## Lunch Lecture

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Backgammon Club Leuven vzw

## Problem 1

Black is behind in the race (pip count $=165 v 110)=>$ Stay back


| Cube Move Summary |  |
| :---: | :---: |
| $\checkmark$ 22/4 10/4 | +0,031 |
| [feil P: 45,7 9,5 0,4 O: 54,3 14,6 0,3 |  |
| 22/16(2) 22/10 | -0,074 |
| 闒P: 42,35,10,2 O: 57,7 12,80,1 | -0,105 |
| 22/10 13/7(2) | -0,120 |
|  | -0,150 |
| 22/10 8/2(2) | -0,191 |
|  | -0,222 |

X 22/4 10/4
0 22/10 22/16 (2)
0 22/10 7/1* (2)

## Problem 2

Come up or not? Depends on the race. Pip count $=110$ v 141 .


| Move Summary |  |  |  |
| :---: | :---: | :---: | :---: |
| 䢕 24/20 16/11 |  |  | -0,005 |
| ${ }^{\text {¢ }}$ 成 P | 54,4 18,8 0,5 | O: $45,611,60,6$ |  |
| $\checkmark 16 / 118 / 4$ |  |  | -0,056 |
| Heft P: 53,6 13,10,2 |  | O: $46,47,90,3$ | -0,051 |
| 24/20 13/8 |  |  | -0,044 |
| [1Fel P: 54,9 13,9 0,4 |  | O: 45,1 12,10,6 | -0,039 |
| 24/15 |  |  | -0,055 |
|  |  | O: $46,012,50,6$ | -0,049 |

0 16/11 8/4
X 24/20 16/11
0 24/15

## Problem 3

Same principle : ahead in the race, race!


| Cube Move Summary |  |  |  |
| :---: | :---: | :---: | :---: |
| $\checkmark$ 23/21 8/4 6/4 |  |  | +0,183 |
| [ffil P: 55,5 14,70,6 $\quad$ O: 44, 5 10,30,3 |  |  |  |
| 9/7(2) 6/4(2) |  |  | +0,145 |
| ${ }^{[5]}$ P: 54,9 12,9 0,4 |  | O: $45,19,90,3$ | -0,038 |
| 8/46/4(2) |  |  | +0,142 |
|  |  | O: $45,39,90,3$ | -0,041 |
| 8/4(2) |  |  | +0,139 |
| ㄷㅐㅔ P: 54,6 13,20,5 |  | O: $45,410,20,3$ | -0,044 |
| 23/21 6/4(3) |  |  | +0,111 |
| [10] P: 53,8 14,4 0,6 |  | O: $46,211,00,3$ | -0,071 |

0 13/11 (2) 6/4 (2)
X 23/21 8/4 6/4
0 9/7 (2) 6/4 (2)

## Problem 4



| Cube | Move | Summary |  |  |
| :---: | :---: | :---: | :---: | :---: |
| ds. Bar/20 7/4 |  |  |  | -0,576 |
| fuet P: $32,26,50,1 \quad$ O: 67,86,50,2 |  |  |  |  |
| $\checkmark \mathrm{Bar} / 22$ 10/5 |  |  |  | -0,698 |
|  | 28,7 2,3 |  | O: $71,33,70,1$ | -0,122 |
| Bar/20 8/5 |  |  |  | -0,573 |
|  | 32,0 3,6 |  | O: $68,04,60,1$ | +0,003 |
| Bar/20 10/7 |  |  |  | -0,589 |
|  | 1,73,5 | 0,1 | O: $68,35,10,1$ | -0,012 |

X bar/20 7/4 0 bar/22 10/5 0 bar/20 8/5

## Problem 5

SAFE or BOLD ?


| Cube | Move | Summary |
| :--- | :--- | :--- |
|  |  |  |
| dise $\mathbf{1 3 / 8}$ | $\mathbf{- 0 , 3 9 0}$ |  |

哃開 $P: 42,28,80,4 \quad$ O: 57,8 20,7 0,4

| 24/23 13/9 |  | -0,431 |
| :---: | :---: | :---: |
| fixl P: 41,69,40,5 | O: 58,4 $23,20,6$ | -0,040 |
| 13/9 6/5 |  | -0,539 |
|  | O: $60,824,81,4$ | -0,149 |
| 8/3 |  | -0,590 |
| Illll P: 37,98,6 0,4 | O: 62,1 26,70,8 | -0,200 |
| 13/9 8/7 |  | -0,598 |
| Wull P: 37,9 8,6 0,4 | O: 62,1 26,6 1,4 | -0,208 |

