



Genius 2 Genius Manifest

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A Word From The Editor - by Florian Schröder

Dear friends,

so finally here it is, the first issue of WIN G2G Manifest. This magazine is meant to be the open platform for all members' publications. You may hand in whatever you think might be interesting and worth to be read, seen or thought about.

Let me thank the contributors of this issue for sending in their work. They are those who make this magazine what it is; an impressive collection of smart material from a broad field of topics.

I hope this first issue will encourage even more contributions for the next issues, especially since the growth of WIN will on the one hand bring a larger crowd of writers as well as a larger crowd of readers towards the G2G Manifest.

Now all that is left for me to do is to wish you some entertaining hours with this issue of G2G Manifest and ask you for your help in making this magazine even better. I'm looking forward to your comments!

Yours

Florian

Pascal's Wager And The Paradox Of Kraitichik - by Albert Frank

Recently, I was looking at the famous Pascal's Wager.

Pascal lived from 1623 to 1662. He was renown as a French mathematician, physicist and philosopher. I invented the first calculator.

I give it here, first the original text (in old French), and a translation (I think "not too bad, not too good") I could find:

Original text:

Examinons donc ce point, et disons : Dieu est ou il n'est pas ; mais de quel côté pencherons-nous ? La raison n'y peut rien déterminer. Il y a un chaos infini qui nous sépare. Il se joue un jeu à l'extrémité de cette distance infinie, où il arrivera croix ou pile. Que gagerez-vous ? Par raison, vous ne pouvez faire ni l'un ni l'autre ; par raison, vous ne pouvez défendre nul des deux.

Ne blâmez donc pas de fausseté ceux qui ont pris un choix, car vous n'en savez rien. - Non, mais je les blâmerai d'avoir fait non ce choix, mais un choix, car encore que celui qui prend croix et l'autre soient en pareille faute, il sont tous deux en faute ; le juste est de ne point parier. - Oui, mais il faut parier. Cela n'est point volontaire, vous êtes embarqué. Lequel prendrez-vous donc ? Voyons, puisqu'il faut choisir, voyons ce qui vous intéresse le moins.

Vous avez deux choses à perdre, le vrai et le bien, et deux choses à engager, votre raison et votre volonté, votre connaissance et votre béatitude, et votre nature a deux choses à fuir, l'erreur et la misère. Votre raison n'est pas plus blessée, puisqu'il faut nécessairement choisir, en choisissant l'un que l'autre. Voilà un point vidé. Mais votre béatitude ? Pensons le gain et la perte en prenant croix que Dieu est. Estimons ces deux cas : si vous gagnez, vous gagnez tout, et si vous perdez, vous ne perdez rien ; gagez donc qu'il est sans hésiter. Cela est admirable.

Mais je gage peut-être trop. Voyons : puis qu'il y a pareil hasard de gain et de perte, quand vous n'auriez que deux vies à gagner pour une, vous pourriez encore gager. Et s'il y en avait dix à gagner, vous seriez bien imprudent de ne pas hasarder votre vie pour en gagner dix à un jeu où il y a pareil hasard de perte et de gain.

Mais il y a ici une infinité de vies infiniment heureuses à gagner avec pareil hasard de perte et de gain ; et ce que vous jouer est si peu de chose, et de si peu de durée, qu'il y a de la folie à le ménager en cette occasion.

Translation :

"God is, or He is not." But to which side shall we incline? Reason can decide nothing here. There is an infinite chaos which separated us. A game is being played at the extremity of this infinite distance where heads or tails will turn up... Which will you choose then? Let us see. Since you must choose, let us see which interests you least. You have two things to lose, the true and the good; and two things to stake,

your reason and your will, your knowledge and your happiness; and your nature has two things to shun, error and misery. Your reason is no more shocked in choosing one rather than the other, since you must of necessity choose... But your happiness? Let us weigh the gain and the loss in wagering that God is... If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is.

That is very fine. Yes, I must wager; but I may perhaps wager too much.

Let us see. Since there is an equal risk of gain and of loss, if you had only to gain two lives, instead of one, you might still wager. But if there were three or even ten lives to gain, you would have to play (since you are under the necessity of playing), and you would be imprudent, when you are forced to play, not to chance your life to gain three or even ten at a game where there is an equal risk of loss and gain. But there is an eternity of life and happiness.

