The material below is from Edward de Bono’s work

Lateral Thinking

I first thought of the term “lateral thinking” during an interview in 1967. The word has now become part of the English language and is in wide use. This is because there was a real need to have a way of describing the sort of thinking that was concerned with changing perceptions and concepts.

The word creativity is much too broad and much too vague. It covers artistic expression and all sorts of things that have little to do with changing perceptions and concepts.

Lateral thinking can also be a deliberate and formal process for which there are tools.

Progress

There are two types of progress. One is fast, the other is very slow. The first type of progress is illustrated below.

We are going along and a technical input or an idea allows us to move faster. Another input accelerates our progress even further—and so on.

There are people alive today who were born before the first airplane flew.

Some time ago, on a journey across the Atlantic, I reflected that the spoonful of mashed potato I was about to put into my mouth was actually traveling faster than a rifle bullet. So were the other passengers on the Concorde.

Extraordinary progress in a very short time.

Today at a cost of about $500 we can have on our desks a computer that is more powerful than the first computer which cost about $5 million (in today’s terms) and filled three rooms.
In fact we can have a pretty powerful personal computer for as little as $250. That also is amazing progress.

Then there is the other type of progress. Our experience forms certain concepts, patterns and organizations. We follow along this pattern. In order to progress we may have to backtrack and change to another pattern which is more appropriate for the conditions. But we have no mechanisms for this backtracking or changing patterns. So progress is excruciatingly slow. This is the sort of progress that we get in the social area as contrasted with the technical area. It is no one's fault. That is the way our minds work. That is the way organizations work. They are summaries of the past, not designs for the future. This slower type of progress is illustrated here.

Pattern Changing

In the previous section we looked at the marvelous system the brain has for creating and using patterns. This allows us to make sense of the world and to live. Without such a system, life would be impossible. The main purpose of the brain is to be brilliantly uncreative. And so it should be. But from time to time a change of pattern is required. This is difficult because we do not really have any mechanisms for doing this. In the political sense we have the extraordinarily wasteful and inefficient “clash” system.
In science and thought we have tended also to use this method—for lack of anything better.

In medicine most of the major discoveries have come about through chance observation, accident or mistake.

This is hardly surprising because, in a system as complex as the body, systematic search is not possible.

Once the “break” has occurred then the scientific method can follow through with its analysis and development.

In terms of the mind, the mechanisms for pattern changing are mistake, accident and humor.

It is difficult to see what other mechanisms there could be.

Working within existing patterns will not itself lead to new patterns.

Humor

It has always amazed me how little attention philosophers, psychologists and information theorists have paid to humor.

Humor is probably the most significant characteristic of the human mind.

It tells us much more about how the system works than does anything else.

Reason tells us very little and we can devise reasoning systems with pebbles, beads on an abacus, cogwheels or electronics.

But humor can only occur in a self-organizing patterning system of the sort we find in human perception.

Humor involves the escape from one pattern and the switching into another.

Below, I have drawn a major track or pattern and a side track.

It is a characteristic of patterning systems that as we move along the main track the side track is, for the moment, inaccessible (for an explanation of this see my book The Mechanism of Mind).

So we go shooting past along the main track.

In the pun type of humor the double meaning of a word is used as the pattern switching device to force us along the side track.

Consider the following pun:

“Bob Hope had a bad Christmas.

He was only given three golf clubs.

What is worse is that only two of them had swimming pools.”
The other mechanism of humor is shown in the next drawing. In this mechanism we are taken to an apparently unreasonable point and suddenly see our way back.

For example: “The conductor came into the coach. The young man began to search frantically for his ticket: top pockets, trouser pockets, back pocket, coat on the rack, briefcase and everywhere. After a while the conductor took pity on him and extracted the ticket from the young man’s mouth where it had been all along. When the conductor had left, another passenger asked the young man if he felt foolish. ‘Not at all,’ said the young man, ‘I was chewing the date off the ticket’.”

Hindsight and Insight

The pattern switching that we observe in humor is exactly the same process that occurs in hindsight and insight. We switch to a new pattern and suddenly see that something is reasonable and obvious. In hindsight any creative idea must be logical—otherwise we could never accept it as having value. The mistake we make is to assume that since it is logical in hindsight then the better exercise of logic could have got us there in the first place. This mistake is only made by people who do not understand the nature of patterning systems. Patterning systems are necessarily asymmetric—otherwise they would be quite useless.

