the multiplication of officials in this way. A further memorandum, summarising the experience of notification of measles during the years 1916-1917 is promised, and its issue will be awaited with interest.

At a recent meeting of the Council of the Society of Medical Officers of Health reference was made to the Local Government Board's Report on Measles, and very strong exception was taken to the opening paragraph of Dr. Wheaton's memorandum, in which he belittles the attempts of medical officers of health, made often in circumstances of extreme difficulty, and in advance of the suggestions of the Local Government Board, for reducing the mortality and disablement resulting from this disease. Dr. Wheaton remarks that "usually, at the most, one visit was made by the Inspector of Nuisances," and he further states that, "it would often happen that the medical officer of health, if he chanced to be interested in the subject of measles," would pay a visit to the homes of notified measles cases and, generally, the paragraph suggests not only lack of interest but lack of ability on the part of the medical officers. The experience of most districts is not in conformity with Dr. Wheaton's view. An overwhelming majority of medical officers of health fully realised the mischief which this disease caused, and spared no effort in using the imperfect means available to them to mitigate its ravages.

EXPECTANT AND NURSING MOTHERS.

THE following provision has now been made by the Ministry of Food for the supply of extra rations to expectant and nursing mothers:

Expectant mothers may receive, on application in due form to the Local Food Office, an extra ration during the last three months of pregnancy. This may consist either of two meat coupons per week or of one butter coupon per week. In districts where a milk priority scheme has been found necessary, they may also obtain a priority permit for one pint of milk daily during the same period.

Nursing mothers will not themselves receive any additional ration, but are entitled to use the rations obtainable for the infant, namely, the ordinary child's weekly ration of meat, butter or margarine, and sugar, and in districts in which priority schemes are in force, a priority certificate for 1½ pints of milk daily. To obtain the child's meat and food cards, application must be made to the Local Food Office on a special form.

THE PHYSIOLOGY OF THE WORKING CLASS HOUSE,

BY

R. H. VERCOE, D.P.H., B.A., M.R.C.S., L.R.C.P.

IN view of the innumerable Working-class Housing Schemes projected for the immediate future, it is probable that the hygienic conditions of home life of some millions of future tenants will be irrevocably fixed for the next two or three decades by the immediate building activities of a fraction of that time.

It is therefore an urgent matter of public health that, while meeting the enormous demand for new accommodation and avoiding overcrowding on the acre, we should also earnestly endeavour to obtain the very best possible structural designs for these houses that are to be erected in such unprecedented numbers, so that these new homes shall be models of healthy conditions, convenience, and brightness, yet adaptable to all the limitations imposed by accessibility to work and severe economy in construction.

Now, are the commonly existing types of working-class houses, including the latest official models, worthy to be copied as guides for reproduction *en masse*, or for the standardisation so often suggested?

In answer to this question, the practical experience afforded by free access at all hours, times, and seasons, to all varieties of working-class homes, during private practice and public health work, in an open growing artisan urban district, compels the writer, in respect to the design of the whole ground floor, to reply in the emphatic negative.

Nor does careful search among some thousands of plans of the latest publications appear to reveal any general advance to secure a ground floor interior adequate to its importance in the daily life of the family.

I therefore propose to consider what appears to me the essential defects of present representative types, and explain the advantages of the two following designs reproduced below which entail no additional cost.

For purpose of critical comparison with representative orthodox standards, I have used for reference:—

- (1) Type D of the 1913 Local Government Board model plans, to illustrate the latest parlour type, some form of which is so universal all over the country.

- (2) Type C, which is without a parlour, like A, B, and E of the same Local Government Board Memorandum.
- (3) Have made frequent reference to the Memorandum text.

(The Official Publications and Architectural Competitions eventuating in the last month or two appear to all the more strongly emphasize the necessity for this criticism and statement of general principles.)

the room, while the housewife has to simultaneously discharge the duties of cook, nursemaid, housemaid, stoker, wife, and washerwoman; and round these two main factors the family life entirely revolves.