When you look on Internet, for instance with Google, using "pascal's wager" or "pascal wager", you find more than 10 000 articles, a lot from logicians who have tried to see what's can be wrong in this wager.

The interesting fact is that – for what I have seen – none of them made any comparison of Pascal's Wager and Kraitchik's Paradox!

Here, I have to present Kraitchik's Paradox:

More than twenty years ago, I read the book "La mathématique des jeux" of Maurice Kraitchik. (First edition: Imprimerie Stevens, Bruxelles, 1930; Second

edition - which I have -: Editions techniques et scientifiques, Bruxelles, 1953).

It's a fascinating book, with a lot of mathematical puzzles, considerations on magic squares, geometrical curiosities, ...

Who was Maurice Kraitchik (1882 – 1957)?

He was a Belgian mathematician (born in Russia) whose primary interests were the theory of numbers and recreational mathematics, on both subjects of which he published a lot. He wrote several books on number theory (1922-1930, and after the war), and was the editor of the periodical *Sphinx* (1931-1939), which was devoted to recreational mathematics. During World War II, Kraitchik emigrated to the United States, where he taught a course at the New School for Social Research in New York City on the general topic of "mathematical recreations." Kraitchik was « agrégé » of the free University of Brussels, engineer at the "Société Financière de Transports et d'Entreprises Industrielles (Sofina)", and director of the "Institut des Hautes Etudes de Belgique".

Among his books, let's mention:

Kraitchik, M. *Théorie des Nombres*. Paris: Gauthier-Villars, 1922.

Kraitchik, M. *Recherches sur la théorie des nombres*. Paris: Gauthier-Villars, 1924.

Kraitchik, M. *Mathematical Recreations*. New York: Dover, 1953.

Kraitchik, M. *Alignment Charts*. New York: Van Nostrand, 1944.

In "La mathématique des jeux", I considered during years one of the paradox he presents (page 133): "Deux personnes, également « riches » conviennent de comparer les contenus de leurs porte-monnaies. Chacun ignore les contenus des deux porte-monnaies. Le jeu consiste en ceci : Celui qui a le moins d'argent reçoit le contenu du porte-monnaie de l'autre. (au cas où les montants sont égaux, il ne se passe rien). Un des deux hommes peut penser : « Admettons que j'ai un montant de A\$ dans mon porte-monnaie. C'est le maximum que je peux perdre. Si je gagne (probabilité 0.5), le montant final en ma possession sera supérieur à 2A. Donc le jeu m'est favorable...l'autre homme fait exactement le même raisonnement. Bien entendu, vu la symétrie, le jeu est équilibré. Où est la faute dans le raisonnement de chaque homme ? »

Two people, equally "rich" put their wallets on the table. Both don't know the amounts of money of each wallet. The game is : "the man who has the less money receives the money from the other" (if they have the same amount, nothing happens). One of the men may think : "I know I have an amount of A\$ in my wallet. That's the maximum I can lose. If I win (probability 0.5), my final amount of money will be greater than 2A. So the game is in my favor"...the other man thinks exactly the same. Of course, because of symmetry, the game is equilibrated. What is wrong with the reasoning of the two men?

I noticed that Martin Gardner, in "La magie des para-

doxes" (Bibliothèque POUR LA SCIENCE - Diffusion Belin, extracts of Scientific American, 1975), page 114, gives the same problem, asking for an answer (« I was not able to solve it »).

Martin Gardner (born in 1914) was the Mathematical Games columnist for Scientific American. He originated the column in 1956, and his columns appeared until his retirement from the magazine in 1986. He graduated Phi Beta Kappa from the University of Chicago in 1936.

In her book "The power of logical thinking" (St. Martin's Griffin Edition, 1997), Marilyn Vos Savant mentions Martin Gardner as a very logical thinker.

Some of his mathematical titles (published by several editors): The Scientific American Book of Mathematical Puzzles and Diversions.

The Magic Numbers of Dr. Matrix.

Fractal Music, Hypercards and More.

Codes, Ciphers, and Secret Writing.

In the first months of 2000, I put this paradox (which, afterwards, was called "Kraitchik's paradox", a "name" never used by Maurice Kraitchik!) in several magazines and on several lists. Marc Heremans did the same.