In the figure below the route from A to B is very different from the route from B to A.

The purpose of lateral thinking is to provide a more deliberate means of pattern switching than relying on mistake or accident.
Lateral thinking seeks to achieve the pattern switching that occurs in insight.

The reason we have not paid serious attention to creativity is given by this “hindsight logic.”

Since every valued creative idea must always be logical in hindsight—otherwise we should never be able to appreciate the value—we have then claimed that superior logic in the first place should have achieved the idea and conclude that there is never a need for creativity.

This is totally and absolutely wrong in a patterning system though perfectly correct in a passive “externally organized” information system.

Since we have always been looking at passive systems we have never really seen the mathematical necessity for creativity that there is in any self-organizing information system.

Creativity and Lateral Thinking

I am often asked why it was necessary to invent the term “lateral thinking” when the word “creativity” seemed quite adequate.

The answer is that the word “creativity” is far from adequate and does not describe what I mean by lateral thinking.

That may be why the term “lateral thinking” is now included in the Oxford English Dictionary.

A creative person may have a way of looking at the world which is different from the way other people see the world, as illustrated below.

If that person is successful in expressing and communicating his own special perception, then we call him or her creative and value the contribution that helps some of us to see the world through a new perspective.

We acknowledge the creativity.

But that person may be locked into that special perception: unable to change perception.
or see the world in any other way.

Thus many creative people are actually “rigid” at the same time.

This does not at all diminish their value to society or their ability to create within their special perception.

But in “lateral thinking” I am interested in the ability to change perception and to keep on changing perception.

Clearly some people are indeed creative but not lateral thinkers.

Some creative people are both.

The same thing happens with young children.

If a youngster of about nine is given a problem, he may well come up with a highly original solution since he is not trapped within the conventional approach.

So his approach is creative and original.

But that same youngster may be reluctant to look for, and unable to find, a different approach.

So he is creative and original and also rigid.

Lateral thinking can be precisely defined as pattern switching within a patterning system.

To explain the nature of a patterning system takes quite a long time.

So in ordinary terms we can describe it as the ability to look at things in different ways.

Grandma is knitting and young Susie is disturbing Grandma by playing with the ball of wool.

The father suggests putting Susie in the playpen.

The mother suggests that it might make more sense to put Grandma in the playpen—a different way of looking at things which is quite logical in hindsight.

Lateral Thinking as Process

Another difficulty with the word “creativity” is that it is a value judgment.

No one has ever called a new idea which he or she personally did not like, “creative.”

Lateral thinking is a neutral process.

Sometimes we use it and come up with nothing at all.

Sometimes we use it and come up with a good idea but one that is no better than the existing idea.

Sometimes (occasionally) we use it and come up with a new idea that is much better than the existing one.

In all three cases we are using lateral thinking.

Intelligent people often tend to be conformists.

They learn the rules of the game and make use of them to have a comfortable life.

At school they learn the rules of the game:

- how to please teacher
- how to pass exams with minimal work
how to get on with people.

Creativity tends to be left to the rebels who cannot or will not play the rules for a variety of reasons.

The paradox is that if we treat creativity (in the form of lateral thinking) as a perfectly sober part of information processing then we may get the strange effect of the conformists being more creative than the rebels—because the conformists are also better at playing the rules of creativity.

If creativity is no longer a risk then non-risk takers may decide to be creative. ¶¶

Lateral thinking is both an attitude of mind and also a number of defined methods.

The attitude of mind involves the willingness to try to look at things in different ways.

It involves an appreciation that any way of looking at things is only one among many possible ways.

It involves an understanding of how the mind uses patterns and the need to escape from an established pattern in order to switch into a better one.

There is no mystique about it.

Judgment and Provocation

In my seminars I often use a drawing of the strange wheelbarrow shown below.

I ask the audience to write down, individually, five comments on the design.

Invariably the comments criticize the design: the wheel is in the wrong place; the wheel-bearing strut would break off; the wheel is too small; the barrow would tip over; the handles are too short; it is more difficult to press down than to lift—and so on.

The ratio of negative comments to “interested” comments has been: for executives, 20 to 1; for a group all of whom had an IQ of over 140, 22 to 1; for a group of teachers, 27 to 1; for a group of 12- to 13-year-olds, 2 to 1.

The low figure shown for the youngsters reflected two things: first, they did not know much about wheelbarrows, centers of gravity, leverage or those sorts of things; second, they thought it was the best wheelbarrow I could manage and they were motivated to be nice to me.