Therefore it is impossible to exaggerate the importance of the living room, or to expend too much consideration upon it.

It should (1) be large enough to ensure ample ventilation and accommodation for the

Scale reduced one-half.

THE APOTHEOSIS OF THE KITCHEN LIVING ROOM.

One of the distinguishing features of a working-class house is that throughout the day-time and hours of consciousness the whole family is entirely confined to one room, the living room, on the ground floor; whereas, while sleeping they use the entire accommodation of the first floor, over which they are uniformly distributed, usually in three bedrooms.

The two principal reasons for this are, of course, the duties of the housewife and the cost of fuel. The kitchen fire is the common source for both cooking the food and warming

persons it must receive; (2) be easy and economical to maintain at an equitable pleasant temperature in winter and also in summer; (3) be well lighted all through the day and receive the maximum sunlight in cold weather; (4) be as convenient as possible.

SIZE.

The first point—the desirability of adequate size—is not generally recognised, and in the words of the Local Government Board Memorandum, “the living room being used by the family in common should be as large and commodious as possible.”

Yet if we turn to the Local Government Board model plan D, we find the ground

floor completely cut up into two practically equal compartments, a kitchen and a parlour, having no direct communication with each other.

So that the kitchen being the living room is much too small, stuffy, and ill-ventilated, by reason of the great space monopolised by the parlour, which, on the other hand, is quite unnecessarily large in any case for its uses.

This is the typical arrangement that obtains all over the country.

If now we turn to the alternative plan C, Local Government Board model, with large kitchen living room and no parlour at all, it is at once strongly objected by most people that it is impossible to maintain sufficient warmth in such a large space in cold weather with a *workman's wage*.

So that on this first question of the size of the living room and the problem of ventilation and heating inseparable therefrom, we are quickly placed in a hopeless dilemma. In the one type the living room is too crowded, stuffy, and hot, through, at least, the warmer part of the year, whilst in the other it is too cold and costly to warm through the remainder.

I am afraid we can only too certainly predict which alternative our tenants will prefer.

It is therefore the first advantage of the following designs that, although the size of the living room is as great as the largest Local Government Board model C, it can be temporarily reduced whenever really necessary for a few hours to the size of that in the small type D, by shutting off the parlour recess at one end of it, by means of the folding doors or other devices mentioned later.

So that we have all the advantages of a *large* room without the difficulties of keeping it *warm*.

PARLOUR RECESS

The second compromise is in the matter of the parlour, which in the following designs is made smaller than usual in order to correspond with its true proportionate importance.

It is really a well-lighted, large recess, at one end of the living room, and is able to be used (1) as part of the living room, (2) also to fulfil all the functions of a parlour.

This confers a great advantage in the eyes of both tenant and landlord over those types in which the parlour is absent, and there is really a perfectly legitimate case to be stated for the retention of some specialised space to fulfil those functions usually associated with

a parlour, provided that there is no deleterious interference with the living room.

These uses of the parlour may be described as (1) a secluded corner, into which the visitor may be temporarily shown, away from the children and kitchen work; (2) as a place for private discussion or for emergency use; (3) as a place for the preservation, from the children and daily damage, of certain articles of furniture of sentimental association, and to which respectable working-class tenants are as much entitled as anyone else to attach their own criteria of value (the demarcation of the floor area of the recess will be sufficient to attain this object, without shutting it off by closing the folding-doors); (4) as a trysting-place for Phoebe and Silvius, as the family grows gradually to years of indiscretion.

This treatment as a recess has a great advantage over the ordinary full-sized parlour, by reason of direct accessibility from the living room, avoiding indirect traverse through extra door and passage way, so that although its size is diminished, its usefulness will be greatly increased, and it should cease to merit its past opprobrium.

LIGHTING.

