'An animal is completely fitted for everything it needs to do; human beings are fitted for nothing but what they learn, practise and love.'

Correct, the title is not from Schiller, for what he said was, 'A human being is only fully human when he is *playing*.' And that makes him more attractive to us than Herr Otto Friedrich von Bollnow, who altered the sentence in that clumsy manner. But Bollnow's version brings out two things: firstly, we only develop the skills which make a full life possible through practice; and secondly, proper practice has the lack of self-awareness that is part of true play.

Both — playing and practising oblivious to everything else — can be observed in children as one and the same thing. They forget themselves, time and the world around them, and are completely absorbed, without intention or self-reflection, in an activity that develops their faculties, broadens their mind and fills their whole being. Playing and practising are united.

Maria Montessori was once secretly observing a child of kindergarten age as it fitted ten rods of varying thickness into the matching holes in a board. Each time it had completed the task, it took them out, mixed them up and started from the beginning again. The child repeated the exercise over forty times, then breathed out as a sign of satisfaction and relief and went away. Its deep breath said, 'There, I can do that now.'

It is clear that the enjoyment of repeating a series of movements or an activity is part of a child's nature — and of that of human beings in general. An unspoilt child does it spontaneously, without being told to,

simply from some inner urge. It does not know that it needs to do so for its development, but 'its nature' does. Practising, repeating something, losing oneself in some activity — that is absolutely in accord with human nature.

In their leisure activities some children are quite prepared to repeat certain things hundreds of times. One just has to go to a ballet lesson, observe a child trying to play a tune by ear on some instrument, watch young people going down steps on their rollerblades and skateboards, it is always the same: they try, try and try again until they can do it — and then they often raise the bar.

It is only at school that it doesn't seem to work like that! If a teacher gets his pupils to do a large number of similar sums, read a passage several times or keep conjugating verbs until they can do it without faltering, he will very quickly hear the criticism that they are mechanical drills. Drill — how soul-destroying! — it doesn't even have a place on the parade ground any more.

Nowadays we are going to great lengths in research, legislation, organisation and financial support to improve education, which is obviously seen as unsatisfactory. As someone working at the chalk face, one is tempted to make the subversive suggestion; 'How about bringing back more practice drills?'

It is easy to demand more practice, but there are clearly many aspects of the present situation which make it difficult for teachers actually to employ the technique.

I see *one reason* in the current dependence on *course materials*. Teaching is determined far more by teaching materials than by the syllabus. Whilst in the past coursebooks were written by experienced practising teachers, nowadays they are designed by specialists in educational science with a team of advisers. Their high degree of perfection suggests implicitly that they cover all the teaching goals within a subject area. But one can only achieve these goals if one adheres fairly strictly to the prescribed route through the course materials and that often leaves teachers very little scope for classroom activities of their own devising. These teaching materials do usually contain a scheme of exercises, perhaps even a book with exercises, but the sheer size of the package tends to mean the teacher is constantly under pressure. Above all, true practice demands that one be allowed to take one's time over it

and that one can go into the *specific difficulties of the individual pupils*. But these are often not catered for by the teaching materials and therefore require additional exercises and additional time to go through them.

The second reason is connected with the first. It is a simple truth that nowadays too much is expected of schools as regards subjects, themes and topics in relation to the time allowed. Science is constantly opening up new areas of knowledge, and technical and social developments require more and more new skills. This means that the pressure on schools to 'modernise' becomes greater and greater. At the same time they are encouraged to jettison 'out-of-date' materials, but these are often the elementary foundations which have to be understood and mastered before pupils can make sense of new discoveries and techniques. In this situation, in which a high quality of material and work is demanded, it is the tried and tested method of taking the time to practise what has been taught that is sacrificed. Those who suffer most are the slower and less intelligent pupils.

The organisation of education is also a hindrance to regular practice. The system of using specialist subject teachers is becoming more and more widespread, even at the primary stage, and that reinforces the status of what Martin Wagenschein has called 'putting the pupils through the forty-five-minute mincer'. But this way of dividing up the pupils' daily learning time is anything but natural; on the contrary, it is highly artificial and does not correspond to their psychology. It is only when one can forget time and everything around that one can get close to the essence of what one is dealing with. Nothing truly worthwhile can be achieved without this concentration, this absence of distraction, this ability to take one's time. No one would think of dividing their work time up into forty-five-minute portions, the rhythm of our mind, of our whole being, cannot be mechanised in that way. If our activities are to bear fruit, they have to take place at their own rhythm and not according to some imposed artificial system.

