

# C4 Concepts

Original by Bill Ackerman

Last Updated by Sue Curtis, 24 April 2024

This is the second of three books about C4. The first covers calls, the second covers concepts, and the third contains in-depth discussions about a number of complex topics.

These books contain many examples, with a wide range of difficulty. Some of them represent examples that are commonly used, but others are included primarily to illustrate a particular technical point. These latter examples may be better as mental or checker-pushing exercises and less suitable for actual dances. The intention of the authors is to include appropriate comments with the more difficult examples.

Some concepts have brief explanations in this book and more complete explanations either in Book 3 or in a separate technical article. In those cases, the explanations in this book are intended to get dancers started on the simpler examples, but are not intended to be complete. The additional references are listed at the end of those sections.

These books are now being maintained by Coop Bellini and Sue Curtis, who have been providing regular updates since June 2023. Many thanks to Bill Ackerman for creating these books and maintaining them for over 10 years. His work continues to benefit the entire community.

A summary of all updates can be found at the end of this document.

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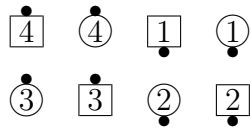
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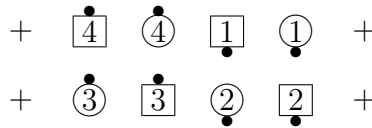
## 12 Matrix, 16 Matrix, MxN Matrix

These terms simply define the size and shape of the setup you are working in, including any phantoms that need to be added. You are probably already familiar with adding phantoms to the outside if you are in a 2x4 and “Split Phantom Lines” is called. At C4, the setup size is often specified in combination with a concept that requires a larger setup. Common examples include “2x8 Matrix, Phantom Tandem” or “12 Matrix, 3x3”

The term “12 Matrix” may mean “2x6 Matrix” or “3x4 Matrix” (or rarely, 1x12 Matrix). If you hear it from a 2x4, then it means “2x6 Matrix” because that is the only 12-person setup you can create from there. Add phantoms to the outside as you would for creating Triple Boxes.



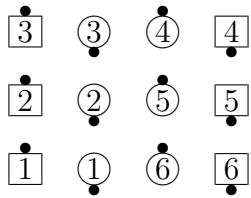
original setup



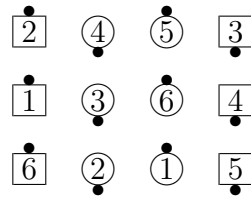
After hearing 12 Matrix,  
think this

The term “16 Matrix” may mean “2x8 Matrix” or “4x4 Matrix”. If the term is ambiguous from where you are, the caller will use the more explicit term.

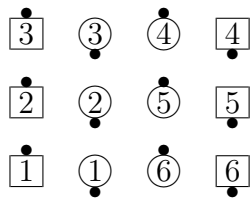
Historically, some calls were used from a 12 or 16 Matrix without any other concepts applied. This is generally not used today, but you might hear something like “12 Matrix Circulate”.



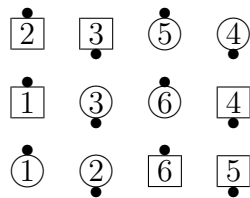
before 12 Matrix Circulate



after



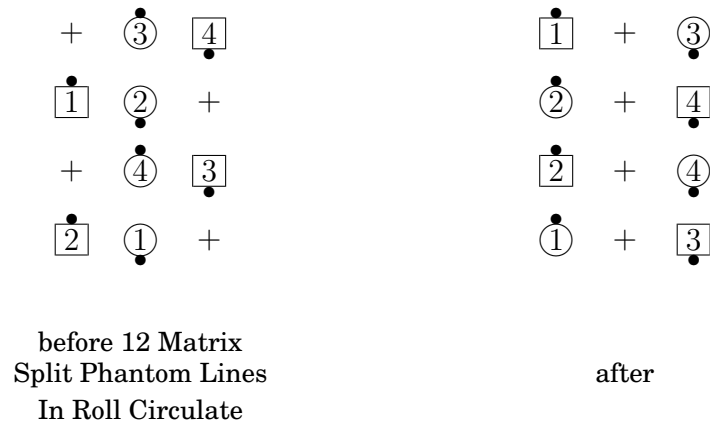
before 12 Matrix Split Circulate



after

## 12 Matrix [Split] [Interlocked] Phantom Columns / Lines / Waves

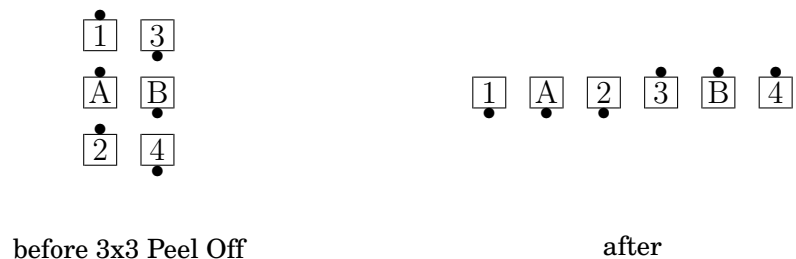
These are like Split Phantom Columns, Lines, or Waves, but the columns, lines, or waves are short—only 3 spots. The concepts are done from a 3x4 matrix.



## 3x3, 4x4, and related concepts

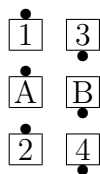
The 3x3 and 4x4 concepts specify that groups of 3 (for 3x3) or 4 (for 4x4) replace groups of 2 dancers in the original call. You may have already heard examples such as “4x4 Bend the Line” (from a Tidal Line) essentially requiring you bend a bigger line. At C4, we apply this idea to many other calls.

While the easiest examples involve cases where the base call involves working As Couples or Tandem with some other dancer (and therefore replacing that Couple of 2 or Tandem of 2 with a larger group), the concepts can be applied to any call where the dancers can be paired up in a way that each pair has a common facing direction at the beginning and end of the call and goes through the same turning motions while dancing the call. To think about creating a 3x3 call, simply add an additional dancer between the original two in each pair. To think about dancing a 3x3 call when you already have the groups of 3, imagine the ends of each group doing the call normally (although in a bigger setup), and the added dancer staying between them.

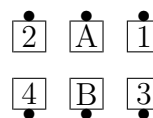


Dancer A stays between 1 and 2, and dancer B stays between 3 and 4. Dancers A and B are sometimes called the “cheese” by analogy with a cheese sandwich; the others could be called the “bread”.

Some calls may change shape in unexpected ways.



before 3x3 Walk and Dodge

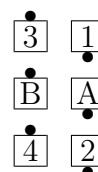


after

The original pairs of dancers may start or end once removed from each other. The same rules apply; dancer A stays halfway between dancers 1 and 2, dancer B stays halfway between dancers 3 and 4.

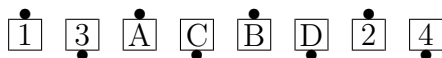


before 3x3 Ah So

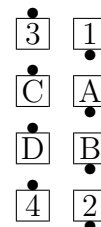


after

Some of the 4x4 calls feel like doing the call Concentric.



before 4x4 Ah So



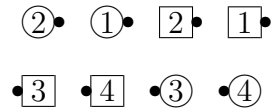
after

This concept can be extended to other numbers, such as 6x6 or 8x8.

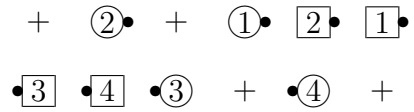
### 3x1/1x3

The 3x1/1x3 concepts specify that some dancers work 3x3 and some dancers work “1x1” (Single). You are probably already familiar with calls such as 3x1 Checkmate or 3x1 Transfer. At C4, we apply this idea to many other calls.

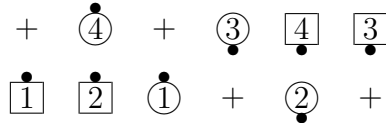
One way to figure out a new 3x1 call is to add phantoms on each side of the Single dancer to make a group of 3, do the call 3x3, and then compress the setup (remove the phantoms) afterwards. The Single dancer can be described as “becoming the cheese of a group of 3”.



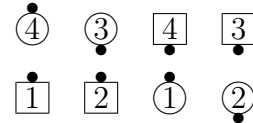
before 3x1 Checkmate



after expanding to 3x3 setup

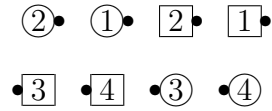


after 3x3 call

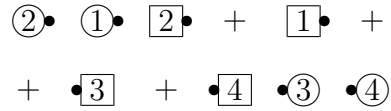


finished

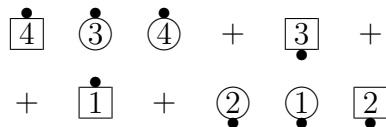
If the concept is 1x3 instead of 3x1, the first dancer in the column becomes the cheese of a group of 3, the the last 3 dancers are grouped together.



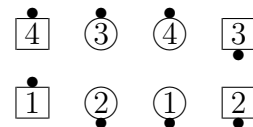
before 1x3 Checkmate



after expanding to 3x3 setup

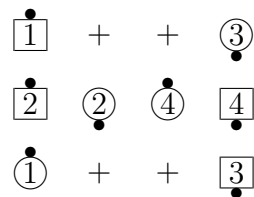


after 3x3 call



finished

On some calls, the groups of 3 and 1 are uniquely specified by the starting setup, and there is no difference between 3x1 and 1x3.

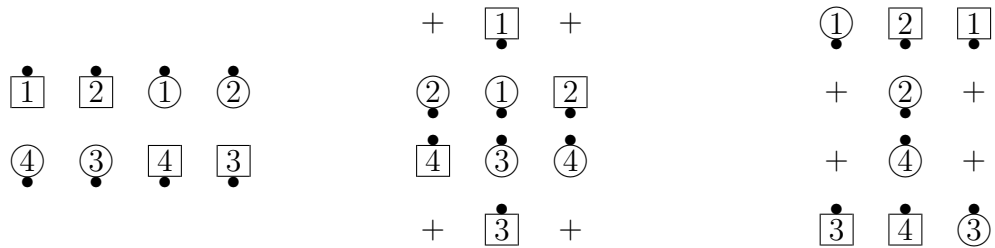


before 3x1 (or 1x3) Peel Off



after

If a 3x1/1x3 call is done from lines all facing the same direction, the first number applies to the right-most group (belles) and the second number applies to the left-most group.



before each call

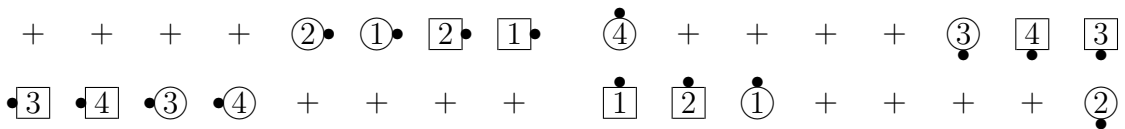
after 3x1 Wheel and Deal

after 1x3 Wheel and Deal

Compression only occurs if it can be done without distorting the groups of 3. Note that the final diagram remains a full 3x4 matrix and is not compressed to 1/4 Tag spots.

## MxN

The principles above can be applied to any MxN concept, although the setups can get large and complicated.



before 2x8 Matrix, 3x5 Checkmate

after

## Nx0 (N By Zero), 0xN

This is MxN, with one of the values being Zero. See the section on “4x0 / 0x4” in Book 3.

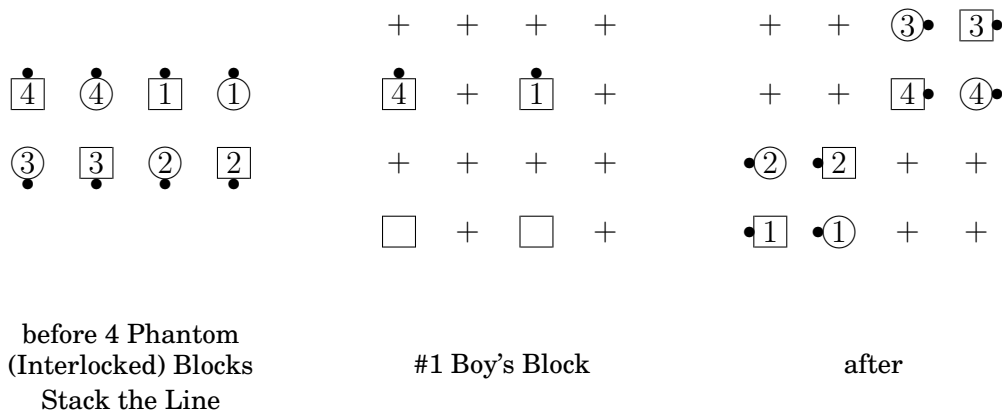
A more comprehensive treatment of 3x3, 4x4, 3x1, and related concepts is given in Book 3. The original articles introducing these concepts can be found at <https://challengedance.org/3by3/3by3.html> and <https://challengedance.org/3by1/3by1.html>.

## 4 Phantom (Interlocked) Blocks

This is done in a 4x4 matrix and refers to the C1 concept of “Blocks”. At C1, you will always have 4 real people in your Block. With 4 Phantom (Interlocked) Blocks, you work with the same set of



spots, but you will likely have phantoms in some of those spots. Each person deduces which “Block” formation they are in, and does the call in that Block, however many people it may contain.



Some callers include the word “Interlocked”, and other callers just say “4 Phantom Blocks”. These are the same thing. The word “Interlocked” is intended to be somewhat descriptive, but there is only one concept of this type.

## 6x2

This is not a general concept—it applies to a very small number of calls. The outer 6 people do the outsides’ part of the call, and the center 2 do the centers’ part. Examples are 6x2 Turnstyle and 6x2 You All.

Historically, some callers have used 6x2 or 3x2 as a shorthand for the outer 6 doing one call and the center 2 doing another, in a way that resembles 6x2 or 3x2 Acey Deucey. The only one of these that seems to persist today is “3x2 Reshape”, which means that the outside triangles Reshape the Triangle while the center two Trade.

The concept discussed here is not related to the more general MxN concept or MxN matrix. If you hear something like “2x8 Matrix, 6x2 Transfer the Column” it refers to the more general concepts. (Find a 2x8 matrix and identify the first 6 and last 2 in each column.)

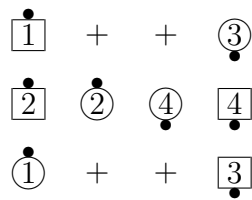
## MxN As Couples/Tandem, 1xN-some

MxN As Couples/Tandem represents the logical combination of the MxN concept and the As Couples/Tandem concepts. The As Couples/Tandem concepts specify that dancers work Solid in groups of 2, and the MxN concept changes those groups of 2 to be groups of M and N (usually 3 and 1).

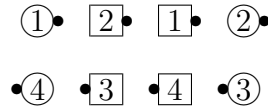


before 3x1 As Couples  
Flip the Diamond

after



before 3x1 Tandem  
1/2 Tag



after

The specific concept “1 By Threesome” is somewhat older and is typically used more like “Some work Threesome” or “Those who can work Threesome”. Usually the groups of 3 are uniquely specified by the setup; the use of “1 By 3” rather than “3 By 1” is a linguistic convenience, not an effort to distinguish the groups.

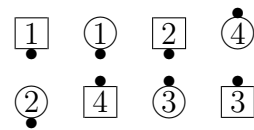
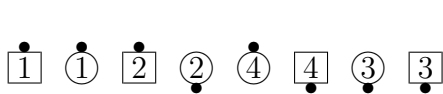


before  
1 By Threesome Swing Thru

after

With this older concept, the ending setup was not always clear. A call such as “1 By Threesome Step and Fold” might end in a 2x4 or a 2x6.

Callers who want to use Twosome in combination with the full 3x1/1x3 concepts, including the rules governing pairing and/or the rules governing collapsing the ending setups, typically use a longer syntax, such as “3x1, Couples Twosome”.



before 3x1 Couples Twosome  
Step and Fold

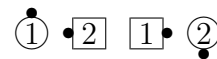
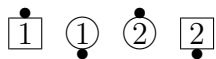
after

## <fraction> and <fraction>

See [Half and Half](#), page 33.

