II.—12-Year-Old Girls (551 Examined).

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
A. Not exceeding size of a lentil	49	16.9	8.8	2.5	10.7	0.0	5.3	9.2	0.0	0.0
B. Up to size of a haricot bean	418	71.8	76.7	75.3	77.8	74.4	36.8	77.4	41.2	0.0
C. Beyond size of a haricot bean	84	11.3	14.5	22.2	11.5	25.6	57.9	13.4	58.8	100.0
Totals	551	100	100	100	100	100	100	100	100	100

III.—5-Year-Old Boys (666 Examined).

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
A. Not exceeding size of a lentil.	28	9.75	2.4	2.4	4.5	2.7	0.0	4.95	0.0	0.0
B. Up to size of a haricot bean.	405	61.60	65.4	50.6	65.7	28.8	31.25	65.55	33.3	42.85
C. Beyond size of a haricot bean.	233	28.65	32.2	47.0	29.8	68.5	68.75	29.50	66.7	57.15
Totals	666	100	100	100	100	100	100	100	100	100

IV.—5-Year-Old Girls (621 Examined).

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
A. Not exceeding size of a lentil	51	14.1	7.85	3.7	9.3	0.0	0.0	9.1	0.0	0.0
B. Up to size of a haricot bean	420	60.9	71.15	64.7	70.7	50.0	29.4	71.5	33.3	0.0
C. Beyond size of haricot bean	150	25.0	21.00	31.6	20.0	50.0	70.6	19.4	66.7	100.0
Totals	621	100	100	100	100	100	100	100	100	100

Summary.

Glands.	Number Examined.	Teeth.			Tonsils.			Adenoids.		
		A	B	C	A	B	C	A	B	C
A. Glands not exceeding the size a lentil	153	11.8	6.1	3.0	7.3	1.1	1.4	6.9	0.5	0.0
B. Glands up to the size of a haricot bean	1,727	65.2	72.8	64.2	72.9	55.1	34.2	73.1	34.8	23.8
C. Glands beyond the size of a haricot bean	589	23.0	21.1	32.8	19.8	43.8	64.4	20.0	64.7	76.2
Totals	2,474	100	100	100	100	100	100	100	100	100

DR. ALEXANDER MILNE, of Aberdeenshire and York, left personal estate valued at £3,262, of which £630 is in Scotland.

AN exhibition of photographic prints in connexion with biological subjects was opened at the house of the Royal Photographic Society, 35, Russell Square, London, W.C., on Tuesday evening last. The exhibition will remain open until February 7th.

DRAUGHTS AND COLDS.

BY

RONALD CAMPBELL MACFIE, M.A., M.B.,
PHYSICIAN, PENDYFFRYN HALL SANATORIUM.

DRAUGHTS seem a particularly controversial topic. On the one hand they are hailed as "spirits of health," and on the other hand they are anathematized as "goblins damned." "*Aria di finestra colpo di balestra*" (the air of a window is like a shot from a crossbow), warns the Italian proverb, and we might coin a proverb—"Shut a window and open a grave"—to indicate the whole-heartedness of the opposite opinion.

There can be no doubt that up to quite recent years most hygienists and physicians held draughts in abhorrence. Harrington declares that "draughts which are productive of discomfort are more dangerous than ordinary vitiation of the air, and therefore complete ventilation with draughts is worse than partial ventilation without draughts"; and all systems of ventilation have aimed at purification of air without sensible air currents. Of late years the object-lessons presented by open-air sanatoriums have made many converts to the cult of the open window, but the fear of draughts is still prevalent in all classes of society, and to draughts are commonly ascribed about 99 per cent. of the colds that afflict humanity.

When we find two contradictory opinions so strongly held, we may be pretty certain that there are truth and falsehood in both, and that the pure truth lies somewhere between the two.

It is certain that many of the colds attributed to draughts are not due to draughts at all. The ordinary man assumes that draughts are the causes of colds, and unless he lives in a hermetically-sealed case he will always find a draught of which he can make a scapegoat. It is simply a case of the *post hoc ergo propter hoc* fallacy. Further, it is just in close and stuffy rooms, when the skin is warm and moist, that a draught is most readily perceived, and the cold ascribed to draughts in such instances is almost certainly due to the germs in the polluted atmosphere, and has nothing to do with draughts.

For these and other reasons one must be chary of accepting the ordinary statement, "I sat in a draught and caught a cold."

And yet a draught may under certain conditions be a potent factor in the production of a cold.