As a result, we got more than 50 answers! Most of them did not answer to anything, or were very poor.

Finally, two articles came, giving finally what I consider to be "The Solution": One from Marc Heremans, and one from Erik Gool-aerts. Also, Chris Langan wrote an interesting solution on:

<http://www.megafoundation.org/Ubiquity/Paradox.html>

Here is the solution founded by Marc Heremans:

Paradox, antinomy or sophism, I don't know which term best describes this statement.

Still, it generates the simultaneous feeling of admiration and incredulity, close to the one that one feels when a devious lawyer misleads his public while pleading brilliantly an already lost cause.

We have the conviction of having been fooled, certainly, but the tracks are covered so finely that it is difficult for us to unmask the deception.

The attempts to resolve the paradox, which call on the general laws of logic and simple "common sense", are shown to be useless because they confirm a logical impossibility of which we are perfectly conscious but do not tell us where the error lies.

Let's try to understand why the reasoning is not correct.

A visual representation in the form of a matrix will help.

The amounts of player A (a_1, a_2, \dots, a_n) can be seen in the left column and the amounts of player B (b_1, b_2, \dots, b_n) are shown in the top row

The gains shown in the cells correspond with player A's point of view (when he wins, he receives the amount of his opponent; when he loses, he only loses his amount)

To simplify the presentation, we will assume that the amounts are in whole units (Euros, dollars, etc.) and

that their distribution is uniform (a binomial distribution seems more realistic in practice, but does not change anything fundamental to the reasoning ; it makes it, merely, technically more difficult)

Let us consider an uneven number of amounts (e.g. 5) in order to have a central value ($a_3=2$ in the present case), the minimum amount (a_1) being equal to 0 ;

The last column shows the total of wins for each occurrence of the variable "a" (in brackets, the mathematical expectation "E").

Remarks about the matrix

Notice (this will become important later) that the matrix is either symmetric or not, depending on the way you look at it.

If one considers the amounts shown on either side of the diagonal made up of the zero wins/losses, one can note that the matrix is perfectly symmetrical, each positive value being matched with an equivalent negative value. All the mathematical expectations are complementary and cancel each other out. In half of the cases, the "game" is favourable for A; in the other half, it is favourable for B. The number of winning positions is the same as the number of losing ones and the losing amounts are equal to the winning ones.

A second approach consists of no longer looking at all the possible occurrences, as above, but to regroup the data, taking into consideration the regression of the " a_i " on the b_i . For each occurrence of "a", we associate its

average expectation of gain. Therefore, we are interested, in order of priority, in the first (a_1, \dots, a_n) and the last column (E_1, \dots, E_n).

Seen from this angle, the matrix is no longer symmetrical. The expected values vary greatly from one amount a_i to another. The number of winning positions is even superior to the number of losing ones! On the other hand, the amounts of the losses are greater than the amounts of the gains.

We can note that the mathematical expectation of A is clearly positive when he holds an "average" amount!

The reasoning proposed by A (refer to Albert Frank's previous article): "if I win – probability 0.5 – the final amount in my possession will be greater than 2A," shows itself to be correct for the specific case of an average amount, but can not be generalised.

	0	1	2	3	4	Total (E)
0	0	+1	+2	+3	+4	10 (2)
1	-1	0	+2	+3	+4	8 (1.60)
2	-2	-2	0	+3	+4	3 (0.6)
3	-3	-3	-3	0	+4	-5 (-1)
4	-4	-4	-4	-4	0	-16 (-3.2)

Actually, the fact of winning on average when you hold an average amount does not at all mean to win "on average" in all possible cases.

That would be to ignore the totally asymmetrical shape of the distribution of wins and losses around the average amount. In extreme situations, the wins and losses are not balanced. A loses much more when he is in possession of a high amount than he would win when he owns a small amount.

Conclusion

A's error consists of reasoning that does not take into account alternative groupings of the data he uses.

He goes from one grouping representation to another, transposing surreptitiously conclusions that could be drawn from the other.

By itself, no grouping is "better" than any other, but if one accepts a reading of the matrix based on the second approach (asymmetrical), it is necessary to take into consideration the unequal values of the expectations resulting from the grouping of the amounts that were used in that line of reasoning.