## <fraction> Stable

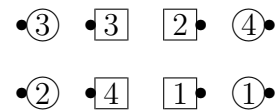
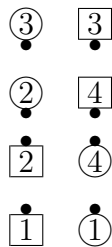
Each person stops turning (but otherwise continues moving) after having turned the given fraction. If you turn one way and then the other, all of those turns add up.



before 3/4 Stable Swing Thru

after

This can lead to the necessity to know call definitions quite rigorously:



before 1/4 Stable Polly Wally

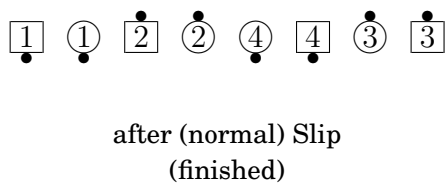
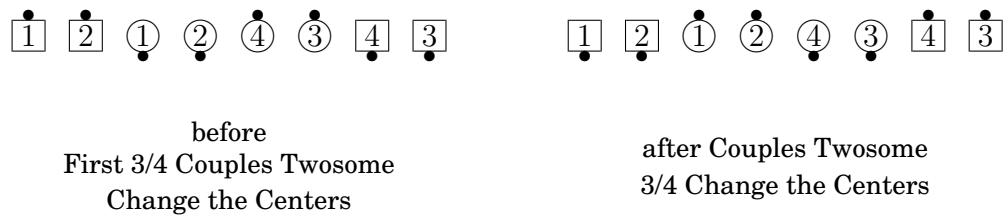
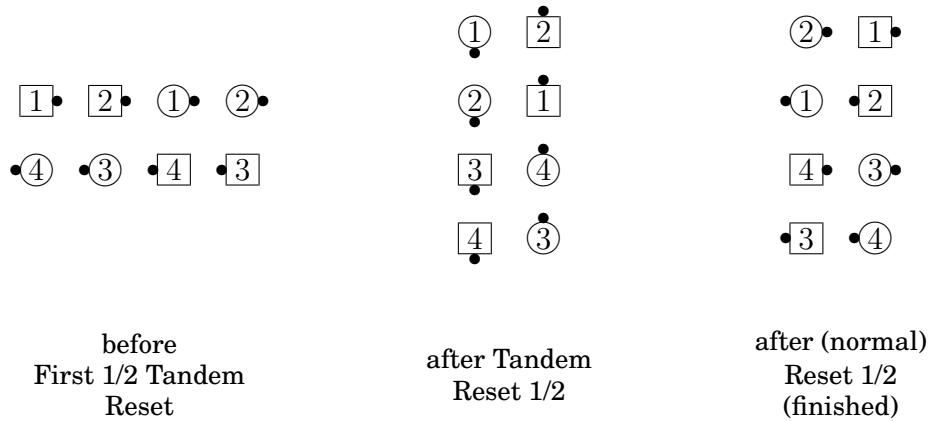
after

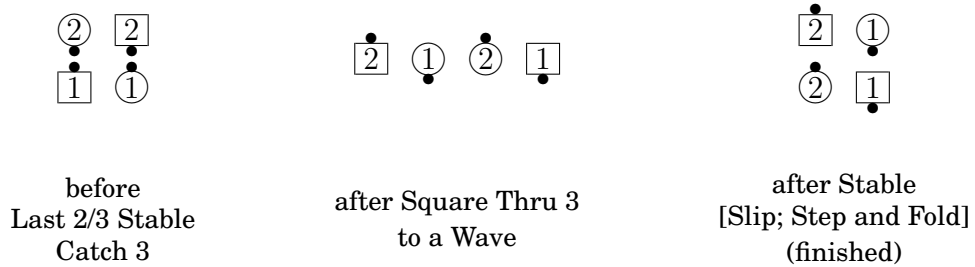
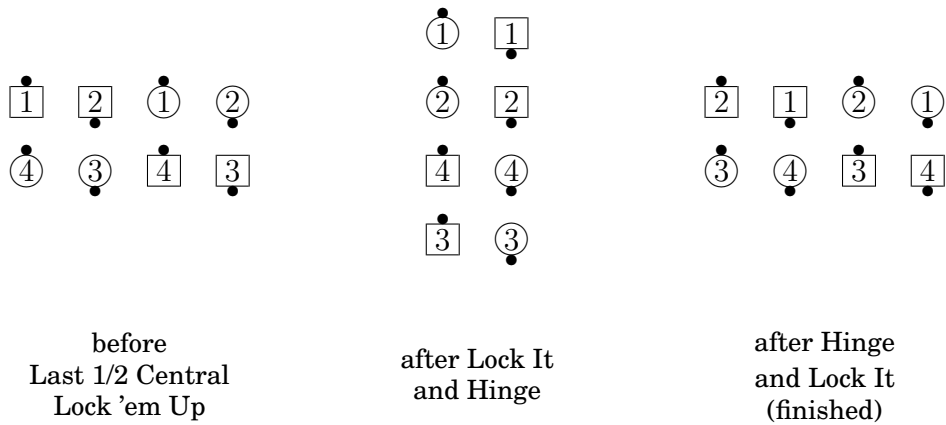
## <fraction> Twosome, Twosome <fraction> Solid

This is discussed in the section on Twosome Variations on page 88.

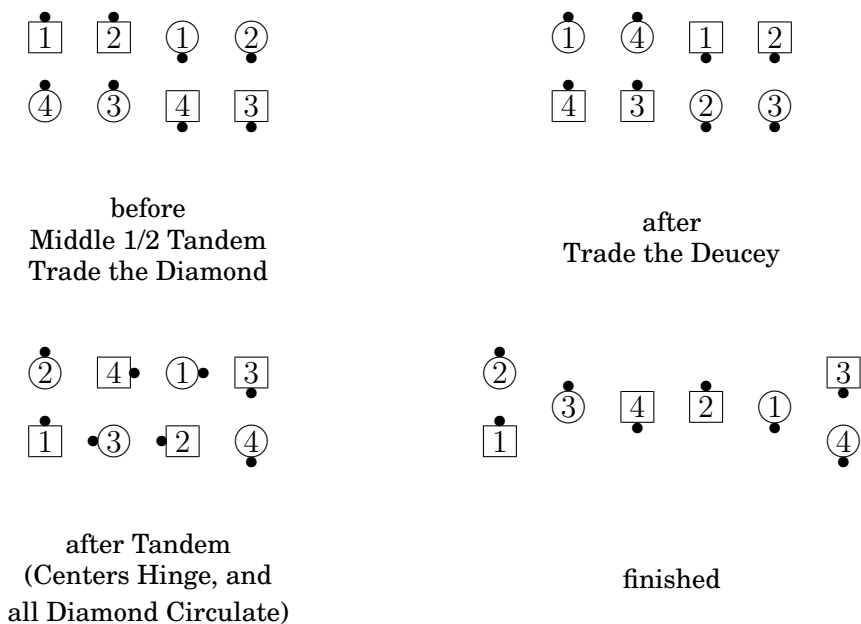
## First/Middle/Last <fraction>

This is a set of meta-concepts similar to Initially, Secondly, and Finally, except they apply to *fractions* of a call rather than *parts*. For example, “First 1/2 Tandem” means do the first 1/2 of the call Tandem, and the rest of the call normally. Below are some examples.





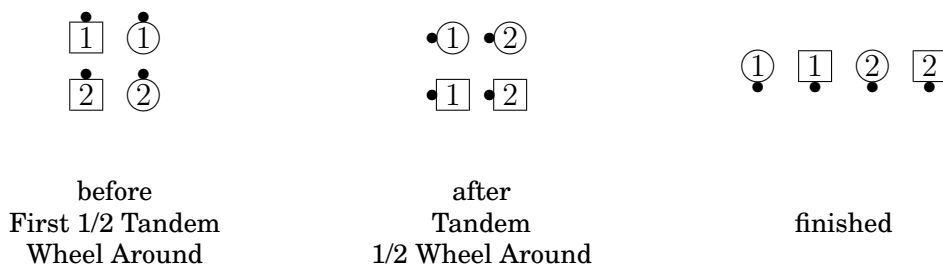
In the example above, look carefully at the Stable [Slip; Step and Fold]. When a concept such as Stable is applied to a fraction of a call, it is applied to that entire fraction as one unit. Apply Stable to the combination of Slip and Step and Fold as if it is one call. Do not try to apply it separately to each part.



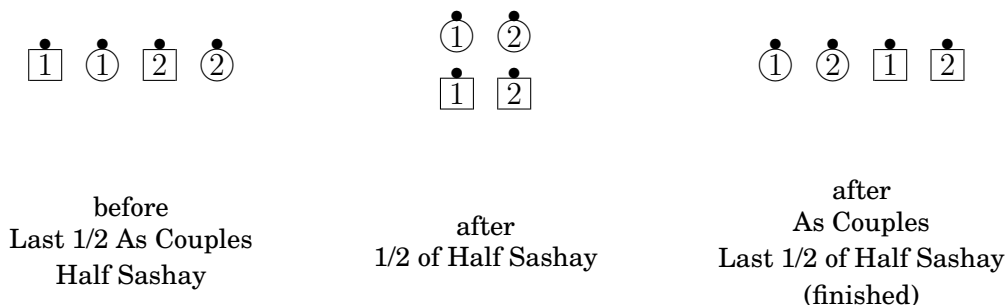
Examples involving Middle Half tend to apply the concept sooner than you might expect. On a 4-part call, the concept applies starting on the second part. Some dancers have a tendency to do half of the call before starting to think about the concept. Then, it is too late.

## Calls Without Parts

While most of the calls typically used with this concept have well-defined parts, that is not strictly necessary. Some calls (such as Wheel Around) do not have separate parts but do have a well-defined “half way point” or other intermediate position. These calls may be used with First/Last <fraction> as long as the fraction matches a position that is well-defined.



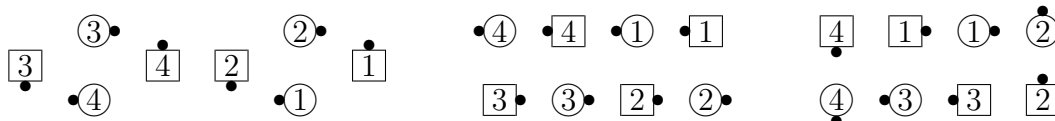
Please note that there is a distinction between “having parts” and “having fractions”. “First 1/2 Tandem Wheel Around” is proper, but it is not proper to apply Initially to Wheel Around, because Wheel Around does not have parts. It is possible to have “halves” (or other fractions) without having “parts”. See Book 3, Chapter 1, for a more detailed discussion of parts and fractions.



Note that the first 1/2 of Half Sashay is different from the second 1/2. The first 1/2 is the same as Single Shuffle. The second 1/2 is the same as Mesh. Some people make the mistake of trying to the first 1/2 twice. That works on Wheel Around (where the two halves are the same) but does not work on Half Sashay.

## Breaking Parts in Half

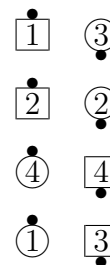
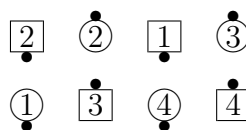
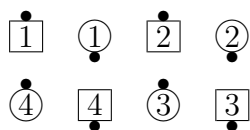
First 1/2 and Last 1/2 can also be used on calls that have an odd number of parts. In this case the middle part must be split into 2 halves.



before  
Last 1/2 Tandem  
Remake

after 1/2 Remake

finished



before  
First 1/2 Checker Board  
Catch Mix 3

after Checker Board:  
(Square Thru 3 to a Wave  
and Centers Cross Run)

finished

Look at the last example carefully. While any Catch call has 3 parts, if the middle part can be divided in half, then the entire Catch call can also be divided in half. The two halves of Catch Mix 3 are:

- Square Thru 3 to a Wave; Centers Cross Run (from the Mix)
- Centers Trade (from the Mix); all Step and Fold

The Checker Board concept applies to the entire First 1/2 of the call as one unit. Do not try to do Checker Board Square Thru 3 to a Wave and then a separate Checker Board Centers Cross Run.

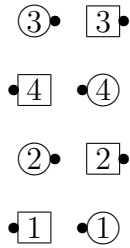
## Add <call>

See the section in Book 1 on Concise Modifiers.

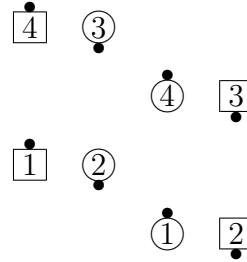
## Anchor the <anyone>

The call is done in such a way that the designated people stay on the same spot on the floor, and the other people in their setup compensate for that by adjusting their ending setup so that it has the correct shape. The designated person can still change facing direction.

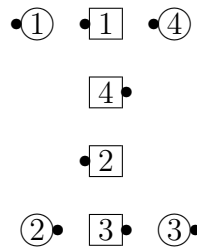
The call must be one in which the setup is divided into smaller sub-setups, each of which does the call. There must be one designated person in each sub-setup. The sub-setups shift themselves around as needed to keep the designated person on the same spot.



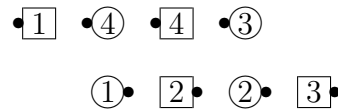
before Anchor the Girls, hinge



after



before Anchor the Side Boys  
3x1 Triangle Circulate



after

## Checker Board/Box Variations

This section covers variations on the Checker Board/Box concept.

### Checker Diamond

From a 2x4 with two Lead dancers in each Line, those two dancers Trade with each other, while the other dancers do the specified call in their distorted Diamond (or other named formation).





before Checker Diamond  
Flip the Diamond

after

### [Left] [Twin] Orbit Board/Box

From Parallel Waves, the two Lead dancers do the specified type of Orbit Circulate, while the others work in their distorted setup as they would on Checker Board/Box/<formation>.



before Left Orbit Board Recycle

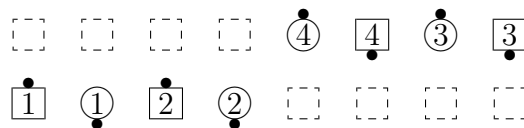
after

If you think of the Leads' part of the "Checker" concepts as Trade Circulate instead of simply Trade, these variations will seem more natural. However, the definition of the Checker concepts does use the term "Trade".

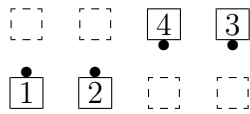
### Common Spot / Point / Center / End <formation>

This concept requires some or all dancers currently in right- or left-hand miniwaves to assume that they are logically on the same spot as each other. All dancers will then do the call in a compressed logical setup.

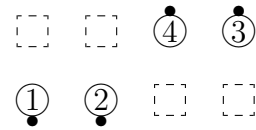
This is best illustrated with an example. In the example below, all dancers are in mini-waves with another dancer and are considered to be logically on the same spot with that dancer. While the overall starting setup is a 2x8, the compressed logical setup is a 2x4. Make sure to work in the logical 2x4 (in the center); don't try to work in a Split Phantom Setup.