0 13/9 6/5
0 24/23 13/9
X 13/8

Opponent has stronger board $=>$ SAFE
Famous concept :
SAFE play versus BOLD play.
BOLD :

* behind in the race
* stronger board
* high anchor
* opponent has blot in board

Here is another classic example - Red to play 51:


0 13/8 6/5
0 13/7
0 8/3* 8/7

## Problem 6


Cube Move Summary

| 黣 14／13 11／10 8／7（2） |  | －0，390 |
| :---: | :---: | :---: |
| 继開P：42，3 4，70，2 | O：57，79，9 0，1 |  |
| $\checkmark 14 / 13$ 11／8 |  | －0，454 |
| 比偖P：38，0 2，00，0 | O： $62,03,40,0$ | －0，064 |
| 11／9 8／7（2） |  | －0，635 |
| ㄴIII P：40，9 5，3 0，3 | O： $59,116,60,2$ | －0，244 |

0 14／13 11／8
X 14／13 8／7（2）11／10
0 11／9 8／7（2）

## Problem 7



| Cube | Move | Summary |  |  |
| :---: | :---: | :---: | :---: | :---: |
| dse 21/16 6/2 |  |  |  | +0,192 |
|  |  |  |  |  |
| $\checkmark$ 21/16 13/9 |  |  |  | +0,141 |
| \%皆P: $51,88,60,2$ |  |  | O: $48,27,90,2$ | -0,051 |
| 21/16 8/4* |  |  |  | +0,028 |
| IIII P: 49,3 9,5 0,3 |  |  | O: $50,711,90,3$ | -0,165 |

0 13/4*
0 21/16 13/9
X 21/16 6/2

## Problem 8

3rd Rule of Thumb : Thou shalt hit in the beginning. $=>$ Hit in the beginning, especially on the 5-point.


X 13/5
0 8/3 6/3
0 24/21 13/8

## Problem 9



| Cube | Move Summ | Summary |  |
| :---: | :---: | :---: | :---: |
| dse 20／14＊ |  |  | ＋0，008 |
|  |  |  |  |
| $\sqrt{\text { 13／8 6／5 }}$ |  |  | －0，062 |
|  |  | O： $52,611,30,4$ | －0，070 |
| 24／23 13／8 |  |  | －0，101 |
| 臨咸 P：46，0 11，2 0，3 |  | O： $54,09,20,3$ | －0，109 |
| 13／7 |  |  | －0，110 |
| 䦭咸 P：46，2 12，10，4 |  | O： $53,811,60,4$ | －0，118 |
|  | ／23 6／1＊ |  | －0，166 |
|  | 44，6 11，2 0，3 | O： $55,411,50,4$ | －0，174 |

0 13／8 6／5
0 24／23 13／8
X 20／14＊

## Problem 10




0 bar/20 11/10
X bar 24 13/8*
0 bar/20 24/23

## Rules of Thumb

When ahead in the race, race!

SAFE vs BOLD play

Thou shalt hit in the beginning \& fight for the 5-point

## Problem 11

Technical maneuvres. Mostly correct.
Run to save off the gammons. Correct even when dangerous.


X 23/15
0 6/3 6/1
0 6/3 5/2

## Problem 12



0 10/7 8/7
0 24/23 13/10
X 8/5 6/5

## Problem 13

Unstacking!


0 13/7 10/7 (2)
0 10/4 (2)
X 10/7 (2) 6/3 (2)

| Cube | Move Sum | Summary |  |
| :---: | :---: | :---: | :---: |
| 蝺 10/7(2) 6/3(2) |  |  | +0,858 |
|  |  |  |  |
| $\checkmark 13 / 710 / 7(2)$ |  |  | +0,707 |
|  |  | O: $30,05,40,1$ | -0,150 |
| 10/4(2) |  |  | +0,575 |
| [llll P: 67,5 9,3 0,2 |  | O: $32,55,10,1$ | -0,283 |

## Problem 14

Duplication.


0 20/15 11/10
0 20/14
0 11/10 6/1*

## Problem 15

Shifting is easy and fun!



