

## Approach #8: The connection between "life & death" and "territory".

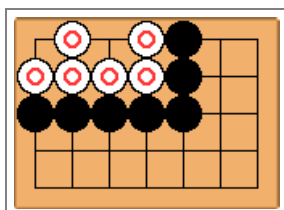
We know from the past what is aimed for in the game of Go.

Cassandra wrote:

VALUE can only be created within called-group-by-the-common-people formations that either already contain at least two permanently-for-the-opponent-forbidden-board-point construction elements, none of which is the sole connection between the called-group-by-the-common-people formation's stones along the lines of the board, which are compatible to called-true-eye-by-the-common-people construction elements, or that can be transferred into such a called-group-by-the-common-people formation with at least two permanently-for-the-opponent-forbidden-board-point construction elements, none of which is the sole connection between called-group-by-the-common-people formation's stones along the lines of the board, which are compatible to called-true-eye-by-the-common-people construction elements, even if the opponent plays first, and which enclosed board intersections are either unoccupied or occupied only by opposing can-be-made-to-disappear-permanently-even-if-the-opponent-plays-first called-group-by-the-common-people construction elements, which are compatible to called-dead-by-the-common-people called-group-by-the-common-people construction elements, which are compatible to called-two-eye-formations-by-some-rule-specialists construction elements, as well as to called-independently-alive-by-the-common-people called-group-by-the-common-people construction elements.

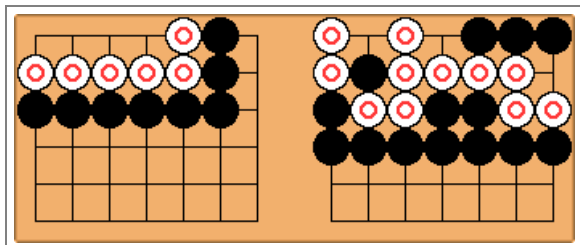
### The trivial solution! Too simple to be true.

Any board point within a group that either already is,



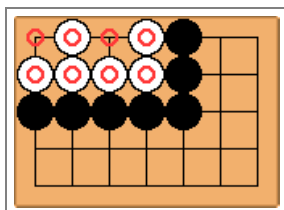
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or even if the opponent has played first can be transformed into,

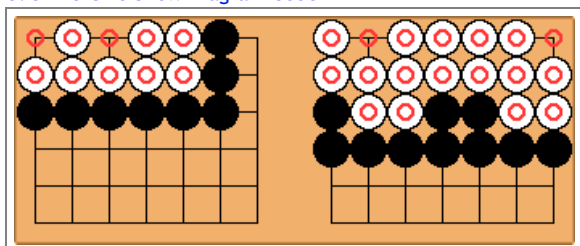


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a "two forbidden points formation",

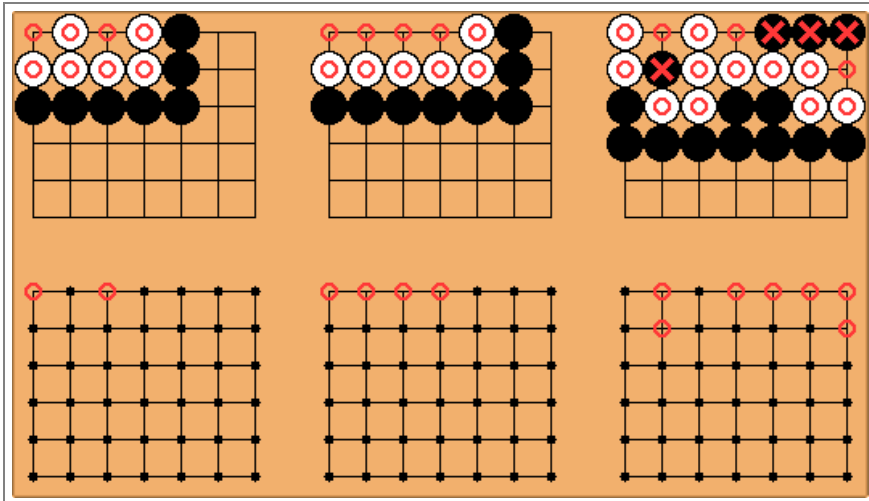


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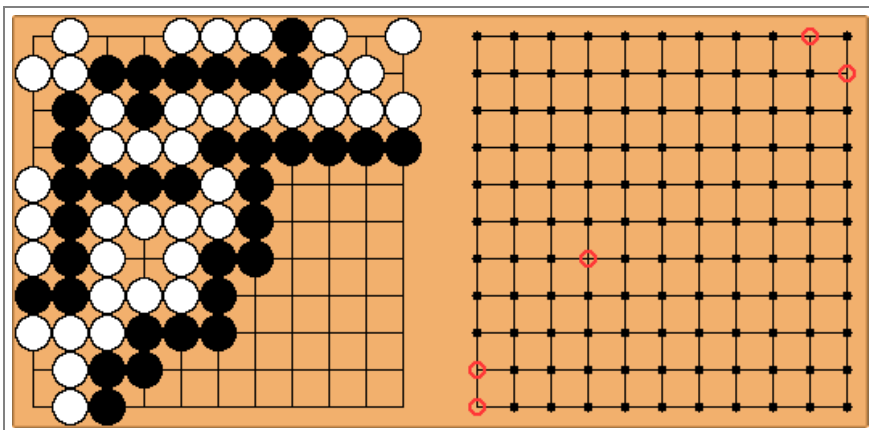
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is "territory".



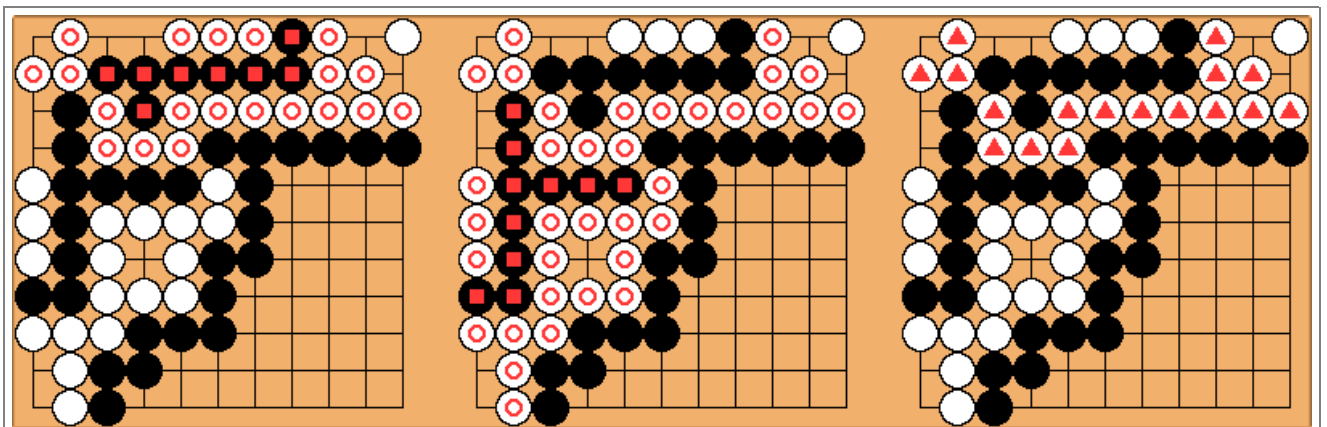
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Even the L&D-Example-4-type of positions does not require special treatment, because ...



