

*sitting but worked through slowly—over months or even years.* For that reason many of the principles are repeated at intervals throughout the book in order to hold the subject together and prevent it fragmenting into mere techniques. In using the book it is important to remember that practice is far more important than understanding of the process.

## Introduction

Lateral thinking is closely related to insight, creativity and humour. All four processes have the same basis. But whereas insight, creativity and humour can only be prayed for, lateral thinking is a more deliberate process. It is as definite a way of using the mind as logical thinking—but a very different way.

Culture is concerned with establishing ideas. Education is concerned with communicating those established ideas. Both are concerned with improving ideas by bringing them up to date. The only available method for changing ideas is conflict which works in two ways. In the first way there is a head on confrontation between opposing ideas. One or other of the ideas achieves a practical dominance over the other idea which is suppressed but not changed. In the second way there is a conflict between new information and the old idea. As a result of this conflict the old idea is supposed to be changed. This is the method of science which is always seeking to generate new information to upset the old ideas and bring about new ones. It is more than the method of science—it is the method of human knowledge.

Education is based on the safe assumption that one only has to go on collecting more and more information for it to sort itself into useful ideas. We have developed tools for handling the information: mathematics for extending it, logical thinking for refining it.

The conflict method for changing ideas works well where the information can be evaluated in some objective manner. But the method does not work at all when the new information can only be evaluated through the old idea. Instead of being changed the old idea is strengthened and made ever more rigid.

The most effective way of changing ideas is not from

outside by conflict but from within by the insight rearrangement of available information. Insight is the only effective way of changing ideas in a myth situation – when information cannot be evaluated objectively. Even when information can be evaluated objectively, as in science, an insight rearrangement of information leads to huge leaps forward. Education is not only concerned with collecting information but also with the best ways of using information that has been collected.

When ideas lead information rather than lag behind progress is rapid. Yet we have developed no practical tools for handling insight. We can only go on collecting information and hope that at some stage it will come about. Lateral thinking is an insight tool.

Insight, creativity and humour are so elusive because the mind is so efficient. The mind functions to create patterns out of its surroundings. Once the patterns are formed it becomes possible to recognize them, to react to them, to use them. As the patterns are used they become ever more firmly established.

The pattern using system is a very efficient way of handling information. Once established the patterns form a sort of code. The advantage of a code system is that instead of having to collect all the information one collects just enough to identify the code pattern which is then called forth even as library books on a particular subject are called forth by a catalogue code number.

It is convenient to talk of the mind as if it were some information handling machine – perhaps like a computer. The mind is not a machine however, but a special environment which allows information to organize itself into patterns. This self-organizing, self-maximizing, memory system is very good at creating patterns and that is the effectiveness of mind.

But inseparable from the great usefulness of a patterning system are certain limitations. In such a system it is easy to combine patterns or to add to them but it is extremely difficult to restructure them for the patterns control attention. Insight and humour both involve the restructuring of patterns. Creativity also involves restructuring but with more emphasis on the escape from restricting patterns. Lateral thinking involves restructuring, escape and the provocation of new patterns.

Lateral thinking is closely related to creativity. But whereas creativity is too often only the description of a result lateral thinking is the description of a process. One can only admire a result but one can learn to use a process. There is about creativity a mystique of talent and intangibles. This may be justified in the art world where creativity involves aesthetic sensibility, emotional resonance and a gift for expression. But it is not justified outside that world. More and more creativity is coming to be valued as the essential ingredient in change and in progress. It is coming to be valued above knowledge and above technique since both these are becoming so accessible. In order to be able to use creativity one must rid it of this aura of mystique and regard it as a way of using the mind – a way of handling information. This is what lateral thinking is about.

Lateral thinking is concerned with the generation of new ideas. There is a curious notion that new ideas have to do with technical invention. This is a very minor aspect of the matter. New ideas are the stuff of change and progress in every field from science to art, from politics to personal happiness.

Lateral thinking is also concerned with breaking out of the concept prisons of old ideas. This leads to changes in attitude and approach; to looking in a different way at

things which have always been looked at in the same way. Liberation from old ideas and the stimulation of new ones are twin aspects of lateral thinking.

