tract the germs of future disease, their constitutions being, in too many cases, undermined. Physical deterioration ensues, and a whole people may thus become gradually stunted and enfeebled.*

It is not possible to reflect on this subject without recognising the truth of the proposition that, making every allowance for the action of counteracting causes, excessive development of a population on a limited area like Great Britain, must, in the end, be disastrous to the nation, unless, first, the population can be kept healthy, and, secondly, the commodities of life are obtainable to a commensurate extent. The arithmetical bearings of this point have been worked out by Mr. Samuel Ruggles, in a Report to the President of the United States.†

The conclusion, then, seems almost forced upon us, that whenever our population increases beyond the power of our area to maintain it, two effects will follow, more especially in times of commotion—increased pauperism, increased disease among the adults. If philanthropic or legislative efforts succeed, there will be added the rearing of wretched children, incapable in body and mind; multiplication of lunatic asylums, reformatories, and workhouse schools, and crushing taxation of the industrious, capable, and healthy.

Conversely, if the preventive checks of Malthus, and especially education (in which I place, first, moral culture, however attained), can be brought into operation, two results might be expected; first, that the population may be kept in some check; and, secondly, that the internal administration of the country may be greatly improved by the political sense of the masses. Through these two causes there may be hope for the nation. It is doubtless true, first, that in the history of the world we have seen nations almost brought to a stand by epidemics, as, for instance, in various parts of Europe during the fourteenth century by the astonishing ravages of black death; secondly, some check is induced by wars; and, thirdly, an excessive mortality of children produces the same results. The operation of these natural checks is eminently uncertain; and to count upon them as substitutes for self-control, prudence in marriage, and good political administration, is deliberately to substitute the instinctive life of brutes or savages for the progressive experience, the reason and morality of the human race, and to accept the destiny which such life brings with it. When savages and brutes meet in conflict with civilised man, that destiny has usually been extinction.

Moreover, whatever opinion there may be at present as to the origin, first of species, and secondarily of race, constitution, and individual temperament, there can be none as to the effect of food, climate, habits of life, and culture, either upon the individual or the progeny. It is sufficient here to remark on the feebleness of the descendants of Europeans in India, notwithstanding the vigour of the first generation, and on the rapidity with which the Anglo-Saxon race has changed in North America. Doubtless the limits of variation of man, or of any race of men, have not yet been determined; but we are rapidly approaching precise knowledge on the subject. Life insurance-offices will, ere long, furnish a fund of information; and the labours of our great statisticians, when they include sickness returns from the public health authorities, will give all attainable scientific information of the causes and nature of health fluctuations in this country, in comparison with the same in other countries. To say truth, the accumulating knowledge of the facts of humanity is becoming more marvellous than the fancies of Utopia. The newspapers tell us weekly—thanks to the sagacity of Major Graham and of Dr. William Farr—the comparative death-rates of great towns not only in England but on the continent of Europe, in India, and at New York. We are enabled to judge what the energy and determination of one man can do in controlling the health-destiny of vast populations, by studying the admirable results of the work of Dr. Hewlett (*Quarterly Reports on Bombay*) in Bombay, and the sanitary progress in Calcutta. India bids fair to set us an example of accomplished sanitary administration, which will be fruitful alike of knowledge and of practical benefit to the people.‡ Nor is this all: Quetelet (*Anthropometrie de l'Homme*, 1870, and *Essai de Physique Sociale*, edit. 2, 1869) and Galton (*Hereditary Genius*, 1869) have opened a mine of precise knowledge regarding the finer causes of "limits of variation" which have been just touched upon. Quetelet, indeed, has proved what, *à priori*, might have been safely inferred, that the limits of the factors of human nature, whether mental or bodily, may be fairly expressed in terms of mathematical formula and curves; so that, indeed, the average proportion out of a given number of persons possessing