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No stone can belong to more than ONLY ONE group!

## Approach #8: The connection between "life & death" and "territory". Contd.

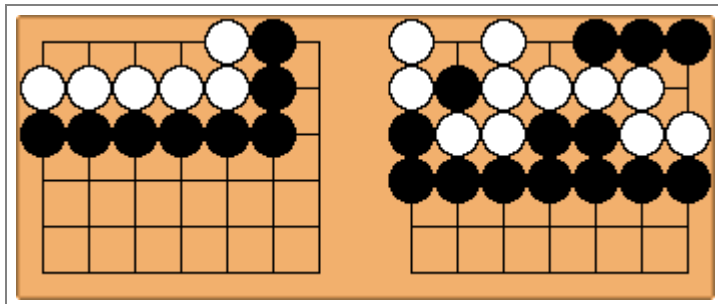
We know from the past what is aimed for in the game of Go.

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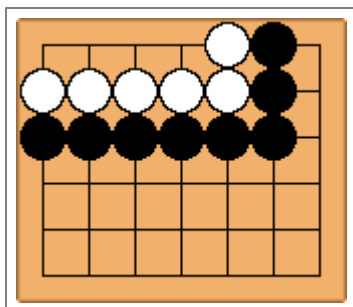
## Yearning for complexity: "if capturing them ...".

"If capturing them ..." (or similar) **overdetermines** a sub-component of "even if the opponent has played first" that was previously sufficiently regulated. Unnecessarily, out of ONE use case

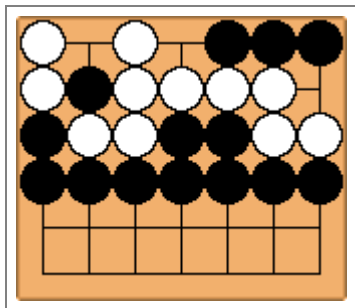


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TWO different use cases are made,



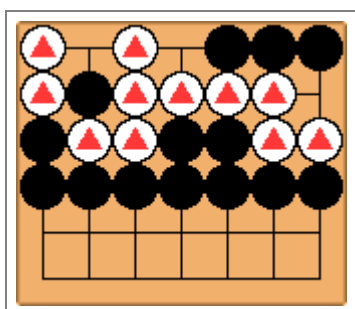
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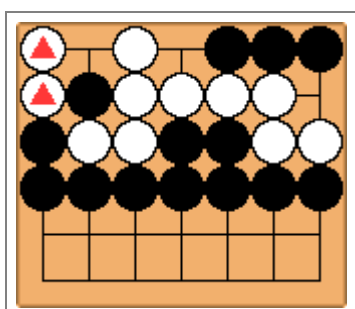
which of course require a whole bundle of additional regulations.

In addition, the verification of "life and death" says goodbye to "groups" of stones,

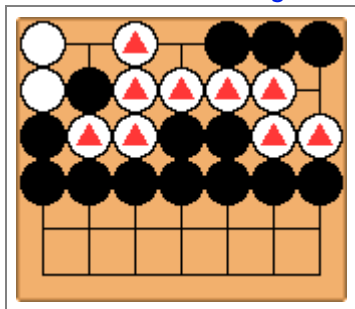


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and instead forces verification for each individual "chain / string" of stones.



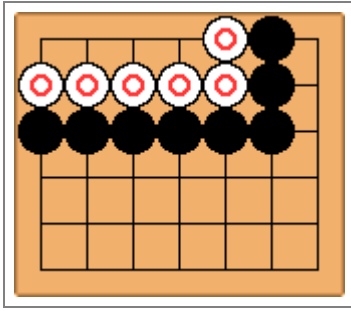
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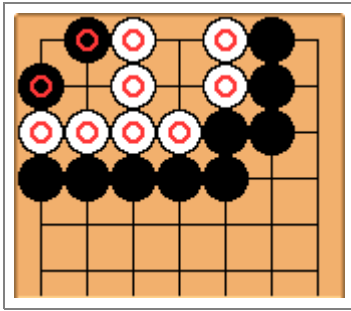
The latter implies the need to consider dependencies and interactions (between several chains / strings) that had not played the slightest role before.

J89 made matters worse by assigning ONE attribute "alive" to TWO different types of chains / strings, "independently alive" chains / strings



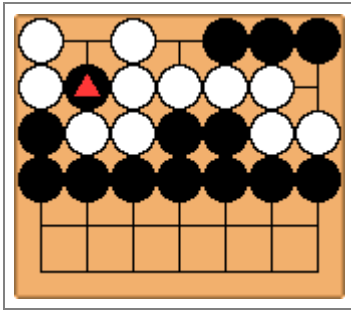
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and chains / strings that are part of a "seki".

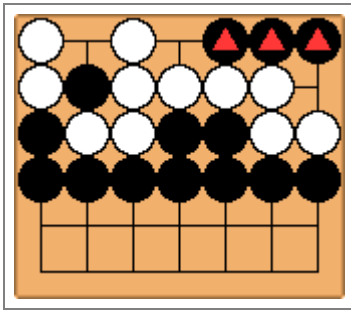


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This also requires ADDITIONAL verification.



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## Approach #8: The connection between "life & death" and "territory". Contd.

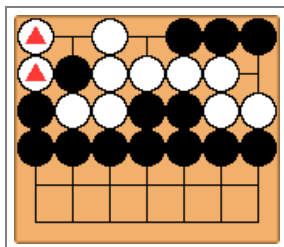
We know from the past what is aimed for in the game of Go.

Cassandra wrote:

VALUE can only be created within called-group-by-the-common-people formations that either already contain at least two permanently-for-the-opponent-forbidden-board-point construction elements, none of which is the sole connection between the called-group-by-the-common-people formation's stones along the lines of the board, which are compatible to called-true-eye-by-the-common-people construction elements, or that can be transferred into such a called-group-by-the-common-people formation with at least two permanently-for-the-opponent-forbidden-board-point construction elements, none of which is the sole connection between called-group-by-the-common-people formation's stones along the lines of the board, which are compatible to called-true-eye-by-the-common-people construction elements, even if the opponent plays first, and which enclosed board intersections are either unoccupied or occupied only by opposing can-be-made-to-disappear-permanently-even-if-the-opponent-plays-first called-group-by-the-common-people construction elements, which are compatible to called-dead-by-the-common-people called-group-by-the-common-people construction elements, which are compatible to called-two-eye-formations-by-some-rule-specialists construction elements, as well as to called-independently-alive-by-the-common-people called-group-by-the-common-people construction elements.

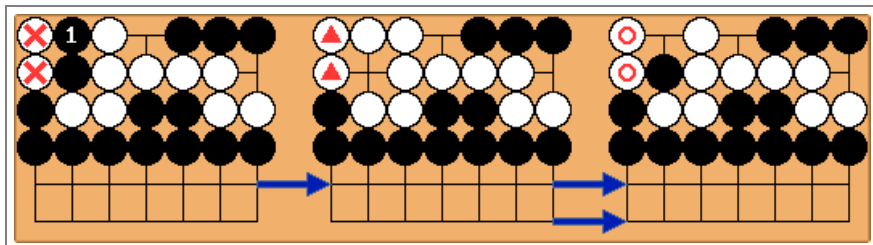
## Yearning for complexity: "if capturing them ...". (Contd.)

