

is within the school building, or that use of it is confined to one school, or that one of the teachers gives the instruction, or that the staff are favourably disposed to such instruction for boys. All this cannot replace the inner psychological adjustment of manual instruction to the curriculum."

The problem in all its aspects is much simplified if we can get rid of the workshop, and without the workshop there spreads out a truly extensive field of effort which our teachers are invited to study. So wide is the field, indeed, and so important are the possible developments, that we are tempted to postpone the workshop, for a time at least, to a later stage of education, and rely wholly on the many varied applications that are independent of its aid. Let us indicate some of the more promising forms of development lying ready to the teacher's hand, and involving little expense, and then pass on to the consideration of some applications of manual methods to ordinary subjects through which our schools may profitably seek to establish the desirable organic connection. But first we will premise that the choice of any particular occupation must be determined by the teacher's own individuality, by his own judgment of what he can do best, and the working-out of any scheme must be left largely to his own invention or other resources.

In the development of clay modelling in our schools we see the greatest promise. Of all the manual occupations this appeals to us as in every way the most educative and fruitful, not merely in the lower classes, where it already has a place, but throughout the school. In no other form of manual work do there seem to be such opportunities of making the educational aim the "predominant partner" in the union of purposes for which manual occupations are undertaken. "Free modelling in clay," we are prepared to believe, "is the truest manual occupation, far more so than carpentry, cardboard, or metal work," for these "can be carried on without the hand, as in a factory," while "a factory producing all free forms is inconceivable." For clearing and visualising the ideas sought to be conveyed by the teacher no finer instrument can exist, and its possible applications are exceptionally numerous.

Another form of exercise conveniently undertaken and already holding a certain position in our schools is brushwork, which may be used either to supplement the ordinary drawing or as a partial substitute for it. This exercise, in conjunction with free-arm chalk drawing and geometrical drawing, has, in one of the London Board Schools, proved so fruitful in development, and the testimony in its favour given by the headmaster and competent outside observers is so impressive, that we venture to dwell a little on the example. The school referred to is the Alma Road School, an ordinary Board school of 300 boys, with the customary staff. Fuller information on the subject will be found in a paper by Mr. Seth Coward, the headmaster, in Vol. i. of the "Special Reports on Educational Subjects," issued by the English Education Department, and in the exhaustive report on manual and technical instruction prepared some two years ago by Mr. Riley, of Wellington, who includes in his report a number of illustrations. Mr. Coward's scheme is based on the "alternative syllabus in drawing" of the English code, the essential feature of which is the formation of "patterns and repeats," using the natural forms of plants and animals broadly treated "as motives of ornament," and employing the designs "to fill spaces used in decoration." To this is added a course of geometrical drawing for all the standards, the geometrical forms being "utilised and regarded as the foundation for ornamental arrangements of natural objects, animals, plants, and the like." The object is "to form a habit of accurately observing form and colour; to develop the faculty of forming new combinations; to obtain such a control of the hand that these conceptions can be freely and accurately reproduced with chalk and brush." "In other words," says Mr. Coward, "it is a scheme for teaching design." The new departure (made in 1896) has been attended with marvellous success, and the most interesting part of the marvel is that the result is achieved in classes of fifty to seventy pupils on no more than two hours' instruction weekly. "One of the most important effects of the system," Mr. Coward declares, "is that it opens the eyes of the boys to the world of colour in which they live. . . . It has cultivated a habit of observation and the desire to reproduce what they see. Some carry note-books in which they sketch a leaf or anything which they can embody in their designs. Not a lesson is given in school which is not again studied at home. . . . This work appeals to the dullest as well as the brightest. Some boys who for years showed scarcely any signs of intelligence have developed rapidly and have produced designs which compare favourably with the best work of their class. The geometrical drawing is also done with a zest, intelligence, and skill which were never known before. . . . Nor has the effect of this work been confined to the drawing: the consciousness of power which a boy obtains in producing a good design overflows into all his other work. Some timid, hesitating lads have been simply transformed intellectually under its influence. . . . It affords what has been lacking in our elementary system of education, an effective means of cultivating the imagination, both artistic and scientific. It trains the eye to behold beauty, the mind to conceive beauty, and the hand to produce it."

Another form of manual occupation of convenient type at the choice of teachers is the cardboard modelling, which is admitted to furnish a very suitable employment for children in Standards III. and IV., and which has been used by one or more of our teachers in all the upper classes with good effect. On this form of occupation and its applications we trust to have the opportunity of soon hearing a set of demonstrations from one of the Education Department's officers who has made this feature his special study.

In chip carving several schools have already a considerable amount of work to show, and, if the practice is connected with geometrical drawing and used to cultivate design, this must also prove an educational instrument of some value.

All this (and probably much more), without any specially fitted workshop or laboratory, is within the means of our teachers under existing conditions. But it is also within their power, under similar conditions, though not without a considerable extension of the apparatus at their disposal, to make great strides on other lines in applying the manual principle to the illustration and enforcement of lessons in ordinary subjects. In science, for instance, it has hitherto been