0 23/21 (2)
0 8/7 (2) 4/3* (2)
X 4/3* (2) 2/1* (2)

## Problem 16

Shifting can be difficult to see．


| Move Summary |  |  |  |
| :---: | :---: | :---: | :---: |
| ＊sf 24／21 23／20 4／1＊（2） |  |  | ＋0，000 |
|  |  |  |  |
| $\checkmark 13 / 7(2)$ |  |  | －0，121 |
| 闖P： $46,016,30,5$ |  | O： $54,015,91,0$ | －0，121 |
| 24／21 13／10 4／1＊（2） |  |  | －0，006 |
| 臨 P：46，6 21，9 0，4 |  | O： 53,4 15，3 1，3 | －0，006 |
| 13／10（2）4／1＊（2） |  |  | －0，050 |
| 煺 P： 46,0 21，70，3 |  | O： 54,0 14，9 1，1 | －0，050 |
| 23／20 13／10 4／1＊（2） |  |  | －0，081 |
| $)^{\text {cin }} \mathrm{P}$ ： 45,2 21，0 0，4 |  | O： 54,8 15，9 1，3 | －0，081 |

0 13／7（2）
0 13／10（2）24／21 9／6
X 4／1＊（2）24／21 23／20

## Problem 17

Shifting can look suspicious. (Here, you give up the 6-point.)


| 21/11 6/1*(2) | +2,045 |
| :---: | :---: |
| fixil P: 87,170,7 2,1 O: 12,9 1,60,1 |  |
| 21/16 13/8 6/1*(2) | +2,034 |
| fipel P: 86,970,5 2, 2 O: 13,11,80,1 | -0,011 |
| ${ }^{\text {dse }}$ 13/8(2) 6/1*(2) | +2,031 |
| Ifeil P: 86,071,5 2,2 O: 14,0 2,10,1 | -0,013 |
| 13/3(2) | +1,943 |
| [feil P: 85,867,44,9 O: 14,20,90,0 | -0,101 |
| 13/8 9/4 6/1*(2) | +1,926 |
| [fix P: 84,5 67,9 1,9 O: 15,5 2,30,1 | -0,119 |

0 13/3 8/3 9/4
0 21/11 6/1* (2)
0 13/3(2)

Red to play 44:


Pay special attention when you roll small doublets and your opponent has one or more blots in your board.



## Problem 18

In mutual holding games, do not break your board!


| Cube Move Summary |  |  |  |
| :---: | :---: | :---: | :---: |
| [6e $8 / 78 / 6$ |  |  | -0,422 |
|  |  |  |  |
| $\checkmark 13 / 11$ 2/1 |  |  | -0,726 |
| 皆 P: $33,85,80,1$ |  | O: $66,215,60,5$ | -0,304 |
| 13/10 |  |  | -0,469 |
| \|fiel P: 40,19,10,2 |  | O: $59,917,00,5$ | -0,047 |

0 13/10
X 8/7 8/6
0 13/11 2/1

## Problem 19

White - Black : 6-3/9

| Cube | Move | Summ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Winning Chances ND (click for D/T) |  |  |  |  |
|  |  |  |  |  |
| 25,07\% (G:5,83\% B:0,16\%) |  |  |  |  |
| Cubeless Equity |  |  |  |  |
|  |  |  |  | $\mathrm{N}:+0,772$ |
| Cubeful Equities: |  |  |  |  |
| No double |  |  | +0,850 | $(-0,118)$ |
| ds. Double/Take |  |  | +0,968 |  |
| Double/Pass |  |  | +1,000 | $(+0,032)$ |
| Best Choice: |  |  |  | ouble/Take |



## X Double, Take

0 Double, Pass
0 Too Good to Double, Pass

Compare with normal score (0-0/9) :


How can this be learnt ... ?

Another example. Normal score.



0 Redouble, Pass
$X$ No redouble, Take 0 Redouble, Take

But what do we see at the score of 6-away 3-away?

| Winning Chances ND (click for D/T) |  |  |
| :---: | :---: | :---: |
| 34,73\% (G:15,30\% B:0,74\%) |  |  |
| 65,27\% (G:27,19\% B:0,72\%) |  |  |
| Cubeless Equity |  |  |
| Ifin - |  | $\begin{aligned} & -0,315 \\ & -0.020 \end{aligned}$ |
| Cubeful Equities: |  |  |
| No redouble | -0,080 | $(-0,060)$ |
| dsp Redouble/Take | -0,020 |  |
| Redouble/Pass | +1,000 | $(+1,020)$ |
| Best Choice: | Red | uble/Take |



Correct redouble with only $34 \%$ winning chances and fewer gammon wins than opponent!

Why?