Board points that are occupied by an "alive" chain / string of stones under verification, ...



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... which is captured, occupy such chain / string again the end of the verification.

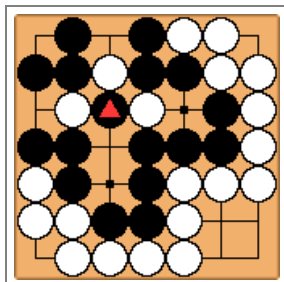


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This is because these board points are "owned" by such strings.

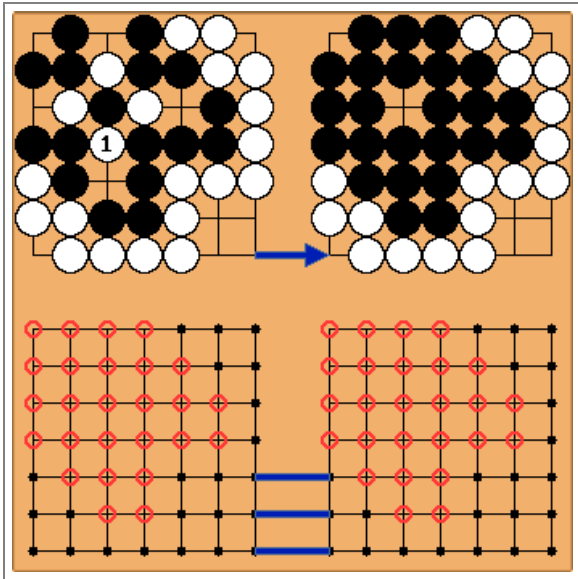
However, this REBIRTH of a chain / string is only the 99.9999% case.

An equivalence of "chain / string of length 1" with "forbidden point" must be **ADDITIONALLY** introduced to solve your famous J89 counterexample, ...



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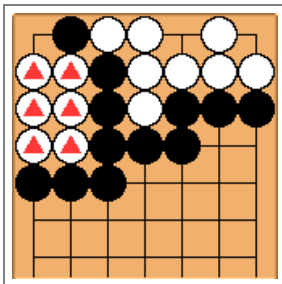
... which was NOT worth mentioning in the lost world of GROUPS.



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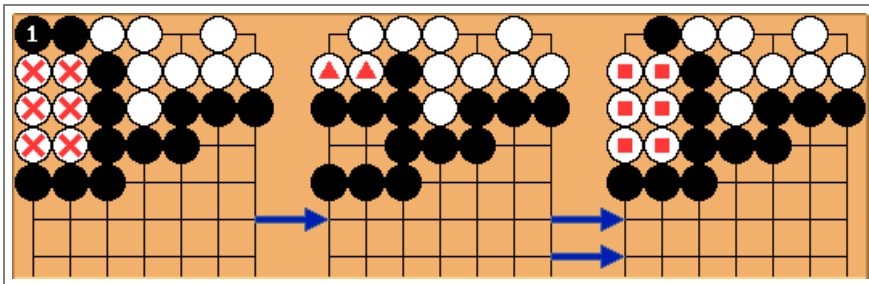
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A chain / string under verification, ...



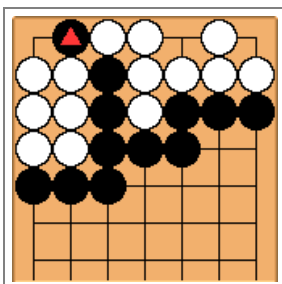
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... which is captured, but only PARTIALLY reborn, is a "seki" chain /string.



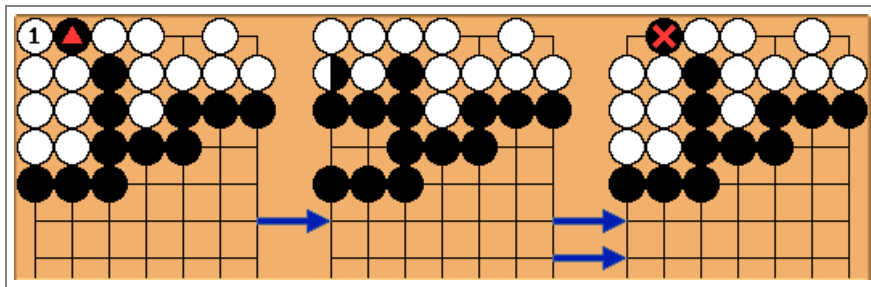
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A chain / string under verification, ...



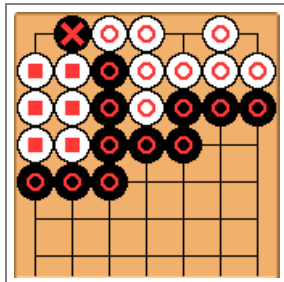
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... which is captured, but NOT reborn, is a "dead" chain /string.



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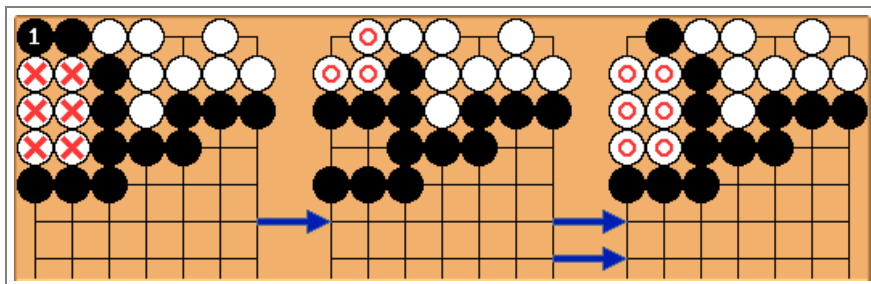
The formation in the upper left corner is commonly known as "seki".



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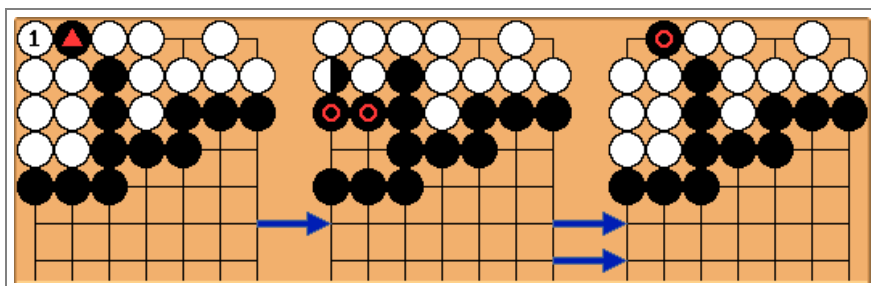
The Black chain / string is "dead", but which does NOT matter here, as it is NOT EXCLUSIVELY fenced by "alive" chains / strings, and so will remain on the board after the verification of L&D has ended.

The Japanese understanding, on the other hand, is based on STONES that are played after the chain / string to be verified has been captured and that are still on the board at the end of the verification.



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During verification, three White stones arised permanently on the board, so White's group under verification is "alive".