The next matter is that of lighting, attention to which is not sufficiently emphasised under the conditions of our Northern climate and cloudy skies. Even in Italy they have the proverb, "*Dove il sole non entra, entra il medico.*"

Good lighting is not synonymous with large area of window glass, and the cold light reflected through a large north window is not only an extremely poor substitute for the direct rays shining into a south room, through, perhaps, a smaller window, but also unfortunately induces the tenant to falsely always associate all windows with chilliness.

The immense difference in brightness, warmth and cheerfulness during spring and winter months between the north room of any ordinary house (*e.g.*, even a suburban villa) and the south one on the opposite side of the same house, must be sufficiently obvious, and is indeed very often just the contrast between summer and winter. The south room is bright with diffused light or direct sunshine, and comparatively warm in spite of the season, while at the same moment the north room is dark, gloomy, cold and depressing.

The suburban tenants are free to move into whichever room they prefer, front or back,

with the corresponding choice of two opposite aspects. But the working-class tenants, for reasons we have already discussed, are confined for long periods all day to the *one* room, of only one window aspect practically without exception. The latter conditions present a close, if homely, analogy with the familiar domestic poultry run, but in this case we take the most studious care that the habitation of our *feathered* tenants shall never face due north, if we intend to get thriving birds or any good results at all.

So that of the three above comparisons it very often happens that in this important matter of aspect our working-class protégées are incomparably the worst off of all. In fact, it seems to me that, as it can be avoided if we try, without extra cost (as under), a north-facing living room for a working-class family is a most serious blemish, almost more so than any other form of sanitary defect, because usually so structurally irremediable, so prolonged in its detrimental effects, and so depressing to mind as well as to body. Yet it is quite as frequent to face this quarter as any other of the remaining three of the compass.

Although the Local Government Board Memorandum certainly states that "the site should be utilised so as to secure ample open space in connection with the houses and the best possible aspect for the living rooms," yet the advice is strictly limited to these two lines, never recurs again, and no guidance is tendered as to how the great difficulties and limitations of ordinary sites along roads and thoroughfares are to be overcome, since it is quite impossible to deal with these with the same freedom as in the case of garden cities.

It is true that in the Local Government Board model plan C, there is a second alternative window, at the back of the living room, but as it is so very small, is quite absent in all the other four Local Government Board models, and is quite unremarked upon in the Memorandum text, it might appear to be accidental after-thought; also this plan is rendered unnecessarily costly by not keeping within the four main walls. Some of the latest garden city models have excellent second windows and splendid through-lighting, but the frontage is too wide for general application, and there is either total absence of parlour in the smaller ones, or inconvenience and inaccessibility in the larger.

In the following design it has been ensured that the main lighting through the large

kitchen window shall never face north by providing an alternative Design II, which enables the kitchen living room to be placed in front or in rear, according to the aspect of the frontage quite independently of the secondary window, which, however, some might quite well rely upon by itself as a corrective.

On the other hand, an entirely south-lighted room, though admirable in winter, may be insufferably hot in midsummer, but this again is corrected under such circumstances by using the alternative window in the parlour-recess and deriving through it a cool ventilation and light, while screening off the hot main window at the opposite end of the room.

If the house lies east and west, the living room receives double the daylight of the usual types, the morning light through the one window and the afternoon light through the other. Under these circumstances also there is free choice of either design, some will prefer the first, others the second.

The difference of features will be readily understood from the respective plans, but in both cases the essential characteristic is exactly the same, that is, a "through-lighted" living room, one end of which can be temporarily shut off when really necessary, as, for example, for privacy which will be only occasionally required, or for warmth in winter, preferably and probably after dark.

This double window arrangement, one at each end of the room, will produce a better and more diffused internal illumination, a brighter room, and a more cheerful and interesting outlook therefrom in two opposite directions; and also complete through-ventilation when desired without floor-draught.