A draught is a concentrated current of sensibly cold air impinging upon a localized portion of the skin, and though it is plain that such a current of air cannot directly cause a cold, which is a bacterial disease, yet it is equally plain that it may be an auxiliary factor; for it may cool the blood to such an extent as to diminish the bactericidal activity of the phagocytes and the vitality of the cells which line the respiratory passages, and thus render the mucous membranes more vulnerable to the *Micrococcus catarrhalis* and other bacteria of colds. It is possible, indeed, as pointed out by Dr. Ringrose Gore, that the mucus itself in such cases loses its bactericidal power and becomes a nidus for the growth of the micro-organisms of catarrh.

We must admit that draughts may sometimes in this way be a factor in the production of colds. But be it noted they are merely auxiliaries unless they succeed in cooling the blood unduly; and unless certain germs be present they are quite ineffective.

This theory offers a *via media* between the two opinions; it inculcates draughts in a few cases, exculpates them in most instances.

It may be said that it is impossible to avoid chills, and that germs are always at hand, and therefore draughts are always dangerous, and must very frequently cause colds. But this is erroneous, for it must be remembered that a well-fed mammal has great thermogenic adaptability. Under ordinary healthy open-air conditions, the vaso-motor reflexes quickly respond to the stimulation of cold and contract the blood vessels so as to conserve heat. It is true that if a man live constantly in a moist, warm, still atmosphere, and if his skin be continually protected from the normal stimulation of cool, moving air—it is true that under such circumstances the skin reflexes, if unexpectedly called upon, may forget their business and respond sluggishly and inadequately to the stimulus of cold, and that

heat may thus be unduly lost, with deleterious consequences; but the natural well-fed, well-clad mammal has active, ready reflexes, and is not likely to be unduly chilled by draughts.

Draughts there must be, draughts there should be, and it is much easier to accustom the vasomotor centres to respond to them than to try to escape from them altogether. Indeed, as we have shown, an endeavour to escape from them merely renders them dangerous.

Here it may be remarked that the smaller and more concentrated the draught, the more likely is it to chill, both because a current cools as it expands and because a small draught may not be sufficient to arouse response of the regulative apparatus.

But, even if undue cooling do occur, it will not cause a cold unless the bacteria of colds are in evidence; and in clean well-ventilated rooms with sufficient perfilation such bacteria rarely appear. Here, again, an endeavour to escape draughts only favours the growth of bacteria, and renders dangerous a draught that otherwise might be quite harmless. It is in stuffy dirty rooms and churches that draughts are most feared; and there is most reason for the fear. In sanatoriums where draughts are large and constant, and where bacteria are comparatively rare, colds very seldom occur.

The conclusion, then, we reach is that draughts do occasionally play an auxiliary part in the production of colds, but that they are easily deprived of their dangers, and should be favoured rather than feared.

To endeavour to escape colds by avoiding all draughts must always be futile and foolish policy, and will not only defeat its own aim by fostering bacteria and by promoting vasomotor lethargy and incompetence, but will lead to deficient vigour through interference with skin reflexes, which play an important part in the respiratory and circulatory functions. When we wish to excite the respiratory centre of the newborn babe we appeal to its skin reflexes, and in cases of night sweats a breeze on the skin seems to give tone to the whole vasomotor system.

The skin is certainly meant to be exposed to moving air currents and to vicissitudes of heat and cold; it is surely meant to have a blood supply that ebbs and flows according to the thermal needs of the tissues; it is surely meant to perspire and to transpire; and accordingly to shut it off from wind currents and to enclose it in a motionless layer of moist air is to depart very far from the ways of physiological righteousness. The bracing effects of dry air and of seaside breezes are largely due to their stimulating effects on the excretory and reflex functions of the skin; and the man who endeavours to avoid colds by avoiding all draughts will not only catch more than his share of colds, but will possess much less than his share of health and vigour.

DR. JAMES HALE, of Waterlake, Chiddingstone, Kent, left estate of the gross value of £20,080, with net personality £12,207.

AMONG the features of the Hygiene Exhibition to be held at Dresden in 1911 will be a pavilion fitted up under the auspices of the German Association for the Care of Cripples. The objects exhibited will include everything relating to the subject from the historical, statistical, and other points of view; surgical and other methods of treatment of the various forms of disease giving rise to crippling, with their results; schools for cripples; the social importance of the work; cripples in art and literature, etc.