any mental quality may be as directly predicated as their heights or their weights. It is true that this is only the expression of a fact which it does not explain. But Francis Galton has with great skill, in his work on *Hereditary Genius* (1869, p. 373), shown some of the consequences of this fact or law. They are startling. Just "as a cook combines or creates a dinner, the fish director can create", he says, "a particular sort of fish according to a predetermined pattern"; then, he adds, "the reflections raised by what has been stated of fish are equally applicable to the life of man". "The entire human race, or any one of its varieties, may indefinitely increase its number by a system of early marriages, or it may wholly annihilate itself by the observance of celibacy. It may also introduce new human forms by means of the intermarriage of varieties, and of a change in the conditions of life". Galton's speculations—I ought rather to say, his logical and precise discussion—should be carefully weighed by every thinker on public health, because, in one sense, it is directly opposed to the conclusions of Malthus. He has worked out the effects of early and late marriages in respect of progeny, and has shown that, given certain conditions to two races, M or N—one, M, marrying early, and N marrying late—at the end of one century the mature men of M will be four times as numerous as those of N; at the end of two centuries, ten times; and at the end of three centuries, twenty-seven times as numerous. Now, if M were reckless and imprudent, and N careful and prudent, all else being equal (which, however, would not be the case), the prudent race would be driven out of the field. A terrible disaster! "It may seem monstrous that the weak should be crowded out by the strong, but it is still more monstrous that the races best fitted to play their part on the stage of life should be crowded out by the incompetent, the ailing, and the desponding." In forming a fair estimate of the whole of this question, many other causes would have to be considered, and their effects calculated. But reason tells us that there must be some relative value in lives, though the human eye may fail to count it right. There is a moral in the tale of the fowls in the northern seas. As the three egg-hunters are, one by one, drawn up along the face of the cliff by the same rope, highest is fastened the lad, the father next, and last the grandsire. If the strain be over great, the lowest, least worth, is to cut the rope and fall into the abyss; next, if need be, the father; so that the chafing strands may perchance save that life which may be longest and is youngest. So is it in nature. We have our being under just and necessary laws, moulded by hidden causes we cannot see nor understand. [To be continued.]

CLINICAL ILLUSTRATIONS OF CUTANEOUS DISEASE.

By ERASMUS WILSON, F.R.S.,

Professor of Dermatology in the Royal College of Surgeons.

Phlyctenous Eruption affecting the Hands, Ankles, and Buccal Mucous Membrane; recurrent thrice yearly; repeated for several years.—April 6th, 1871.—A young man aged 21, engaged in a wholesale warehouse in the City of London, is affected with blisters on the hands. The blisters are hemispherical in figure, raised on a thickened base, without redness, with no tendency to burst, and about a quarter of an inch in diameter. On the wrist, they are flattened; several are coherent and confluent; the cuticle is but slightly raised; and they are purplish in the centre, from slight extravasation of blood. The patient mentions that he has a few similar vesicles on each ankle, and the buccal mucous membrane is studded with aphthæ. He states that he has no forewarning of the attack; that he is unaware of any exciting cause; that there is little and only occasional pruritus; and that the eruption recurs three or four times a year, the more constant periods being Christmas, Easter, and Midsummer.

It is evident that the cause of the eruption must be looked for in a lowered tone of the system occurring at those periods. He is thin, somewhat pallid and languid; but nothing else presents itself to mark debility. Nevertheless, the therapeutical indication would seem to be a tonic medication and regimen.

The chief point of interest in this very peculiar affection is the sympathy of lesion of the skin and mucous membrane. The eruption is altogether unlike eczema; neither does it resemble herpes. Its nearest correlative is pemphigus; and its alliance with pemphigus is shown not only by the phlyctenous development of the eruption, but also by the slightly hæmorrhagic tendency evinced by the spots on the wrists.

Prurigo Mitis, from simple Debility.—April 7th, 1871. A young lady, aged 21, complains of spots on the skin which are so intensely pruritic that she is unable to resist scratching them, although, as she states, she knows that they are aggravated by frequent "picking".

* Professor Fawcett, *Pauperism, its Causes and Remedies*, p. 108. London: 1871. A book which cannot be too widely read.

† See an abstract of his paper in the *Times*, May 17th, 1871. John Lambert, Esq., C.B., has referred me to an interesting work on the condition of the poor, by another Mr. Ruggles, viz., *The History of the Poor and the Laws respecting them*, by Thomas Ruggles, Esq., 1797. The work contains many thoughts of permanent value.

‡ See various reports on health of India for the last five years.