And it is quite easy to see that Pascal's wager and Kraitchik's paradox are nearly the same, with a totally similar structure.

Because of this similarity, what we can now call "The Paradox of Pascal" can be solved in the same

way that Marc Heremans and Erik Goolaerts solved the Paradox of Kraitchik. Without knowing they where, they have solved a **very** old paradox.

This is a **very** good example of how a problem can be sometimes solved because there is an isomorphism with another problem that has been solved before."

In the same way that it has been demonstrated, in the Kraitchik's paradox, that when one of the players says "it is in my favour", he is wrong (and the bet is equilibrated), we can say that Pascal was wrong when he said "you must wager for the existence of god" - He made the same mistake when looking at the expectation - and the bet is equilibrated (you don't loose(or win) more - if you loose - betting against his wager - that you would loose(or win) betting for it).

Tests vs Testis (IQ vs. EQ) - by Evangelos Katsioulis

Long ago, I started thinking of the psychological status, profile, conditions of the people passionate with intelligence testing and in a generalized level willing and seeking for trials and experiences in a test-taking process. I was motivated to analyze the correspondent psychology of the under-testing person, since I have been one of these tests-lovers for a short period of my life. I realized that the number of tests I have taken caused comments like introversion, excessive need for self-satisfaction via a selforiented and self-dependent procedure, unsocial behaviour and underdeveloped emotional status.

Initially I isolated and defined the two entities, psychology of the test-taker and testing process. Excessive involvement in a voluntary test-taking process can be interpreted in an internal need for recognition based on external criteria, commonly accepted and applied. On the other hand this enrollment could be an expression of the absence of other interests, a passion in the specific process, an addiction in the emotions of success and a personal satisfaction of the stressful experience the testee was involved in. Intelligence tests were always a great challenge for me. The disclosure of the secret connective

underlining formula the test-designer conceived and applied was my primal motivation offering me a satisfaction feeling each and every time I ended to a standard logic-based conclusion. It could be a paranoid schizophrenic diagnostic sign but using my mind to relate parts of a sequence was extremely entertaining and amusing, which initially was the main reason I spent many hours on various tests and types of tests. Furthermore, the accomplishment of each analyzing process was motivating itself, since concentration and willing cannot easily grow under negative prospects and conditions. The multiplicity and multifactorial basis of these

reasonings became more attracting to me and I could not replace this process with anything other similar or not at that period of my life. I was obsessed, totally devoted to this new world I was discovering within any new test, any new item. I was a test-taking maniac and this mania had overtaken my time, my other interests and needs. I was addicted to the intelligence tests resolving and I couldn't even compare this

interest of mine with no other at that particular time period. And the question is quite simple, the characterization of this obsessed person's psychological profile for that period. Passionated, empathic, maniac, unsocial, introverted, under-developed personality, off-balance, immature, strange, schizophrenic, sick, motivated, interested, capable and able, smart, having too much free time, having so few other original

interests, having just a good time, selfish, narcissistic, self-oriented and self-centered, eccentric, dangerous,...

Well, this article was not written to disclose the true, genuine reason that motivated me or even more to describe the exact personal point of view. It was a wondering of mine and I wanted to present some personal infos, ideas on the specific dilemma.

Intercultural Competence

- by Thomas Baumer, CICB Center of Intercultural Competence (www.cicb.net)

People working in companies or organisations with international contacts have to show knowledge of intercultural competence. The 'CICB Center of Intercultural Competence' in Zurich (Switzerland) works in research, assessment and teaching of intercultural communication.

Basics

The ability to successfully communicate with people from other cultures becomes more and more important in our professional as well as in private life. The topic "intercultural competence" gained importance especially during the past years, because – as a consequence of the *globalisation* - companies, universities, governments, non-governmental organisations and private persons have contacts with people from many places all over the world, and thus the need for additional *knowledge and sensibility* becomes essential.

What is intercultural competence? In fact, it's an appropriate balance between three parts: knowledge (about other cultures, people, nations, behaviours...), empathy (understanding feelings and needs of other people), and self-confidence (knowing what I want, being sure about myself).

As not everybody does things in the same way, and as we all have different abilities, different influences (environment, education...) and different needs (own will), this topic is not only relevant internationally, but also interdisciplinary (being part of almost every action in our life).