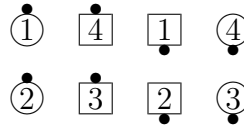
before Common Spot Lines, Link Up



Boys' Logical setup

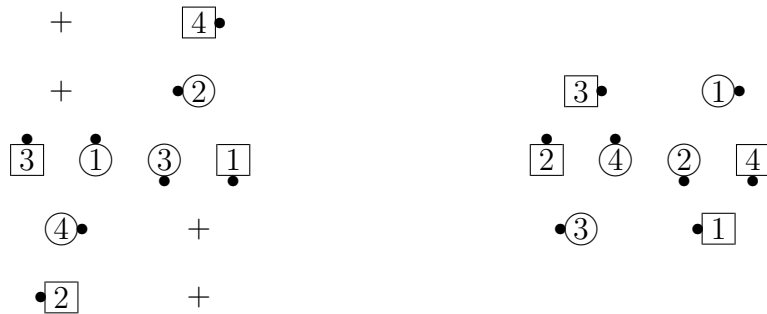


Girls' Logical setup



after entire call

Examples from diamonds are also common. Usually the points of the diamonds are working Common Spot, and the centers are working normally. Some callers use the term “Common Point Diamonds” rather than “Common Spot Diamonds” to emphasize the fact that only the points are considered to be on the same spot.



before Common Point Diamonds  
Exchange the Diamonds 1/4

after

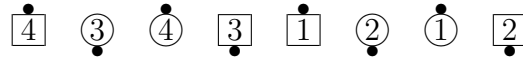
Other terms that may be used include “Common Center Lines”, “Common End Lines”, “Common Center Columns”, and “Common End Columns”. These terms are intended to clarify that you are all the centers or all the ends of normal 2x4 lines or columns.

There is much more extensive discussion of this (oriented toward users of the Sd computer program) at <http://www.challengedance.org/sd/appnote4.html>. This document also illustrates Common Spot Hourglass, Galaxy, and Point-to-Point Diamonds.

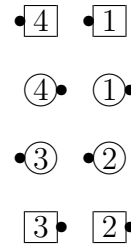
# Concentric Variations

## [Grand] Single [Cross] Concentric

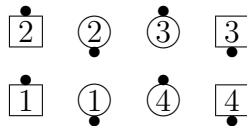
Single Concentric is a 4-person version of Concentric. It is applied to 2-person calls.



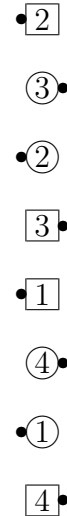
before Single Concentric Shazam



after



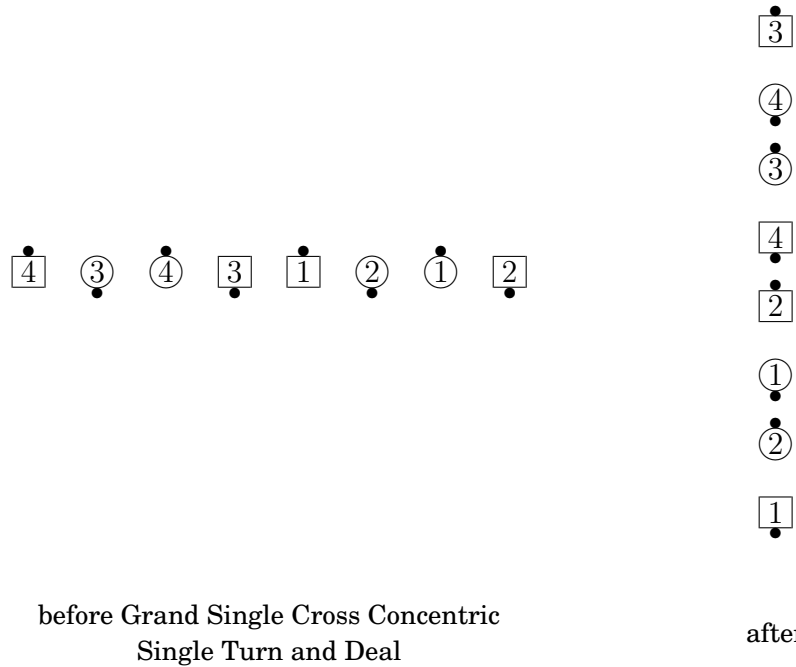
before Single Concentric Shazam  
(**not** the same as Concentric Shazam)



after

Grand Single Concentric has the center 2 work with each other in the very center, the next 2 work around them, and so on.

Single Cross Concentric is the obvious thing. On Grand Single Cross Concentric, the center 2 do the call and go to the very outside, and so on. The rule about “let the centers do the call first and get out of the way” applies very strongly here.



*Concentric Triple Boxes*

This is the obvious thing, from a 2x6. There is an inner Box, an intermediate Box, and an outer Box. The complexities of the Concentric rule (“lines to lines”, etc.) do not apply. Just work to spots.

**[<N/4>] [Reverse] Crazy**

(This concept is introduced at C2, but the definition is included here in order to cover details that are beyond typical C2 usage.)

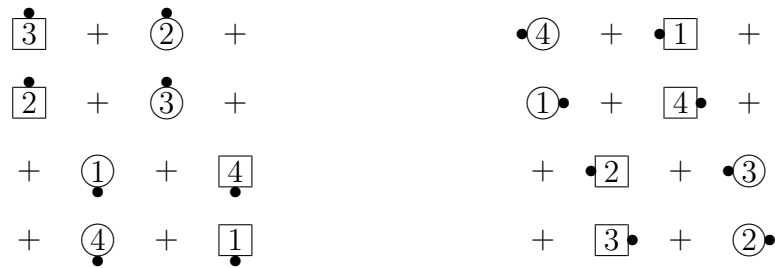
Crazy means to do the call on each side, then by the (new) centers, then on each side again, and then by the centers again. Reverse Crazy is the opposite order (start in the center). Both of these have 4 parts and can be fractionalized, using terms such as “1/2 Crazy” or “3/4 Reverse Crazy”.

When Crazy is called from a 2x4 and the call can be done from a 2x2 or a 1x4, the 2x2 is preferred (for the parts done on “each side”). From Parallel Waves, 1/2 Crazy Recycle starts in each Box (that is, with a Split Recycle).

When used in combination with other concepts, each component of a Crazy call is a separate part, regardless of the number of parts in the underlying call. For example, “Crazy Mix” has 4 parts, not 8. “Initially Stable, Crazy Mix” means the first Mix (on each side) is Stable and the remaining ones are not. If the caller wants only the first part of the first Mix to be Stable, they need to say “Initially Initially Stable, Crazy Mix”.

## [<N/4>] [Reverse] Crazy Phantom Columns / Lines / Waves

This applies the Crazy concept to a mixture of Split Phantom formations and the center phantom formation. So, Crazy Phantom Waves is almost the same as Split Phantom Waves, Center Phantom Waves, Split Phantom Waves again, and Center Phantom Waves again, except for the following tricky point: Do *not* re-evaluate the meaning of “Lines” or “Columns”. Once the orientation of the splitting is determined from the first part, continue to use the same absolute orientation of the splitting. This is often described as “painting stripes on the floor”. For example, on a Crazy Phantom Waves Split Checkmate, the first part is done in Split Phantom Waves, and the second part in the Center Phantom *Columns*, because people’s orientation changed. The third and fourth parts are in T-boned 2x4’s, oriented according to the stripes that were painted at the start.



before Crazy Phantom Waves  
Split Checkmate  
(stripes are horizontal)

after

## Diagonal Columns / Lines / Waves

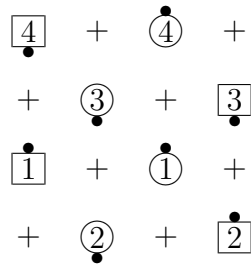
This applies to a 1x4 that is the “main diagonal” of a block formation, or other similarly oriented 1x4’s. They work in that distorted line or column.

The difference between a line and a column is important—it tells the dancers which way the distortion goes. These are among the trickiest distortions to handle. Remember that your facing direction will be the same as though you had done the call in an undistorted setup. Only your position is distorted. If the call would go to a 1x4 oriented the other way (e.g. Lockit), change to the other diagonal.

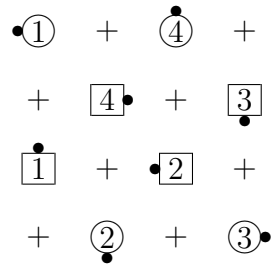


before Diagonal Line Flip the Line

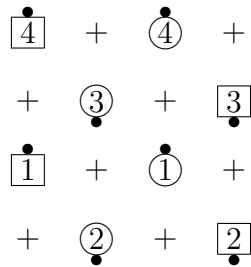
after



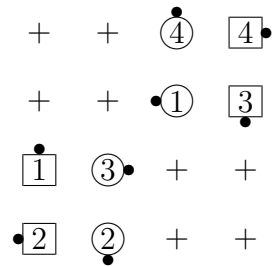
before Diagonal Column Dixie Style



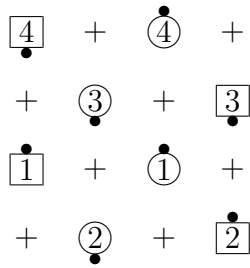
after



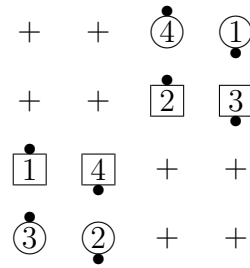
before Diagonal Line Lockit



after



before Diagonal Column Single Strut Right



after

### *Diagonal 1/4 Tag*

This is a distorted 1/4-tag-like or diamond-like setup obtained from block spots. The “main diagonal” of the block formation comprises the “center line” of the virtual 1/4 tag. It’s always a line, that is, the centers always consider the others to be in front of them or behind them.



before Diagonal 1/4 Tag  
All 8 Recycle

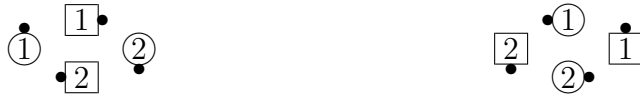
after

## Diamond

This concept is only used from Diamonds, and it specifies that you do the call working to Diamond footprints. The call will either be a two-dancer call or a call with a series of arm turns (such as Swing Thru or Remake). In all cases, the orientation of the diamond is preserved, even if the two-dancer call (or part of the call) changes shape. The dance action often feels like one or more Diamond Circulates, with some additional actions based on the individual call.

On a two-dancer call (or appropriate part of a longer call), the centers of each diamond work together and the points of each diamond work together to do the call. If the 1x2 does not change shape (such as Arm Turn 1/2), then the centers remain centers and the points remain points. If the 1x2 does change shape (such as Arm Turn 1/4), then the centers become points and the points become centers, as they would on Diamond Circulate.

Diamond Shazam feels like Diamond Circulate and U-Turn Back:



before Diamond Shazam

after

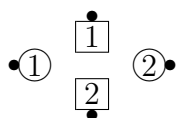
Not all calls feel like Diamond Circulate. Sometimes the dancers must carefully work with each other and consider each other's facing directions.



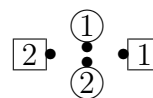
before Diamond Single Wheel

after

While the call must start on diamond footprints, the facing directions need not look like diamonds.

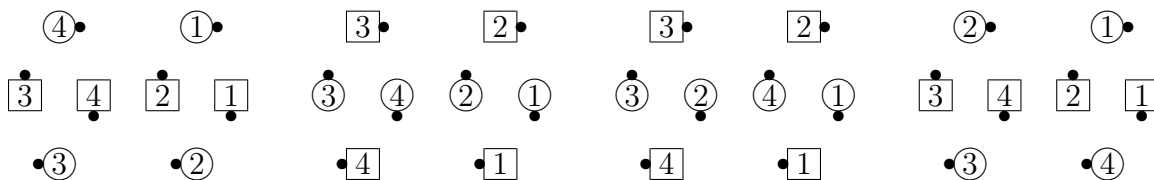


before Diamond Single Shakedown



after

On calls involving a series of arm turns that alternate hands, some of the arm turns will be done in each diamond, as described above for two-dancer calls. The other arm turns will be done in the very center. Pay attention to the handedness of the diamond if the call is handedness-dependent.



before  
Diamond Remake

after Diamond  
1/4 by the Right  
(Diamond  
Circulate)

after Diamond  
1/2 by the Left  
(Very Centers  
Trade)

after Diamond  
3/4 by the Right  
(Diamond  
Circulate 3)  
(finished)

Diamond Swing Thru can be used from RH or LH diamonds and you must be careful to start with the correct hand.

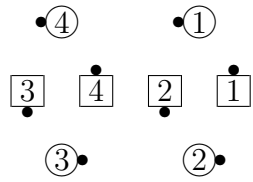


before Diamond Swing Thru

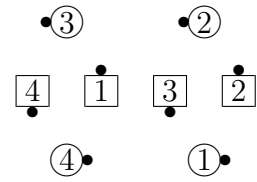
after

For arm-turn calls that are not handedness-dependent (such as Swing, Slip), think about how you would do that call if done from a wave. If the call would normally be done on each side (Swing), then do it in each Diamond. If the call would normally be done in the center (Slip), then have the very centers do it.





before Diamond  
Any Hand Swing Thru



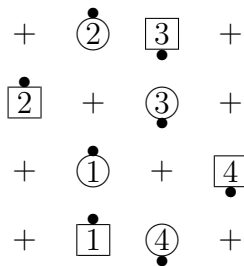
after

Some dancers think of calls like Diamond Swing Thru or Diamond Remake as “replacing” the Arm Turn N/4 with N Diamond Circulates. This approach generally works in terms of doing these particular examples successfully. However, it also tends to leave these dancers confused on two-dancer calls, as they struggle to figure out whether to apply the “two-dancer rules” or the “Diamond Circulate rules”. If you think of these arm turns as using the same rules that apply to two-dancer calls, you will have less trouble with other applications of this concept.

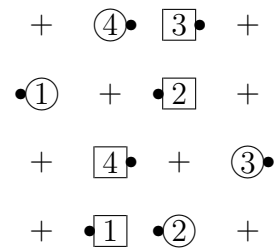
There are also a few calls that have “Diamond” in their names, such as Diamond Recycle, Diamond Inlet, and Remake the Diamond. Those calls are not related to the Diamond concept.

## Distorted

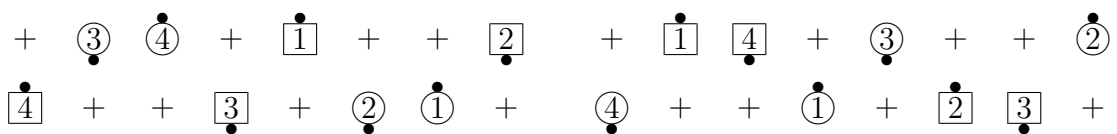
In a distorted setup, one must find the real people, who will be in some distorted version of the “virtual” setup in which the call is logically executed. Typically the distortion consists of lines or columns not being straight:



before Distorted Columns  
Transfer the Column



after



before Distorted Tidal Wave  
Grand Mix

after

The distortion may consist of people being spread out:



before Distorted Waves  
Swing Thru

after

Sometimes specific people may have a distorted subset of a normal setup:



before Girls in your  
Distorted Box Bingo

after



before Girls in your  
Distorted Line Tag the Line

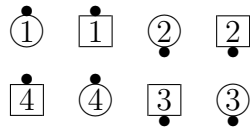
after

In general, shape-changing calls are not allowed, because it is impossible to put the same distortion back on a different setup. But there are a number of “nice” cases in which the distortion can be put back unambiguously:

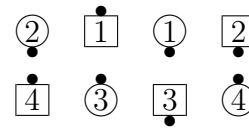


before Girls in your  
Distorted Box Reach Out

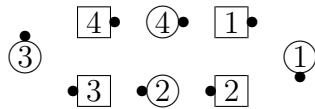
after



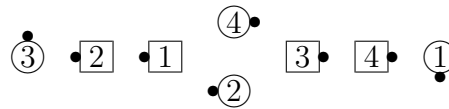
before Girls in your  
Distorted Line Cross Cycle



after



before Boys in your  
Distorted Box Vertical Tag

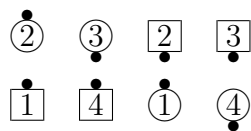


after

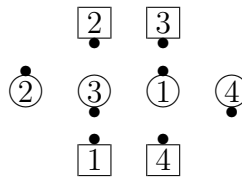
### *Double Offset 1/4 Tag*

This is a general 1/4 tag (1/4 line, 3/4 tag, diamonds, etc.) which has been distorted into a 2x4. The distortion effectively occurs in two stages—the outsides of the 1/4 tag are off to one side, and the result is compressed to a 2x4.