Finally, alongside these reasons that are inherent in the education system, there are *social phenomena* that make practising more difficult. First and foremost is the fact that many children are *spoilt*. They are accustomed to refusing demands they find taxing, to being kept amused in an undemanding way, to being stimulated by a constant stream of

novelties with ever more striking effects. Such children quickly become impatient, recalcitrant and aggressive when they have to spend some time doing something not particularly attractive which they have not chosen themselves. Very often the school cannot rely on the support of parents, since they lack understanding of the importance of calm, patient practice. Added to that is the fact that many teachers are also children of the age and had little experience during their own school-days of the fulfilment that can come from persistent practice.

There are so many difficulties — too much material to cover, too little time, the pupils' recalcitrance, one's own lack of enthusiasm — that it is hard not simply to give up.

But despite all these obstacles, we cannot abandon patient and committed practice if our teaching is to be truly successful, both in the pupils' acquisition of knowledge and of skills.

Let us look at *knowledge* first. It is acquired either by personal *experience*, by personal *insight* or by *transmission through language*. As a rule, knowledge that comes from personal experience or insight does not need to be reinforced by repetition. It is different with knowledge transmitted through language, that does need to be reinforced, both to *acquire* it and to *retain* it. There can be many forms of practice, but the key element in every case is *repetition at different and increasingly long intervals*.

If people took this simple fact seriously, namely that knowledge acquired through language can only be retained by this kind of practice, lessons would be planned completely differently from the way they are today. Once one area of a subject has been dealt with teachers mostly proceed to the next and then on to the next again. What they should be doing, however, is to keep looking back to refresh their pupils' memory of the main ideas that were presented and acquired in previous lessons or projects, or even in previous years. But they simply do not have the time, and this not-having-the-time devalues everything the pupils have worked on previously.

Connected with practice in the acquisition of knowledge is *learning* by heart - that is, repeating something word for word until it is fixed in the mind. This is completely unsuited to revision for an exam on some topic. The point of learning something off by heart is to memorise the words themselves, as is the case with singing, reciting a poem or learn-

ing a role in a play. But schools have spoilt the pleasure in poems for thousands of pupils by compelling them to learn them by heart in a way that was educationally unsuitable, by showing them up in front of the class and awarding poor marks when their memory failed them. The result is that learning by heart is hardly used at all today.

But good poems one knows by heart are a treasure for life, only pupils must enjoy learning them. The best way to achieve that is by speaking in chorus, which has been completely abandoned today. At in-service training courses teachers repeatedly argued that each pupil should interpret the poem in his own way and that getting them to recite in chorus was to force them into a collective corset. It is interesting that this argument is not used against singing in chorus. As far as these arguments are concerned, there is no difference between singing and reciting in chorus. Thus in Zurich, for example, there is not only a chamber choir, but a chamber speech choir. Alongside their aesthetic value, singing and speaking together have, like instrumental ensemble playing, an intrinsic moral value. It is about shaping a communal performance, which means keeping a balance between hearing and producing sound, between fitting in and leading, between taking responsibility and delegating responsibility — all of which is profoundly characteristic of man's existence as a thinking, feeling being. An additional advantage is that in this type of learning none of the pupils are seen as failures, weaker ones can share in the successful outcome and even stammerers forget their stammer. Success does not have to be something that happens all at once, but gradually becomes apparent as reciting in chorus is practised over a period of time.

The term 'learning by heart' is, however, inappropriate for memorising names. The classic area here is botany. When I argue for a wider knowledge of plants, I often hear the argument that it is pointless to get pupils to learn the names of plants off by heart. As if that were the point! Memorising a plant's name should mean 'knowing a plant' just as one can know a person — and one can walk past a person without noticing as easily as a plant. 'To know' someone or something is to be familiar with their essential characteristics, and that means to be able to distinguish them from others. Such knowledge is always based on precise observation. Somewhere or other Goethe says, 'We only know what we

see, and we only see things we know of.' The point is not to pile up knowledge we could equally well do without, but to perceive the things around us in their distinctive individuality, thus developing a closer relationship to them, which ultimately brings a greater quality of life.