Lateral thinking is quite distinct from vertical thinking which is the traditional type of thinking. In vertical thinking one moves forward by sequential steps each of which must be justified. The distinction between the two sorts of thinking is sharp. For instance in lateral thinking one uses information not for its own sake but for its effect. In lateral thinking one may have to be wrong at some stage in order to achieve a correct solution; in vertical thinking (logic or mathematics) this would be impossible. In lateral thinking one may deliberately seek out irrelevant information; in vertical thinking one selects out only what is relevant.

Lateral thinking is not a substitute for vertical thinking. Both are required. They are complementary. Lateral thinking is generative. Vertical thinking is selective.

With vertical thinking one may reach a conclusion by a valid series of steps. Because of the soundness of the steps one is arrogantly certain of the correctness of the conclusion. But no matter how correct the path may be the starting point was a matter of perceptual choice which fashioned the basic concepts used. For instance perceptual choice tends to create sharp divisions and use extreme polarization. Vertical thinking would then work on the concepts produced in this manner. Lateral thinking is needed to handle the perceptual choice which is itself beyond the reach of vertical thinking. Lateral thinking would also temper the arrogance of any rigid conclusion no matter how soundly it appeared to have been worked out.

Lateral thinking enhances the effectiveness of vertical thinking. Vertical thinking develops the ideas generated

by lateral thinking. You cannot dig a hole in a different place by digging the same hole deeper. Vertical thinking is used to dig the same hole deeper. Lateral thinking is used to dig a hole in a different place.

The exclusive emphasis on vertical thinking in the past makes it all the more necessary to teach lateral thinking. It is not just that vertical thinking alone is insufficient for progress but that by itself it can be dangerous.

Like logical thinking lateral thinking is a way of using the mind. It is a habit of mind and an attitude of mind. There are specific techniques that can be used just as there are specific techniques in logical thinking. There is some emphasis on techniques in this book not because they are an important part of lateral thinking but because they are practical. Goodwill and exhortation are not enough to develop skill in lateral thinking. One needs an actual setting in which to practise and some tangible techniques with which to practise. From an understanding of the techniques, and from fluency in their use, lateral thinking develops as an attitude of mind. One can also make practical use of the techniques.

Lateral thinking is not some magic new system. There have always been instances where people have used lateral thinking to produce some result. There have always been people who tended naturally toward lateral thinking. The purpose of this book is to show that lateral thinking is a very basic part of thinking and that one can develop some skill in it. Instead of just hoping for insight and creativity one can use lateral thinking in a deliberate and practical manner.

### Summary

The purpose of thinking is to collect information and to make the best possible use of it. Because of the way the

mind works to create fixed concept patterns we cannot make the best use of new information unless we have some means for restructuring the old patterns and bringing them up to date. Our traditional methods of thinking teach us how to refine such patterns and establish their validity. But we shall always make less than the best use of available information unless we know how to create new patterns and escape from the dominance of the old ones. Vertical thinking is concerned with proving or developing concept patterns. Lateral thinking is concerned with restructuring such patterns (insight) and provoking new ones (creativity). Lateral and vertical thinking are complementary. Skill in both is necessary. Yet the emphasis in education has always been exclusively on vertical thinking.

The need for lateral thinking arises from the limitations of the behaviour of mind as a self-maximizing memory system.

## Use of this book

This book is not intended to introduce a new subject nor is it intended to acquaint the reader with what is happening in a certain field. The book is meant to be used. It is meant to be used by the reader for his own sake and through the teacher for the sake of the students.

### Age

The processes described in this book are basic ones. They apply to all ages and to all different levels of learning. I have used some of the most elementary demonstrations on the most sophisticated of groups such as advanced computer programmers and they have not felt that they were wasting their time. The more sophisticated the group the better is it able to abstract the process from the particular form in which it is demonstrated. While the lower age groups enjoy the item for its own sake the older age groups look more closely at the point behind it. Although the simpler items are applicable to all age groups the more complicated items may only be of use to more senior groups.

In the younger age groups the visual form is much more effective than the verbal since a child can always attempt to express something visually and, more importantly, to understand something that has been expressed visually.

From the age of seven right up to and through university education the lateral thinking process is relevant. This may seem a wide age group but the process is as basic as logical thinking and clearly the relevance of this is not limited to a particular age group. In a similar manner the relevance of lateral thinking cuts across the distinctions of subject even more than does mathematics. Lateral thinking is relevant whether one is studying science or engineering or history or English. It is because of this general application that the