The “interested” comments were many and varied:

- good barrow for filling holes and ditches because you could come to the edge and release the floor of the bin so avoiding the need to tip
- better for turning sharp corners as on scaffolding, because the turning circle is smaller
- you could not strain your back because if you tried to lift more than your own weight
you would take off
by painting the upper part of the strut red and the bottom part green, you could now
tell how hard a person was working depending on the color you saw as he went by.

The adults were, correctly, using judgment.

In order to operate a patterning system we do have to use judgment.

We use judgment for recognition and identification (as we saw in the last section).

We use judgment to find out which pattern we are using.

Then we also use judgment to stop us wandering off the pattern.

So all the negative comments of the adults were based on their proper use of judgment.

That is why the teachers got a somewhat higher score than the others.

I believe that people ought to use judgment.

Without it we could not get by.

A patterning system cannot work without the use of judgment.

But we also need to create another idiom.

This is the idiom of “movement.”

Movement is for moving across channels (as suggested in the figure below).

So we use judgment for staying within existing channels but are also able to use
“movement” when we want to change patterns.

It is no different from having different gears in your car.

You use one gear for starting, another for cruising, a third for reversing.

So, in our thinking we ought to be able to use judgment when we want to and movement
when we want to.

That is what the “skill” of thinking is all about.

The figure below illustrates what we mean by “movement.”
In the judgment idiom, when we come to an idea which is wrong we condemn it and back away.

In the movement idiom we use the idea for its “movement value.”

This means using it as a steppingstone to help us move to a different pattern. It means using it to see where it will lead to, what it might suggest. It is not that we treat a bad idea as a good idea.

It is that we are operating outside the judgment system, and irrespective of whether the idea is good or bad we want to use it for its movement value. Movement value is “provocation.”

The Word "po"

I invented the word “po” many years ago. It is derived from such words as: hypothesis, suppose, possible and poetry. The syllable “po” is in all these. Also all these words describe the “forward use” of an idea: what does the idea lead on to?

In all these cases the idea is put forward to see what effect it will have on our thinking.

In a sense they are all provocative rather than descriptive situations. The word “po” is directly and deliberately provocative and therefore stronger than all of them.

For example, a hypothesis should be somewhat reasonable, but a po provocation can be consciously illogical. For simplicity “po” can be read as standing for “provocative operation.”

Why do we need po?

Simply as an indication to ourselves and to others that, for the moment, we are operating in the “movement” system and not in the “judgment” system. There is no magic about it.
Like any notation it is designed for convenience. ¶¶¶

Po is not the same as “maybe” or the Japanese “mu.”

It is not a matter of suspending judgment or being unwilling to judge.

It is a matter of operating outside the judgment system. ¶¶¶

The best definition of provocation is as follows: ¶¶¶

“There may not be a reason for saying something until after it has been said.”

The Stepping Stone Method

The figure below shows how we use the movement value of a stepping stone in order to make easier our switch from one pattern to another.

On one occasion we were considering the problem of parking in a small town where commuters tended to park in the center and so block the spaces that would otherwise be used by shoppers.

Parking meters could have solved the problem.

We wanted a simpler solution.

The provocation was: “Po cars would limit their own parking.”

From this came the notion that anyone could park anywhere for as long as he or she liked—provided the headlights were left on.

So parking would be self-limiting.

In a way this idea could be applied in towns with meters.

If you left your headlights on you would be indicating that you were only there for a few minutes and so would not need to pay the meter fee.

This would give a greater turnover of meter spaces. ¶¶¶

On another occasion the problem was river pollution by factories located along the river.

The farther down river you were, the greater the pollution of the water reaching you.

The provocation on this occasion was: “The Po factory should be downstream of itself.”
This is an illogical statement at first sight.

Yet its “movement value” led quite quickly to an idea which has been implemented (so I am told) in some countries.

Normally the factory’s input is upstream of its output.

The provocation leads directly to the suggestion that legislation should insist that the factory’s input would be downstream of its own output—so that it would be the first to suffer from failure to clean up waste.

In a seminar I once put forward the absurd provocation: “Po airplanes should land upside down.”

This is an example of the simplest form of deliberate provocation: the reversal.

You take the way something is normally done and then reverse it to create the provocation.

Other methods of obtaining provocations include exaggeration, distortion, wishful thinking (as in the examples of car parking and river pollution) and the outrageous.

