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The position of Mathematics in the School Education of Girls.

Paper read by Mrs. BRYANT, before the College of Preceptors.

A rational curriculum must found its claim to consideration on satisfying the double educational demand of containing means for training all the human faculties, and supplying such kinds of knowledge, and to such an extent, as is necessary for the efficient understanding and acting out of life. If we do not teach our children how to live, by teaching them the main conditions of life, and do not so train them that they shall be better able to live, we may look on all our apparent successes with a sorrowful heart, and acknowledge them as little worth. These are the two practical aims which we all acknowledge, in whatever variations of language we may choose to express them; and, in sight of them, we must always renew the enquiry, of what to teach, and how to teach it; bearing them in mind, we must always make the attempt to construct a scale of value among subjects of instruction.

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Professor Payne defined education as the harmonious development of all the human faculties. This seems to insist on one part of our educational aim, without any direct notice of the other; but Professor Payne spoke of education in its school-beginnings in childhood, rather than in youth and adult age too. Mr. Matthew of this class.

universities, makes the aim of education to consist in giving us knowledge of ourselves and the world. By changing this last definition a little, we can combine both, expressed in the felicitous language of that felicitous writer:—the aim of education is to enable us to know ourselves and the world. This covers, as well as actual knowledge acquired, the whole idea of intellectual training; and to those of us who think that there is a good deal of truth in Socrates' opinion, that all vice is ignorance at the bottom, it seems to comprise a good deal of moral training too. To know, and have in us the capacity of knowing further, ourselves and the world, is, indeed, the grand condition, humanly speaking, of living life aright; and to live aright is the highest aim of life on earth.

The first requisite of knowing, and the earliest developed, is the faculty of observation. And, as I suppose nobody would contend that children ought to begin early to observe the internal world and its laws, we may, conclude that they should, first of all, be trained to observe the external world and its laws, and, at the same time, taught to know something of the facts surrounding them. This is, or should be, the aim of Botany and the Physics of observation, in which term I mean to include such general world-knowledge as is within the reach of the child at an early age

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Mere observation will not, however, tell us half the secrets that Nature has for her enquiring children. They must learn, not only to listen, but to ask questions; not only to observe, but to experiment; not only to recognise law by the observation of phenomena, but to seek it by the devising of appropriate circumstances in the midst of which it may be found. No concrete science is independent of experiment, and none of observation; but, as there are sciences in which observation is most conspicuous, so there are others which chiefly abound in experiment; and no curriculum can he considered complete that has not given such a training in the practical art of enquiry, and the logical methods of interpreting enquiry, as an experimental science only can give. It is scarcely necessary to mention Chemistry as perhaps the finest typical instance of this class.