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Special Theme: Symmetry and Social Harmony
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Miro BRADA, "Symmetry in Cognition, and its reflection in Society"

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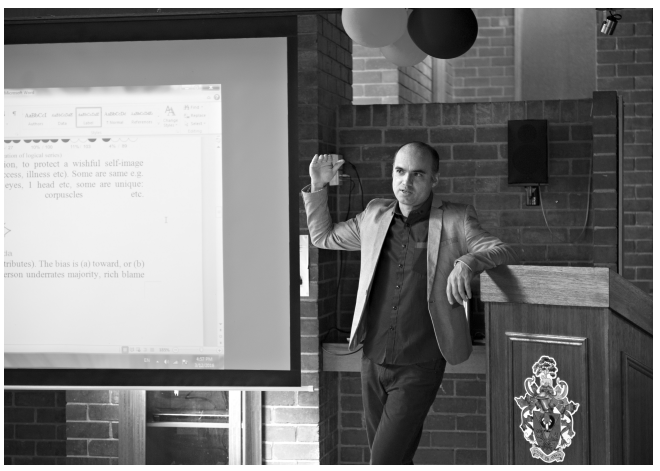
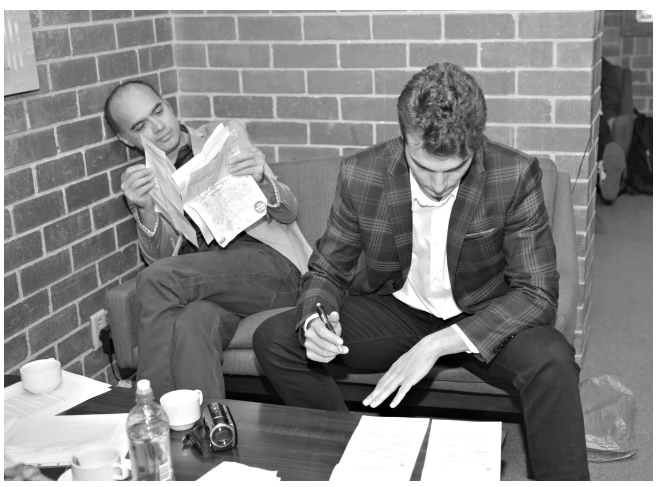