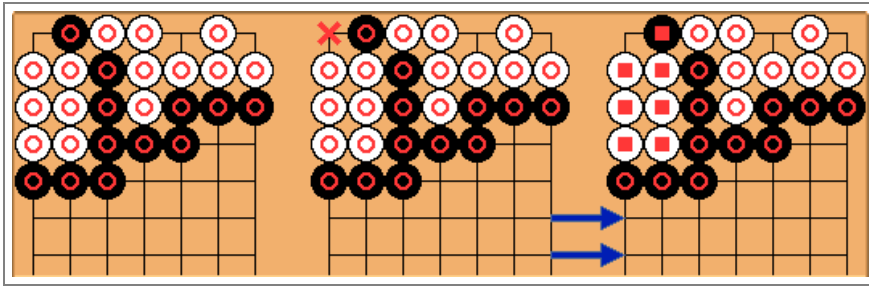


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During verification, two (maybe three) Black stones arised permanently on the board, so Black's group under verification is "alive".

However, "being alive" is NOT a suitable property to differentiate between "independently alive" chains / strings and "seki" chains / strings.





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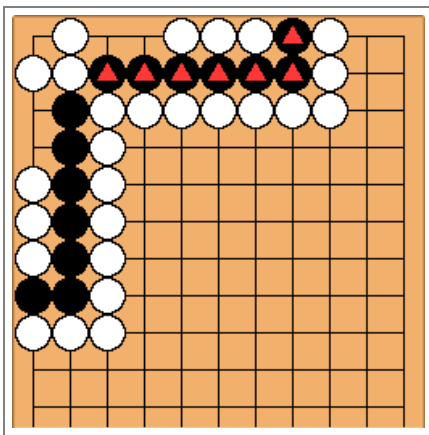
An **ADDITIONAL** property "has 'dame'" must be introduced, but which is irrelevant here, because none of chains / strings in the upper left corner fences something.

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Everything would already be done if it were NOT for **J89's L&D Example 4**.

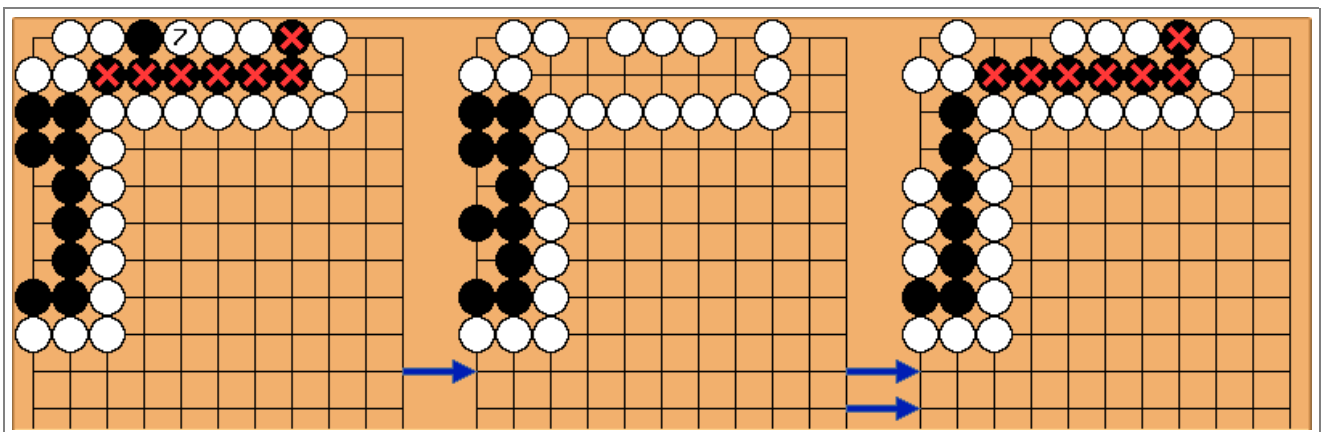
But this L&D Example exists, together with its Japanese understanding, so the matter will become even worse than it already was.

A catastrophe will just barely be averted, as we will see in subsequent posts.



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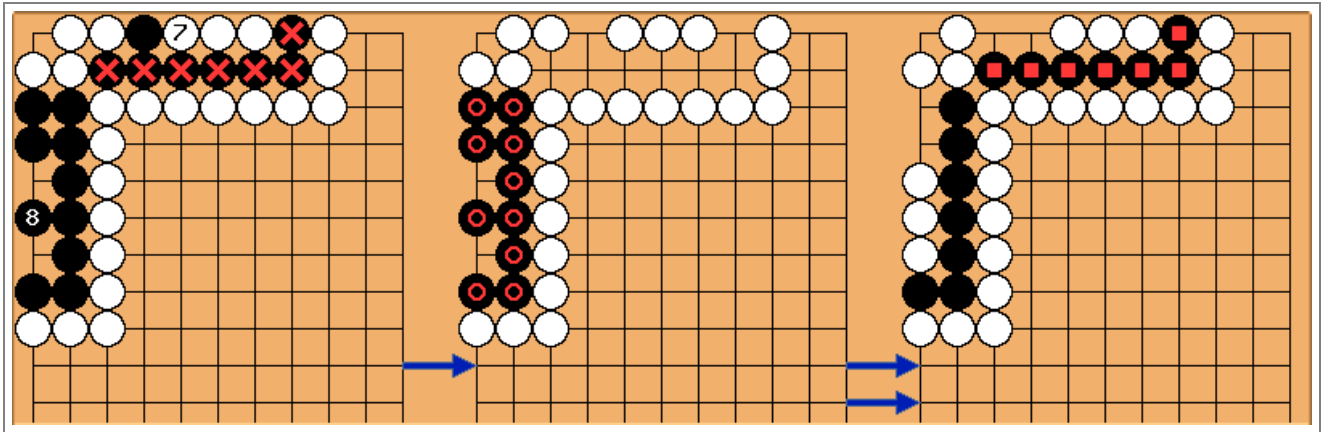
Verification will be done for Black's chain / string at the top.



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Black's string is captured, but NOT reborn, so it is "dead".

However, this result does NOT comply with **Japanese understanding** that sees this chain / string "alive".



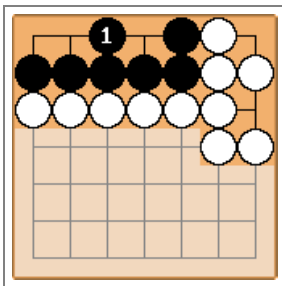
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However, we will NOT go that far here.

After Black's chain / string is taken by White with ⑦, Black's move at ⑧ completes a Black "two forbidden points formation", which did not yet exist in this area.

In the presence of such an event, we will set the chain / string to be verified as a "seki" chain / string.

This insight ("birth of new independently alive group where none was before") may be helpful to end discussions in J89's world ...



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... why moves like ❶ are NOT a means to make chains / strings "alive" somewhere in the shaded area of the board.

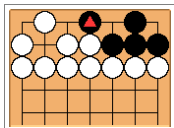
Approach #9: The ultimate challenge: NO UGLY chōsei.

You may be surprised that the heading is not "NO ko-fights & NO UGLY chōsei"

Well, ko-fights are not problematic per se, as you will see soon! We will discuss [J89's ineffectual attempt at a solution](#) at length later.

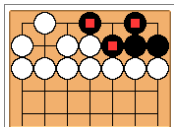
The [intended result of J89's L&D Example 4](#) makes this topic independent of how L&D is verified and how "territory" is defined.

### One ko-shape.



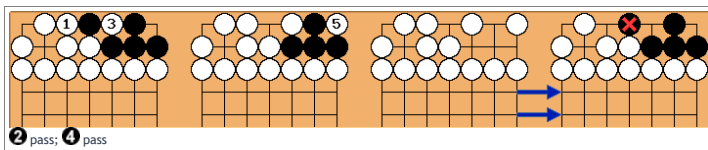
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Verification of L&D for Black's chain / string of length 1 at the top.



