hooping cough	21	Hysteria	27
Asthma and difficult breathing	297	Chorea	3
Loss of voice, etc.	8	Convulsions (children)	12
Consumption	228	Palpitation	110
Angina pectoris	1	Dropsies	47
Nervous pains	26	Amenorrhoea, etc.	11
Diabetes	4	Leucorrhoea	4
Ischuria	8	Poison	4

the system from the impression of more fatal affections, which kill by disturbing the circulation."

### Comparison with Present Morbidity

In view of the new-found interest in morbidity Table I invites comparison with the report recently issued by the General Register Office (1956), hereinafter referred to as the Report. Such comparison can obviously be made only with the greatest reserve. It is like comparing the remains of a Roman villa with a skyscraper. And while the archaeologist reconstructs in terms of the period which he is studying, the medical historian has to interpret the scanty remains of the past, not exegetically, but as best he can in terms of modern medicine. Moreover, one of the penalties of progress is that the faster its course the more difficult becomes comparison with the past; and this difficulty is enhanced every time a new system of classification is adopted. Even the Report is admitted to be not free from error caused by variability in the judgment of individual practitioners. How much less reliable, then, are records dated from a time when statistical analysis was in its infancy and when the 120 years which have elapsed have brought an immense increase in knowledge and fundamental changes in nomenclature. For instance, Gaskell's informant (whom I will call Dr. X) makes no mention of the thyroid; some of the cases which he calls palpitation were no doubt due to hyperthyroidism. Again, Dr. X lumps asthma and difficult breathing together. In what follows I have separated these two conditions on the assumption that the incidence of asthma has not changed.

Apart from the exclusion of surgical cases and restriction to the poorest class of the community, diseases seen on the medical side of a hospital of the period were the same as those seen in private practice.\* Difficulty arises on Dr. X's method of computation. His list is stated to give the number of patients, but was it the number of attendances? Until quite recently many hospital authorities indulged in the fiction of calling attendances patients by way of swelling the numbers in order to stir the compassion of the philanthropic. It seems, however, that Dr. X really meant patients, for otherwise he would have seen only about 20 patients a week, an improbably low number. This is confirmed by the number of cases of epilepsy, the incidence of which has not changed. According to the Report these form 3.7 per 1,000 population, or 5.4 per 1,000 patients. Of Dr. X's patients, 4.3 per 1,000 were epileptics, a figure of the same order. If Dr. X had been counting attendances his figure would have been much higher, for he would have seen the same epileptics several times in the course of five years.

\*There must be some members of the profession who have their grandfathers' and great-grandfathers' records of private practice. These being of great historic interest, it is to be hoped that means will some day be taken to collate them.

It therefore seems correct to compare Dr. X's figures with the figures for patients (rather than consultations) as given in the Report. Of the practices recorded in the Report the one in Liverpool most closely resembles Dr. X's in living conditions. From the Report, however, it appears that town and country differ little in the incidence of disease. This is not surprising, for we are all townsmen now. Many who live in villages are commuters and all use the towns for shopping. Dr. X's figures are therefore compared with the combined figures in the Report.

Table II, then, gives without any pretence at accuracy a comparison of the incidence of the principal diseases then and now. The population served exclusively by Dr. X being unknown, if indeed it existed, comparison of absolute incidence is valid only where the difference is very marked; but in regard to relative incidence Table II gives, I think, a striking picture of the change in the pattern of disease. This change is due, of course, not wholly to change in incidence, but to the advance of medicine, to differences in the disposal of patients, and to the transformation which has taken place in social habits.

#### Gastro-intestinal Group

On this group, which in his time formed one-third of the total, Gaskell observes that it "most distinctly indicates the vast amount of these peculiar derangements; for great as their number is in this one table, they must have been extreme cases to bring them to notice." Dyspeptic conditions, which then took a low place, are now easily the commonest, owing to the high incidence of gastric and duodenal ulcer. Water-borne infection has been suppressed, but its place has been partly filled by food-borne infection. The most striking change, however, is the fall in constipation. Although constipation may in a few cases have been a convenient diagnosis for deeper-lying conditions there is no doubt that the true incidence was very high. I well remember the bitter complaints made on this score in my father's surgery. The improvement is due to the production and general use of vegetable laxatives which have abolished the pangs caused by castor-oil and brimstone and treacle. Painless purgation is not the least of the blessings which suffering civilization owes to pharmaceutical research backed by high-pressure salesmanship.