So that while providing warmth and all the usual house protection from the weather, the conditions of the interior can be made to approximate to most of the advantages of out-door life as nearly as possible under the necessary limitations; and although this is no substitute for actual out-door exercise, it is matter of special desirability in view of the long periods compulsorily spent in the one room throughout the day by the mother and the greater part of her family.

To enjoy all the fullest advantages of this living room, therefore, it is not desirable that the communicating space should be closed more often than readily necessary. If, however, this intention is sometimes ignored by certain tenants, and the opening kept closed too much, the main room still remains at

least as healthy as the best of the usual modern types, and still retains great advantages of convenience and proportion. Meanwhile, there always remains the opportunity of the every-day education by the general practitioner and all round improvement of habits.

It is partly to discourage too frequent closure and render permanent closure impossible that I have purposely omitted in Design I the usual door from the external passage into the parlour, but also for diminution of floor-draught and simplification, inasmuch as the visitor will step direct into the parlour when the kitchen door is opened, without having to traverse the kitchen at all.

DEFENCE OF THE PRACTICABILITY OF THE DESIGN.

The usefulness of the whole design may, however, be stubbornly contested, solely from the prejudice to folding doors, and the mistaken assumption that they will require to be in continuous use and quickly get out of order; whereas they will really remain open and fastened back to their respective walls during the greater part of the time. All the alternative forms of closing the space must therefore be enumerated and discussed as follows:—

- (1) By two ordinary folding-doors meeting in the centre, and there fixing one by a bolt into the floor when necessary.
- (2) By one folding, one sliding door.
- (3) By one long heavy curtain and no door at all.
- (4) By one large, three-foot door.
- (5) By one ordinary door, the lower half of the remaining space bricked up to half-way, and the open space above made closeable by a small shutter when required.

The objection to folding doors appears to be more from fear of comparative novelty than cost which will be much the same as a corresponding brick wall, but I can only say that careful enquiry from experienced builders fails to incriminate them, and wherever I have seen them in actual use, in some cases by ordinary working-class tenants, they are wearing well and give no ground for complaint that I can discover. After all, even the roughest tenant in his own interests merely of warmth and convenience has a very powerful inducement not to injure or destroy them.

But in any case, if trouble were anticipated from some particular tenant, it would be a very

simple matter to temporarily fix one door, still leaving nearly all the advantages over other types; or if the district itself was a rough one, we might permanently adopt modification (4) of one door only, or (5) of one door and a small window space, an unusual alternative, which perhaps has several advantages.

This essential feature of a large, direct communication between a large kitchen and small parlour-recess gives therefore the following simultaneous advantages over other representative types:—

- (1) A large living room—
 - (a) Warm in winter; (b) cool in summer;
 - (c) giving good accommodation; (d) reconciling ventilation and heating.
- (2) A small parlour, more accessible and convenient than usual.
- (3) Good through-lighting of the interior from two opposite quarters simultaneously; and with main window facing best aspect.
- (4) Good through ventilation, without floor-draught.
- (5) An interior altogether more interesting, varied, and cheerful, and even lending itself to the possibilities of decorative treatment, and the gradual development of those artistic faculties, the mere suggestion of which we scorn in our own people, but welcome and pay for in the form of Continental "Peasant Art."

So that it should be such as we ourselves should deliberately choose to live in if compelled to place ourselves under exactly the same conditions of family responsibility, wages, work and rent, as the working class parents, and had to be similarly immured in one room mostly all day long.

Under the ordinary limitations of site, cost, etc., necessarily imposed on the very great majority of working-class houses, it appears to be difficult to secure all the above desirable and important essentials by any other better design which shall be really adaptable to all the usual conditions. But it is immaterial what particular design we choose, so long as we can really realise in practice the obvious principles embodied in the scheme explained, which seems to me to completely rob the "Limited Frontage" (of say 16–18 feet) of all its previous terrors.

