

‘During lessons you must not burden the pupils’ weak, childish nature with your own inadequacies. You must feed their childish nature, which is hungry for development.’

16 The Moon is as Big as a Football

‘Whaat? Is that a wolf?’ a disappointed primary-one boy asked his teacher during a visit to the zoo. They had had the fairy tale of Little Red Riding Hood in class, so it had seemed a good idea to have a look at a real live wolf, in line with Pestalozzi’s principle of observation.

The teacher is to be congratulated. Despite that, the boy’s disappointment gives one pause for thought. The wolf in the fairy tale is a myth, an image of the mind. Children sense intuitively that it belongs to a different reality, so hardly any of them wonder how an animal of that size can swallow the grandmother and then her granddaughter without injuring them, so that the hunter can release them unharmed. What Red Riding Hood complains about is not the corrosive gastric juices, disturbing intestinal rumblings and the danger of suffocation, but the darkness in the wolf’s belly. There is hidden knowledge in the mind of a child of that age: all this is happening in another world, the world of dreams, of imagination, of fairy tale. And everything in a fairy tale is a symbol.

In their inner life children in kindergarten and the infants’ class are still very much at home in this mythical outlook. They can effortlessly transform themselves into different beings and can reassign any object according to their immediate needs: they are a goat or a cat or even a car and the chair is a house, a piece of paper a tablecloth. And it is wonderful to be Harry Potter: you can do magic, everything is full of mysterious, living forces, nothing is dead, everything interacts with everything else. One can talk to every object, for how could it not hear, not understand anything? Children love this magical-mythical world,

16 The Moon is as Big as a Football

these mysterious worlds inhabited by gnomes, elves, fairies and other fantastic beings.

Happy the child for whom this is not spoilt by a know-all adult world. In his world of the imagination he can gather fundamental psychological experience going far beyond what is possible in his real, everyday life. Thus Little Red Riding Hood, for example, can represent man as such who is given the task of helping to cure the Grandmother (whatever one understands by that) who has fallen ill. To do that, she must follow a prescribed path through life and the temptations of evil are part of it. Quite independently of theological theories, the child experiences, in the symbols of the story, the fall of man into darkness and the possibility of salvation.

As teachers we should not only *know about* the special nature of the child's world of the imagination, we should also *respect* it. A child should be allowed to live out each of his phases of development. The history of educational theory shows clearly enough that this requirement has frequently been ignored. Children were seen simply as little adults: their spontaneity and natural urges (urge to be active, play instinct, need to communicate, infantile sexual behaviour) were suppressed by authoritarian systems, which influenced everything right down to the classroom furniture, or they were manipulated and burdened with social and political problems and attitudes which they were in no position to deal with properly.

Today we imagine we have left all that behind us, and take full account of children's special nature. But I see an anti-child tendency even in our schools today. It comes out in the way *children are expected to adopt adult ways of thinking at too early a stage.*

An educated adult thinks in a way that is *rational*, that is *enlightened* and *scientific*. He accepts what can be *proved*. With phenomena he automatically looks for the *causes* and the *laws* behind them. He *abstracts* from the *concrete*, he puts everything into the coherent containers (or ones that have been forced into coherence) of his systems and regards a matter as understood when he has explained its causes and fitted it into his system.

I have nothing against that, but I think it is inappropriate to make this way of thinking the basis of the education of young children. But

16 The Moon is as Big as a Football

that is exactly what we do when, in our education courses, we do not start out from the *phenomena* as children experience them, but from *abstract scientific systems*, which are then given some ‘child-friendly’ coating to make them palatable for the pupils.

That applies not only to ‘content’ lessons, but to the teaching of the mother tongue as well. In this the living phenomenon is the language itself in all forms of usage, but not linguistic theory. From the point of view of the children’s psychology it is appropriate to start by allowing language to be what it is for the child, primarily a *means of expression* and a *medium for transmitting information*. Thus initially language teaching should centre on the children’s own speaking and hearing, then expose them to poems and stories — which will also enrich them mentally and emotionally; they should also learn how to read poems and stories aloud correctly and be encouraged to write their own. Depending on age, they should also practise expressions that we know cause difficulty and expand their vocabulary, starting out from the observation of real objects. But rational analysis, introduced too early and given too much emphasis, is unsuited to getting them to enjoy language and also leads to the neglect of concrete material.

Education that is *in accord with human nature* requires that a child be allowed to follow the same route in its mental development as did mankind in its thinking and investigating: that is from the concrete phenomenon to abstract laws. In contrast to that, we nowadays tend to start out from the models provided by science in order to take the child from the very beginning systematically through a quite specific approach. In this criticism I am in agreement with the educational reformer, Martin Wagenschein, who consistently demanded that *genetics courses* should start out from what is clear to the eye and can be observed without preconceived ideas, that is from the *phenomenon* itself, and only then go on to the possible laws behind them. This corresponds to the old educational requirement to give preference to inductive rather than deductive reasoning.

