Experiment: 1800 games were played in unlimited mode between Gnu_bg and a human player. Cube was not used. The human player (myself) played the first 20 games then all the remaining games were played using the "end game" option (basically the algorithm played against itself).


|  | Gnu_bg | Human | t-test. $1 ; 2$ tails; n |
| :--- | :--- | :--- | :--- |
| Total wins | 923 | 877 |  |
| Total score | 1187 | 1085 |  |
| 1 pt. wins | 678 | 669 |  |
| gammon wins | 254 | 208 | $0.34 ; 0.069 ; \mathrm{n}=18$ |
| 1 pt. wins $/ 100$ games | $37.17 \pm 3.94$ | $36.5 \pm 5.83$ | $0.016 ; 0.033 ; \mathrm{n}=18$ |
| gammon wins/100 games | $14.11 \pm 3.01$ | $11.56 \pm 3.84$ |  |

## Legend

Differential score $=$ Points of Gnu_bg - Points of human
1 pt. wins/100 games = mean number of 1 points wins per 100 games (mean $\pm$ standard deviation).
This is equal to the probability to win a gammon = gammon wins/1800
gammon wins/100 games $=$ see above
t-test = t-test using 1-tail (appropriate in this case since we are looking for bias) or 2-tail (not necessary but indicative anyway).

Linear fit of the data $(y=a x)$ gives $a=4.48 \pm 0.09$ points per 100 games.
Backgammons (roughly 10 for each player) have not included in the calculations.
Gnu has a probability to win a gammon $2.55 \%$ higher than the human player. The level of confidence is $98 \%$.