#### Respiratory Group

This group, which formerly took second place, now easily heads the list, being twice as common as any other group. Of the lower respiratory infections the difference becomes less if we add to Dr. X's figure his cases of "simple cough." The upper respiratory infections have undergone an enormous increase. A century ago people were no doubt accustomed to being snuffly, and the products of congestion could, by men at any rate, be projected into a spittoon half-way across the room with unerring accuracy acquired by constant practice. Handkerchiefs were of generous size, unlike the modern feminine variety, which is fit only for adornment and lacrimation. But, even so, these changes in social habits hardly account for the present very high incidence which persists in spite of tonsillectomy, the widespread use of inhalants, and the laying of road dust by tarring. I leave the explanation to the epidemiologists, merely passing on a suggestion which has been made to me, that while in the past people, though living in congested conditions, moved in a small orbit of home and factory, now, owing to the addition of crowded transport, there is a more general mix-up of the population.

#### Skin Conditions

The increase in skin conditions is partly due to the handling of chemicals and mineral oils but chiefly to the much higher standard of cleanliness which now obtains. It is a far cry from the day when most people never washed their bodies, when underclothing stuck to the skin, and when children were sewn into their underclothing, to the present time when the amount of water we require for washing and bathing almost taxes the resources of the heavens, and when advertisements on the London Underground depict faces disgusted on the discovery that "somebody isn't using . . ." The prevalence of skin conditions due to detergents shows that paradoxically our very cult of cleanliness brings its penalties. Are we going too far in removing from our skins the protective oil which nature provides?

#### Other Conditions

Most of the other conditions are too vague for comparison. A few, however, call for brief comment. The present

TABLE II.—Incidence of Principal Diseases in 1826–30 and at the Present Time

1826–30		1951–4	
Diseases	Per 1,000 Patients Seen	Diseases: Approximate Modern Equivalents	Per 1,000 Patients Seen
FEVERS (excluding exanthems): intermittent, remittent, common continued	158	Influenza, pneumonia, rheumatic fever, pyrexia of unknown origin	100
GASTRO-INTESTINAL:	283		204
Infective: cholera, diarrhoea, dysentery	109	Infective: gastro-enteritis, colic	49
Dyspeptic: dyspepsia	35	Dyspeptic: neoplasm, ulcer, gastro-duodenitis, nausea, vomiting, flatulence	135
Constipation	130	Constipation	14
Liver, jaundice	9	Liver, jaundice, gall-bladder	6
RESPIRATORY	243		554
Common cold	95	Common cold	163
Simple cough	110	Cough	31
Tonsillitis, etc.	7	Pharyngitis, tonsillitis, sinusitis, etc.	182
Bronchitis, pleurisy, asthma	31	Bronchitis, pleurisy, bronchiectasis, asthma, neoplasm	178
CIRCULATORY	41		60
Angina, palpitation, difficult breathing	41	Heart disease, all forms	32
		Hypertension	28
HAEMORRHAGE (unspecified)	11		—
RHEUMATISM	98	Rheumatism, arthritis, etc.	132
NERVOUS	39		161
Organic: apoplexy, paralysis, etc.	17	Organic: all forms	39
Functional: hysteria, etc.	13	Psychoneurosis	96
Headache	9	Headache	26
SKINS	14		146
DROPSY	19	Dropsy and oedema	3
GYNAECOLOGICAL: leucorrhoea, amenorrhoea, etc.	11	All forms	67
TUBERCULOSIS: consumption	39	Respiratory tuberculosis	7
DIABETES	4		5
VENEREAL: secondary syphilis	8	All forms	0.6
PARASITES: vermination	8	" "	7

high incidence of psychoneurosis is what one would expect, but in view of the ageing of the population it is surprising that circulatory disorders have not become more prominent. The increase in gynaecological conditions reflects the advance which has been made in their treatment. In Gaskell's time women regarded these disorders as the natural consequence of repeated child-bearing.

### Total Morbidity

"The number of individuals resorting to these charities," says Gaskell, "cannot be less than 30,000 per annum, an immense proportion out of a population of 250,000. All, however, that are relieved here are not of the class of operative manufacturers [a term then used for employees]. There are 133 surgeons, 26 physicians, 76 druggists and apothecaries, making a total of 235, all and each of whom procure a livelihood by ministering to the ailments of the different classes of society. Besides these, there are a host of quacks, at all times a flourishing order, sellers of patent medicines; those too who adhere to domestic medicine and [somewhat cryptically] the numbers who resort to many physicians and younger surgeons for gratuitous advice, perhaps not less than 2,000 in the year." After adding to these 5,000 parturient women and their infants, he continues: "Taking all these together, it may be inferred, very safely, that 3/4ths of the population require medical aid annually." Allowing for the crudeness of the calculation and for the fact that it includes home and unqualified treatment, which are necessarily omitted from the Report, it is noticeable that Gaskell's figure is only slightly higher than the average for the years 1951-4—namely, 69.3%.