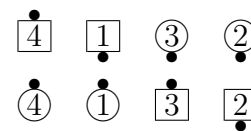
The caller must identify the people who are centers of the imagined 1/4 tag, as in “Heads are Centers of a Double Offset 1/4 Tag”.



actual setup before Girls are  
Centers of a Double Offset  
1/4 Tag, All 8 Recycle



imagined setup before  
the All 8 Recycle

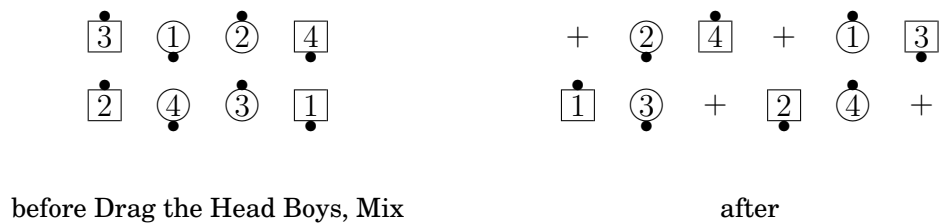


finished

### **Drag the <anyone>**

The designated people don't think about doing the call. They just note who their (lateral) partner is, and stay with that person. The other people do the call. Whoever is the partner of a designated

person “drags” that person around, making sure they stay in the same rigid relationship.



## *Dynamic*

This is a combination of working Solid and working Twosome with another dancer. The basic idea is that you work Solid when turning right and Twosome when turning left.

This is described in more detail elsewhere. See <https://challengedance.org/dynamic.pdf>.

## **[Reverse] [Double/Triple] Echo**

Echo is currently on the C3B list; the other listed variations are C4.

Echo is a meta-concept and requires both a concept and a call. Echo <concept> <call> means:

1. Do <concept> <call>.
2. Do <call> (without the concept).

Example: Echo 2/3, Recycle:

1. 2/3 Recycle
2. (full) Recycle

The “concept” used here can be a “supercall” such as “Tally Ho But”. Echo, Tally Ho But, Flip Back:

1. Tally Ho But Flip Back
2. (everyone, normal) Flip Back

Reverse Echo implies the opposite order:

1. Do <call> (without the concept).
2. Do <concept> <call>.

Double Echo requires 2 concepts, and essentially means to apply the Echo idea twice (remove a concept, then do the remainder):

Double Echo <concept1> <concept2> <call>:

1. Do <concept1> <concept2> <call>.
2. Do <concept2> <call>.
3. Do <call> (without either concept).

Example: Double Echo, Split Phantom Waves, Tandem, Swing Thru:

1. Split Phantom Waves, Tandem Swing Thru
2. Tandem Swing Thru
3. Swing Thru

Reverse Double Echo <concept1> <concept2> <call>:

1. Do <call> (without either concept).
2. Do <concept2> <call>.
3. Do <concept1> <concept2> <call>.

Example: Reverse Double Echo, Split Phantom Waves, Tandem, Swing Thru:

1. Swing Thru
2. Tandem Swing Thru
3. Split Phantom Waves, Tandem Swing Thru

This can be extended to Triple (or even Quadruple) although it can be quite difficult to find good examples.

Triple Echo <concept1> <concept2> <concept3> <call>:

1. Do <concept1> <concept2> <concept3> <call>.
2. Do <concept2> <concept3> <call>.
3. Do <concept3> <call>.
4. Do <call> (without any of the concepts).

Example: Triple Echo, Split Phantom Waves, Tally Ho But, 1/2 Shazam:

1. Split Phantom Waves Tally Ho But, 1/2 Shazam
2. Tally Ho but 1/2 Shazam
3. 1/2 Shazam
4. Shazam

Applications of Echo can be extremely difficult, particularly when used with other meta-concepts or with supercalls. For example, “Initially Echo 1/2, Settle Back” applies “Echo 1/2” to the first part of Settle Back, which is Reset 1/2. So the actions are:

- Reset 1/4 (1/2 of the first part)
- Reset 1/2 (the entire first part)
- Centers Cross Back while the ends do 2 O Circulates (Finish Settle Back)

## Emulate

This is sort of the opposite of Stable. Do the turning motions required by the call, but stay on your spot.

### *Facing Parallelogram, Back-to-Front Parallelogram*

These are like Facing Jay, Back-to-Front Jay, etc., but the people in the center line who work in the same group are adjacent.



before Facing Parallelogram Touch 1/4

after

The flexibility of the Jay concept has made this largely obsolete.

## *Fast*

This is applied to some tagging calls with extensions, such as Flip Back. The name refers to the fact that the “extension action” (such as Scoot Back) comes “faster” than on the original call. Do the tagging call to the 1/4 Tag position and then complete the extension action.

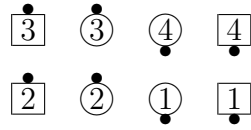


before Fast Flip Back

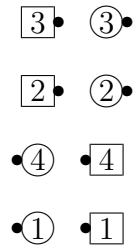
after

## *Ferris*

This is the generalization of the behavior of Ferris Wheel. From 2-faced lines, all 1/2 Press Ahead, then do the call in triple lines, and compress phantoms where possible.

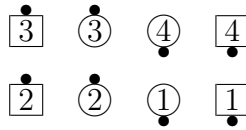


before Ferris 1/2 Tag



after

The compression of phantoms may be unusual:

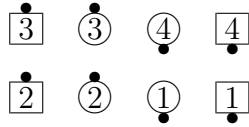


before Ferris Lockit

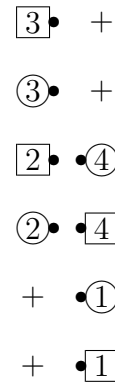


after

Or it may be impossible:



before Ferris Bend the Line



after

## Finish

Skip the first part of the call, and do all the rest of it. This has a precise meaning in challenge dancing today, although in the past it has sometimes been used in an imprecise way. In particular, some callers have historically used phrases such as “Finish Like a Wheel the Ocean”, which should be replaced by either “Finish Wheel the Ocean”, or “Like A Wheel the Ocean”.

See [Like a](#), page 36.

## First <fraction>

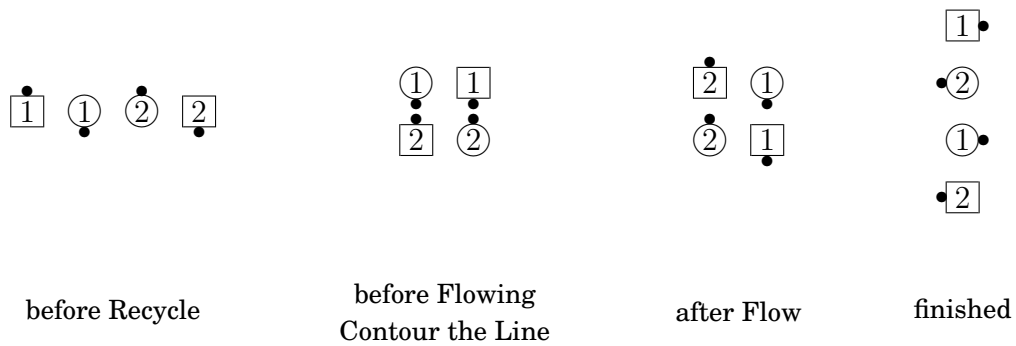
See [First/Middle/Last <fraction>](#), page 9.

## Flowing <anything>

With the Flow, and then **Finish** the <anything> call.

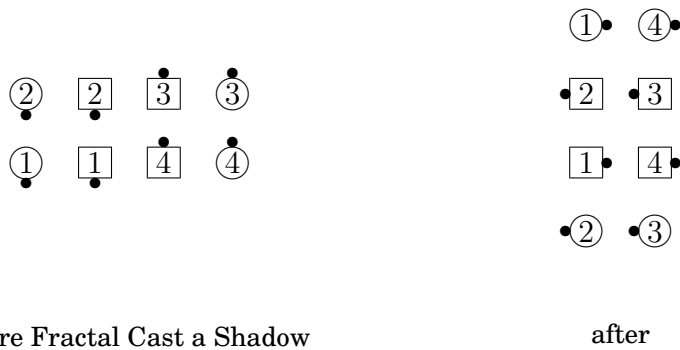
All of the “ing” calls (Flowing, Rolling, etc.) apply some action to the preceding call, and then let that action replace the first part of the “anything” call.





## Fractal

This concept turns all 1/4 turns (arm turns, star turns, casts) into 3/4, and vice-versa. Turns of 1/2 are not affected. Fractal Remake is the same as Reverse Order Remake.



## Grand Working <direction>, Grand Working As Centers / Ends

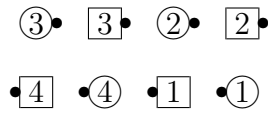
This concept is a generalization of “Grand”, as in “Grand Cross Back”, “Grand Follow Your Neighbor”, or “Grand Swing Thru”. It can be used from a 2x4 or a 1x8. In both cases, you will either work on your own side (your 2x2 from a 2x4, your 1x4 from a 1x8) or in the center 4. Your job is to figure out which setup you are working in, and do the call in that setup.

If you are in the outer 4 of a 2x4 or 1x8, you will always work on your own side. If you are in the center 4 of a 2x4 or 1x8, you need to figure out, from the <direction> given, which setup you are (individually) working in. The dancer next to you may or may not be working in the same setup.

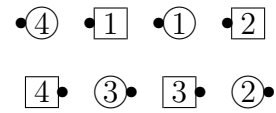
Typical examples are shown below. The concept is quite general and may be used from larger setups and with a greater variety of directions than are shown here. See Book 3 for additional information.

1. From 2x4 columns, the direction will usually be “Forward” or “Backward”. “Forward” means that the center 4 dancers each work with the Box they are (individually) facing. “Backward”

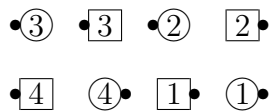
means that those dancers work with the Box that is (individually) behind them. Usually, two of the centers will be working in the center and the other two will be working on each side.



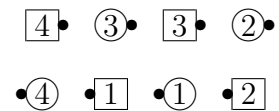
before Grand Working Forward Cross Back



after

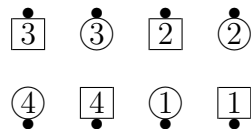


before Grand Working Backward Wheel the Ocean

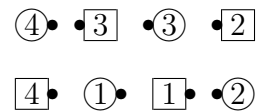


after

2. From 2x4 lines, the direction will usually be “Right” or “Left”. The center 4 work in the Box that is (individually) to their Right or Left.



before Grand Working Right Shakedown



after

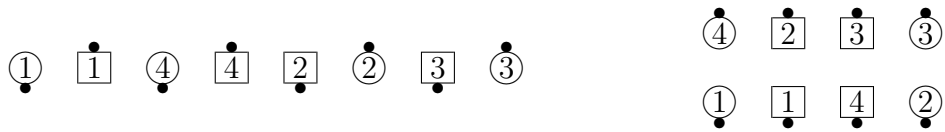
3. From a tidal line, the direction may be “Right” or “Left” but may also be “As Centers” or “As Ends”.

“Grand Working As Centers” means that the center 4 dancers each choose the 1x4 in which they are (individually) a center. That means the very center dancers work in the center 1x4, and everyone else works on each side.



before Grand Working As Centers, Slip

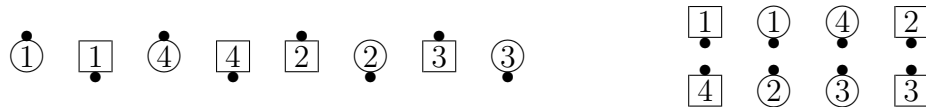
after



before Grand Working As Centers, Swap the Wave

after

“Grand Working As Ends” means that the center 4 dancers each choose the 1x4 in which they are (individually) an end. That means that the dancers who are #3 from the end of the tidal wave work in the center 1x4, and everyone else works on each side.

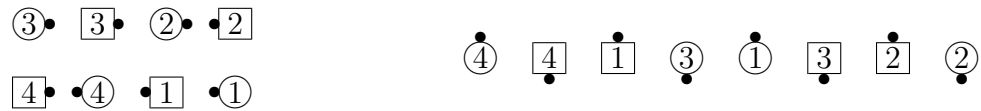


before Grand Working As Ends, Recycle

after

Note from the above examples that shape-changers are possible. There is a detailed description of how shape-changers work in Book 3, which involves overlapping the setups by 50%. However, in most cases a simpler thought process will get the same result. If you are working in the center 4-person setup (Box or Line), then simply finish in the center Box or Line, as you would if only the centers did the call. If you are working on each side, then simply finish in the Box or Line on each side, as you would if everyone did the call on each side.

A fairly common example that some people find tricky involves Fan the Top from facing couples. Make sure you think about stepping to a wave first, then doing the Fan the Top. You may or may not have a real person to work with when stepping to a wave.



before Grand Working Forward Fan the Top

after

Some dancers are confused on the call above because they don't see a facing couples setup; they see a Box with some dancers facing out. Don't worry about the dancers facing out; they are working in a different Box from you. The only type of Fan the Top that can be done from a Box is the facing couples type.

As mentioned earlier, the “Grand Working” terminology can be used to describe some well-known Grand calls such as Grand Cross Back. This is easiest to see on simpler one-part calls such as Cross Back or Follow Your Neighbor. More broadly, multi-part Grand calls can often be described as “Piecewise Grand Working As Centers” or “Piecewise Grand Working Forward”.

Consider, for example, the call Grand Mix. It can be written as:

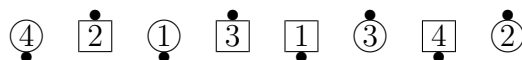
1. Grand Working As Centers, Centers Cross Run
2. Grand Working As Centers, Centers Trade

This is the same as “Piecewise Grand Working As Centers, Mix”.



before  
Piecewise Grand Working As Centers  
Mix

after Grand Working As Centers  
Centers Cross Run



after

Some dancers find this framework particularly helpful on the C4 call “Grand Run Wild”. This is simply Piecewise Grand Working as Centers, Run Wild.

Historically, there have been many “Grand” calls that fit into the Grand Working framework and a few that do not. Most of the ones that do not fit this framework are no longer used.

## Gruesome Twosome

This is Phantom Couples Twosome in a 2x8, resulting in a virtual setup which is parallel waves. The point of this concept, aside from the funny name, is that the starting setup is always taken to be a 2x8, instead of the 4x4 that concepts like “Phantom Couples Twosome” normally indicate. That is, from Parallel 2-Faced Lines, Phantom Couples Twosome places the phantoms to make a 4x4, so the virtual setup is columns. Gruesome Twosome places the phantoms to make a 2x8, so the virtual setup is Parallel Waves.

“Gruesome” is also used with other couples/tandem concepts, as in “Gruesome As Couples” or “Gruesome Tandem Twosome”. In general, it directs that the phantoms be placed to make a 2x8, and that people be associated in pairs parallel to the long axis, creating a virtual 2x4.

## Half and Half

This takes two calls. Do the first half of the first call, and then the last half of the second call.

## <fraction> and <fraction>

More generally, <fraction> and <fraction> means do the first fraction of the first call, and then the last fraction of the second call. The fractions do not need to add up to 1.

1/4 And 2/5, Swing Thru By Swing the Fractions:

- 1/4 of Swing Thru (1/4 by the Right)
- Last 2/5 of Swing the Fractions (1/2 by the Left, 1/4 by the Right)

Be careful to do the **last** fraction of the second call.

## In/Out Rigger

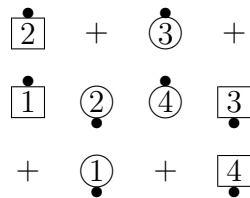
See [Rigger](#), page 65.