Those seeking more detailed information on the techniques of lateral thinking should see the book Serious Creativity (New York: Harper, 1992; London, 1993).

The provocation that planes should land upside down led to the consideration that the pilot would have a much better view.

This in turn led to consideration of where the pilot should be placed.

Was being on top the best place or only the traditional one (from the days when planes were much smaller)?

The provocation, “Po cars should have square wheels” has led to about twelve different lines of thought about cars and wheels, including the following:

- an inner tire at normal pressure and an outer one at low pressure so giving better adhesion
- a bolt-on “square” wheel to be fixed on to the normal wheel in conditions of snow, mud or sand
- a vehicle which flowed over bumps instead of bumping over them by means of an adjustable suspension and a forward jockey wheel
- a spiral tread for tires to avoid aquaplaning problems
- special “braking wheels” for heavy vehicles which would normally be out of contact with the road but which would be forced down hydraulically in emergencies
- separate design for driving wheels and trailing wheels
- cars that could be raised up into a semivertical position for better use of parking space
- segmented tires to reduce blowout and puncture problems
- variable geometry or variable inflation tires . . . and so on.

The reader is invited to carry the same provocation further.

Provocations can be obtained in this deliberate manner or else they may arise in the course of thinking or conversation.

An idea which is at first rejected may be used, for a while, as a provocation.

In other words the movement idiom is used as well as the judgment idiom.

Movement is obtained in a variety of ways: by extracting the principle of the idea; by following the moment-to-moment consequences; by focusing on the difference from the usual; by spelling out the positive aspects.

Try to get “movement” from the following provocations and move forward to a new idea:

1. Po cups are made of ice.
2. Po you only dial one digit on a phone.
3. Po you get paid for taking a bus.
4. Po there are school examinations every day.
5. Po fat people get paid more.
6. Po paper goes black after one week.

The Escape Method

Here the effort is to identify the main track of our thinking and then to escape from this main track.

In practice it is extremely difficult to identify those things we take for granted in a situation.

To obtain the escape we try dropping a particular feature or altering it or finding an alternative way of achieving the same end.
The phrase “take for granted” is one of the ways of identifying our normal patterns. For example, if we were looking at telephone booths we “take for granted” that they are all the same price. An escape might lead us to the notion of having one expensive telephone among a row of others. This would tend to be empty so that a person with an urgent call to make would be more likely to find a telephone—and would not mind paying the higher price. We also take for granted that there is one telephone in each booth. Suppose we put two telephones there. What would be of interest or benefit in this idea? If one phone was out of order the other one could be used. You could make calls while waiting for someone to ring you back. At very busy times and if the cord were long enough, two people could use the phones.

In London, there are relatively few taxis (about 11,000 compared to 15,000 in Moscow and 30,000 in New York). To obtain a taxi driving license a driver has to pass the “knowledge” exam, which involves detailed knowledge of streets, embassies, hotels, etc. It takes several months to acquire this knowledge and no one pays the learner. What do we take for granted about taxi drivers? That they know the way. As an alteration we “po” a taxi driver who does not know the way. What would he do? He might ask someone. Whom might he ask? His passenger.

At this point we are in sight of an interesting idea. There would be the usual taxis, exactly as at present. They would be used by tourists and out-of-towners. Then there would be another type of taxi distinguished by the large question mark on the roof—indicating that the driver did not know his way about. By definition this type would be restricted to residents who did know the way about and could instruct the driver. The driver could thus be earning money even as he learned his way about (if he had to find his way back without a fare he would use a map or a telephone). So there would be more taxis both immediately and eventually. Residents and visitors would both benefit. Learner taxi drivers would benefit.

We take for granted that there should be but one currency in each country. There are some interesting economic possibilities of escaping from this concept; for example, to have two currencies one of which is indexed against the other so providing a
As an exercise try to identify some pattern we take for granted about the following subjects: a car steering wheel, voting in an election, book publishing, checks, a frying pan and traffic lights.

Make an attempt to escape from that pattern and then follow along to see what benefit or interest arises from your escape.

There are many other ways of using the “escape method.”


Try to get “movement” from each of the following escape type provocations.

1. Po car steering wheels do not move.
2. Po drinking glasses have no bottom.
3. Po envelopes do not carry addresses.
4. Po restaurants do not serve food.
5. Po classrooms have no teachers.
6. Po doors have no handles.

The Random Stimulation Method

This is the easiest method of all.

It is also the most fun.

