

1 Humor

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

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

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

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

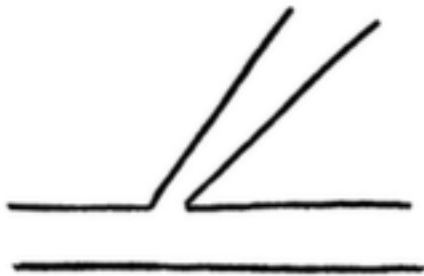
6 But humor can only occur in a self-organizing patterning system of the sort we find in human perception. ¶¶¶

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

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

9 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*).

10 So we go shooting past along the main track.



11
12 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. ¶¶¶

13 Consider the following pun: ¶¶¶

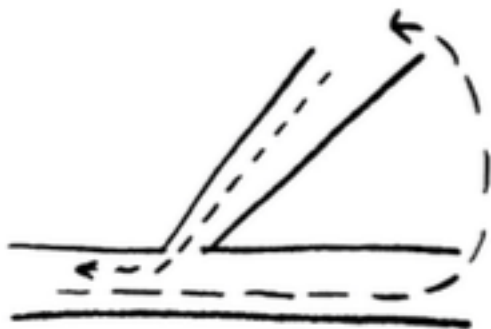
14 "Bob Hope had a bad Christmas.

15 He was only given three golf clubs.

16 What is worse is that only two of them had swimming pools." ¶¶¶

17 The other mechanism of humor is shown in the next drawing.

18 In this mechanism we are taken to an apparently unreasonable point and suddenly see our way back.



19
20 For example: "The conductor came into the coach.

21 The young man began to search frantically for his ticket: top pockets, trouser pockets, back pocket, coat on the rack, briefcase and everywhere.

22 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.

23 When the conductor had left, another passenger asked the young man if he felt foolish.

24 'Not at all,' said the young man, 'I was chewing the date off the ticket'."

25

26 Hindsight and Insight

27 The **pattern switching** that we observe in humor is exactly the **same process** that occurs in **hindsight** and **insight**.

28 We **switch** to a new pattern and suddenly see that something is **reasonable** and **obvious**.

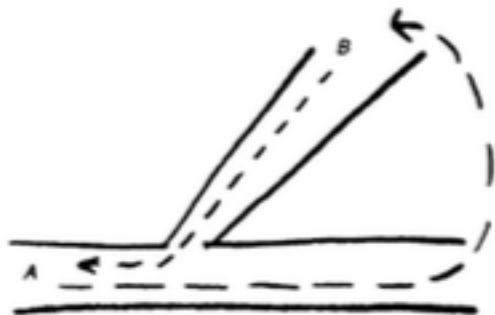
29 In **hindsight** **any creative idea must be logical** –otherwise we could never accept it as having value.

30 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.

31 This mistake is only made by people who do not understand the nature of patterning systems.

32 Patterning systems are necessarily asymmetric–otherwise they would be quite useless.

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



34

35 The purpose of lateral thinking is to **provide a more deliberate means of pattern switching** than relying on mistake or accident.

36 Lateral thinking seeks to achieve the pattern switching that **occurs in insight**. ¶¶¶

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

38 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.

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

40 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**.

41

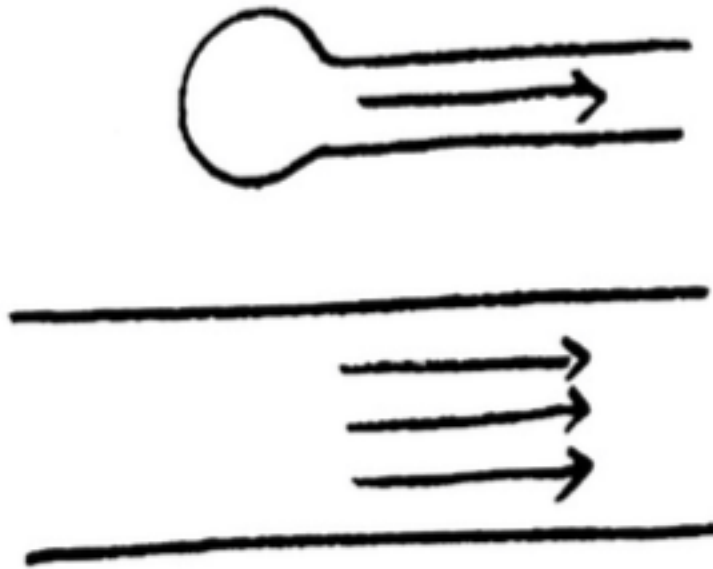
42 Creativity and Lateral Thinking

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

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

45 That may be why the term "lateral thinking" is now included in the Oxford English Dictionary. ¶¶¶

46 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.