This has to do with RECUBE VIG and GAMMON VALUE.
Recube vig can be calculated. Here at 6-away 3-away (Ctrl + Alt + K):

If the cube is DEAD, the Trailer has a tp of $27,84 \%$.

If the cube is ALIVE, the Trailer has a tp of 19,90\%.

Difference is the RECUBE VIG. Here approx. 8\%.


To calculate : start with the take-point of the Leader when you recube to 4 :

It is $28,52 \%$.
P: 3-away 4-away = 57\%
T\&L:3-away 2-away $=40 \%$
T\& W: 100\%

## Tp

$=R /(R+G)$
$=17 /(17+43)$
$=28 \%$.


| Market Window | Gammon Value |  |  |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| Cube: | Dead Cube | Live Cube | Dead Cube | Live Cube

Multiply both percentages to get the maximum recube vig : $28 \% * 28 \%=7,84$. This is the $8 \%$ we found in the table.

Since no recube is ever $100 \%$ efficient, we take between 70 and $80 \%$ of that number to find the true recube vig. Here that would be between 5,5 and $6 \%$.

So, at 6-away 3-away our Live Takepoint would be around 23-24 \%. So, generally, regardless of the \% of gammons the opponent wins, $24 \%$ winning chances is enough to Take, IF YOU HAVE A GOOD CHANCE TO GET A RECUBE IN.

Aother aspect is the Gammon Value. If you recube to 4, the Gammon Value is:

| Winning Chances ND (click for D/T) 34,73\% (G:15,30\% B:0,74\%) 65,27\% (G:27,19\% B:0,72\%) |  |  |
| :---: | :---: | :---: |
| Cubeless Equity |  | $\begin{aligned} & -0,315 \\ & -0.020 \end{aligned}$ |
|  |  |  |
| Cubeful Equities: |  |  |
| No redouble | -0,080 | $(-0,060)$ |
| dsp Redouble/Take | -0,020 |  |
| Redouble/Pass | +1,000 | (+1,020) |
| Best Choice: | Red | ble/T |



If we look back at the position where we consider a recube, we have $15 \%$ gammons.
$70 \%$ of $15 \%=11 \%$. Our doubling point is $40 \%$. So, $40 \%-11 \%=29 \%$. We only need $29 \%$ winning chances for a correct redouble at 6-away 3-away!

Another way to calculate: assume you will recube automatically :
Then your tp would be :
P: 6-away 2-away $=20 \%$
T \& W : 2-away 3-away = 57\%
$T \& L=0 \%$
Takepoint would be : $20 / 57=35 \%$.
Recube vig : O's tp for a cube to $4=28 \% .28 \% * 35 \%=10.80 \% * 10 \%=8$.
$35-8=27 \%$.
But if you recube, your gammons would be worth 70\%.
So : $27 \%$ winning chances $+(70 \% * 6)=4,2 \% . \quad 27-4,2=22,8$.
Therefore, in the position where the Leader doubles, you need only $22,8 \%$ to Take!

## Problem 20

White - Black : 7-8/11

| Winning Chances ND (click for D/T) 63,89\% (G:0,00\% B:0,00\%) 36,11\% (G:0,00\% B:0,00\%) |  |  |
| :---: | :---: | :---: |
| Cubeless Equity |  | $\begin{aligned} & \mathrm{N}:+0,278 \\ & \mathrm{D}:+1.191 \end{aligned}$ |
|  |  |  |
| Cubeful Equities: |  |  |
| No redouble | +0,278 | $(-0,722)$ |
| Redouble/Take | +1,191 | $(+0,191)$ |
| dse Redouble/Pass | +1,000 |  |
| Best Choice: | Re | /e/Pa |

0 No redouble, Take
0 Redouble, Take
X Redouble, Pass


○dPlagkerts off) Pip= $7(+5)$ EPC= 11,1 (+3,0) Score: $7 / 11$

Despite 36\% winning chances, Black has to Pass.

At an equal score, it would be a monstrous blunder to Pass :


Formula to find out take-point :

1) $P=$ what if Black passes? $\rightarrow$ 3-away 2 -away $=40 \%$
2) Gain $=$ if Black takes and wins $\rightarrow 100 \%$. Therefore Gain $=60 \%$
3) Risk $=$ if Black takes and loses $\rightarrow 0 \%$. Therefore Risk $=40 \%$

Take-point $=$ Risk $/($ Risk + Gain $)=40 /(40+60)=40 \%$.

Thank you for your attention!

