

worlds, which form the most interesting matter of the volume, are within the reach of any reader of philosophical and scientific taste, who will be repaid by the review of the facts here presented, whether they engage his assent or incur his condemnation. Personally, our sympathies are not enlisted by atomistic speculations; but Madame Royer's atomism is not the orthodox atomism of Epicurus, attacked by Stallo and Mach, to the former of whom she frequently refers in her animadversions; it is Madame Royer's own theory of a fluid atom, expansive and repulsive, dispensing with empty space, and held capable of effecting by its vibrations all the sensible phenomena of light, heat, and sound. It forms the basis of an hypothesis which binds together all the known laws of physics, chemistry, and biology, and enables us to reach deductively the theory of their specific phenomena; embraces even, in its mechanistic net, the phenomena of biology, by sketching the probable mode of constitution of the cell and the probable course of the transformation of matter and ether into living substance; and supplants finally the impossible mechanism of gravitational attraction, referring the movements of the stars to thermal causes.

It will be seen that Madame Royer's book is a *Natur philosophie* of the purest water. It is nevertheless aglow with faith in science and a firm belief in the solubility of its problems; it is the pronounced antagonist of scientific agnosticism in any form; and as such it must command our unqualified admiration, be our critical opinion of its tenets what it will.

T. J. McC.

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#### INVOCATION.

Eternal Good! Or if by other name  
 We know Thee best,—source of power and light,—  
 We reach in quest of that beyond our sight;—  
 Perfection's gift from other never came.

We do not ask for any selfish thing;  
 To change great Nature's plans if we should try,  
 Our works and wishes all would quickly die;—  
 We would not dictate to so wise a King!

Within our hearts we only crave the best  
 Which will arouse a great and good desire  
 For high, eternal truth, e<sup>n</sup> writ in fire;—  
 We humbly take whate'er is Thy behest!

EDWARD WILLIAM DUTCHER.

STILLWATER, MINN.

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#### THE SCHOOL AND SOCIETY.

A more ideal and fascinating scheme of elementary education than that projected by Prof. John Dewey, of the University of Chicago, in his *School and Society*, a little book of which the second edition was issued last year by the Chicago University Press, can scarcely be imagined. It embodies the ideas of the acutest modern educational critics, it is the incorporation of what has suggested itself as

possible to thousands and thousands of thinking persons, and it has the advantage of having been submitted to a practical working test for three years and of still being in actual operation. Whether the school is anything more than a sweet academic vision, attractive and commendable on paper only, whether it is realisable in all its details, and in the long run will be productive of the results theoretically predicted for it, the future alone can determine. We shall outline briefly the ideas underlying it.

Our social life, says Prof. Dewey in substance, has undergone a thorough and radical change in the last two generations. If our education is to have any meaning for life, it must pass through an equally complete transformation. This transformation is already in progress, as shown by the modifications that are rapidly taking place everywhere in our educational methods and curricula,—the introduction of active occupations, nature study, elementary science, art and history, the substitution of the concrete for the abstract, the change in the moral school atmosphere, in the relation of pupils and teachers, the introduction of more active, expressive and self-directing factors. The movement having begun, all that remains is “to *organise* these factors, to appreciate them in their fullness of meaning, and to *put the ideas and ideals involved in complete, uncompromising possession of our school system*. To do this means to make each one of our schools an embryonic community life, active with types of occupation that reflect the life of the larger society, and permeated throughout with the spirit of art, history, and science.”

Such virtually was the old scheme of practical education which we have now outlived and which centered about the household and neighborhood system, as the centers in which were carried on all the typical forms of industrial occupation. Here the whole process of lighting our homes, for example, stood revealed in all its toilsome length, from the killing of the animal and the trying of the fat to the making of wicks and the dipping of candles. Not only was the clothing made in the house, but the members of the household were familiar with the shearing of the sheep, the carding and spinning of the wool, and the plying of the loom. So it was with every other industrial project, flour, foods generally, lumber, building materials, household furniture, metal ware and hardware of all descriptions. The centers of production were in the immediate neighborhood, and the processes stood revealed to the community in their entirety. Here was a solidarity of interest and of occupation which is entirely lacking in the modern community, where the industrial processes leading to the creation of the aforementioned products are almost absolutely withdrawn from individual observation. In those days everything was a matter of immediate personal concern, everything a matter of actual participation. The results were a “continual training of observation, of ingenuity, of constructive imagination, of logical thought, and of the sense of reality acquired through first-hand contact with actualities. The educative forces of the domestic spinning and weaving, of the saw-mill, the grist-mill, the cooper shop, and the blacksmith forge, were continuously operative.”

