

Lacan's Prisoner's Dilemma Done Linearly and Visually

Mamta Narang

Introduction: Part One







Three Prisoner's Dilemma is a famous game theory problem. Here is the youtube video link of Dr.Jacques B. Siboni <https://www.youtube.com/watch?v=VehBztWb71w> I have used the same mythical prisoner's dilemma from Lacan's perspective for two prisoner's to N number of prisoners and given a visual decision making approach taken by rest of the prisoners as prisoners can't speak to each other and prisoners are facing each other's back and they are standing in a line as P(N), P(N-1), P(N-2),P3, P2, P1



PN	P(N-1)	P(N-2)	P3	P2	P1
The last prisoner can't see anyone.			Third prisoner can see the back of everyone ahead of him except first and second	Second prisoner can see the back of everyone ahead of him except first	First prisoner can see the back of all.

The last prisoner always walks out because he can take the decision clearly based on the fact that no one has walked out.

Situation - TWO prisoners are standing linearly.

Disks - Two White, One Black

	P2	P1
1		
2		
3		

4		
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The visual decision:

Scenario 4 doesn't exist

For P1 scenario 1 and 2 exist. Hence P1 stays.

























How P2 knows:

P2 knows scenario 3 doesn't exist else P1 would have left.

For P2 scenario 1 and 2 exist. Hence P2 says - white.

Situation - THREE prisoners standing linearly.

Disks - Three White, Two Black

	P3	P2	P1
1			
2			
3			
4			
5			
6			
7			
8			

The visual decision:

Scenario 8 doesn't exist.

P1 sees two whites in front.

For P1 scenario 1 and 2 exist. Hence P1 stays.

P2 sees one white in front.

For P2 scenario 1, 2, 3 and 4 exist. Hence P2 stays.

How P3 knows:

































P3 knows scenario 7 doesn't exist else P1 would have left.

































P3 knows scenario 5 and 6 doesn't exist else P2 had left. Because P2 would have been white.

For P3 scenario 1, 2, 3 and 4 exist. Hence P3 says - white.

Situation - FOUR prisoners standing linearly.

Disks - Four White, Three Black

	P4	P3	P2	P1
1				
2				
3				
4				
5				
6				
7				
8				

9				
10				
11				
12				
13				
14				
15				
16				

The visual decision:

Scenario 16 doesn't exist.

P1 sees three whites in front.

For P1 scenario 1 and 2 exist. Hence P1 stays.

P2 sees two whites in front.

For P2 scenario 1, 2, 3 and 4 exist. Hence P2 stays.

P3 sees one whites in front.

For P3 scenario 1, 2, 3, 4, 5, 6, 7 and 8 exist. Hence P3 stays.

How P4 knows:

P4 knows scenario 15 doesn't exist else P1 would have left.

P4 knows scenario 13 and 14 doesn't exist else P2 would have left. Because P2 would have been white.







































































P4 knows scenario 9, 10, 11 and 12 doesn't exist else P3 would have left. Because P3 would



























































































have been white.

For P4 scenario 1, 2, 3, 4, 5, 6, 7 and 8 exist. Hence P4 says - white.

Situation - FIVE prisoners standing linearly.

Disks - Five White, Four Black

	P5	P4	P3	P2	P1
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

The visual decision:

Scenario 32 doesn't exist.

P1 sees four whites in front.

For P1 scenario 1 and 2 exist. Hence P1 stays.

P2 sees three whites in front.

For P2 scenario 1, 2, 3 and 4 exist. Hence P2 stays.

P3 sees two whites in front.

For P3 scenario 1, 2, 3, 4, 5, 6, 7 and 8 exist. Hence P3 stays.

P4 sees two whites in front.

For P4 scenario 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 exist. Hence P4 stays.

How P5 knows:

P5 knows scenario 31 doesn't exist else P1 would have left.

P5 knows scenario 30 and 29 doesn't exist else P2 would have left. Because P2 would have been white.

P5 knows scenario 28, 27, 26 and 25 doesn't exist else P3 would have left. Because P3 would have been white.































P5 knows scenario 24, 23, 22, 21, 20, 19, 18 and 17 doesn't exist else P4 would have left. Because P4 would have been white.

For P5 scenario 1 to 16 exist. Hence P5 says - white.

SITUATION - Six prisoners standing linearly.
Disks - Six White, Five Black
Left as an exercise.

N prisoners standing linearly.
Disks - N White, N-1 Black

2 raise to power N possibilities except the last row scenario is not possible.

N	N	N-1	N-2	(N-(N-3))	(N-(N-2))	(N-(N-1))
1							
2							
							
$2^N/2$							
2^{N+1}							
2^{N+2}							
.....							
2^{N-2}							
2^{N-1}							
2^N	