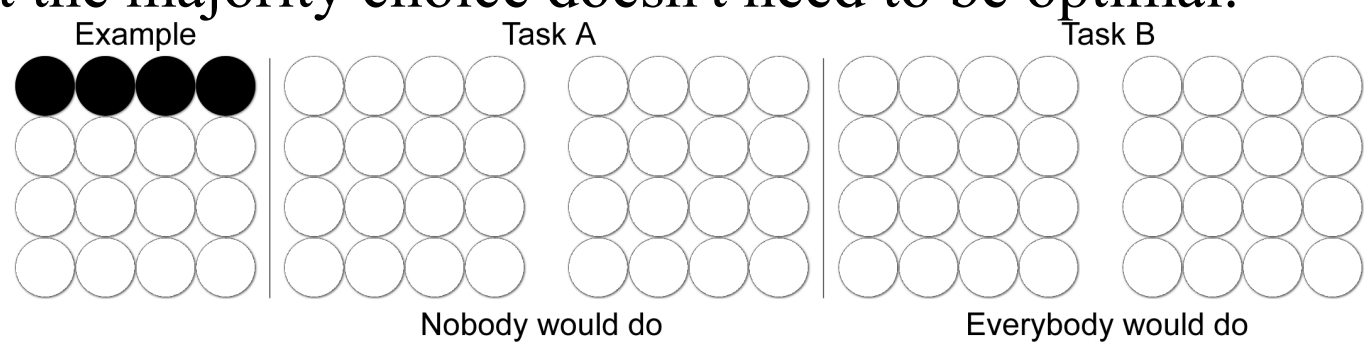


Abstract

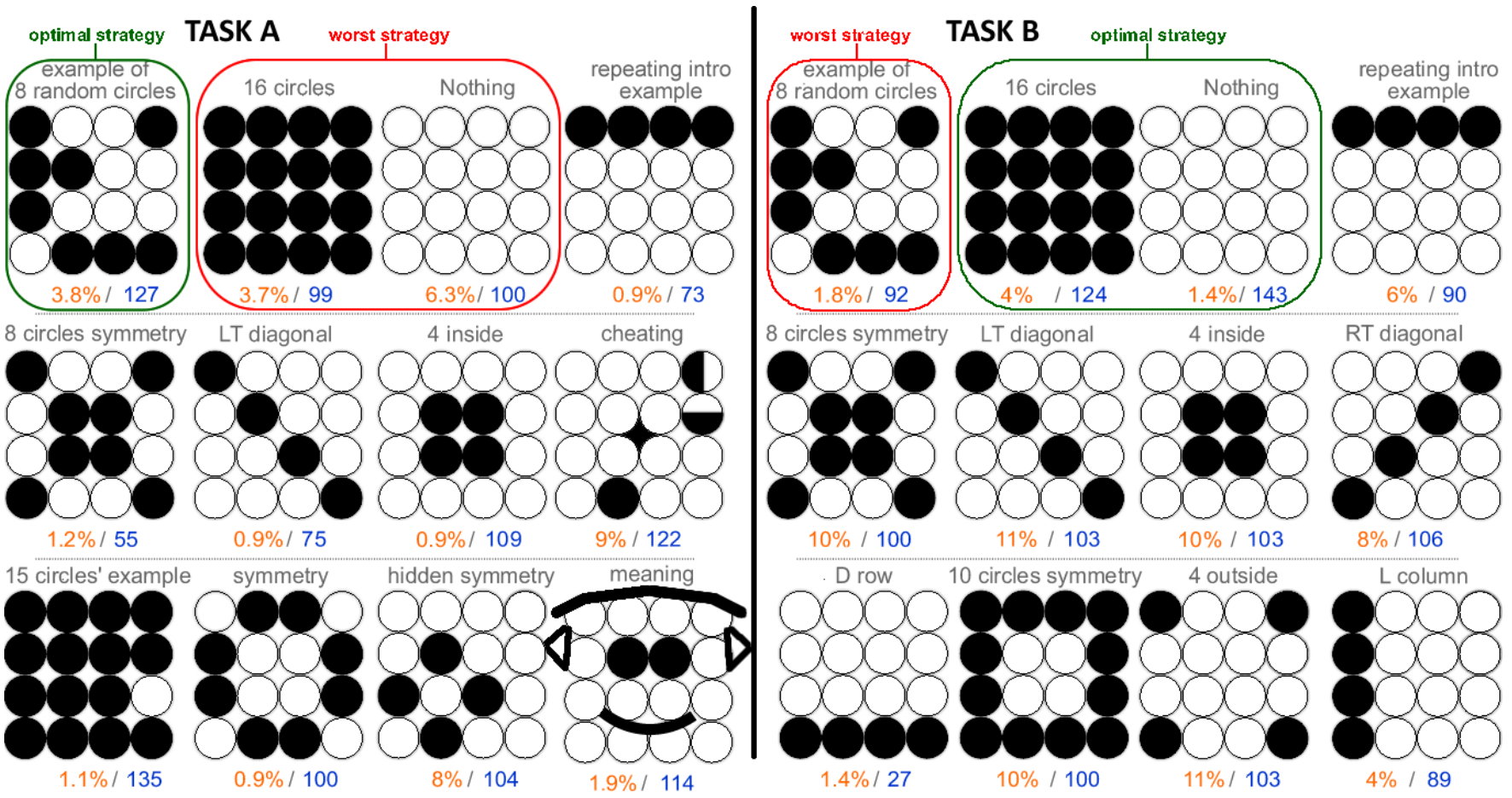
Cognitive tests show that identity and symmetry reflect intellect. 'Guess of other guess' creates various symmetries, while only one is right: 'absolute symmetry', which can be outvoted by the majority. Prejudices result from differences between ME (my identity) and others. Unbiased judgement is symmetrical, always in the middle: neither in favour, nor against ME. Intelligence reduces prejudices, but the lack of opportunities can counterbalance it. That's why type of bias differs in various groups: people from war zones, people in therapy, artists, etc.. "The law of values' equity" is a symmetrical principle redefining utility in economics, when people equate all their values. E.g. 2 children averagely rich, is better than one child rich and another poor. If 'a' is an average richness, and 'x' is a difference in richness, and Utility multiplies all values, then: $a * a > (a - x) * (a + x)$, which is: $a^2 > a^2 - x^2$. It does not however imply egalitarianism, as it is still better to have both children rich than both average or poor (or one rich and another average).