When training teachers I kept finding that the first idea that occurred to trainees who, for example, had to take the topic of ‘forest’ in a primary-two class, was to talk about the jungle, mixed woodland and monoculture, extracting individual trees versus clear felling, hydrologic

16 The Moon is as Big as a Football

balance and commercial forestry, the effects of climate change and pollution on the trees. But for children the forest is first and foremost a place that gives rise to quite specific feelings, a world of the uncanny, a setting for fairy tales, a world full of mysterious life and also a playground.

Years ago I took part in a kindergarten excursion in the forest. The parents and children gathered outside the forester's lodge at five in the morning and an ornithologist, who knew his material through and through, explained the birdsongs to the children. He went to a lot of trouble, but none of the children could tell a blackbird from a willow warbler and after five minutes they had lost all interest. Hardly surprising! For children of that age, the songs of all the birds on a beautiful May morning are a unity, a forest of sound, and it takes great skill to sharpen their ears so they can hear that there are different songs coming from various directions and distances. The psychologically correct way would have been to get the children to hear the bird calls as music and language. They could try to imitate various birds and suggest what they might be saying to each other. Anyone who thinks treating bird-song in that way will give the children wrong ideas that will stay with them for the rest of their lives, knows very little about the way children's minds develop. There is a right time for everything.

When I was training teachers, one student devoted his time to trying, through specifically designed questions, to get some idea of the way pupils of different ages saw the world. For our present purposes some of the answers he received from primary-one pupils on various natural phenomena and social conditions are revealing.

Manuela, asked why there is a full and a half moon, replied, 'Perhaps because of the weather. When it's a beautiful night, then there's a full moon, when it's not, there's a half moon.' That is children's logic: beauty is an expression of completeness, incompleteness goes with horrible things. Moreover the moon is not something alien, far away, it is a ball the size of which you can show with your hands, and the sun, because it shines more brightly, is slightly bigger.

The question that might embarrass some grown-ups — why the sky is blue — was meant *causally* by the student asking it, he was interested in the causes. That meant nothing to the child, however, she thought about the purpose of the phenomenon: 'It's so beautiful. Since the grass

16 The Moon is as Big as a Football

is green, there's no point in the sky being green as well. It's much nicer that it's blue.' Sibylle's answer to the same question is no less plausible: 'Because of the water, because afterwards the water comes down from the sky.' And if we adults believe the question why it rains will elicit a causal explanation from the child, we are wrong. The child naturally thinks in terms of *effect*: 'So things can grow, you see, if it never rained, things couldn't grow and we'd starve.'

When the student asked her what she particularly liked about her teacher, he assumed the child's way of thinking would be to detach individual characteristics or features from the whole person of the teacher. Sibylle's answer was totally disarming. What she liked most about her teacher was 'that she just comes back every morning, that we see her again.'

In general a seven-year-old child is no better at dividing its surroundings up into good and less good partial phenomena. Thus Sibylle answered the question as to what she liked best about her surroundings with almost Biblical simplicity: 'That I see my brother and my mother and my father.'

I must emphasise that these childish answers are neither second-rate nor stupid, rather they are based on a different way of looking at the world which one cannot automatically assume is inferior to the scientific view. When the student asked Sibylle how big she thought the sun was, she answered with a counter-question which might give some physicists pause for thought: '*With* its rays? With its rays it's pretty big. *Without* rays it's the same size as the moon.'

Even teachers are occasionally amazed by these answers. We all like to hear them because they reveal part of children's essential nature and that is a pleasure teachers can enjoy daily, provided we first let the children tell us what they think of certain things, before we begin with our explanation. Also, if the pupils see that we are interested in what they say and listen to them, they are more likely to return the compliment.

The change from magical-mythical thinking to reasoning along scientific lines does not occur at the same age in every child, nor at the same speed. And we can often see an intermediary stage between the above-mentioned thinking in effects and thinking in strict scientific causality. This intermediary stage — or preliminary stage of causality — consists of explanations on the model of: When it starts to get warmer

16 The Moon is as Big as a Football

in spring, the plants start to come up. When the moon's in the south at sunset, it's a half moon. When the water temperature sinks below zero, ice forms.

Naturally it is useful to familiarise oneself with this whole area by reading books on the psychology of development. But one cannot tell which stage a child is at from books, one can only establish that by observing the child carefully, especially by listening closely when it expresses its ideas on natural phenomena. This will give anyone teaching in the spirit of Pestalozzi fascinating insights into the world of the child; it will also fill them with amazement at the awakening of the spirit in a child.