47

48 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.

49 We acknowledge the creativity.

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

51 Thus **many creative people are actually "rigid" at the same time.**

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

53 But in "lateral thinking" I am interested in **the ability to change perception and to keep on changing perception.**

54 Clearly some people are indeed creative but not lateral thinkers.

55 Some creative people are both. ¶¶¶

56 The same thing happens with young children.

57 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.**

58 So his approach is **creative** and **original**.

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

60 So he is creative and original and also rigid. ¶¶¶

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

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

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

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

65 The father suggests putting Susie in the playpen.

66 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.

67

68 **Lateral Thinking as Process**

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

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

71 Lateral thinking is a neutral process. ¶¶¶

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

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

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

75 In all three cases we are using lateral thinking. ¶¶¶

76 Intelligent people often tend to be conformists.

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

78 At school they learn the rules of the game:

79 how to please teacher

80 how to pass exams with minimal work

81 how to get on with people.

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

83 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.

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

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

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

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

88 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.

89 There is no mystique about it.

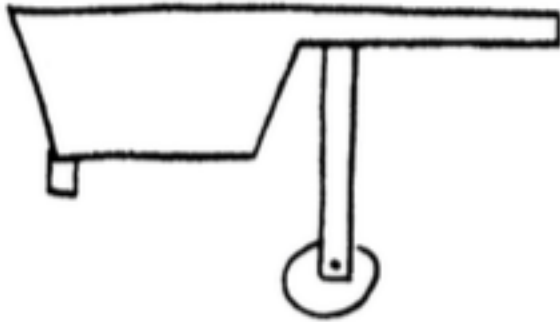
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91 Judgment and Provocation

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

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

94 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.



95

96 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.

97 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.

98 The “interested” comments were many and varied:

99 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

100 better for turning sharp corners as on scaffolding, because the turning circle is smaller

101 you could not strain your back because if you tried to lift more than your own weight you would take off

102 you could have the wheel-bearing strut moving telescopically against a spring and, 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.

¶¶¶

103 The adults were, correctly, using judgment.

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

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

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

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

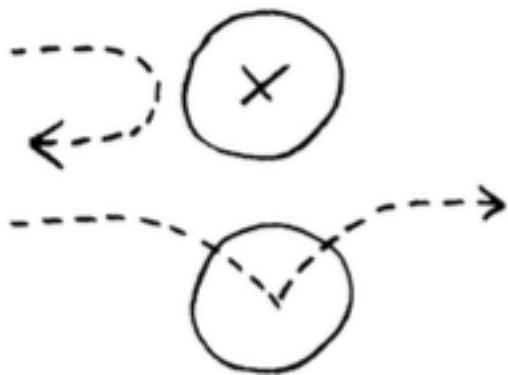
108 So all the negative comments of the adults were based on their proper use of judgment.

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

110 I believe that people ought to use judgment.
111 Without it we could not get by.
112 A patterning system cannot work without the use of judgment. ¶¶¶¶
113 But we also need to create another idiom.
114 This is the idiom of "movement."
115 Movement is for moving across channels (as suggested in the figure below).
116 So we use judgment for staying within existing channels but are also able to use
"movement" when we want to change patterns.
117 It is no different from having different gears in your car.
118 You use one gear for starting, another for cruising, a third for reversing.
119 So, **in our thinking we ought to be able to use judgment when we want to** and **movement**
when we want to.
120 That is what the "skill" of thinking is all about.



121
122 The figure below illustrates what we mean by "movement."



123
124 In the judgment idiom, **when we come to an idea** which is wrong we
condemn it and **back away**.
125 In the movement idiom **we use the idea for its "movement value."**
126 This means **using it as a steppingstone** to help us move to a different pattern.
127 It means using it to **see where it will lead to, what it might suggest.**
128 It is not that we treat a bad idea as a good idea.

129 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.

130 Movement value is "provocation."

131

132 The Word "po"

133 I invented the word "po" many years ago.

134 It is derived from such words as: hypo**po**thesis, sup**po**se, **po**ssible and **po**etry.

135 The syllable "po" is in all these.

136 Also all these words describe **the "forward use" of an idea: what does the idea lead on to?**

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

138 In a sense they are all **provocative** rather than **descriptive situations**.

139 The word "po" is **directly and deliberately provocative** and therefore **stronger than** all of them.

140 For example, **a hypothesis should be somewhat reasonable, but a po provocation can be consciously illogical.** ¶¶¶

141 For simplicity "po" can be read as standing for "provocative operation." ¶¶¶

142 **Why do we need po?**

143 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.