SYMMETRY AND COGNITION

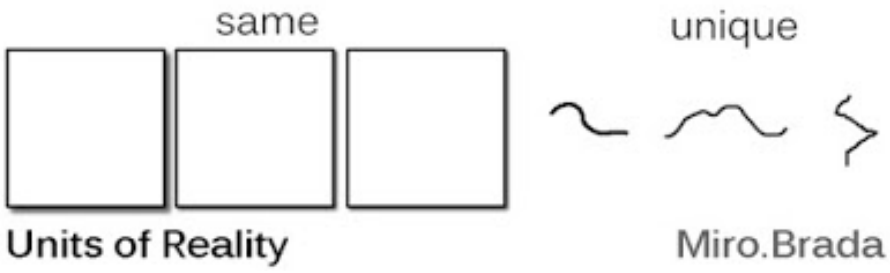
In 1999, I tested 568 people, assessing their intelligence, creativity, prejudices. One task was to fill 4x4 circles, as A) Nobody would do, B) Everybody would do. The best strategy (maximizing chances of the right guess) for Task A is the worst for task B, and vice verse. Random filling of 8 circles maximizes combinations, minimizing the chance of other would fill the same pattern: which is the best strategy for Task A. Filling 0 or 16 circles gives just 1 result: which is the best strategy for Task B. Indeed, the random 8 circles in Task A, and 0 or 16 pattern in Task B, were filled by on average more intelligent persons. Paradoxically, the optimal (0 or 16) pattern for Task B, wasn't the best matching one, as the majority preferred symmetries of 4 (or more) circles. It illustrates that the majority choice doesn't need to be optimal.



Somebody could claim, that very intelligent people could know the majority choice is not optimal, to adjust their guess. However, the less optimal patterns vary, and so it is impossible to guess the 'right' one. The optimal strategy of Task B, 0 or 16 circles, is the 'absolute symmetry' without variations. In Task A, 9% people 'cheated' (drawing outside of the pattern), enabling to achieve uniqueness - but an incentive to cheat is already not so unique. The 'cheaters' had higher intelligence on average, but less than persons choosing optimal strategy (8 random circles). People creating the meaning (cheating to create something meaningful e.g. face) had the higher intelligence, but less than the 'ordinary cheaters', as the meaning is already redundant to create the unique pattern.



The prejudice is a result of the biased perception, preserving the wishful self-image based on identification with permanent or changing attributes: sex, talent, minority, success, illness etc. Some attributes are same e.g. adults, dolphins, artists are mammals, have two eyes, one head etc, the other are unique: fingerprints, number of corpuscles etc. Self-identity consists of various - same and unique units (attributes).