## Interlace

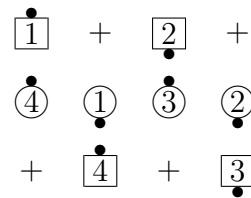
This takes two calls. The parts of the calls are done alternately—the first part of call A, then the first part of call B, then the second part of call A, and so on. If one of the calls runs out of parts before the other, that other call finishes all of its parts.

## Interlocked Boxes

This concept identifies two rectangular 2x2 Boxes of real people, each of which does the call. The most common application is from a 3x4.



before Interlocked Boxes Ripoff

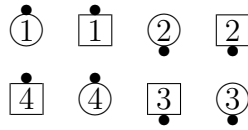


after

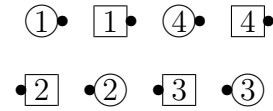
Note that Interlocked Parallelogram could be applied to the same setup, and would have a different meaning.

## Interlocked Parallelogram

This concept identifies two parallelogram (**non** rectangular) 2x2 Boxes of real people, each of which does the call. This is commonly done in a 2x4:

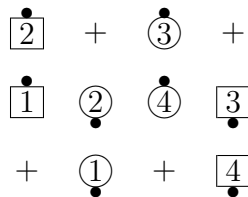


before Interlocked Parallelogram Bingo

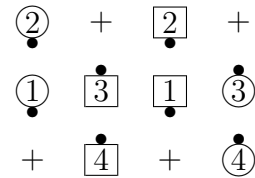


after

Another application is from a 3x4:



before Interlocked Parallelogram Ripoff



after

Note that Interlocked Boxes could be applied to the same setup, and would have a different meaning.

## Invert (centers and ends)

This is not a precisely defined concept. It applies to calls that have centers' and ends' parts, and exchanges those parts. For example, Invert Acey Deucey has the centers Circulate while the ends Trade. This concept is not related to Invert the Column or Invert the Tag.

Here are some other examples.

Invert Detour: Centers Reset 1/2 (in the center) while the Ends Counter Rotate (around the outside).

Invert Lickety Split: Everybody works on their own side, as with a regular Lickety Split, but the Centers do a Split Circulate and the Ends do a Split Counter Rotate.

## Jay variations

In the modern terminology for Jays, one direction is given, and it tells the people in the center 1x4 which outside pairs they work with. The outside pairs notice which center people have chosen them, and they work with those same people, so that the virtual 2x2's are consistent. The given direction does not apply to the outsides. The people in the center 1x4 who work with a given pair of outsides may or may not be adjacent.



before Right Jay Sidetrack

after

There are also terms Clockwise Jay and Counterclockwise Jay. Each person in the center 1x4 makes their own decision of which outside pair to work with. They work with whichever pair is clockwise, or counterclockwise, from their own position, as if a clock face had been placed at the very center.

The older terms such as “Back-to-Front Jay” had the dancers pick out whatever distorted 2x2 setup would result in the given facing directions. From a 3/4 tag, for example, Back-to-Front Jay (or, equivalently, Front-to-Back Jay) would be the same as Front Jay. This is because the outsides had their backs into the 2x2 in any case, so the centers need to be facing into the 2x2. The term “Front-to-Front Jay” was never used—it was just “Jay”. That term is of course still commonly used.

## Last <fraction>

See [First/Middle/Last <fraction>](#), page 9.

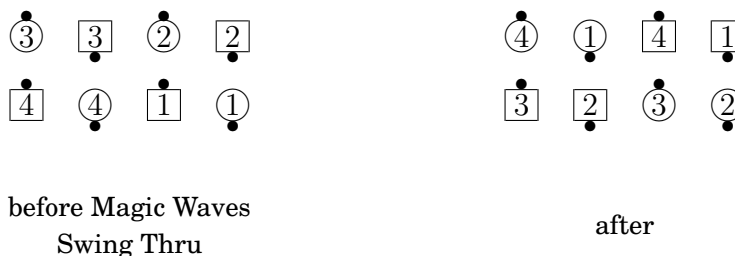
## Like a

Do the last part of the call. This has a precise meaning at C4. Compare it with “Finish” which means do all but the first part.

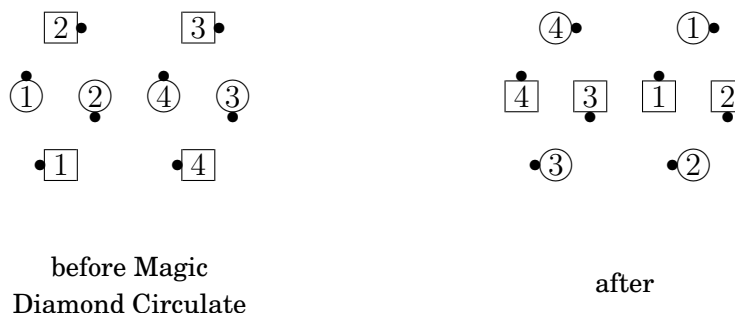
## Magic Lines/Waves/Diamonds

Magic Columns are C1; the other Magic setups were dropped from C3B in 2014. So, they are now C4, but they are much less commonly used than they were earlier.

Magic Lines or Waves are called from a 2x4. The Centers of each line work with the Ends of the other line to form a distorted line. (These are the same dancers who work together on the Trapezoid Concept, except in that case, they form a distorted box.)

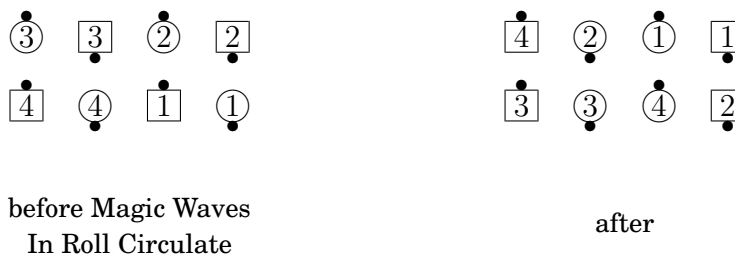


Magic Diamonds are called from Parallel Diamonds. The Centers of each Diamond work with the Points from the other Diamond. On Magic Diamond Circulate, make sure you turn in the direction that preserves the handedness of your Diamond. Some people going from the Very Center to the outside have a tendency to face the incorrect direction because the Diamond is so distorted.



On “Magic Waves Switch to a Diamond”, the Ends do a Magic Diamond Circulate and the Centers do a Magic Wave Run. Those who start in a Magic Wave together will end in a Magic Diamond together. “Magic Diamonds Flip the Diamond” works similarly: the Ends do a Magic Wave Run while the Centers do a Magic Diamond Circulate. Those who start in Magic Diamond together will end in a Magic Wave together.

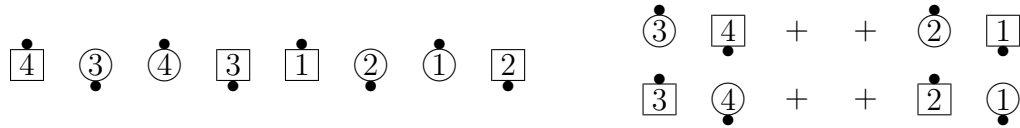
Most calls used in Magic Lines, Waves, or Diamonds are 4-dancer calls. Occasionally 8-dancer calls such as Magic In Roll Circulate are used. On a Magic In Roll Circulate, the End facing in does a normal Circulate. All others look for an End facing in within their own Magic Line, and do a Magic Line Run (or Flip Over) in that direction.





# Matrix

This is a modifier given before some kind of phantom concept that involves multiple formations adjacent to each other, such as Triple Boxes or Split Phantom Lines. Normally, when a shape-changing call is performed under such a concept, the resulting setups “breathe” or “shrink wrap” so that they are once again directly adjacent. The Matrix concept prevents that. Each formation remains centered on its original position (performing whatever internal breathing is required) and does not move in response to the other formations. This may create empty space, or it may cause the formations to overlap.



before Matrix Each Wave Ah So

after



before Matrix Triple Boxes Follow Thru

after



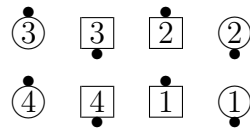
before Matrix Split Phantom Columns  
Expand the Column

after

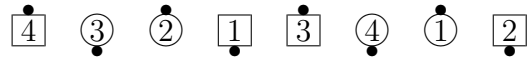
The obvious way to do this concept is to concentrate very hard on where the center of your group is. Another method that some people use is to note how many matrix spots separate you from your counterpart in the other setup, and do the call in such a way as to preserve that.

## Melded As Couples / Tandem

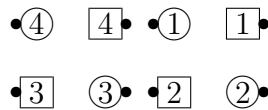
This is like As Couples or Tandem, but the person you would naturally be paired with may not be facing the same direction as you. Just do your part of the call, mindful of the location (left, right, in front, or behind you) where that person would be. If things work out well, someone will appear in that position at the end of the call.



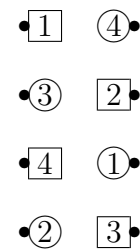
before Melded As Couples Peel and Trail



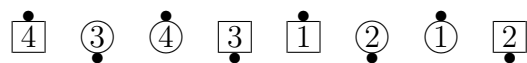
after



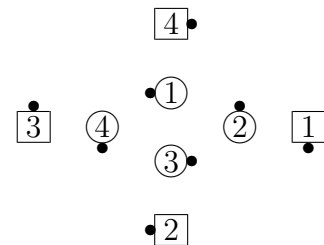
before Melded Tandem Peel and Trail



after



before Melded As Couples Switch to a Diamond



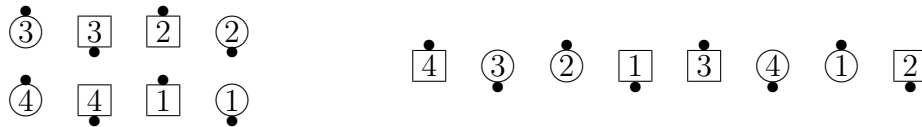
after

One can also do twosome, fractional twosome, and phantom versions of these, as in

- Melded Couples Twosome
- Melded Couples 1/4 Twosome
- Melded Tandem Twosome 1/4 Solid

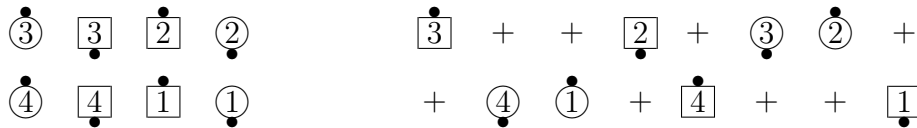
- Melded Phantom Tandem
- Melded Phantom Couples 1/2 Twosome

Make sure you understand the difference between (for example) “Melded Tandem” and “Melded Phantom Tandem”. The same calls may be used with both concepts from a 2x4 setup. If the concept is “Melded Tandem” (or “Melded As Couples”) work in your 2x4. If the concept name includes Phantom Tandem or Phantom As Couples, expand the setup to a 4x4 first and do the call in that setup.



before Melded  
As Couples  
Peel and Trail

after



before Melded  
Phantom As Couples  
Peel and Trail

after

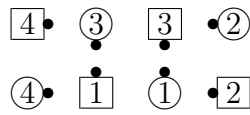
## Melded Phantom As Couples / Tandem

See the section above on Melded and the section on [Phantom As Couples/Tandem](#), page 60. In particular, focus on the final example in the Melded section that illustrates the difference between Melded As Couples and Melded Phantom As Couples.

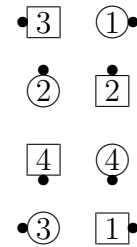
## Melded Siamese

This is like Melded As Couples/Tandem except that some people may be in couples and the others in tandem.

The person whose spot you are paired with might be T-boned to you. This makes it much harder to identify the spot you should consider yourself paired with. The most common case is a 2x4 setup, in which case everyone is paired with the other spot in their quadrant.

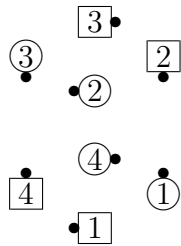


before Melded Siamese Split Swap

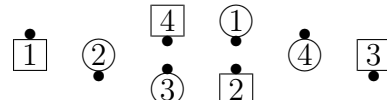


after

There are a few other setups in which it is clear from the geometry how people should be paired.



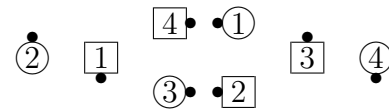
before Melded Siamese Flip the Diamond



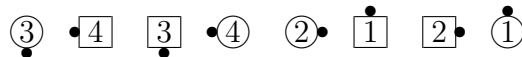
after



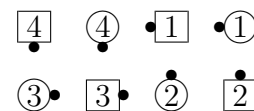
before Melded Siamese Switch to a Diamond



after



before Melded Siamese 1/4 Left



after

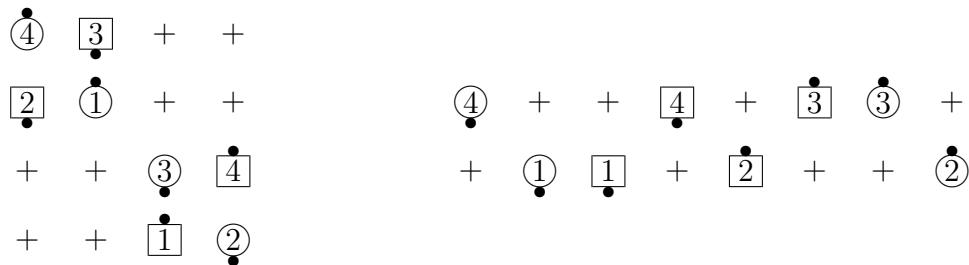
There is another similar concept “Overlapped Siamese”, which was introduced separately from Melded. Historically, “Melded Siamese” was used when the pairing was clear from the setup shape (as discussed above), and “Overlapped Siamese” was developed separately for use from a 2x4 where

it was necessary to apply the rule “work with the position in your quadrant”.

Today, many callers use the terms “Overlapped Siamese” and ‘Melded Siamese” interchangeably. There isn’t really any need for two different terms because the older interpretation of “Melded Siamese” would be ambiguous in the cases that “Overlapped Siamese” was designed to handle. As a dancer, be prepared to hear either term and apply the “same quadrant” rule if you start in a 2x4.

## Melded Skewsome, Melded Skew

This is like two Skewsome or Skew groups in the same box, with each pair occupying the spots not occupied by the other pair. There are effectively two virtual people on the same spot. This can lead to interesting things.



before Melded Skewsome Peel and Trail

after

## Meta-Concepts

Concepts like Initially are called meta-concepts. They operate on a *concept* rather than a *call*, causing that concept to be applied in the indicated way, or to the indicated parts of the call. The result of applying a meta-concept and concept to a call has the same number of parts as the original call.

When meta-concepts that pick out parts of a call are nested, that is, two meta-concepts operate on a concept and a call, they nest their actions of picking out parts. That is, they pick out a part, and then pick out a subpart of that part. “Initially Finally Cross Concentric Settle Back” picks out the first part as though it is doing “Initially (Finally Cross Concentric) Settle Back”. That part is 1/2 Reset. It then applies “Finally Cross Concentric” to that 1/2 Reset, picking out the last part and causing the Hinge to be Cross Concentric.

## Mimic

The Mimic concept is a way of getting everyone to do a designated part of the call. For example, Mimic Leads means that everyone does the leads’ part of the call. Mimic Beaus means that everyone

does the beaux' part of the call. Mimic Centers is generally the same as Central in cases where Central is proper, but Mimic Centers applies to more calls.

The full syntax of the concept is: Mimic <designator> of <setup>, as in "Mimic Centers of Lines".

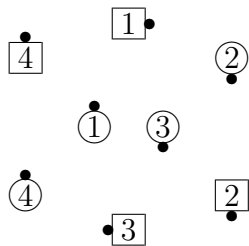
Multiple papers have been written on this topic:

- "The Mimic Concept: Centers and Ends" (<https://challengedance.org/mimicctrands.pdf>).
- "The Mimic Concept" (<https://challengedance.org/mimic.pdf>).