But by modern concentration of industry and division of labor these household and neighborhood occupations have been practically eliminated, at least for educational purposes. The conditions have changed radically, and an equally radical change in education is demanded. There are rich compensations, it is true, in the new domains of human experience opened and in the corresponding natural training which the new experiences also have brought with them; but the physical realities of life, the occupations which exact personal responsibilities, still remain in need of emphasis. To fill this gap in the modern educational life manual training

has entered, shop work and the household arts, sewing and cooking; but it has been done in a half-hearted, confused, and unrelated way; the point of view has been too narrow; work in wood and metal, sewing, weaving, and cooking, still remain to be conceived *as methods of life*, not as distinct studies, to be conceived in their *social significance* as types of the processes by which society keeps itself going, as ways in which the primal needs have been met by the growing insight and ingenuity of man; as instrumentalities through which the school itself shall be made a genuine form of active community life, instead of a place set apart in which to learn lessons. Such a school one enters as one does a busy workshop, where a certain disorder almost is apparent; there is no silence, there is none of the discipline of the conventional school; the children or workers are not engaged in maintaining certain fixed physical postures; their arms are not folded; they are not holding their books in predetermined positions; there is the confusion, the bustle, that comes from activity. Yet, out of it all, out of this occupation, this doing of things to produce results, and the doing of them in a social and coöperative way, there is born a more distinctive and genuine discipline, superior to and far more effective than the discipline of the traditional type.

The introduction of active occupations, further, gives the school a chance to affiliate itself with life, to become the child's habitat, a miniature community, an embryonic society. This is the fundamental fact from which it is possible to create continuous and orderly sources of instruction. The unity of the sciences for educational procedure, as thus conceived, is found in geography, which presents the earth as the enduring home of the occupations of man, as the source of the materials upon which he has imprinted the stamps of his industry and achievement, as the source of the great energies which he has curbed and diverted to his own uses as the determining cause of his historical and political progress. In connexion with the occupations of weaving, carpentering, etc., the historical development of man admits of being recapitulated, and a thorough insight is gained into the nature of the materials used and the mechanical principles. The primitive inventions are remade by the teacher and children, the experiences of entire phases of industrial and social development repeated in epitome; one can in this way, as the author says, concentrate the history of all mankind into the study of the evolution of the flax, cotton, and wool fibers into clothing.

Such is the aspect of the school viewed from the point of view of the larger life of the community; but we may also consider it in relation to the life and development of the children. Here its work is based on the ideal home, where the child learns from the social converse and constitution of the family; where he participates in the household occupations, thus gaining knowledge; where he acquires habits of industry, order, and regard for the rights of others; where he is permitted to work out his constructive instincts naturally, and where in many cases he has his own miniature workshop and laboratory in which he can pursue his inquiries of his own free accord, and even extend those inquiries into the surrounding fields and forests. Organised and generalised, this ideal home is the ideal school. "It is simply a question of doing systematically and in a large, intelligent, and competent way, what for various reasons can be done in most households only in a comparatively meager and haphazard manner."

The object of this ideal school is not learning, but first *living*, and then learning through and in relation to this living. The question of education is simply the question of taking hold of the child's activities, of giving them direction. The activities are already there; they are furnished by the child's life and environment.

Through direction, through organised use, these activities and impulses may be made to tend toward valuable results, instead of scattering or being left to merely spasmodic expression. The instinct of children to use pencil and paper is taken as an example. If they desire to express themselves through the medium of form and color and this desire is simply indulged in at random, there is nothing but accidental growth; but if the child is first allowed to express his impulses, and then through criticism, question, and suggestion *is brought to the consciousness of what he has done and of what he needs to do, the result is quite different.* The first of the accompanying illustrations is a child's drawing of a forest, the best of the work done by seven-year-old children. To Prof. Dewey it seems to possess even "poetic feeling." It was the culminating product of a series of drawings expressing the child's ideas about the primitive conditions of social life. The first drawings were of the impossible sort, the trees the conventional telegraph poles of childhood, etc.

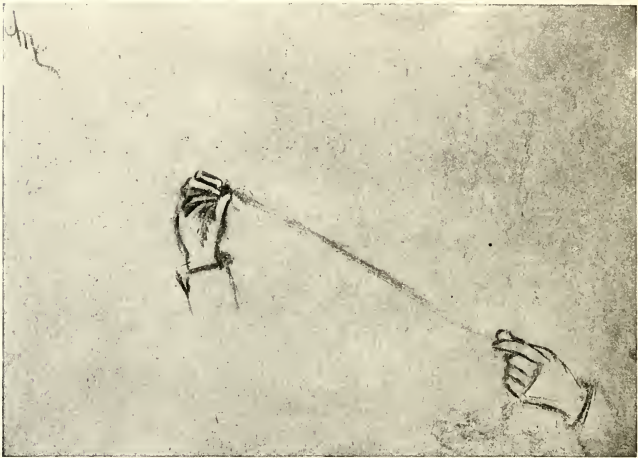


SEVEN-YEAR-OLD CHILD'S DRAWING OF A FOREST.