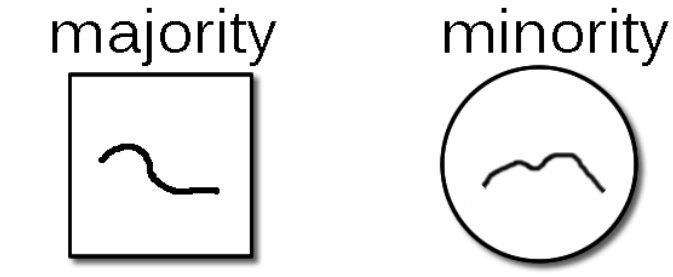
The bias is (a) toward, or (b) against one of my identity's unit(s). E.g. (a) a minority person underrates majority, rich blame poor, etc, or (b) a minority person idealizes majority, poor blame poorer or richer etc. The unbias judgement is symmetrical (balanced), neither in favour nor against anything. To asses prejudices, I constructed the Questionnaire of Unbiased Judgement (QUJ) of 10 sentences with 6 answers: 1 right, 1 evasive ('it is too complex'), 2 underrating other identities, 2 overrating. Instruction was: "mark just ONE judgement that appears to you the most truthful." Below are 2 examples from my QUJ:

A minority living in a state:

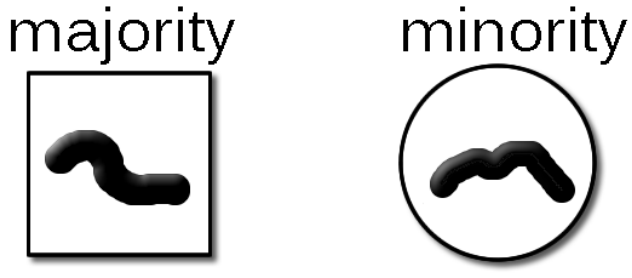
a) has its own specifics (0 = unbiased)
b) is more peculiar than majority (4 = strongly biased toward minority)
c) is less adaptable than majority (-2 = biased against minority)
d) is more tolerant than majority (2 = biased toward minority)
e) is not comparable with majority (* = evasive answer)
f) is more provocative (-4 = strongly biased against minority)

Assessment: Minorities have own specifics (e.g. language, colour, etc), but a person from a minority doesn't need to be worse or better than a majority person. There can be a confusion in assigning minuses (hostility) or pluses (tolerance), depending whether tested person is minority or majority. So the signs can be reversed based on the knowledge of the tested person - although everybody is a minority depending on criteria.

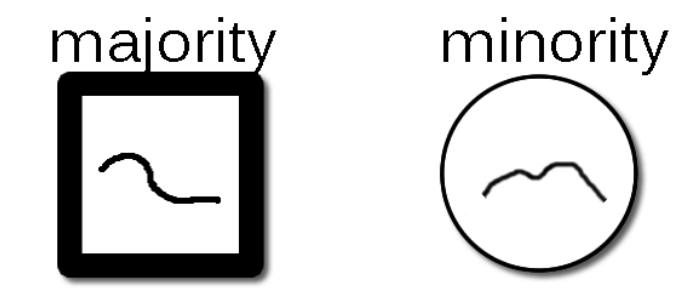
a) Acceptance of minority (0)



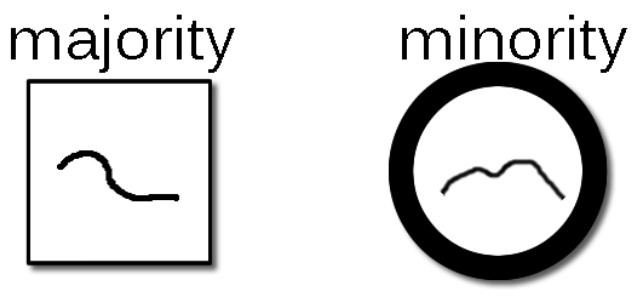
e) Overrating uniqueness (*)



c) Underrating specifics (-2)



d) Overrating specifics (2)



QUJ, Miro Brada

Being a mathematical genius:

a) has a detrimental effect (-2 = biased against minority)

b) does not need to have any detrimental effect (0 = unbiased)