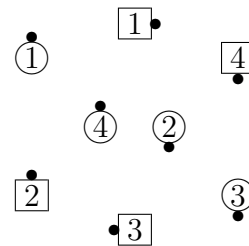
If you are new to this concept, start with the first one.

## Mini-Butterfly, Mini-O

These concepts select 6 people and direct them to act in distorted columns of 6. Mini-butterflies may be found in hourglasses:

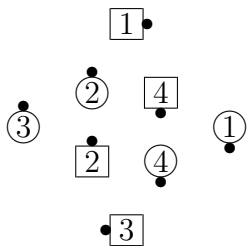


before Mini-Butterfly  
Circulate

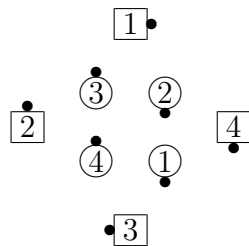


after

Mini-O's may be found in galaxies:



before Mini-O  
Circulate

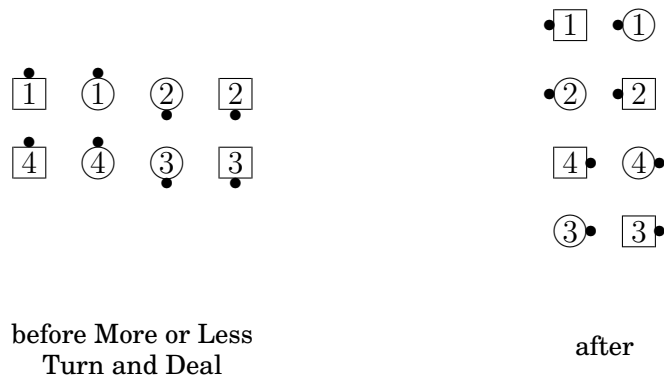


after

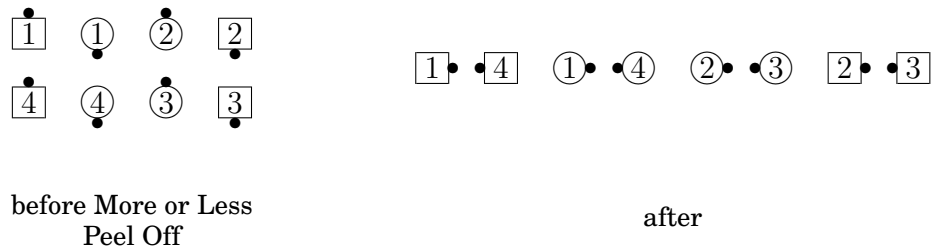
## More or Less, Less or More

On More or Less, the original Leaders do something extra at the end of the call (“More”) and the original Trailers omit something near the end of the call (“Less”). On Less or More, the roles are reversed, and the original Leaders do “Less” and the original Trailers do “More”. Note that the first word in these concepts always applies to the Leaders, and the last word applies to the Trailers.

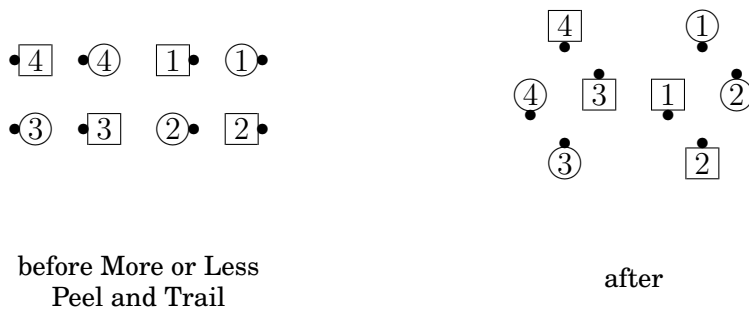
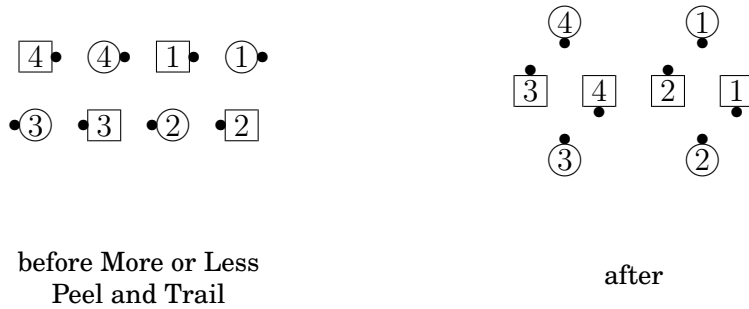
This is an older concept, and the specific dance actions required for “More” or “Less” are not consistently defined for all calls. Most C4 callers today primarily use this concept with calls whose final dance action involves turning 1/4 in place, such as Recycle, Sidetrack, Turn and Deal, or Turn to a Line. In those cases, “More” means add a Roll, and “Less” means omit that final 1/4 turn.



Some callers and dancers describe the “Less” action as working “(N-1)/4 Stable”, where N is the number of turns in the call. For example, if a dancer would normally turn 180 degrees (2/4) in the call, they will work 1/4 Stable and only turn 90 degrees (but finish on the same spot). This approach to “Less” allows a slightly broader set of examples than discussed above, because it does not specifically require the final action to be a 1/4 turn in place.



There is one key historical example of More or Less that is still in use today and does not follow the rules above. That is the call “More or Less Peel and Trail” (and Trail Off, and any calls that depend on those, such as Peel and Trail the Wave). On “More or Less Peel and Trail”, Leaders Peel Off and Roll, while the Trailers stop halfway through their Trade. If the starting setup is a Mini-Wave Box, this is straightforward and the Trailers simply step forward and Hinge with each other. However, if the starting setup is a Box with everyone facing the same direction, the formal definition of Peel and Trail requires the Trailers to pass left shoulders. Thus, when they stop partway through their trade they will be holding left hands.

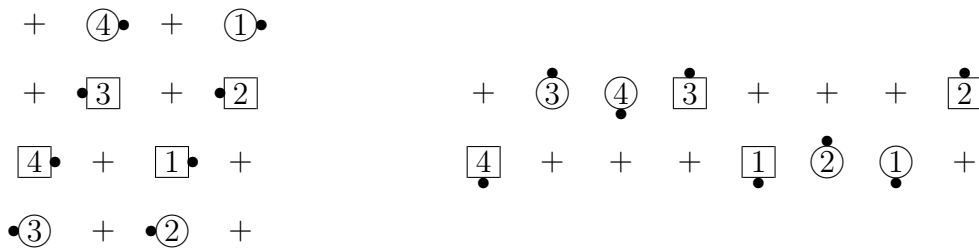


## Multiple Formations Working <direction>

Triple Lines Working Forward/Backward is on the C3B list. At C4, this concept is extended to include more formations (such as Columns, Boxes, and Diamonds) and Quadruple setups.

This concept is described in more detail in Book 3. For now, we present one hint that is sometimes lost in a detailed description.

Quadruple Formations Working is often easier than the corresponding Triple Formations Working setup because each dancer can focus on either the corresponding Split Phantom setup or the corresponding center Phantom setup. As long as you correctly recognize shape-changers when they occur, it is not necessary to explicitly think about the setups overlapping.





# Mystic

The Centers do the call Mirror, while the Ends do it normally.

A few notes:

- This is an 8-dancer concept, regardless of the call. From a 1x8 setup, the Center 4 will do the call Mirror while the Outer 4 do it normally.
- Mystic does not change the setup you are working in. You can think of it as “Own the Center 4, Mirror <anything> By <anything>.”

Typical examples include Mystic Touch 1/4, Mystic Sidetrack, or Mystic Turntable.

Some callers also use the term “Mystic Triple Boxes”. This means that the Center Triple Box does the call Mirror and the Outside Triple Boxes do the call normally.

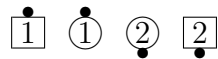
Some callers use the term “Invert Mystic” to mean that the centers do it normally while the ends do it Mirror. Other callers prefer the term “Mirror Mystic” for this situation to avoid any ambiguity over whether only the “Mystic” is inverted or whether the entire definition is inverted (switch the Centers’ and Ends’ parts as well).

# Near Formation, Far Formation

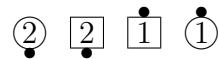
These are used in asymmetric sequences. They designate the four people closest to, or farthest from, the caller.

## <direction> Nose

The basic idea is to imagine that your nose is facing the given direction and do the call accordingly.



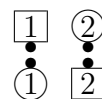
before Right Nose  
Double Pass Thru



after



before Left Nose  
Box Circulate



after

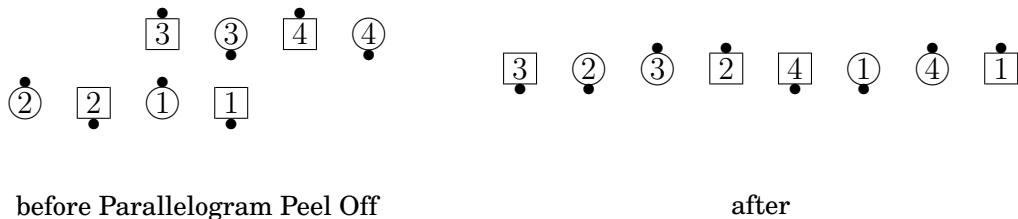
This is described in more detail elsewhere. See <http://www.challengedance.org/nose.pdf>.

## Offset

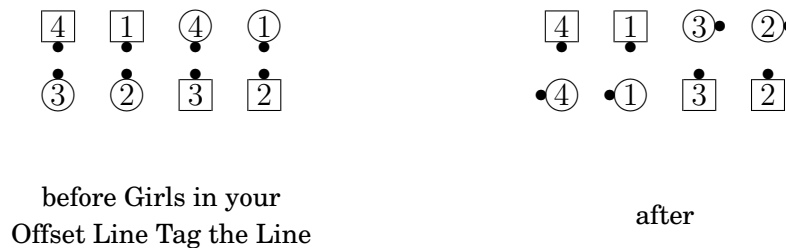
The various Offset concepts (including Parallelogram) are like Distorted, except that the distortion is of a very special kind. There is a “shear line” down the middle of the set, and the distortion consists of a rigid shift along that line.

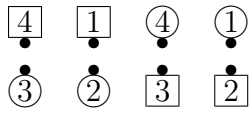
Because of this restricted characterization of the distortion, Offset concepts can tolerate a variety of shape-changing calls. The offset is characterized by the shear-line axis, direction of shear, and amount (percentage) of the shear. The percentage is the fraction of each subsetup that has been shifted so that it is no longer lined up with the other subsetup. By far the most common percentage is 50%. For example, in a normal parallelogram, each subsetup is a 1x4, and 2 of those people (50%) overhang beyond the other 1x4.

The rule for doing offset shape-changers is that the resulting sub-setup must be put together with the same shear line, direction, and percentage. If the resultant offset is not an integral number of people (e.g. Lockit from parallelogram waves), the call is illegal. This prohibition is known as the Solomon rule, after King Solomon (I Kings 3:16-28) who made good use of the common aversion to cutting people in half. There is another pathological case that is legal, even though it would seem to suggest a violation of the Solomon rule—if the result is a 1x8 with the shear line right down the middle, the people do not shear themselves. In this case we say that “the offset goes away”.

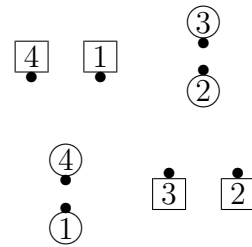


Sometimes specific people may have an offset subset of a normal setup:



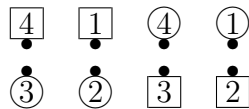


before Girls in your  
Offset Line Cross Cycle

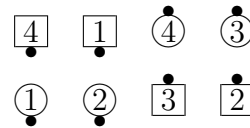


after

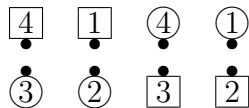
An offset box as part of a 2x4 is called a diagonal box. Don't bother with the offset percentage—just get into the obvious right place:



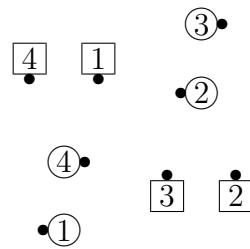
before Girls in your  
Diagonal Box Cross and Turn



after



before Girls in your  
Diagonal Box Pass the Ocean

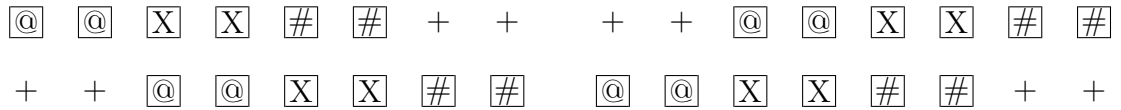


after

## Offset Triple Boxes

This concept has 3 distorted 2x2 boxes in a 2x8 matrix. The “shear line” is parallel to the overall 2x8. Each box is offset by 100% across its own shear line.

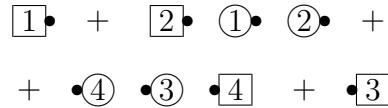
An Offset Triple Boxes concept apportions the 3 Boxes according to one of these two diagrams:



this

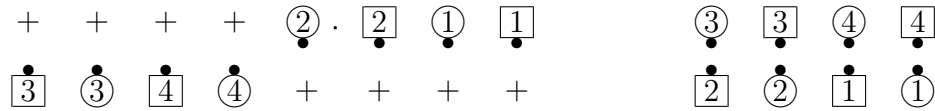
or this

As with other offset or parallelogram concepts, the actual population of live people determines which way the offset goes. But in this case it's trickier, because there are only 8 real people, so some of the 12 spots labeled "@", "X", and "#" will not be occupied. The rule is that the occupation by real people must unambiguously determine one or the other of the two cases above. A plain 2x4 would be ambiguous, for example. But this:



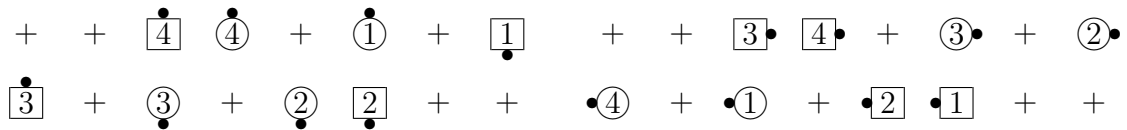
is sufficient to determine that the diagram on the left applies.