WE have received from the Workhouse Nursing Association a report relating to its work between February, 1906, and June, 1910. We gather that its finances are in good order, and that though the need for its existence has somewhat lessened it intends to keep its machinery in good order and to intervene whenever it seems necessary on behalf of the objects for which it was originally founded some thirty years ago. These were (1) to raise the standard of public opinion on the whole question of workhouse nursing; (2) to secure the appointment of trained nurses as matrons in all separate infirmaries; (3) to train and supply nurses to workhouse infirmaries in London and the provinces. The third object, after very successful achievement for many years, has been definitely dropped, but the others remain. The honorary treasurer of the association is Miss Wilson, the secretary Miss Gill. Communications regarding the association should be addressed to the former at 37, Dover Street, London, W.

ON SOME OF THE BIOLOGICAL AND STATISTICAL ERRORS IN THE WORK ON PARENTAL ALCOHOLISM BY MISS ELDETON AND PROFESSOR KARL PEARSON, F.R.S.

BY
MARY D. STURGE, and SIR VICTOR HORSLEY,
M.D. F.R.S., F.R.C.S.

INTRODUCTION.

No question is more interesting to the medical profession than the alleged physical deterioration of the people, and upon no profession does so heavy a responsibility rest to oppose as far as possible all known causes of physical deterioration. According to the Report (1906) of the Interdepartmental Committee on Physical Deterioration presented to the House of Commons which inquired into the question whether we are degenerating or not, the two foremost causes of deterioration, stated by the Committee and bracketed as mutually interactive, are bad housing and drink. It is, therefore, of the utmost importance that all public statistical work on the latter subject should be carefully examined. If it is correct, it must prove a valued national assistance; but if it is incorrect, it may entail national consequences little short of disastrous. In our opinion the recent memoir of Miss Elderton and Professor Pearson belongs to the second category.

We therefore publish the subjoined paper to extend our previous criticism of that work, which professedly studies the influence of parental alcoholism on the physique and ability of offspring, the result being that, in the opinion of the authors, alcoholism causes no appreciable detriment to the drunkard or to his children. The papers published by these authors on the subject are to date:

1. A First Study of the Influence of Parental Alcoholism on the Physique and Ability of the Offspring, by E. M. Elderton and K. Pearson, F.R.S., 1910.
2. Letters by Professor Pearson in the *Times* of July 12th and August 10th, 1910, in reply to Professor Alfred Marshall.
3. Supplemental Memoir by Professor Pearson, being No. 1 of Professor Pearson's *Questions of the Day and of the Fray*. A reply to the *Cambridge Economists*, 1910.
4. A second study by Karl Pearson, F.R.S., and Ethel M. Elderton, being a reply to certain critics of the first Memoir, etc., 1910. Published December 24th, 1910.

The material on which they worked was (1) a remarkable report by the Social Investigation Committee of the Edinburgh Charity Organization Society, in which the social conditions of the families of 1,400 school children dwelling in one of the worst slum districts of Edinburgh were set out in schedule form with extraordinary wealth of detail; and (2) private notes, by Miss Mary Dendy, of feeble-minded children in Manchester (no date).

(Of this material the first half, the Edinburgh report, ought to be in the hands of every one interested in public health and social reform. It is published by Messrs. P. S. King and Co., Orchard House, Great Smith Street, Westminster, 1906, price 5s. As regards the second half—namely, Miss Dendy's notes—these can no longer remain private, and we have elsewhere (*BRITISH MEDICAL JOURNAL*, December 31st, 1910) asked Miss Dendy to publish them in the interests of social science and statistical accuracy.)

The first appearance of these writings, and the extraordinary conclusions which the authors arrived at last May—namely, that alcoholism does not appreciably affect either the efficiency or wage-earning power of parents, or the physique and ability of their offspring—caused a great deal of pleasurable excitement in some sections of the community.

It was, however, the opinion of various statisticians and biologists (prominently among the former Professor Alfred Marshall and Mr. Keynes) that Miss Elderton and Professor Pearson had omitted to observe certain obvious precautions to ensure accuracy, in handling the data, biological and statistical, on which their conclusions were based. It was generally felt by all who read the *Times* of May 21st, 1910, that if the memoir was an untrue presentation of the facts, a very grave injury had been done by Miss Elderton and Professor Pearson to the sciences of eugenics, of statistics, and of sociology. In fact, we may quote (altering their term "good cause" to "science") Miss Elderton and Professor Pearson's own words in their memoir (p. 1): "No greater evil is done to 'science,' than when