"Intercultural" doesn't mean only differences between e. g. the United States and China, but also within the same country, the same company, the same school – even in the same family there can be very different ways of influences, thoughts, behaviour and expression.

Together with rising international contacts and economic activities, we remark a need for sensitive but the same time self-confident teamplayers who are able to be placed in positions with high responsibility. But also in most other parts of life, intercultural activities happen regularly: teachers in schools and universities, contacts between medical doctors and patients, between lawyers and their clients, activities in journalism, in the army...

We have to distinguish as well between sub-cultures: demographic (age, gender), interest groups (e. g. music-fans, musicians, readers, members in societies or associations), professions (e. g. scientists, educationalists, engineers, IT-specialists, sailors), political groups etc. They may have very different *behaviours* and *expressions* which are also connected with different *opinions* – outsiders are often not able to understand the communication

within these groups.

Even basic values like the truth may vary: in North America and Central Europe the truth means the effective, objective fact, while in China and some other Asian countries the variable, contextual situation has a higher importance than a fact which may change within a short time.

A person is interculturally competent when the specific concepts of perception, thinking, feeling and acting are registered and understood in contact and cooperation with people from foreign cultures and subcultures, based on ethical values.

Culture can be differentiated between three levels, which should be perceived intuitively and evoke an action appropriate to the given situation: the *visible* level (behaviour and cultural products), the *conscious* level (values and norms), and the *unconscious* level (unconscious cultural assumptions or beliefs, like concept of space and time, relationship towards the environment etc.).

Intelligence and competence

Beside the logical intelligence (and further distinctions of intelligence like verbal, visual, musical, physical), the emotional intelligence plays an important role: the mature relationship towards the own personality (emotional intelligence) leads towards the ability for successful contacts towards others (social competence) and finally towards the emotional competence (personal concern to promote the development of oth-

ers by (analytical) learning and creativity (intuition).

Every thought, every decision proceeds in three dimensions: the *mental* dimension (rational, analytical thinking and expression; the 'head'; measured within the IQ), the *emotional* dimension (feelings, attitude, opinion; the 'heart'; defined as EQ), and the *spiritual* dimension (intuition, inspiration, presentiment; the 'stomach'; recently defined as SQ).

Most decisions, including in the economic world, are taken by the 'stomach'. This shows the importance to improve the own knowledge of human nature, the own intuition and sensibility by learning, through successes as well as through failures. Further important factors of intercultural competence are ambiguity-tolerance (ability to accept ambiguous, even pretended contradictory facts, respectively several possibilities), interest in human contacts and flexibility of behaviour (facing towards unexpected or unknown situations).

Founding of the CICB Center of Intercultural Competence

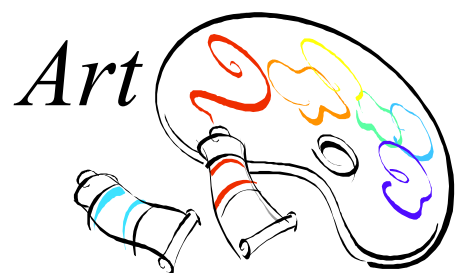
The 'CICB Center of Intercultural Competence' has been founded to research, assess and pass on the complex aspects of cultural diversity, as well as the different approaches to develop intercultural competence.

Its founder and chairman, Thomas Baumer, graduated in economics and has worked during over 20 years in several international companies. From 1986 until 1999 he worked at the former

Swissair (airline of Switzerland), in his last position as deputy general manager (responsible for economics, marketing, network management, purchase of training tools and sales of management services) in the Swissair Training Center (assessment of pilots and management, training of pilots and flight attendants). He visited over 70 countries so far and wrote the 'Handbook Intercultural Competence' (2 volumes) which was published 2002 and 2004 in german language; the translation into english is planned for late 2004. He has a teaching assignment for international management at an university in Switzerland.

The 'CICB Center of Intercultural Competence' enjoys a worldwide network with universities, organisations and companies and studies the various possibilities to assess existing intercultural competence or the potential therefore.

Further aims are promoting the education of intercultural competence with seminars, coaching as well as individual analysis (of persons as well as companies) and consulting in several languages. Most known are the basic courses and the supplementary courses aimed to professionals working in marketing, sales, project-management, communication, conflict-solving and senior management, as well as the country-oriented lectures and seminars.