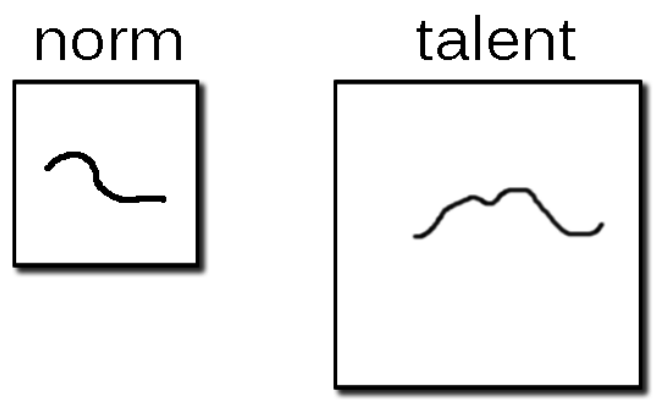
c) has positive influence on the whole personality (4 = strongly biased toward minority)

d) is accompanied by mental disorders (-4 = strongly biased against minority)

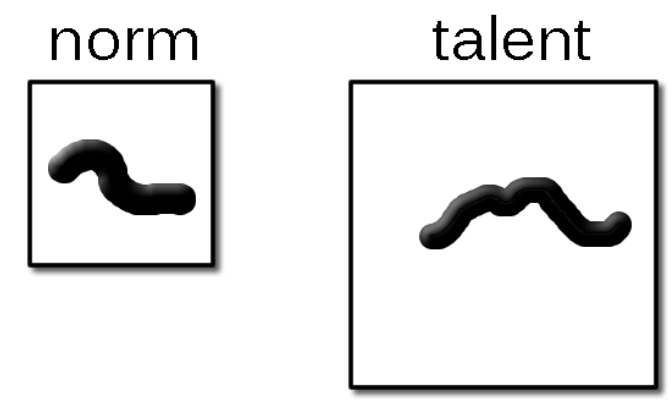
e) leads to a better adaptability (2 = biased toward minority)

f) it is difficult to assess its influence on a human being (* = evasive answer)

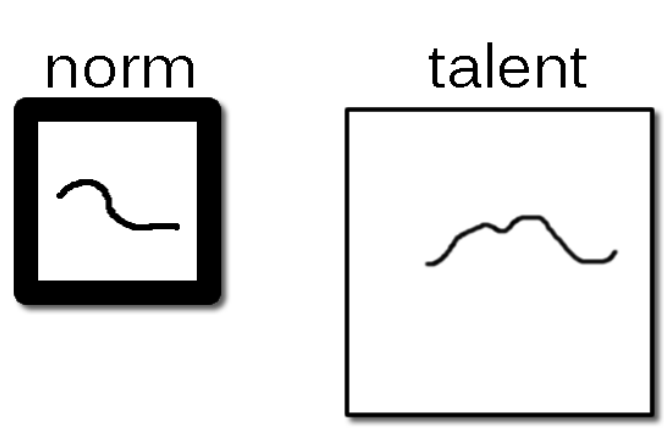
b) Acceptance of talent (0)



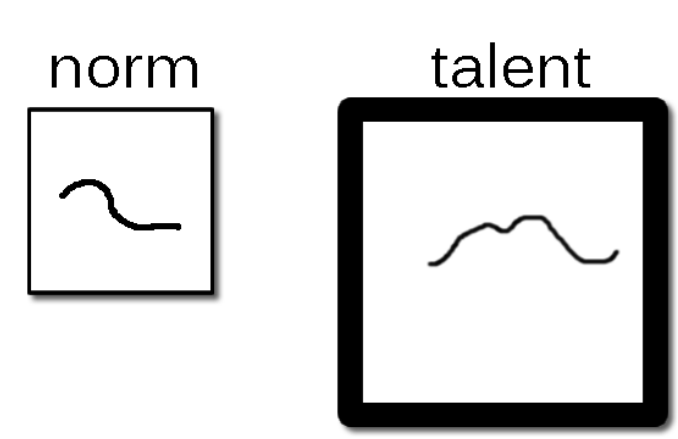
f) Overrating uniqueness (*)



a) Underrating talent (-2)



e) Overrating talent (+2)