But the child was not allowed to indulge his instinct; he was called upon to exercise it. His attention was called to actual trees, and from his observation he was led to modify his original artistic expression. In the same manner the language instinct is controlled and directed. Then comes the instinct of making, or the constructing impulse. Out of the communicating and constructive instincts grows the art instinct. Of this an instance is given in connexion with the study of primitive spinning and carding, during which one of the children, eleven years of age, made the appended illustration of two hands engaged in drawing out wool for spinning (see p. 568).

The four instincts or interests mentioned, the interest in conversation, or communication, in inquiry, in making things, and in artistic expression, are called the "natural resources, the uninvested capital, upon the exercise of which depends

the active growth of the child." One example: Children are interested in the world of things mainly in its connexion with people; their interests are to a large extent identical with those of primitive life. The child's mind naturally recurs to the typical activities of primitive peoples. The boy builds caves and huts, hunts with bows and arrows and spears. Some of the work planned in the school for seven-year-old children, utilises this interest so as to make it a means of seeing the progress of the human race. Out of the connected study of primitive weapons grew some concrete lessons in mineralogy; out of the study of the iron age grew experimental lessons in metallurgy, etc. The result has justified completely to Prof. Dewey's mind "the conviction that children, in a year of such work (of five hours a week altogether), get indefinitely more acquainted with facts of science, geography, and anthropology than they get where information is the professed end



ELEVEN-YEAR-OLD CHILD'S DRAWING OF HANDS SPINNING.

and object, where they are simply set to learning facts in fixed lessons." Similar results have been obtained in connexion with the language work.

Such are the leading conceptions of the University Elementary School as it is called, affiliated with the University of Chicago. The school has been in existence four years, and the reader will find appended to the book above mentioned a supplement giving the details of the organisation of the institution. The school may be seen in its actual working, and persons skeptical as to the possibility of its realising in practice theories which ring with such resonant quality on paper, may personally convince themselves of the success or failure of the project. Here the key to the whole situation lies. The ideas which underlie the plan are neither unique nor novel, and their realisation as an educational system has been hitherto prevented partly by fear of their impracticability on a large scale, partly by the lack of qualified and sympathetic teachers, but perhaps most of all by the lack of endowment.

The plan is an expensive one. Human beings, too, are sluggish, logged with social inertia. Intelligence, constantly administered and applied on the gigantic scale required by rational schemes of instruction for entire nations, seems humanly impossible. From sheer exhaustion, reason drops into routine: it is a biological law. The new methods, whatever their value, grow old, stiff, and rheumatic, even as our invaluable Kindergarten-system in some of its phases has now grown. And thus it seems that the *öffentliche Verdummungsanstalten*, or "institutions for the stupidification of the public," as they have been classically termed, will always remain with us as a sort of divine necessity, and harmonising with the popular demand more than some enlightened educators seem to be aware of. It is in this mountainous mass of dough that the school of Prof. Dewey will be a leaven, and we hope in the interests of advancing civilisation, that the expectations entertained of it will be there or elsewhere fully realised.

T. J. McCORMACK.

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### NIRVANA.

From the German of E. ECKSTEIN, by HUGO ANDRIESEN.

This is the silent, slumbering lake,  
 The source of life and its treasures,  
 Of life with its tear-bedewéd ache,  
 And its fleeting joys and pleasures.

All dream-born bliss and mundane pain  
 A phantom existence created,  
 Into nothingness return again  
 What from nothingness emanated.

The trembling, quivering rays of light  
 In icy embrace are lying;  
 The eternal gods sink into night,  
 The solar globes are dying.

All perish,—even this episode,—  
 Sere will be what now looks vernal:—  
 Through infinite space resounds the ode,  
 The Song of Death Eternal!

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### THE MAHĀYĀNA AND ITS FIRST EXPOUNDER AÇVAGHOSHA.

Buddhism is divided into two great churches—the Mahāyāna and the Hīnayāna i. e., the large vehicle of salvation and the small vehicle. The Mahāyāna prevails over the entire North—Nepaul, Thibet, China, and Japan, and the Hīnayāna is established in the South—Ceylon, Siam, and Burmah. Western scholars generally consider the Hīnayāna as the original and pure Buddhism, and look upon the Mahāyāna as a later development in which Buddhism has been adulterated and is mixed with foreign elements. But this view cannot be upheld, and is naturally objected to by Buddhists themselves, especially those who belong to the Mahāyāna church.