With the naivety in medical matters often shown by liberal-minded laymen, Gaskell believes that "this vast proportion is in all probability greater than what exists in other large towns more favourably placed than Manchester." By this he means that Manchester had too few medical men—1 per 1,213 inhabitants, compared with 1:900 in Paris and 1:345 in London. One wonders what the worthy Gaskell would have thought had he lived to learn that the 870,000 inhabitants of Manchester and Salford now need 900 doctors, together with countless nurses, auxiliaries, chemists, administrators, clerks and others, "all and each of whom procure a livelihood by ministering to the ailments of the different classes of society"; and that, in spite of (some would say, because of) medical care on this vast scale, man-days lost annually to industry over the whole country through sickness amount to 281,000,000, of which Manchester's contribution is about 5,600,000. Are we, in fact, becoming a healthier nation, as the politicians never weary of assuring us, usually giving themselves the credit? Judging by mortality, of course we are, but morbidity tells a different tale.

The quantity of medical attendance is largely determined by factors extrinsic to medicine but intrinsic to civilization—standard of living, national and individual wealth, and, especially in a nationalized system, the quantity which the community chooses to provide for itself. Though essential for administrative purposes, it is therefore but a poor index of the incidence of ill-health. When civilization has reached a certain level (including the conquest of acute fatal epidemics), medical attendance differs very greatly in different communities and in the same community at different times, though there may be little difference in the true incidence of disease. The provision which a country makes for the treatment of disease is a measure of the standard of civilization which that country has reached.

As civilization advances, only to a limited extent can man be said to conquer his environment. By scientific progress, urbanization, and industrialization he merely changes the form which a permanently hostile environment assumes. With the abolition of high mortality from acute infections, non-fatal illnesses, previously concealed, come to the surface. Beyond certain limits we cannot conquer our competitors in the struggle for existence, as was jubilantly hoped fifty years ago. A clearer conception of biology has humbled us into the admission that the most that we can expect is to come

to terms with them. In short, disease is something to be lived with, to be tolerated.

This is no pessimistic philosophy, nor does it minimize the value of the great medical triumphs of the past, or those still greater, which can confidently be expected in the future. Were the advance of medicine to come to a halt the effect upon civilization, as we know it, would be calamitous; for medical progress is an essential thread woven into the fabric of advancing civilization.

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## INTERNATIONAL SOCIETY OF HAEMATOLOGY

### SIXTH CONGRESS IN BOSTON

[FROM A SPECIAL CORRESPONDENT]

A contribution from Turkey on the effects of chronic iron deficiency on a total population was awarded the prize for an original scientific exhibit at the sixth congress of the International Society of Haematology, held in Boston from August 27 to September 1 under the presidency of Dr. W. DAMESHEK. Dr. REIMANN (Istanbul) gave a demonstration showing that chronic iron deficiency led to gross anomalies of weight, endocrine balance, secondary sexual characters, and personality, many of which could be rapidly cured by the administration of iron. In view of the relevance of these findings to some British colonial territories where there are similar nutritional problems, it is to be hoped that the details of this work will soon be generally available for study. The congress brought together at Boston haematologists from many parts of the world. It was followed immediately (September 3-5) by the sixth congress of the International Society of Blood Transfusion held in conjunction with the annual meeting of the American Association of Blood Banks, and on September 1, the last day of the haematology congress, there was a joint meeting of the two international societies. The congress programme comprised plenary sessions with invited speakers, expert panel discussions, and the delivery of original communications.

### Research on Leukaemia

The first morning was notable for Dr. M. B. SHIMKIN'S (Bethesda) epidemiological approach to leukaemia, and for two papers on the virus theory of the disease by Dr. R. LATARJET (Paris) and Dr. J. W. BEARD (Durham, North Carolina). Beard showed electron micrographs of the viruses of avian lymphomatosis, myeloblastosis, and erythroblastosis, and demonstrated that the viruses were distinct but serologically related. Dr. E. E. OSGOOD (Portland, Oregon) showed that carefully spaced whole-body irradiation with <sup>32</sup>P or x rays improved the prognosis in chronic leukaemia, and Sir LIONEL WHITBY (Cambridge) emphasized the importance of classifying accurately the acute leukaemias because different types respond differently to drugs. Osgood demonstrated that simple tissue-culture of the buffy coat of blood could yield conclusive evidence of the cell type involved, and Dr. HIRAKI (Japan) showed a film on the same problem. There seem to be differences of incidence of leukaemias among different ethnic groups, Drs. MCMAHON and KOLLER finding an excess among Russian Jews in Brooklyn, and Dr. H. B. W. GREIG (Johannesburg) finding an increase in white South Africans over European or U.S.A. figures but a reduction of chronic lymphatic leukaemia in the Bantu. All these papers emphasized that acute leukaemia is commoner than the chronic varieties at all ages up to 70.

On Tuesday the use of radioactive tracers was discussed, and Dr. SHEILA CALLENDER (Oxford) stated that patients with