QUJ, Miro Brada

I assessed 3 qualities: Prejudices = Σ absolute values, Tolerance = Σ - / + values, Indifference =Σ evasions. The tested people were slightly hostile than tolerant, less baised against external signs (sex, minority) than excellence (talent, beauty). From the results of IQ tests, I confirmed intelligence

statistically reduces prejudices. I found 4 symptoms: (1) unreal discernment (= too many prejudices), (2) submission (= high tolerance), (3) hostility (= low tolerance), and (4) indifference (= many evasions). E.g. people in psychotherapy were more biased and submissive. Programmers were a bit more hostile (maybe due to their rising role). Students of theology had a similar pattern to people in psychotherapy, indicating a therapeutic effect of religion. Or students from Yugoslavia experiencing a war, had higher variance in bias, possible due to war trauma (lack of opportunities).
I also asked people to assess their sociability by {-2, -1, 0, 1, 2} to compare with others. Overall sociability is 0, but was 0.5: people tend to think they are above-average (negatively correlated with intelligence), illustrating phenomenon: 'Are we all above average?'
The intelligence links unique units of reality to logical series, e.g: 1, 2, 3... defined by the same change +1: 1, 2, 3, 4. Series 1, 2, 3, 4 can result from:
a) $y = x$, returns 1, 2, 3, 4, 5
b) $y = x4 - 10x3 + 35x^2 - 49x + 24$, returns 1, 2, 3, 4, 29
c) other logic.
The identical changes (+1) are not identical, like the left differs from the right in the same equation: 'p' differs from next 'p' by its position or time: p != p (Panta rhei). If 1/a is probability of occurrence of 'p', probability of next 'p' is $1/a^2$ (to throw 6 is 1/6, to throw 6 again is 1/36). Our intelligence creates the symmetrical identify (left-right, top-bottom). E.g. in chess composition (= mental gymnastics), the hardest problems (cyclic shifts) are often symmetrical, being the most efficient (or only possible) way to do. Asymmetrical problems are more valuable (=harder), but they have hidden symmetries too (exchanges of identities: mates, defenses, functions...). The symmetrical chess diagram of L. Lačný is the first 4 fold cycle A-B-C-D (super difficult). Next one is the 6th (of 78 pre-selected by each state) at the World Composition Tourney (Germany, 1998). Juror R. Matthews wrote: "it is an impressive achievement to show a cyclic le Grand in this theme, but the symmetry rather reduces the interest". Many said it was too strict, as it was the sole cycle.

Lačný, Ľudovít
Magyar Sakkélet (1928) 1955
2nd Prize

#2 10+12

Solution:

1. ... Kd3 (a) 2. Se5# (A)
1. ... Sb3 (b) 2. Bxb3#(B)
1. ... Sb5 (c) 2. Bxb5#(C)
1. ... Kd5 (d) 2. Sxe3#(D)

1. Se2! [2. Qd4#]
1. ... Kd3 (a) 2. Bb5# (C)
1. ... Sb3 (b) 2. Se5# (A)
1. ... Sb5 (c) 2. Sxe3#(D)
1. ... Kd5 (d) 2. Bb3# (B)

Keywords:
- Lacny 4-fold
- Ideal Rukhlis

Brada, Miroslav
6th WCCT (B) 1998-05-01
6th Place

#3 10+10

Solution:

1. Se3? [2. Qc7+ (A)
  2. ... Kc5 3. Be7#]
1. ... Se4 2. Be7+ (B)
  2. ... Ke5 3. Sxg4#
1. ... Sc4 2. d4 (C) [3. Qc5, Qc7, Be7#]
  2. ... Qxd4 3. Sf5#