They are scattered chiefly on the face, some few being dispersed upon the fingers; they occur singly or in small numbers at a time; but the whole eruption does not exceed ten or twenty spots. She is first made aware of their presence by itching. She scratches the itching point, and then a small white pimple appears. The scratching occasions the exudation of a minute drop of a limpid colourless fluid; and after a while a reddish-brown dry spot, about a quarter of an inch in diameter, is left behind, resulting from the abrasion caused by the nails. There is no scab, and no crust. This troublesome affection has now lasted for two years. The patient is pallid and slightly chlorotic; her appetite is dainty; she has a feeling of weight at the epigastrium after meals; the bowels are torpid; she suffers from headache; and her sleep is bad. Menstruation is regular; but it is immediately before the period that the prurigo is most troublesome.

This case may be regarded as almost typical of a form of prurigo that is by no means rare. The diagnosis points to a neuropathic origin of the affection; and, therapeutically, we have reason to believe that, if we can improve digestion, assimilation, and sanguification by the usual remedies, cure is not far distant.

Phytosis Versicolor (Pityriasis Versicolor of Willan); Orbiculate, Guttae, and Pruriginous Variety; occurring in a "Tea-liquorer".—April 5th, 1871. A robust man, aged 52, is tormented with a pruriginous eruption which occupies the front of the abdomen, chiefly above the umbilicus, and also encircles the neck. It consists of flat spots of a reddish-brown colour, perfectly orbiculate in figure, measuring two lines in diameter, and without hyperæmia. The spots have a remarkable appearance, being scattered over the surface at pretty equal distances, and suggesting the idea of the stains of a pock, or of drops of coffee dried upon the skin. They have been in existence for nine months without change.

Generally, phytosis versicolor presents itself in the form of puncta, corymbose patches, and map-like blotches, of considerable extent. There is very little pruritus, and the epidermis is rough and desquamating; the latter character having, in fact, originated the term "pityriasis". But in the present case the spots were exactly round; they were smooth, without desquamation; and the pruritus was a predominant symptom. The patient describes the itching as being of the tingling and darting kind, like the stinging of nettles, and of such suddenness and intensity, particularly around the neck, that he winces involuntarily on its invasion. It is most troublesome when he is under restraint, and has been the means of keeping him from church for some time past.

The patient's calling in life is that of a traveller in the tea-trade; but he is strictly temperate. In his business capacity, he is much occupied in tea-tasting—"liquoring", as it is technically termed; and the "liquoring" of tea is an injurious process for the stomach. Tea-liquorers are very liable to dyspepsia; and he states that, after one or two hours of these trials of the flavour of tea, an empty or sinking feeling is experienced at the pit of the stomach, and a desire for food—"some bread and cheese and a glass of beer". The liquorer swallows as little of the infusion as he can help; and there can be no doubt that tea taken in such a manner and on an empty stomach must do considerable harm. I have several times prescribed for eczema having this origin.

[To be continued.]

A CASE OF ACUTE ATROPHY OF THE LIVER COMPLICATING EARLY SECONDARY SYPHILIS.

By HENRY F. A. GOODRIDGE, M.D.,

Physician to the Royal United Hospital, Bath.

GEORGE B., aged 20, a tailor out of work, of about average height and conformation, of fair complexion, and spare nutrition, also of sober habits, was admitted to hospital on October 1st. He said that he always enjoyed good health until July last, when he contracted syphilis. In due course an indurated chancre appeared. For this he was treated with bichloride of mercury, taken in ordinary doses, for a period of five weeks. On September 16th, he began to suffer from sore-throat; a few days later his appetite failed, and on the 26th he became jaundiced. The last three days he had had paroxysmal gripping pain in the umbilical region, with some vomiting after food. His bowels had been confined for a week, and his urine for fully as long had been of a very dark hue. His sleep had been undisturbed; he had had no shivering, nor pain in the right shoulder; and he had been able to walk about daily.

On admission, he presented well-marked jaundice, his skin being of a bright orange yellow colour; but along with this, and obscured by it,

there was on his trunk some roseolous rash. He had enlarged red ulcerated tonsils; the tongue was sticky, and had a thin pale coat upon the dorsum. There was slight tenderness on pressure in the right hypochondrium, but the liver did not seem to deviate much from its normal dimensions. The temperature in the axilla was 99 deg. Fahr.; pulse 112, small and weak; respirations 20. There was a large quantity of bile-pigment in the urine. He had no cedema of the feet. A draught containing half an ounce of Rochelle salt and one ounce and a half of compound decoction of aloes was ordered to be taken immediately; and the acid solution of the nitrate of mercury to be applied to the throat. The patient was ordered to have half diet.