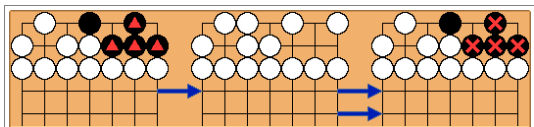
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The single ko-shape in question is marked with  here.



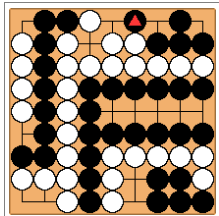
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Black's chain / string is captured, but NO other Black stone has been established permanently on the board, so Black's chain / string is "dead".



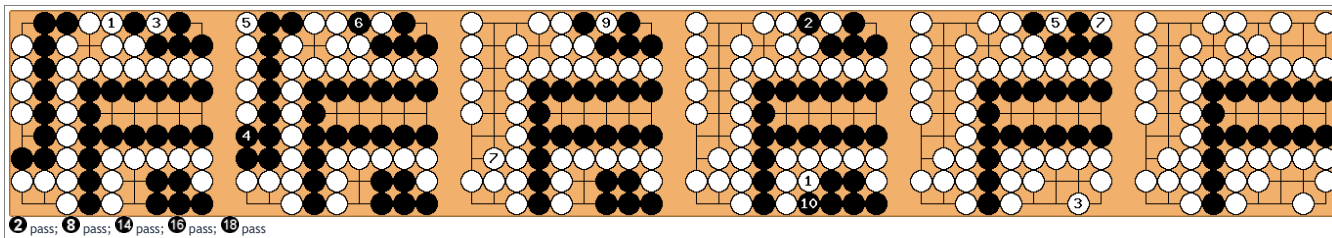
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The sequence above helps verifying L&D of Black's chain / string in the upper right corner, which is "dead" as well.



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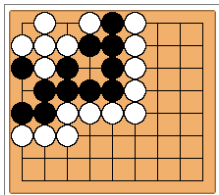
Fighting the ko is merely a waste of time.



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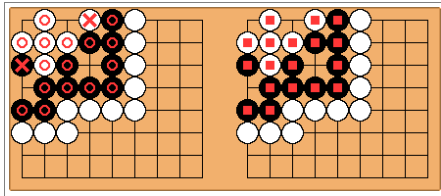
Sooner or later, Black runs out of valid ko-threats.

### Two ko-shapes coupled together: "double-ko seki".



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The basic case of a "double-ko seki".

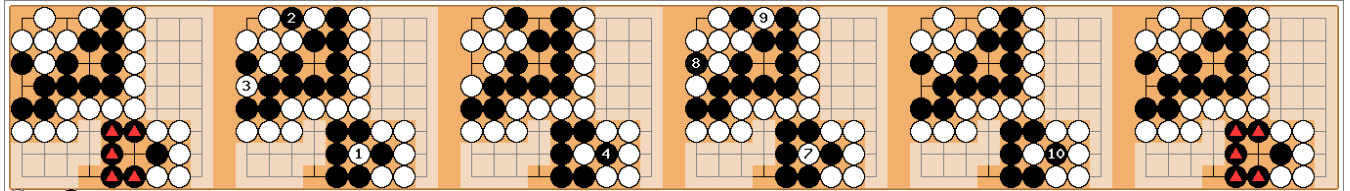


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Dependent on the regulations used, the larger chains / strings are either "alive" or "seki", the chains / strings of length 1 are either "dead" or "seki."

So far so good as the verification of L&D for the upper left corner is concerned. However, there are ...

### Implications for the rest of the board!

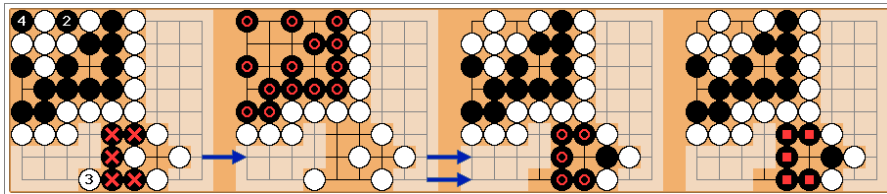


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Verification of L&D for Black's marked chain / string somewhere else on the board, which is "hidden" behind a (third in total) ko-shape.

If White captures into the ko-shape at the bottom, Black captures into "his" ko-shape in the "double-ko seki". White also captures into "her" ko-shape in the "double-ko seki". After having played a ko-threat successfully, Black re-captures into the ko-shape at the bottom. White passes. She cannot have any other options at her disposal, otherwise she would not (yet) have captured into the ko-shape at the bottom. Black also passes, as he has nothing to do.

If White captures into the ko-shape at the bottom for a second time, the mutual capturing into the ko-shapes of the "double-ko seki" is also repeated (this time the other way round). After having played a ko-threat successfully, Black re-captures into the ko-shape at the bottom for the second time. We have reached the verification's starting position. The cycle shown will be repeated forever, resulting in an "ugly chōsei" for Black's chain / string under verification, which will be never captured.



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White has no possibility whatsoever to resist.

If she captures Black's chain / string under verification at the bottom, Black will capture her large chain / string in the "double-ko seki". Black has established a "two forbidden points formation" in a region, where none was before.

Dependent on the regulations used, Black's chain / string at the bottom is either "alive" or "seki".

Additional regulations must be introduced to effectively prevent the "double-ko cycle" described above.

As we will see, this is easier said than done.

We know from the past what is mandatory to prevent "UGLY chōsei":

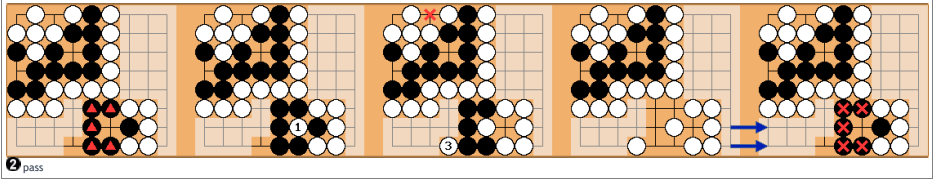
Cassandra wrote:

Additional regulations must be introduced to effectively prevent the "double-ko cycle".

There are several options for doing so.

🧐🧐🧐 Prohibit double-ko capture as a KO-THREAT 🧐🧐🧐

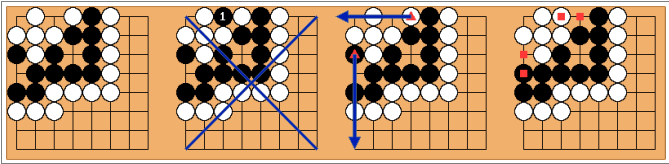
The simplest and most straightforward option that directly addresses, and eliminates, the cause of the main problem.  
But it is obvious that Japanese culture does not consider it opportune to explicitly and publicly prohibit behaviour that is not considered opportune.



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❌ is prohibited for Black after White captured into the ko-shape at the bottom.  
Black's chain / string at the bottom is captured, so it is "dead".