144 There is no magic about it.

145 Like any notation it is designed for convenience. ¶¶¶

146 Po is not the same as "maybe" or the Japanese "mu."

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

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

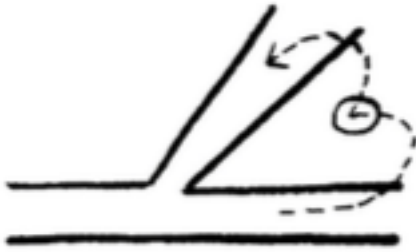
149 The best definition of provocation is as follows: ¶¶¶

150 **"There may not be a reason for saying something until after it has been said."**

151

152 The Stepping Stone Method

153 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.



- 154
- 155 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.
- 156 Parking meters could have solved the problem.
- 157 We wanted a simpler solution.
- 158 The provocation was: "Po cars would limit their own parking."
- 159 From this came the notion that anyone could park anywhere for as long as he or she liked—provided the headlights were left on.
- 160 So parking would be self-limiting.
- 161 In a way this idea could be applied in towns with meters.
- 162 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.
- 163 This would give a greater turnover of meter spaces. ¶¶¶
- 164 On another occasion the problem was river pollution by factories located along the river.
- 165 The farther down river you were, the greater the pollution of the water reaching you.
- 166 The provocation on this occasion was: "The Po factory should be downstream of itself."
- 167 This is an illogical statement at first sight.
- 168 Yet its "movement value" led quite quickly to an idea which has been implemented (so I am told) in some countries.
- 169 Normally the factory's input is upstream of its output.
- 170 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. ¶¶¶
- 171 In a seminar I once put forward the absurd provocation: "Po airplanes should land upside down."

- 172 This is an example of the simplest form of deliberate provocation: the reversal.
- 173 You take the way something is normally done and then reverse it to create the provocation.
- 174 Other methods of obtaining provocations include exaggeration, distortion, wishful thinking (as in the examples of car parking and river pollution) and the outrageous.
- 175 Those seeking more detailed information on the techniques of lateral thinking should see the book *Serious Creativity* (New York: Harper, 1992; London, 1993).
- 176 The provocation that planes should land upside down led to the consideration that the pilot would have a much better view.
- 177 This in turn led to consideration of where the pilot should be placed.
- 178 Was being on top the best place or only the traditional one (from the days when planes were much smaller)? ¶¶¶
- 179 The provocation, "Po cars should have square wheels" has led to about twelve different lines of thought about cars and wheels, including the following:
- 180 ▪ an inner tire at normal pressure and an outer one at low pressure so giving better adhesion
 - 181 ▪ a bolt-on "square" wheel to be fixed on to the normal wheel in conditions of snow, mud or sand
 - 182 ▪ a vehicle which flowed over bumps instead of bumping over them by means of an adjustable suspension and a forward jockey wheel
 - 183 ▪ a spiral tread for tires to avoid aquaplaning problems
 - 184 ▪ 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
 - 185 ▪ separate design for driving wheels and trailing wheels
 - 186 ▪ cars that could be raised up into a semivertical position for better use of parking space
 - 187 ▪ segmented tires to reduce blowout and puncture problems
 - 188 ▪ variable geometry or variable inflation tires . . . and so on.
- 189 The reader is invited to carry the same provocation further. ¶¶¶
- 190 Provocations can be obtained in this deliberate manner or else they may arise in the course of thinking or conversation.
- 191 An idea which is at first rejected may be used, for a while, as a provocation.

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

193 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. ¶¶¶

194
195 Try to get "movement" from the following provocations and move forward to a new idea:

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

202

203 The Escape Method

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



205

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

207 To obtain the escape we try dropping a particular feature or altering it or finding an alternative way of achieving the same end. ¶¶¶

208 The phrase "take for granted" is one of the ways of identifying our normal patterns.

209 For example, if we were looking at telephone booths we "take for granted" that they are all the same price.

210 An escape might lead us to the notion of having one expensive telephone among a row of others.

211 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.

212 We also take for granted that there is one telephone in each booth.

213 Suppose we put two telephones there.

214 What would be of interest or benefit in this idea?

215 If one phone was out of order the other one could be used.

216 You could make calls while waiting for someone to ring you back.

217 At very busy times and if the cord were long enough, two people could use the phones. ¶¶¶

218 In London, there are relatively few taxis (about 11,000 compared to 15,000 in Moscow and 30,000 in New York).

219 To obtain a taxi driving license a driver has to pass the “knowledge” exam, which involves detailed knowledge of streets, embassies, hotels, etc.