Oct. 2nd.—He had passed an indifferent night. He had no pain. The bowels had not yet been opened. The urine was of very deep hue; it was non-coagulable, but readily showed with nitric acid the characteristic reaction; specific gravity 1.012. The draught was repeated.

Oct. 3rd.—He vomited last evening; afterwards he slept pretty well. The bowels had been moved twice; the stools were clay-coloured; temperature 98 deg.

Oct. 4th.—He slept well. There was no return of nausea or vomiting; no pain. His appetite was better, and he felt better; temperature 98 deg.; pulse 80. The liver was diminished in volume. The urine amounted to nearly three pints in the twenty-four hours. There was no obvious decrease of the jaundice. An obscure rash still mottled the skin of the trunk. He was ordered to take the following draught three times a day, and a pill every night.

R Acidi nitro-hydrochl. dil. ℥xv; succ. taraxaci ʒij; aquam ad ʒj. M.

R Extr. aloes Barbad. gr. j; extr. nucis vom. gr. ʒ. i; extr. rhei gr. ij; creasoti ℥j. M. Fiat pilula.

Oct. 5th.—He said that he felt quite well, and was intent upon getting up (in spite of prohibition, he did so for half an hour or more); pulse 80. The bowels were opened to-day. He passed two pints of urine in the twenty-four hours.

Oct. 6th.—At 1 A.M. he awoke and felt faint; a little water, at his request, was given to him to drink, and he soon went to sleep again. At the visit his pulse was 88, somewhat irregular in rhythm. His urine was darker, and the jaundice generally seemed more intense.

Oct. 7th.—Again last night he awoke feeling faint; he then vomited about one pint and a half of turbid, slightly acid, fluid, free from bile-pigment, and depositing what appeared like half-digested food. At the same time, he complained of a sharp pain across the lower part of the back. At length, however, he went to sleep. He took his breakfast as usual. At the visit (1 P.M.) he was found in a state of semi-stupor, and it was ascertained that he had been wandering the preceding two or three hours. He had a manifest look of oppression, half-open eyes, and dilated pupils, but little responsive to light. He frequently turned from side to side in the bed and yawned, put out his tongue when bid, and seemed to understand something of what was said to him, but gave one and the same short answer indifferently to every question. Temperature 97.7 deg.; pulse 88. The heart- and lung-sounds, generally speaking, were normal. The abdomen was flaccid, and free from tenderness on pressure. The bowels were confined. The urine amounted to upwards of two pints and a half in the twenty-four hours; it did not coagulate on boiling and the addition of nitric acid, but became very green with the latter. Two drops of croton oil in sugar were now put on his tongue, but there was extreme difficulty in getting him to swallow. Later in the day he became very violent, vociferated loudly, and had to be restrained from getting out of bed. His pulse had risen to 120 at 6 P.M.

Oct. 8th.—He gradually sank into profound coma, with stertorous breathing; pulse 172; respiration 44. His bowels were opened in the early morning (an enema having been administered), but he had not been made to swallow anything since the croton oil the previous day. He died at noon, or at little more than twenty-four hours' interval from the supervention of the cerebral symptoms.

NECROPSY fifty hours after death.—The most striking morbid appearance was the smallness of the liver, with the gall-bladder attached, which contained a drachm or two of thick yellowish mucus; the organ weighed only 30½ ounces. It felt flabby, the left lobe even soft; this and the marginal portion of the right were of a pale yellow colour, but the central convexity of the latter was of a deep red, a gradual shading off marking the interval; the surface was smooth, but there was considerable opacity of the capsule near the suspensory ligament, and this was detached from the hepatic substance with difficulty. On section, blood issued freely from the cut vessels; the texture was found to present a corresponding variation of colour to that observed externally; the lobular structure was more or less distinct. A scraping from the pale yellow portion under the microscope exhibited a great abundance of oil-globules and molecular matter, but hardly a trace of hepatic cells;