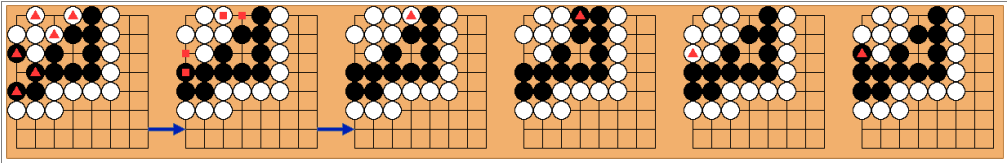
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If you have a double-ko on the board and want to exclude the impulse to capture into one of its ko-shapes from the outset, you can use "HONTE's magic double-ko spell" to simplify the position:  
Move the two individual stones each in the direction of their main groups.  
The result is a 'simple' seki without ko.

Sometimes there may be uncertainty about the extent to which two individual ko-shapes are linked together to form a double-ko.  
In such a case, you might want to apply the "extended version" of HONTE's spell.



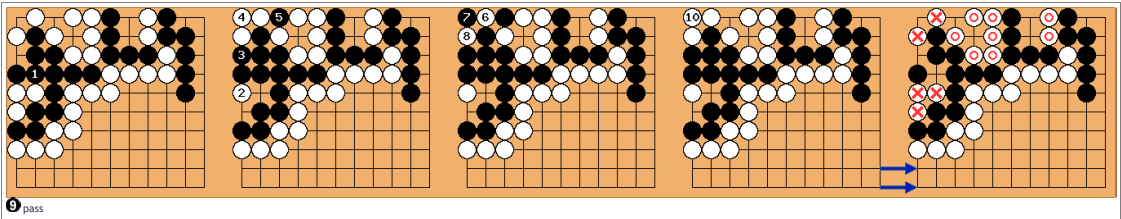
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Add a stone to ONE of the SHARED liberties.  
It does not matter which liberty and which stone colour you chose.

If the verification's result is the SAME with or without that added stone, the two ko-shapes form a double-ko.  
Otherwise, they do not. And you have to undo HONTE's spell.

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However, L&D Example 23's disturbing chōsei remains unsettled.

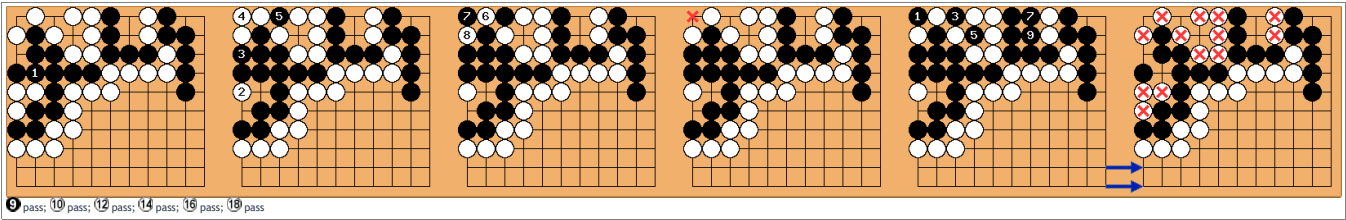


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⑩ repeats ④.  
White's chains / strings at the top will be never captured, therefore these are "alive" (or "seki", according to the regulations applied).  
Per pass, Black captures three White stones, White captures two Black stones. The number of captured stones per pass is unequal, thus this type of cycle can be named "unparity cycle".

🧐🧐🧐 Prohibit double-ko capture as a ko-threat & the repeated START of an UNPARITY CYCLE 🧐🧐🧐

Works successfully!

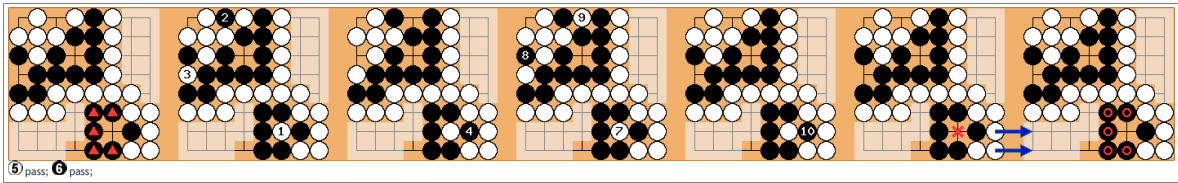


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The point of ❌ is prohibited for White. A move at this point would repeat ④.  
All White chains / strings are captured, so these are "dead".

🧐🧐🧐 Prohibit the repeated START of a cycle 🧐🧐🧐

Not applicable.



5 pass; 6 pass;

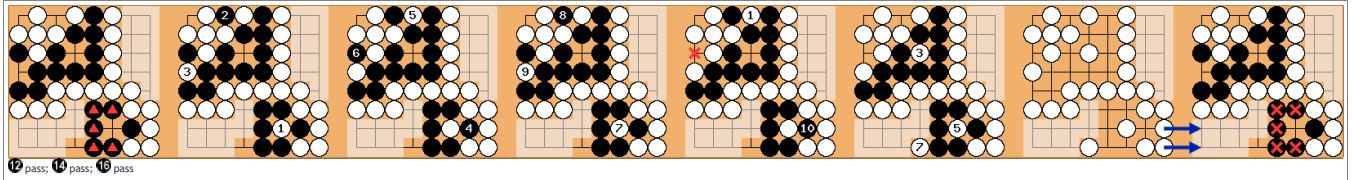
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10 returns to the verification's starting position.

A White move at **X** is prohibited. A move at this point would repeat 1.  
Black's chain / string remains NOT captured, so it is "alive".

🤔🤔🤔 Prohibit the repeated END of a cycle 🤔🤔🤔

Works successfully in the case of double-ko!

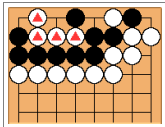


12 pass; 14 pass; 16 pass

[Click Here To Show Diagram Code](#)

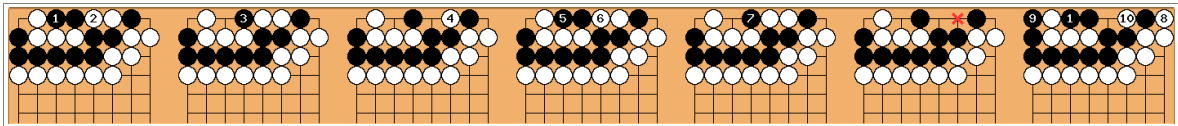
A Black move at **X** is prohibited. A move at this point would repeat 6.  
Black's chain / string is captured, so it is "dead".

However, L&D Example 4 does NOT achieve its intended result.

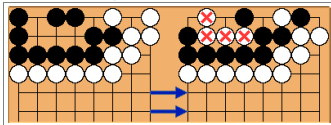


[Click Here To Show Diagram Code](#)

Verification of L&D for White's chain / string in the corner.



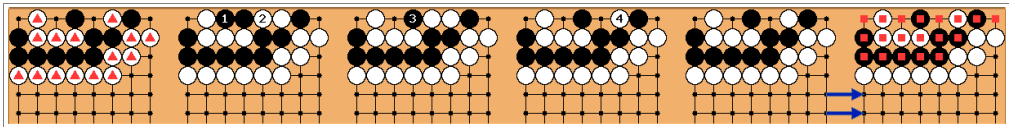
[Click Here To Show Diagram Code](#)



[Click Here To Show Diagram Code](#)

A White move at **X** is prohibited. A move at this point would repeat 4.  
White's chain / string is captured, so it is "dead".  
Black's chains / strings in this position are also verified "dead", so it is a "seki".