Permissible calls include non-shape-changing 2x2 calls:



before Offset Triple Boxes  
Right and Left Thru

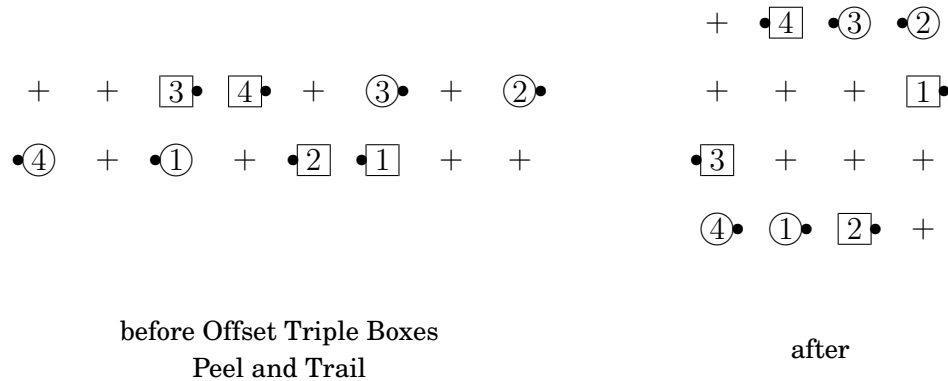
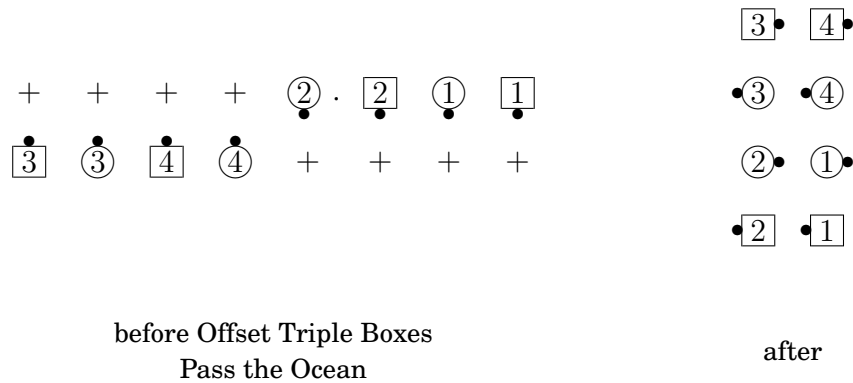
after



before Offset Triple Boxes  
Stack the Line

after

Calls that go to a 1x4 oriented perpendicular to the original long axis of the set are also permissible:

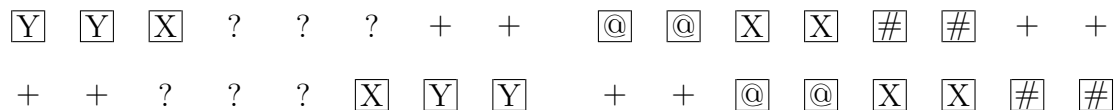


In these cases, each Offset Box (with 100% offset) becomes an Offset Wave (with 100% offset). The 3 Offset Waves put together form a 4x4 matrix. In the Pass the Ocean example, all the dancers finish in the center 2x4. In the Peel and Trail example, the ending setup remains a 4x4. The fact that Offset Triple Boxes calls can end in Offset Triple Waves setups fits well with the Offset Triple Waves Concept, described in the next section.

Seeing the Offset Triple Boxes at dance speed, from an arbitrary arrangement of real people, can be quite difficult. Many dancers actually use the following method instead: Do the call in some form of Quadruple Boxes Working <direction>, Diagonal Box.

- If you start in one of the outside Quadruple Boxes, you can always do Split Phantom Boxes, Diagonal Box.
- If the overall setup looks like a 100% offset 2x4, as in the Right and Left Thru or Pass the Ocean examples above, then everybody can do Quadruple Boxes Working Inward, Diagonal Box.
- More generally, if you start in one of the center Quadruple Boxes, it will either be Split Phantom Boxes, Diagonal Box, or Center Phantom Boxes, Diagonal Box. You will need to find at least one real person in an Outside Quadruple Box to identify which way to work.

For example, imagine you are one of the dancers labeled X in the diagram below, and you can see any of the dancers Y (even if you only see one of them). Then you must work in the Center Phantom Boxes, Diagonal Box.



if you see any  
of the dancers Y

think this

If you found it difficult to find the Offset Triple Boxes in some of the examples presented earlier, go back now and see if you can do them with this method. Concept combinations such as Split Phantom Boxes, Diagonal Box are not trivial but most C4 dancers are much better at locating this type of setup than they are at locating Offset Triple Boxes.

One small caveat: The use of shape-changers with the Diagonal Box Concept is controversial. However, for the type of shape-changers presented here, it is clear where to go. For the purpose of dancing Offset Triple Boxes, just drop any notion you might have that shape-changers are not permitted in Diagonal Boxes.

The Quadruple Box method is particularly useful if the real people are arranged in a Parallelogram. Some dancers will be tempted to work in their regular Triple Box. Forget that. Some dancers will be tempted to work in the “obvious” Offset Box of real people (Parallelogram, Each Box). Forget that too. Train yourself to find your Quadruple Box. You will probably know the offset direction automatically given your experience with the Parallelogram concept. Look for your Split Phantom Boxes Diagonal Box or Center Phantom Boxes, Diagonal Box, whichever is consistent with the Parallelogram’s Offset direction.

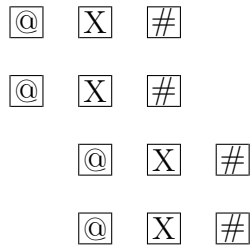
The “Working Forward/Backward/etc.” designators can also be used with Offset Triple Boxes, although the examples tend to be quite difficult.

## Offset Triple Columns / Lines / Waves

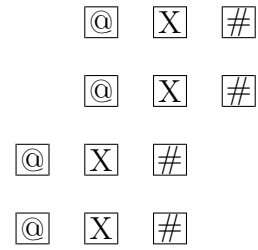
This concept has 3 distorted 1x4 setups in a 4x4 matrix. The “shear line” crosses the individual 1x4 setups, with an offset of one matrix position, or is 100%.

Because the overall setup is a 4x4, it is necessary for the caller to indicate which way the 1x4 subsetups go. Hence one must specify “Columns”, “Lines”, or “Waves”.

As with other offset concepts, the actual population of live people determines which way the offset goes, and the placement of live people must be unambiguously consistent with one or the other of these diagrams (assuming that the 3 1x4’s run up and down the page):

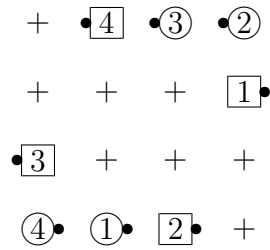


this



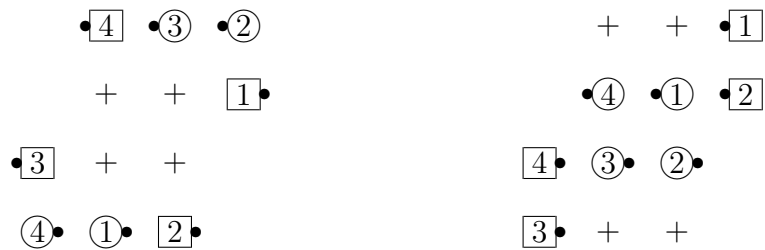
or this

This population:



is sufficient to determine that the diagram on the right applies.

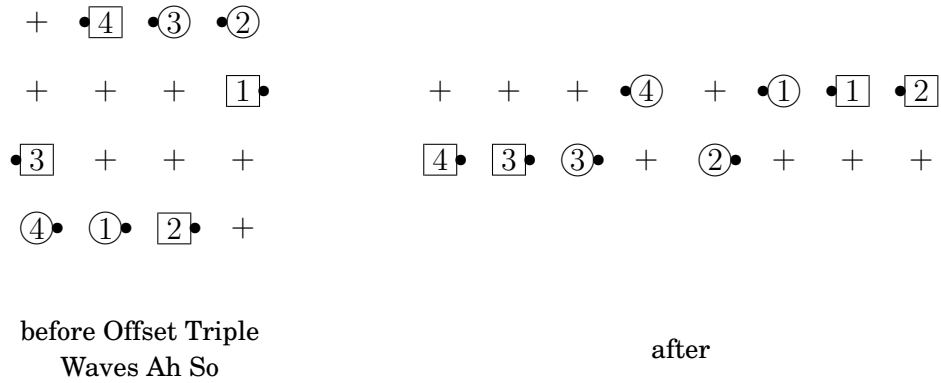
Permissible calls include non-shape-changing 1x4 calls:



before Offset Triple  
Waves Switch the Wave

after

Calls that go to a 2x2 box are also permissible:



In this case, each Offset Wave (with 100% offset) becomes an Offset Box (with 100% offset). The 3 Offset Boxes put together form a 2x8 matrix. The fact that Offset Triple Wave calls can end in Offset Triple Boxes setups fits well with the Offset Triple Boxes Concept, described earlier.

By analogy with the Quadruple Boxes method of dancing Offset Triple Boxes, you might find it helpful to focus on your Quadruple Waves when doing Offset Triple Waves. From a 4x4 Matrix “Z Lines” setup, some people are tempted to work in their Z Lines. Forget that. Focus on your Quadruple Line and other people that are in your Split Phantom Lines Diagonal Box or Center Phantom Lines Diagonal Box. Of course, with this concept you will be working with them as a 1x4 (line or column), not a box, but the same principles apply in finding them.

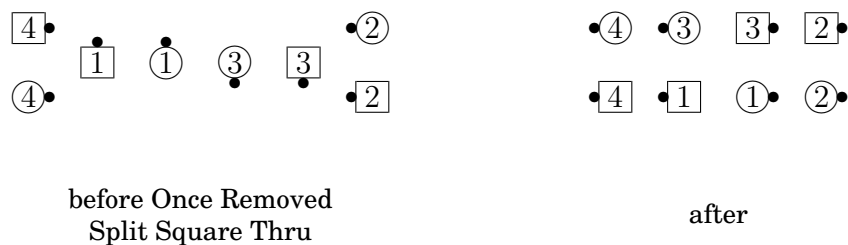
The “Working Forward/Backward/etc.” designators can be used with Offset Triple Columns / Lines / Waves, although the examples tend to be quite difficult.

## Once Removed

In the Once Removed concept, the setup is partitioned into slices, alternately between one group and another group. The process has been likened to imagining that the setup is a loaf of bread with alternate light and dark slices. The division is along the long axis of the starting setup. The people in each group do the call among themselves. At the end of the call the groups must once again be interleaved by slices. If the call changes shape, the number of slices may change, and this makes the interleaving tricky.

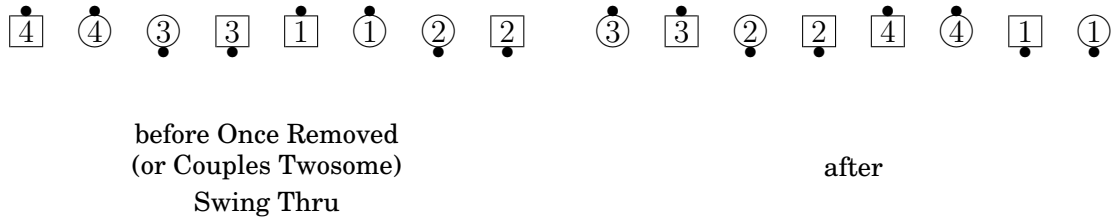
It is not legal to use the Once Removed concept unless the slices are straight and are one matrix position thick. So, for example, it is not legal in diamonds or an hourglass.

If the call involves the Ocean Wave Rule or the Facing Couples Rule, the evaluation of slices is done directly on the actual starting setup, before any rearing back from a wave or stepping to a wave.

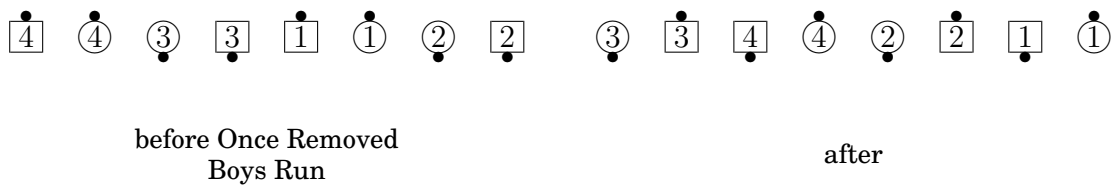




There are a number of survival skills for this concept. For non-shape-changers, one can work to spots. When the setup consists of couples or tandems (or siamese) along the Once Removed axis, the concept is equivalent to Twosome, and many people like to do it that way.



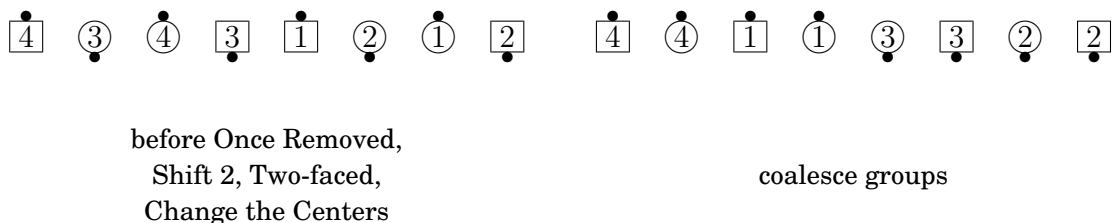
But beware: you might not actually be able to do it that way.



If the setup almost consists of couples or tandems, failing only in that the people in each pair aren't facing the same way, some people still like to think in terms of "virtual twosomes"—they imagine that they are in a twosome with their paired person. Not everyone is comfortable with this method.

If the setup is a tidal wave, a common method is to have everyone step forward slightly to identify their Once Removed line, and then work in those spots. If the call is something like Here Comes the Judge, it is easy. If it is something like Wheel and Deal, the groups have to merge back carefully.

Another common method, particularly when the call is complex, is often called "drag and drop", and is the analogue of removing the distortion in a parallelogram. The slices in one group are all one position "west" (or whatever; one doesn't actually think in terms of compass directions) of the corresponding slice in the other group. Each group collects itself onto the west or east side of the set, does the call, and then re-interleaves with the other group.



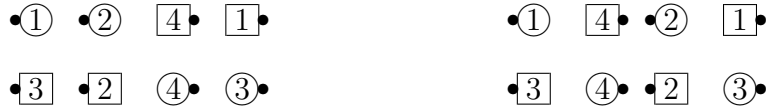


do the call, however  
complex it may be

“drag and drop”

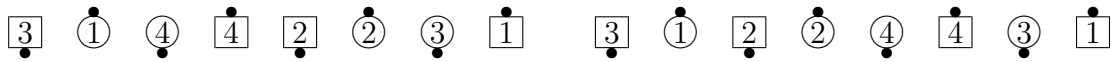
How are the coalescing and re-interleaving done? For a 2x4, it is simply a Slither (or equivalent “Vertical Slither” if people are in column-like orientation.)

For a 1x8, the interleaving is removed by doing a Slither on each side, followed by the center pairs sliding past each other as though doing a Stretched Line call. Re-interleaving is done by having the center pairs slide past each other, followed by a Slither.



before Once Removed  
Vertical Tag Your  
Criss Cross Neighbor

“Slither”



do the call

swap center pairs



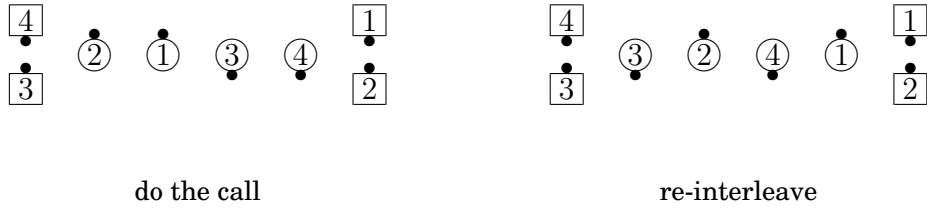
slither

For other setups, there is no simple trick. The people in each group establish eye or hand contact, do the call, and, with a minimum of pushing and shoving, re-interleave themselves.



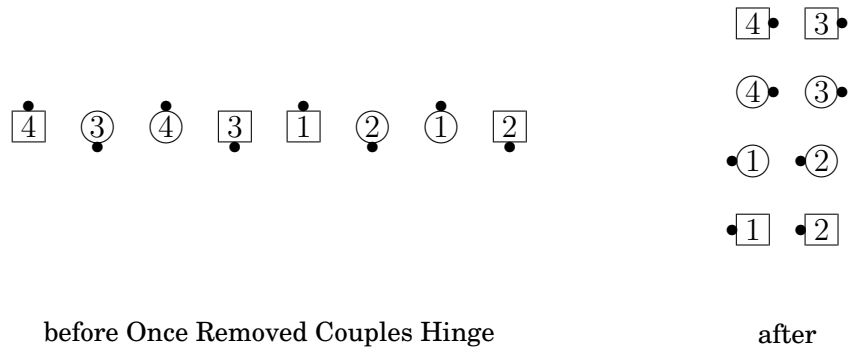
before Once Removed  
Siamese Breakdown

coalesce

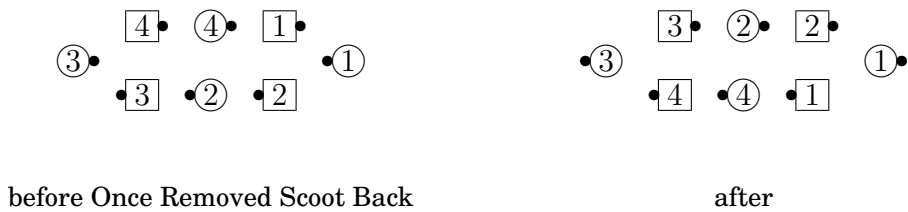


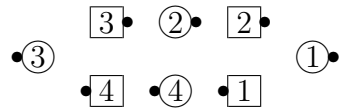
Unfortunately, the “Twosome” method and the “Drag and Drop” method have incompatible traffic patterns, so it is necessary for everyone to agree on which method to use. In general, the Twosome method is used where it applies (though not everyone agrees with this), and “Drag and Drop” in other cases. For calls in which no shape-changing ever takes place, people typically work to spots. For example, in a tidal wave, Once Removed Here Comes the Judge is usually just done to spots, even though it is quite a difficult call.