The garden city living room, if limited to mere breadth of room and one large window, will not equal the advantages either of its

environment nor of these narrower fronted designs, quite irrespective of cost; the future liabilities also of which are in modern examples too often merely handed on to the next generation by reason of inferior constructional workmanship and temporary postponement of road-making.

COST.

This is exceedingly important in view of the enormous accumulated house deficiency to be remedied in time of great financial stringency. The ground floor is intended to carry the usual three bedrooms of stereotyped arrangement which does not present the difficulties and problems of the lower storey, and the cubic capacity of the whole house is 9,180 (very slightly larger in Design I), so that on comparison house for house, these designs are cheaper than either of the Local Government Board models, C being 9,246, and D 9,567. On the fairer comparison plan for plan, if the sizes are exactly equal and the cost of baths are omitted in all cases, then these designs are again cheaper; cheaper than type D, by the small cost of the D's yard covering, and cheaper than type C, by the considerable expense of the extra two back walls, amounting to £10 in every £100 against C, for not keeping within the four main walls, and quite irrespective of extra frontage costs. Actual cost per cubic foot is impossible unless specified to be in terms of pre-war or otherwise, actual locality, material, etc., but will be found to be no greater than the cheapest possible alternative plan.

SCULLERY, PANTRY, AND W.C.

With regard to remaining details of ground plan, I have merely endeavoured to conform with current orthodox types.

For the ventilated pantry I have carefully avoided a hot position, such as facing south, an item of some importance.

As regards the scullery, I have tried to avoid those faults which will completely vitiate an otherwise good plan in the eyes of the housewife and send her scuttling off to the first vacant "back addition"; as, for example, in the Local Government Board model D, where the scullery is (1) somewhat small, (2) exceedingly draughty, by reason of direct line of front and back door which (3) also exposes it to direct view from the front door, (4) a long detour through passage and extra door is imposed every time in the continual traffic from living room to scullery and back door.

In fact, in the opinion of those tenants that

I have catechised in facsimile houses, the bright genius responsible for this design, if closely associated with his own creations, would soon meet an "early and untimely end" from a combination of exhaustion and chills.

The w.c. has been made as accessible as possible for its outdoor position.

A coal bunker, about 5 feet high, has been preferred to the usual coal house as affording more lighting to the scullery and containing somewhat more coal, but might be a little larger than in the plan.

GENERAL ADAPTABILITY.

The design is intended for an average working class family of, say, 5 to 7 persons, requiring 3 bedrooms, etc. The house is to be self-contained, erected in blocks of 4 or more, for economy of construction, and on frontages of 16 to 18 feet for accessibility and cost of site, etc. The above description follows closely that of the Local Government Board 1913 Memorandum, except that the application is intended to be wider and more adaptable; either for a smaller labourer's dwelling or as a larger, more expensive house for a skilled mechanic or foreman. Also adaptable to any site, town, country, or model garden city, and will provide a better and more convenient interior than even the last, with its much greater latitude of site and frequent disregard of cost or accessibility, yet favour the adoption of an exterior of model architectural appearance.

THE INTER-ALLIED SCIENTIFIC FOOD COMMISSION.

THE following International Scientific Commission was constituted in November, 1917:—*France*, Prof. Gley and Prof. Langlois; *Italy*, Prof. Botazzi and Prof. Pagliani; *Belgium*, Prof. Hulot; *United States*, Prof. Chittenden and Prof. Lusk; *United Kingdom*, Prof. E. H. Starling and Prof. T. B. Wood.

The Commission has held two meetings, the first at Paris on the 25th March, 1918, and the second at Rome on the 29th April, 1918. At the first meeting in Paris, the Commission came to an agreement as to the minimum food requirements of "the average man." It was decided that a man of average weight (70 kilos or 154 lbs.) doing average work during 8 hours a day, requires food as purchased with an energy value of 3,300 calories daily. At the same time, the Commission agreed that in case it should become impossible to supply this amount of food, a reduction of 10 per cent. on the above figure could be supported for some time without injury to health.