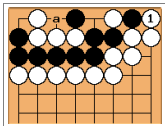
J89, however, sees this White chain / string "alive", so "killing" Black's chains / strings.



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The above result cannot be avoided in principle.

It agrees with the comparable result in the lost world of groups (White is unable to create a "two forbidden points formation" at the top), should thus be "correct".  
However, the impact of this contradiction with J89 is extremely small.



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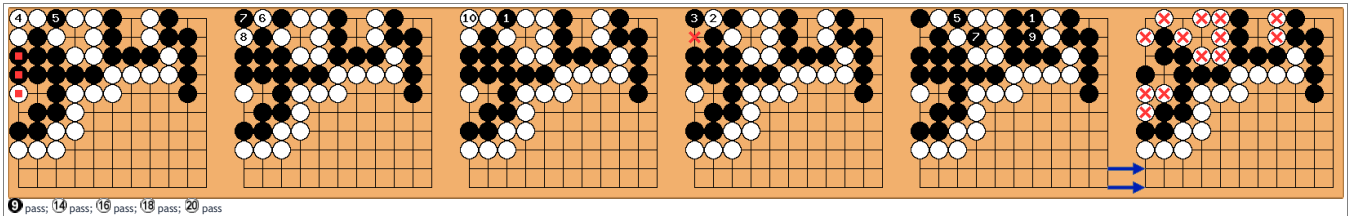
It is strictly limited to games, where 1 (or White A), stopping Black from enforcing "no result", would lose the game by half a point.

However, there is a way to force J89's intended result:

Limit the prohibition of repeating the end of a cycle to "ko-cycles", i.e. those that include a ko-shape or the creation of one.

BTW, cycles WITHOUT ko do not create any problems.

What about L&D Example 23?

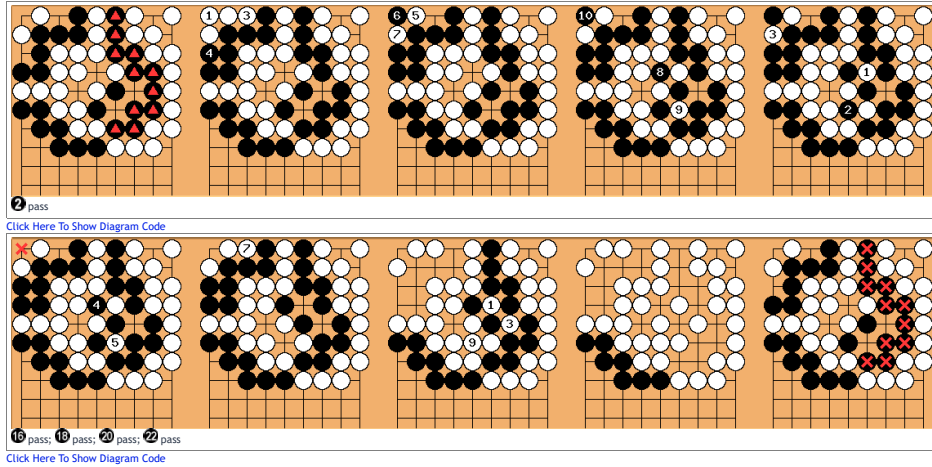


9 pass; 14 pass; 16 pass; 18 pass; 20 pass

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● and ○ started the verification sequence.  
The point of ✖ is prohibited for White. A move at this point would repeat ⑧.  
All White chains / strings are captured, so these are "dead".

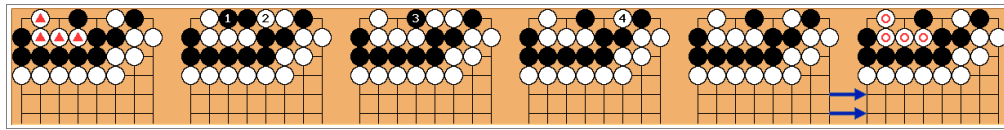
What about L&D Example 18, J89's litmus test?



The point of ✖ is prohibited for Black. A move at this point would repeat ⑩.  
Black's chain / string is captured, so it is "dead".

🧐🧐🧐 Prohibit the repeated end of a KO-cycle 🧐🧐🧐

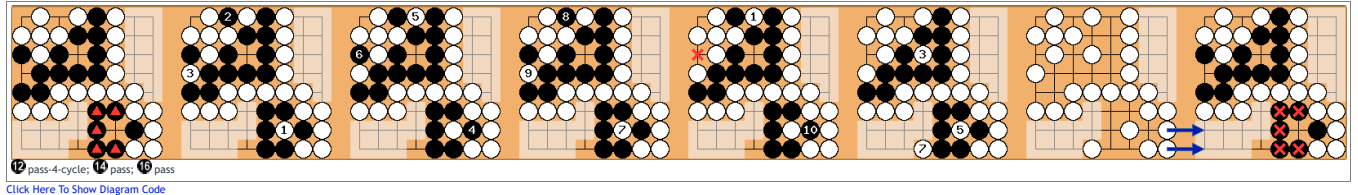
Works successfully!



L&D example 6 is no longer an issue.

🧐🧐🧐 "PASS for LIFTING end-of-ko-cycle-BAN" 🧐🧐🧐

Works successfully!



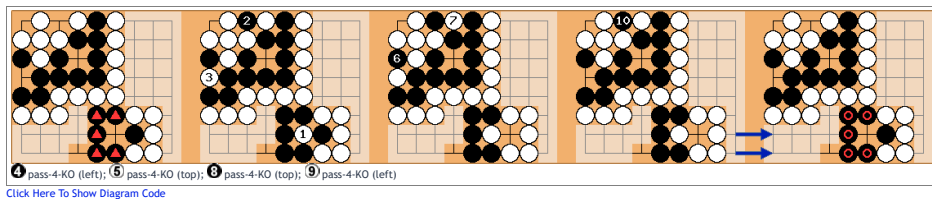
A Black move at ✖ is prohibited. A move at this point would repeat ⑥.  
Black's chain / string is captured, so it is "dead".

The result is the same as above.  
However, as an IMPLICIT prohibition, this variant may be more fault-tolerant than the strict EXPLICIT one above in case potentially problematic formations have been overlooked.

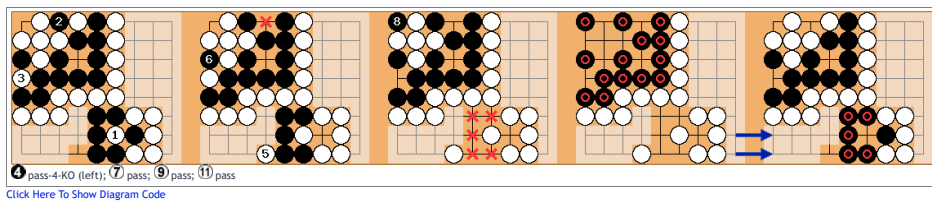
🧐🧐🧐 "Pass for lifting SINGLE ko-ban" 🧐🧐🧐

Not applicable.

This is J89's regulation.



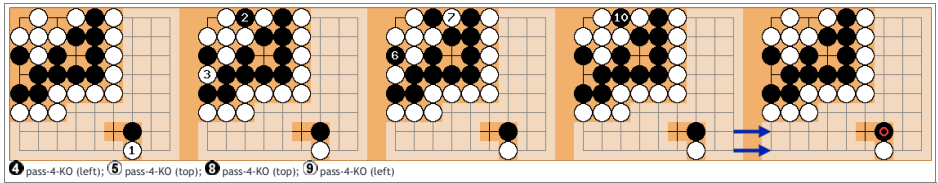
⑩ repeats ②.  
Black's chain / string at the bottom will be never captured, therefore this is "alive".