Sydney Harbour - by Maria Claudia Faverio



Night delirium - by Maria Claudia Faverio

Clouds, not the ordinary moon,
manifest and lonely
in the dense scopes of dark,
clouds accompany the polymathic delirium
of this night.

Aggravated by the black vacuum
of the sky,
pallid perceptions of distances
crumble to blindness
like a tired eye,
and madness of colours
effaces itself
in the intricate evasions
of imagination.

The untuned reticences
of desire
transfix the ego
like a fake light,
enhancing its delirium,
while palaver of lips
discovers the sacred spaces
of silence.

Cautiously,
like old tune or voice,
the black load of fear
becomes tangible
in the capricious colours
of morning,
in the Phoenician sky
spreading over a reality
uncertain as faith.

There is a sense of panic
in the renewal of life.
The outrage of the years
is a swan song,
a remote surprise.



Poetry

Three Haiku - by Hernan Chang

Haiku

Rain over dry fields
Sweet spring ritual dance
Bring us new life!

Haiku

Fragile Autumn leaf
That is falling down slowly,
Nothing else matters...

Haiku

Scent of fresh cut hay
Eliciting wild reveries
While napping at noon.

Eternity - by Maria Claudia Faverio

Behind the unhaloed visage of void,
eternity shapes itself
like a madrigal,
flaming down onto the tedium of life.



Puzzle - by Maria Claudia Faverio

Four members of WIN (Ingenious, Judicious, Keen-Witted and Laborious) decide to celebrate the anniversary of the foundation of their High-IQ Society at a local restaurant. Each of them wears a jacket of the same colour as his hat (black, blue, grey and white).

We know the following facts:

1. Ingenious arrives just before the member who wears the blue hat, who isn't Judicious.
2. Keen-Witted doesn't wear a grey hat.
3. Laborious doesn't wear a white hat.
4. The four members are Judicious, the member who arrives second at the restaurant, the member who wears a white hat, and Keen-Witted.
5. Judicious doesn't arrive first, and Laborious is not the member who arrives just before him.

Can you deduce the order of arrival of the members at the restaurant as well as the colours of their hats?

Fourth International contest of logical problems

- organised by the Ludomind society

The three previous international contests were organised by Albert Frank and/or Philippe Jacquerooux. This time, the questions were made by several members of the Ludomind society. It's a difficult contest. Send your answers in one single mail before June 30th 2004

by e-mail to albert.frank@skynet.be (subject: international contest) or by post to:

Albert Frank
13 Clos du Parnasse / box 45
B 1050 Brussels
BELGIUM

Good luck!

1) 6, 4, 26, 9, 60, ?

2) 4, 7, 11, 12, 14, 18, 20, ?

3) We draw points on the circumference of a circle.

We have pencils of four different colors.

Every point is connected to all the others by straight colored lines.

What is the maximum number of points so that no monochromatic triangle appear ?

4) From the vertex A of an equilateral triangle A, a laser with thickness zero departs towards the side BC, with angle of 45° measured with the side AB. When it arrives at BC, it is reflected (perfect reflection) towards AC and so on.

What's the minimum number of reflections for the laser to hit a vertex of the triangle? Explain why.

5) 8, 65, 4226, 17859077, ?

6) 4, 4913, 1681, 300763, ?

7) 8, 33, 40, 128, 115, ?

8) In a building, there is an hexagonal room with 1 door on each wall. Each door gives a way to a different room. (6 rooms in addition to the hexagonal one). Seen from interior all the rooms are absolutely identical in contents and dimension. They are empty except for a light bulb on the ceiling. (all bulbs are identical and have only two states (lit or extinct). The 4 walls inside each room are smooth and white and a door on one of the walls open a path to the central room. Rooms are completely insulated and nothing leaves from if the door is not opened. (no keyhole, no sound etc...). In front of each door, seen from central room, is a switch. (6 switches). There is no interaction between the switches. the hexagonal room is not concerned with the action of the switches and is not significant. A person must discover what each switch produces in each associated room. He does not know before if the light in the room is on or off. (the rooms could be in a different state at the beginning) . The switch can be actuated only one time and remains blocked. the person can not actuate the switch after having entered a room .(too easy; -) In each room ,there is a sheet of paper and a pencil and the person must write what it discovered before going out from the room. The doors are marked with a number from 1 to 6 and it must start with door 1. The person approaches the first switch, actuate it and enters the room. He then gives an explanation of the function of the switch. He approaches the second switch then actuate it , enters the room, and gives an explanation of the function of the second switch. He makes in the same way for the third, the fourth and the fifth. Then finishes by the sixth and is victorious. Knowing that the person has to give a different interpretation to each event and that he is always right, which event produces the sixth switch?