It is now used in a formal manner by most of the major advertising agencies in the world.

The random stimulation is provided by a random object or word or person or magazine or exhibition.

The main thing is that it cannot be chosen because if it is chosen then it is chosen through its relevance to current ideas and therefore will reinforce rather than change them.

It is a matter of exposing oneself to a random influence or deliberately producing one.

The most convenient form is a random word.

You can get a random word by specifying a page number in a dictionary and then the position of the word on that page.

You count down until you come to the word.

To make it easier you can continue until you come to the nearest noun.

For example, I was once discussing the training of teachers for a country that rapidly needed a lot more teachers.

The dictionary page number and the position of the word on the page gave “tadpole,” which has no obvious relevance to teacher training.

The visual concept that comes from a tadpole is that of the tail.

So we might say “Po teachers have tails.”

In practice what might that mean?

It could mean having two assistants or apprentices who followed the teacher around and
eventually came to take over more and more functions.

In this way each teacher could be multiplied twice over.

Training colleges could still be set up and teachers brought in for training later on.

The random word serves to tap into lines of thought that might otherwise have been hidden.

The association of traffic lights with cigarettes produced the notion of a red band around the cigarette, 1.5 centimeters from the butt end, to indicate that the smoker was entering the most dangerous zone and to give him the option of discarding that cigarette.

At first sight it seems illogical to suppose that a random word will help in any problem (which must follow if the word is truly random).

In a patterning system, however, it makes sense.

If you lived in London and I dropped you in any part of London you would eventually find your way home (your knowledge, maps, asking directions).

As you arrived home you might find yourself approaching it from a direction quite different from the one you normally used on leaving home.

That is exactly how the random word works.

This is illustrated below.

In our thinking we move out of a certain area along the traditional route.

If we toss in a random word it has its own associations.

Sooner or later these link up with the associations of the “problem.”

We can now move out of the “problem” along this new route and see what we find.

In practice it does sometimes happen that the association of the random word is so close that little provocation is obtained.

It has never happened that the word is too remote.

This is not so surprising because we follow the associations of the word and this opens up other words until a large fan of “connectors” is obtained.

We may also extract a function from the word.

For example, the word “elephant” might give the function “very large,” and clearly this can be applied to most situations.
Several people have told me how by using the random word they have designed important new products in a variety of fields: financial services, household products, bridge construction, etc.

As an exercise, try to use the following random words to produce some new ideas in the given area.

- random word "soap": situation "designing furniture."
- random word "forest": situation "running a bank."
- random word "rocket": situation "choosing a place for a holiday."
- random word "vote": situation "reducing traffic congestion in cities."
- random word "cloud": situation "encouraging energy saving."
- random word "newspaper": situation "a new television program."

General Use of Lateral Thinking

The three methods “stepping stone,” “escape” and “random stimulation” can be used as specific and formal methods for generating a new idea or a new approach.

What is even more important is the lateral thinking attitude, which involves the willingness to search for better concepts.

In a sense each of the methods illustrates an aspect of the lateral thinking attitude.

In the “stepping stone” method we treat an idea for its movement value instead of just its judgment value.

This is a positive, constructive attitude.

In the “escape” method we focus on things we take for granted and wonder whether they are indeed the only or best way of doing things.

We are willing to improve them or escape from them.

In the “random stimulation” method we open ourselves to influences other than those we directly look for.

We allow ourselves to be stimulated.

The Logic of Lateral Thinking

If we consider the behavior of self-organizing patterning systems in perception then the logic of lateral thinking follows.

Lateral thinking is quite logical in the universe of patterning systems.

We need methods for cutting across patterns instead of just moving up and down them.
Lateral thinking has to do with change, especially when change involves escaping from a pattern that has been satisfactory in the past.

In another section in this book I will be looking at our more normal method of change, which is through criticism and attack.

The weakness of that method is that we can only consider change when a concept can be shown to be inadequate and when the attacking party has the power to carry through the change.

The Japanese have never had the “clash” or dialectic system which we value so highly in the West.

They are therefore much more interested in change through exploration, insight and switching.

This is very much the idiom of lateral thinking.

That may be why all my books are translated into Japanese and why the per capita sales are far higher than anywhere else in the world.

It should also be noted that the security of their existing patterns, far from preventing idea changes, actually gives them the freedom to explore.

They seem to use tradition as a base for change rather than as a bulwark against change.

The Manager and the Moron by Peter Drucker