Also distinct from learning by heart is the process of 'automation'. The alphabet is learnt off by heart, while the multiplication tables are automated. In contrast to the alphabet, multiplication tables are based on understanding, but they have to be made automatic because, as one of the fundamentals of arithmetic, they make further calculations possible and relieve us of having to go through the same basic sums again and again. This comes about through a very careful arrangement of the number concepts up to a hundred and through repeated observation of the relationships between numbers. Learning arithmetical sequences off by heart is the wrong way, but that is a special problem of the early primary years, so this is not the place to go into it in detail.

And now to the question of practice in the area of skills. Although knowledge and skill should not be sharply differentiated, *absorption* is more central to the acquisition of knowledge, while the development of ability demands *personal effort*. Beyond that, knowledge operates according to the *digital* principle: we either *have* an insight, an idea, a piece of knowledge, or we *haven't*. The area of ability, however, is governed by the *analogue* principle: the greater the effort we put into practising it, the more skilled we will become at it. All skills can be improved, perfected, in principle there is no upper limit.

That is why assessments such as: 'Learning outcome achieved, partly achieved, not achieved' are not appropriate in this area. When practising a skill, each pupil should start out from his current level of ability and push his limit up a little higher. In sport, for example, he should jump as high as is *possible for him*, run as fast *as possible*, throw the ball as far *as possible*, on the basis of his physical capability. It is pointless to compare pupils with each other; each one should work at their own limit. Whether a performance is good or bad cannot be decided on an absolute scale, but from the individual *progress* made. I get annoyed when I see a slightly built twelve-year-old girl given a poor mark because she can't jump as far or as high, or throw the ball as far as the others and consequently loses her enjoyment of the subject.

Since 'Gym' has been replaced by 'Sport', this educationally inappropriate mode of assessment seems to have become the accepted norm.

But the idea that each pupil should improve his performance according to his capabilities does not apply solely in the area of physical skills. Why should a pupil with a talent for languages be allowed to lean back in class because he gets an A in every test anyway? And why should a pupil who has no gift for numbers be humiliated by comparison with the good pupils by being given poor marks?

It is not by chance that Pestalozzi was against comparing individual pupils with the others. Anyone who believes in the acquisition of skills through individual effort knows the damage that can be done if one does not take individual capabilities into consideration. Conclusion: in every form of practice, the pupil should learn to compare himself with himself and to be guided by his own innate capabilities.

Finally a word about a widespread habit in teaching: outwitting the pupils. Practising can occasionally be felt as boring and it certainly demands effort. For this reason many teachers try to sweeten the pill. For example they turn mental arithmetic into a kind of football game and whoever calls out the answer first scores a goal for their side. Clearly teachers feel they cannot expect their pupils simply to practice and therefore believe they have to get round this by tricking them into doing something they do like doing.

I do not think much, if anything at all, of such classroom tricks. Usually the 'sweetener' comes to dominate the proceedings and the main purpose gets short shrift; also we strengthen the pupils' belief that doing sums (to stick to our example) is basically uninteresting and boring. It is better to stick to the essence of what needs to be practised and aim at real efficiency. Then the pupils will discover that practising can of itself be rewarding, fulfilling.

In his very readable book, *Vom Geist des Übens* (On the Spirit of Practice), Otto F. von Bollnow, the philosopher mentioned at the beginning of this chapter, points to the connection between proper practising and mystical exercises. For example, Buddhist mystics have been reported to spend hours doing nothing but rule lines freehand on blank sheets of paper. In time the lines become so regular and even that the lined sheets can hardly be distinguished from printed ones. Looked at

in economic terms, such an activity is absolutely futile, but looked at as practice, as a rhythmical activity that leads one farther and farther into the depths of one's own being, it is profoundly meaningful. Happy the pupils who have the opportunity to get an inkling of the fact that it is possible by practising, by the rhythmical repetition of some activity, to reach the depths of their own being.