Note that the man is alone in the building, and that there is no problem with the electricity supply in the building.

9) 7, 7, 8, 8, 7, 8, 8, 8, 7, 8, 5, 5, ?, ?, 5, 5

Find a way, based on simple probability theory, to get the following finite series:

3, 3, 3, 3, 4, 5, 6, 5, 4

Find a way, based on simple probability theory, to get the following finite series:

2, 4, 4, 4, 4, 4, 4, 4, 2

12) 24642, 24976, 28072, ?, ?, 68476, 73372, 73926

13) 1, 1, 1, 2, 3, 1, 1, ?, 2, 4, 1, ?, 2, 1, 3, 1, 1, 1, ?, 2, 1, 1, 2, 3, 1, ?, 1, 3, 3, 4, 1, ?, 3, 2, 1, 1, 1, 3, 1, ?

14) 2, 4, 7, 10, 7, ? (This is not a numerical series).

15) What does the following encrypted word mean and how is it obtained?

LYFKNA

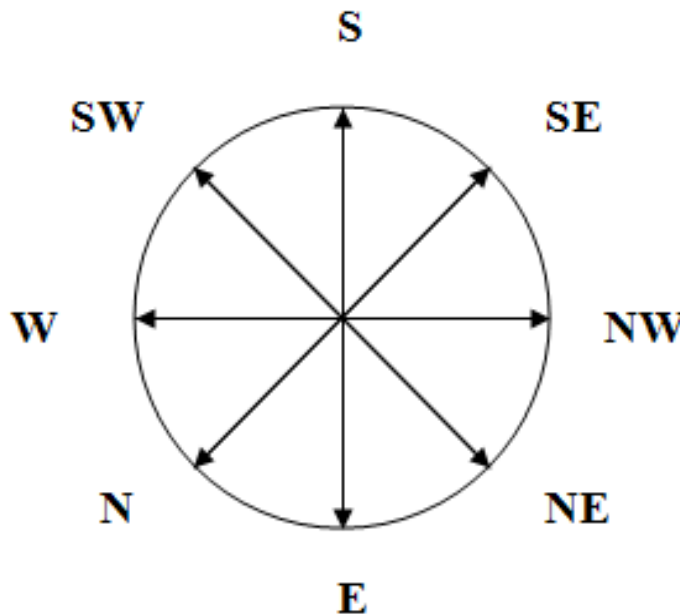
16) 1, 2, 8, 2, 2, 2, 7, 8, 2, ?, ?

52, 72, 11, 23, 31, 31, 15, ?, ?

18) Jacques decides to make an excursion of two days. The first day, he will leave at 7h in the morning to climb a mountain and to arrive on top at 7h in the evening. There is only one path that goes to the mountain. He will sleep on the mountain, and the following day will go down, leaving at 7h in the morning and arriving back home at 7h in the evening. To go as to return, he is not in a hurry, sometimes walks, sometimes races, stop several times to eat, at any hours. What is the probability that he passes, the two days, at a same point precisely at the same hour ?

19) 5, 6, 7, 8, 8, 8, 8, ?, ?

20) Craig has landed on an island of fun-loving logicians and doesn't know how to find his way home. He asks the first person he meets in the street for help, and this native leads him to a secret, mystical place with a large stone engraved with the following drawing:



“I want to go South”, explains Craig. “Is this drawing correct?”

“Judge for yourself”, answers the native. “I can only tell you that one of the arrows points south, but I cannot tell you which one. I cannot tell you how many arrows point in the right direction either, or you would know which way to go.”

Fortunately, Craig was quite bright and worked out which arrow pointed south.

Can you figure it out too?