White does not have any chance to resist.  
If she captures Black's chain / string at the bottom, Black will create a "two forbidden points formation" THEREAFTER in the upper left, where none was before.  
White must not recapture into the double-ko, as she did not play a "pass-4-ko" for "her" ko-shape there before.  
Again, Black's chain / string at the bottom is verified "alive".

As if that wasn't enough, this forced double-ko cycle brings to life any chain on the board that has MORE THAN ONE liberty!





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10 repeats 2.

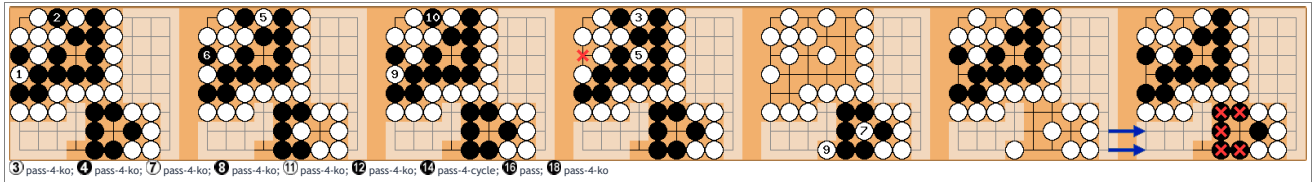
Black's chain / string at the bottom will be never captured, therefore this is "alive".

J89 chose the worst of all conceivable possibilities by prohibiting the immediate recapture into a SINGLE ko-shape, but which does not cause any negative effects at all, for the solution of a problem that arises in the INTERACTION OF A DOUBLE-KO with a single ko.

☹️☹️☹️ "Pass for lifting single ko-ban" & "pass for lifting end-of-ko-cycle-ban" ☹️☹️☹️

Works successfully!

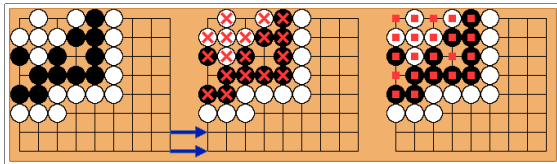
This is no wonder, as "pass for lifting single ko-ban" **overdetermines** what is already EXHAUSTIVELY regulated by "pass for lifting end-of-ko-cycle-ban".



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White will start in the double-ko, in order to eliminate the source of all evil.

A Black move at ✖️ is prohibited. A move at this point would repeat 6.  
Black's "pass-4-cycle" is useless, as his large double-ko chain / string is taken off the board (remember the saying "There is NO double-ko in the verification of L&D").  
Thereafter, Black's chain / string at the bottom is captured, so it is "dead".



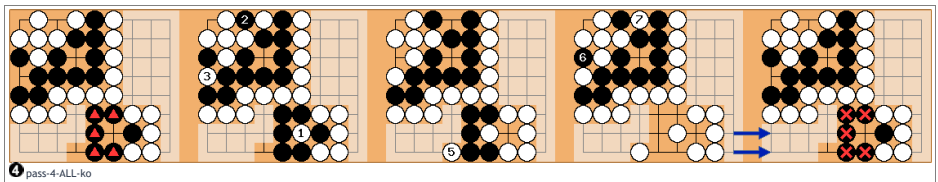
Click Here To Show Diagram Code

The verification of L&D for a double-ko will see all of its chains / strings "dead".  
This formation remains a "double-ko seki".

☹️☹️☹️ "Pass for lifting ALL ko-bans" ☹️☹️☹️

Works successfully in the case of double-ko!

This is the specific regulation in your J2003.



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4 has to "pass-4-ALL-ko", if he wants to recapture into any ko-shape (either for saving his chain / string at the bottom or for idling around in the double-ko).  
However, White is faster, capturing his chain / string at the bottom, which therefore is "dead".

However, L&D Example 23 will remain unsettled!!!

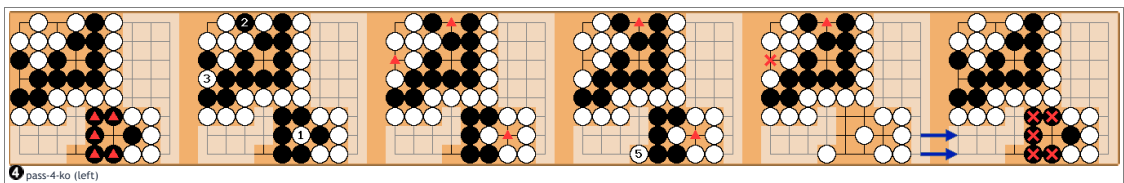
☹️☹️☹️ "Pass for lifting all ko-bans" & prohibit the repeated start of an unparity cycle ☹️☹️☹️

Works successfully!

L&D Example 23 is NO longer an issue.

☹️☹️☹️ "Pass for lifting single ko-ban / RECAPTURE @ NO ko-ban LEFT" ☹️☹️☹️

Works successfully in the case of double-ko!



Click Here To Show Diagram Code

White starts by capturing at the bottom.

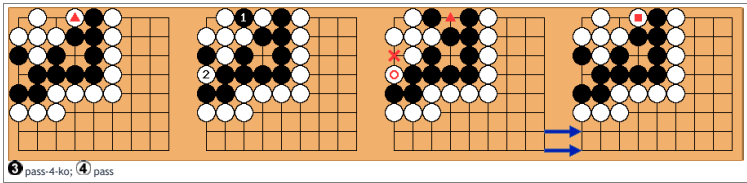
After Black idled around in the double-ko, there are three ko-bans ▲ on the board.

White's "pass-4-ko" erases the ko-ban at the left edge.

White takes Black's chain / string at the bottom off the board. The ko-ban at the bottom vanished together with its ko-shape.

White is hindered to capture into the double-ko, as the ko-ban at the top is still active on the board (remember the saying "There is NO ko-fight in the verification of L&D.")

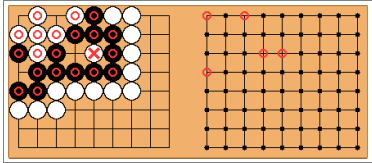




3 pass-4-ko; 4 pass

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Verification of L&D for White's chain / string of length 1.  
 After the idling around in the double-ko, White's chain / string of length 1 at the left edge will remain on the board forever!  
 The verification of L&D for a double-ko's chains / strings of length 1 will have to determine these chains / strings being "seki-stones" (or "dead", dependent on the regulations used).  
 Otherwise, e.g. with J89's regulation, ...



[Click Here To Show Diagram Code](#)

... there would be territory in "seki".

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However, L&D Example 23 will remain unsettled!!!

🤔🤔🤔 "Pass for lifting single ko-ban / recapture @ no ko-ban left" & prohibit the repeated start of an unparity cycle 🤔🤔🤔

Works successfully!

L&D Example 23 is NO longer an issue.

### Approach #10: Do not exaggerate!

I have tried to produce an inherently logical and error-free version of the rules that is consistent with the intended outcomes (as well as a presumed "Japanese understanding") of J89 without being too subversive.

My personal favourite would be the verification of L&D for GROUPS, in combination with "pass-4-END-of-KO-cycle".

The END.

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Any questions, Robert?