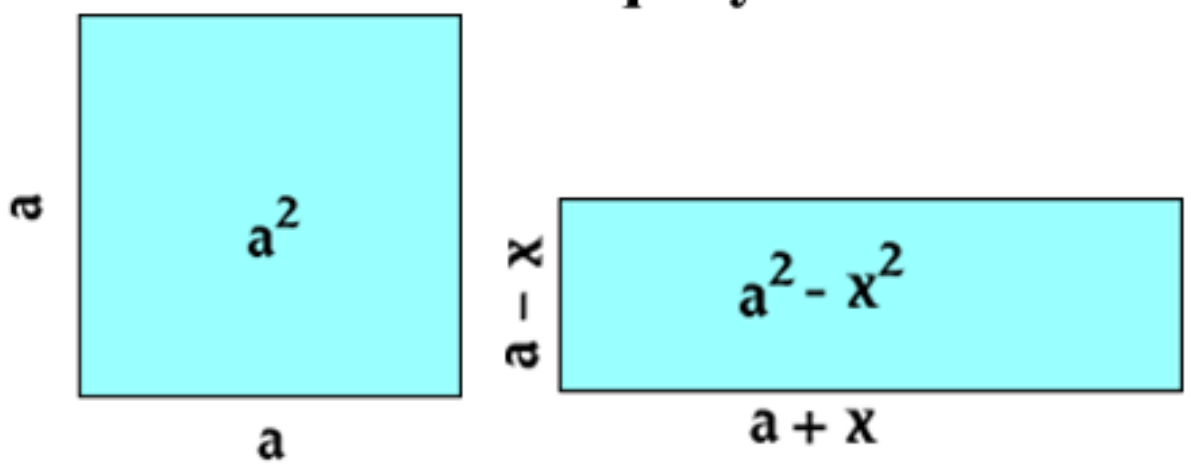
1. Sc3! [2. Be7+ (B)
  2. ... Ke5 3. Qc7#]
1. ... Se4 2. d4 (C) [3. Qc7, Be5, Be7#]
  2. ... Rxd4 3. Sxb5#
1. ... Sc4 2. Qc7+ (A)
  2. ... Kc5 3. axb4#

Keywords: Shedey cycle

REFLECTION OF SYMMETRY IN SOCIETY

Maximization of utility to budget, explains all in economics. Total differential rent in Urban economics, determines a distance from the workplace. Some studies claim diversity and competition boost growth in cities. Such models explain reality ex-post, too imperfectly, or are banal. Maximization of Uniqueness (a tiny refinement of utility) clarifies irrationality, e.g. rise of tattoos in society: The richer you are the less equally rich or richer people. The richest person is only one (= unique). Maximization of richness or leisure (=the classic utility concept), maximizes the originality (uniqueness). Doing an extreme sport, striptease, having tattoo, can have the same function as maximizing richness / leisure. So maximization of originality can relate any activity / motivation.

The law of values' equity



Irrational e.g. drunk person may break law of values' equity... To maximize Uniqueness he can make a striptease in front of public (= a+x) to pay a price at police station (= a-x).

Remark: The plus (+x) and minus values (-x) can differ. So it is: (a+x)*(a-y), when y=x is a special case. Then the excess (+x) can be sufficiently big to counterbalance the negative decrease of other value (-y), but statistically it is unlikely.

Seemingly to be the richest is unique, the same as to be the poorest... The rich can quickly become poor, but the poor can hardly become rich. So there is asymmetry in what is maximized, reflecting intelligence and opportunity. Without opportunity even the genius maximizes irrationally (=destruction). So irrationality doesn't need to indicate low intelligence (even though it can be likely in many cases). The related "law of values' equity" is a symmetrical principle: we tend to equate all our values. We maximize uniqueness in all our values at the same time. To be healthy, satiated, attractive, smell good, etc is less likely than to be sick, hungry, ugly, smell bad. So maximization of uniqueness is opposite to entropy or randomness. The main principle is that overall probability of maximizing person multiplies across all independent activities (values). Applying the values' equity to society, means that the more equal (symmetrical) societies distributing wealth (or other values) more equally are better off than unequal ones.