220 It takes several months to acquire this knowledge and no one pays the learner.

221 What do we take for granted about taxi drivers?

222 That they know the way.

223 As an alteration we “po” a taxi driver who does not know the way.

224 What would he do?

225 He might ask someone.

226 Whom might he ask?

227 His passenger.

228 At this point we are in sight of an interesting idea. ¶¶¶

229 There would be the usual taxis, exactly as at present.

230 They would be used by tourists and out-of-towners.

231 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.

232 By definition this type would be restricted to residents who did know the way about and could instruct the driver.

233 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).

234 So there would be more taxis both immediately and eventually.

235 Residents and visitors would both benefit.

236 Learner taxi drivers would benefit. ¶¶¶

237 We take for granted that there should be but one currency in each country.

238 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 sort of internal gold standard. ¶¶¶

239 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.

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

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

242 As before, those who want more details should consult the book *Serious Creativity* (New York: Harper, 1992; London, 1993). ¶¶¶

243

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

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

251

252 The Random Stimulation Method

253 This is the easiest method of all.

254 It is also the most fun.

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

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

257 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.

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

259 The most convenient form is a random word.

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

261 You count down until you come to the word.

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

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

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

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

266 So we might say "Po teachers have tails."

267 In practice what might that mean?

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

269 In this way each teacher could be multiplied twice over.

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

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

272 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. ¶¶¶

273 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) .

274 In a patterning system, however, it makes sense.

275 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).

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

277 That is exactly how the random word works.

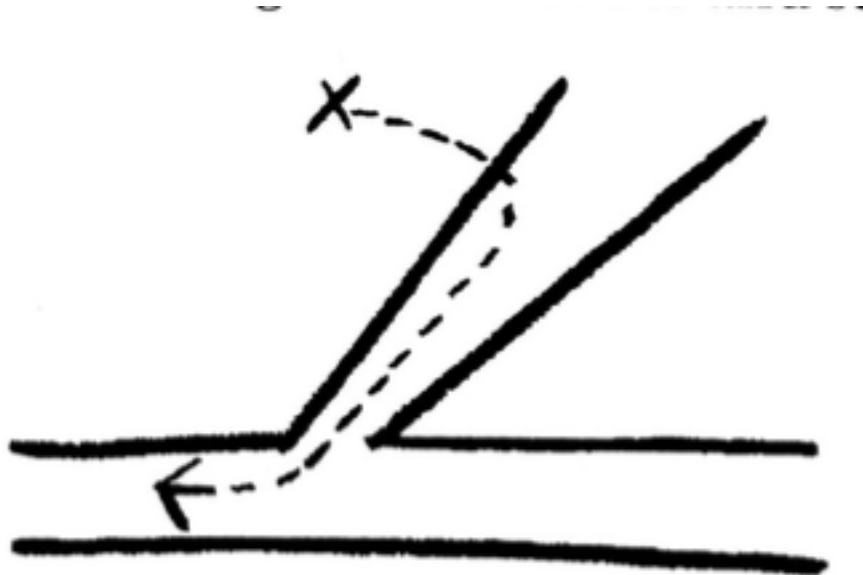
278 This is illustrated below.

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

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

281 Sooner or later these link up with the associations of the "problem."

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



283

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

285 It has never happened that the word is too remote.

286 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.

287 We may also extract a function from the word.

288 For example, the word "elephant" might give the function "very large," and clearly this can be applied to most situations. ¶¶¶

289 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.

290

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

292 ■ random word "soap": situation "designing furniture."

293 ■ random word "forest": situation "running a bank."

294 ■ random word "rocket": situation "choosing a place for a holiday."

295 ■ random word "vote": situation "reducing traffic congestion in cities."

- 296 ▪ random word "cloud": situation "encouraging energy saving."
- 297 ▪ random word "newspaper": situation "a new television program."

298

299 **General Use of Lateral Thinking**

300 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**.

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

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

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

304 This is a positive, constructive attitude.

305 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.

306 We are willing to improve them or escape from them.

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

308 We allow ourselves to be stimulated.

309

310 **The Logic of Lateral Thinking**

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

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

313 We need methods for **cutting across patterns** instead of just **moving up and down** them. ¶¶¶

314 Lateral thinking has to do with change, especially when change involves escaping from a pattern that has been satisfactory in the past.

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

316 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**. ¶¶¶

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

- 318 They are therefore much more interested in change through **exploration**, **insight** and **switching**.
- 319 This is very much the idiom of lateral thinking.
- 320 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.
- 321 It should also be noted that the security of their existing patterns, far from preventing idea changes, actually gives them the **freedom to explore**.
- 322 They seem to use tradition as a base for change rather than as a bulwark against change.