Sometimes each setup has only one slice after doing the call. In that case no re-interleaving is required.

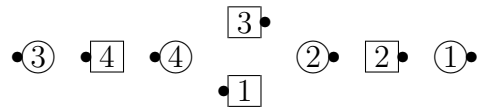


There are some obscure cases in which the total number of slices is odd, so one group has an even number of slices and the other group an odd number. In this case neither group is “east” or “west” of the other—they are both centered on the center of the set. Such calls simply have to be executed carefully.





before Once Removed Extend



after

## [Left] [Twin] Orbit Board/Box

See the [checker Board/Box variations](#) section, 13.

## Out Rigger

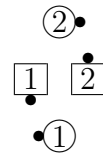
See [Rigger](#), page 65.

## Overlapped Diamonds, Overlapped Columns / Lines / Waves

In the Overlapped Diamonds concept, people in an actual line imagine that they are centers or points of a diamond, with phantoms in the other spots. Centers of the line become centers of the diamond, with phantom points perpendicular to the line. Ends of the line similarly become points of the diamond.

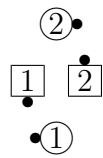


before Overlapped Diamonds  
Cut the Diamond

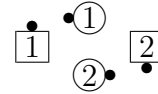


after

The Overlapped Lines concept is similar. People in a diamond imagine that they are in lines.

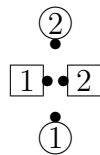


before Overlapped Waves  
Swing Thru

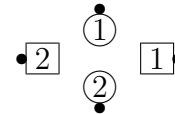


after

The Overlapped Columns concept is similar to Overlapped Lines, except that people are facing in a different direction.



before Overlapped Columns  
Double Pass Thru



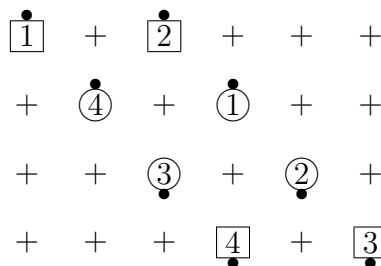
after

## Overlapped Siamese

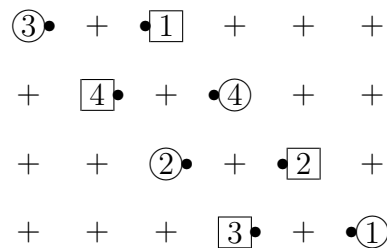
See [Melded Siamese](#), page 40.

## Parallelogram Blocks

This is a “blocks” formation made from a 4x4 that has a 50% shear offset.



before Parallelogram Blocks  
Shakedown

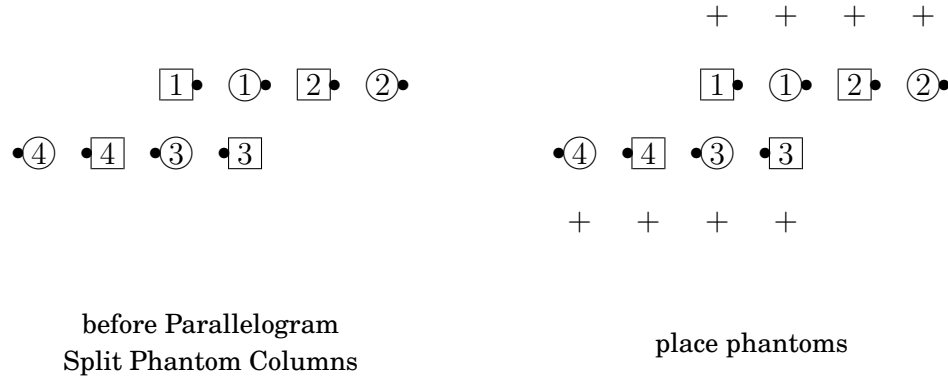


after

## Parallelogram Split Phantom Columns / Lines / Waves

This is the Split Phantom Column/Line/Wave concept starting with a 50% offset between the two 2x4's. The individual 2x4's are not distorted.

This usually starts from a real parallelogram. The phantoms are placed directly outside of each real 1x4.



The concept can also be done when the initial occupation is not in the inner 1x4's, as long as the offset direction is unambiguous.

## Paranoid

This may be directed to specific dancers with syntax such as “the boys are Paranoid” or directed to everyone by simply saying “Paranoid”. Everyone does the given call, and then the designated dancers U-Turn Back.

A typical example might be: “Initially Paranoid, Relay the Top”:

- Arm Turn 1/2
- U-Turn Back
- Finish Relay the Top

If the designator is a position in the setup, such as “Centers”, it refers to the location at the beginning of the call.

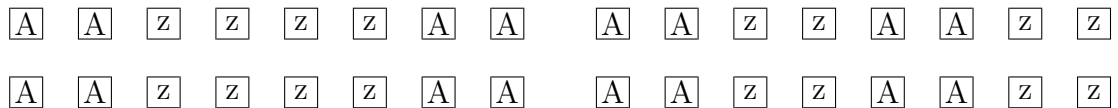
If used with a meta-concept such as Secondly, the position must be evaluated at the beginning of the indicated part, and the U-Turn Back comes at the end of that part.

## [Split] [Interlocked] Phantom Columns / Lines / Waves / Boxes / Diamonds / 1/4 Tags

These are generalizations of Split Phantom Setups and Phantom Setups used at C3A and C3B. At C4, Interlocked Phantom setups are introduced, and all combinations are permissible. This includes new “Phantom” setups such as Phantom Boxes and Phantom Diamonds.

In general, four 4-person setups (considering a 1/4 Tag to be a 4-person setup in this situation) are arrayed one after another. With the “Split Phantom” concept, the two adjacent groups on one side work together, as an 8-person formation, as do the two adjacent groups on the other side. With the “Interlocked Phantom” concept, each end group works with the far center group. With the “Phantom” concept, the center groups work together and the outer groups work together.

For example, in the diagrams below, the A’s work together and the z’s work together.



Phantom Boxes

Interlocked Phantom Boxes

If the concept is “Center Phantom Boxes” or “Inside Phantom Boxes”, only the center-most Phantom Boxes (designated “z” in the Phantom Boxes diagram) do the call, working together as an 8-person setup.

When 1x4 setups are involved, they may be end-to-end, forming virtual 1x8 setups. The complete actual setup would be a 1x16 in this case. Similarly, Diamonds may be point-to-point.

Shape-changers are frequently used. Just as Split Phantom calls finish in Split Phantom setups, Phantom calls finish in Phantom setups, and Interlocked Phantom calls finish in Interlocked Phantom setups.

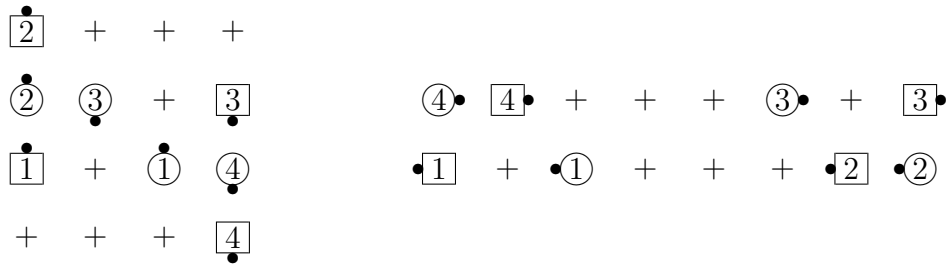


before Interlocked Phantom Diamonds  
Unwrap the Diamonds

after

## Phantom As Couples, Phantom Tandem

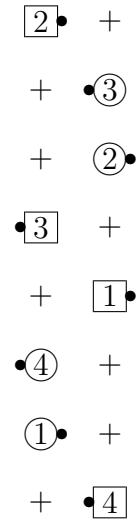
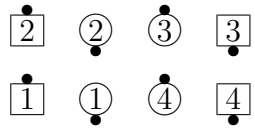
Expand the setup to a 4x4 if possible, and then, with phantoms where necessary, form the required Couples or Tandem pairs and do the call.



before Phantom Tandem  
Follow Your Leader

after

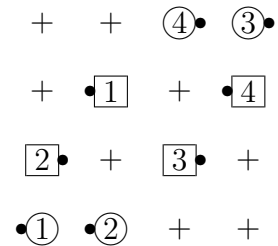
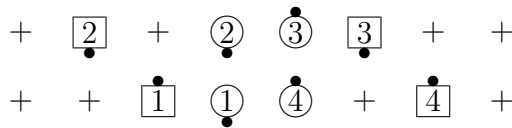
Phantoms are always placed to make a 4x4 if that is possible, even if that seems incongruous:



before Phantom Tandem Lockit

after

The only time this is not done is if the initial formation already has people outside of the 4x4 boundary. In that case a 2x8 is formed.



before Phantom Tandem Lockit

after



In the above example, callers should specify that the setup is a 2x8 Matrix with terminology such as “2x8 Matrix, Phantom Tandem”.

Similar Twosome or fractional Twosome calls are also used, such as “Phantom Couples Twosome” or “Phantom Tandem 1/4 Twosome”.

## Omit

See the section in Book 1 on Concise Modifiers.

## Phantom Butterfly or O

This is done in a 4x4 matrix. Each person deduces whether they are on Butterfly spots or “O” spots, and does the call in the appropriate phantom formation.



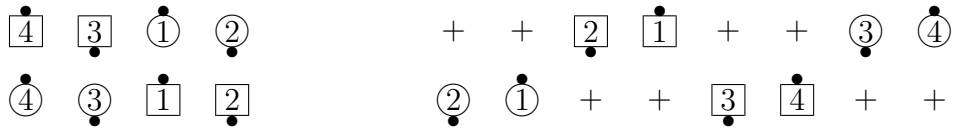
before Phantom Butterfly or O  
Single Checkmate

after

See [Phantom Offset Columns / Lines / Waves](#), below, for a discussion of other concepts where you infer what setup to work in from your position in a 4x4.

## Phantom Offset Columns / Lines / Waves

These are the phantom versions of the Offset Columns / Lines / Waves concepts. Recall that those concepts are done in a 4x4 occupied as “clumps”. In the phantom version, everyone does the call as though in their own pair of diagonally placed clumps.



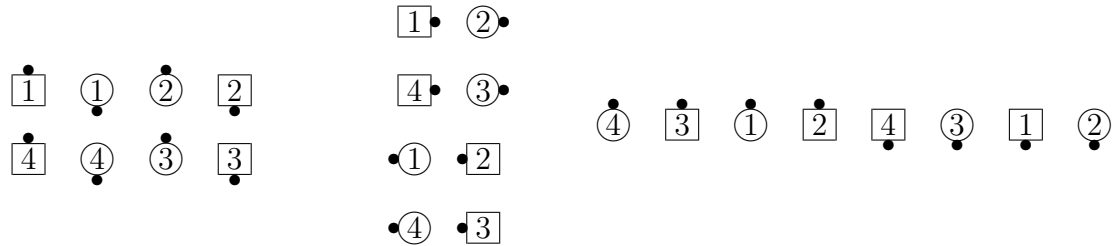
before Phantom Offset Columns  
Wind the Bobbin (Boys are  
in one pair of clumps; Girls  
in the other)

after

This is a case of the general family of “Phantom <formation>” concepts. These concepts can apply in any formation in which each person can deduce unambiguously which of the various distorted or disconnected sub-setups they are in, selected from a larger actual setup. Other examples are “4 Phantom (Interlocked) Blocks” and “Phantom Butterfly or O”.

## Piecewise

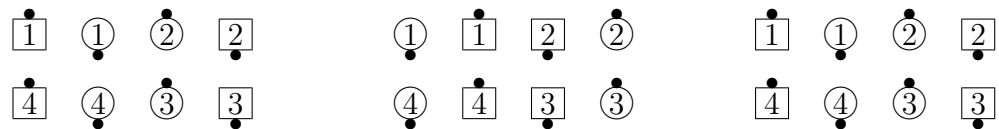
This is a meta-concept. It will be followed by a concept and then a call that has parts. The concept is applied separately to each part of the call. You must re-evaluate your setup after each part, and you might not continue working with the same people you were working with on earlier parts.



before  
Piecewise Tandem Twosome  
Hinge the Lock

after first part

after entire call



before Piecewise Stable  
Swing Thru

after first part

after entire call

Make sure you understand the difference between “Stable Swing Thru” and “Piecewise Stable

Swing Thru”.

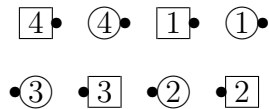
For more information on re-evaluation, see the discussion in <http://www.challengedance.org/sd/book3.pdf>.

## Quintuple/Sextuple <formation>

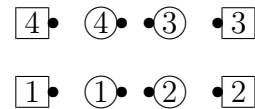
Triple/Quadruple setups (such as Boxes, Lines, Columns, Diamonds) are used at lower levels. At C4, Quintuple (5) or Sextuple (6) setups may be used. The idea is the same; there are just more of them. Each setup works independently of the others.

## Randomize

This takes two concepts and a call, as in “Randomize Between <Concept1> and <Concept2>, <Call>” This is similar to Oddly and Evenly, but switches between two concepts rather than turning one concept on and off. Apply the first concept to all odd-numbered parts of the call, and apply the second concept to all even-numbered parts of the call.



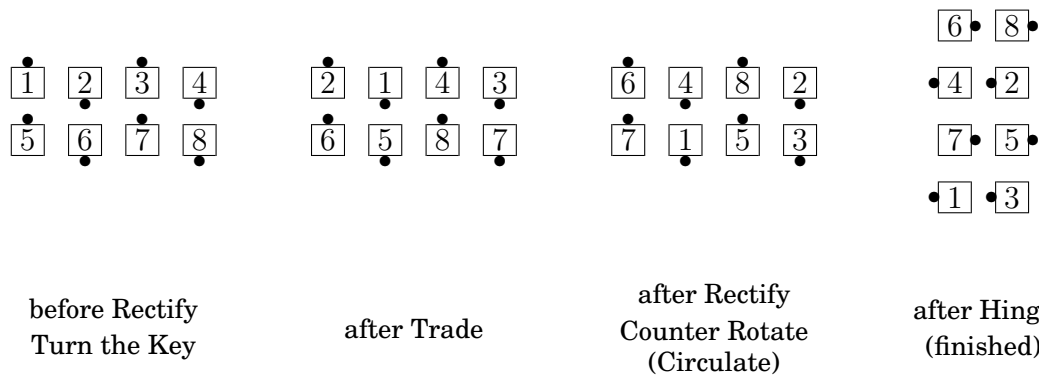
before Randomize between  
Tandem and Stable,  
the Difference



after

## Rectify

Replace the first Circulate or Counter Rotate 1/4 in the call with a call of the other type. Split Circulate is replaced with Split Counter Rotate (and vice versa). (All 8) Circulate is replaced with (All 8) Counter Rotate (and vice versa). Diamond Circulate is replaced with Counter Rotate the Diamond 1/4 (and vice versa). Only the first such action, of either type, is replaced.



For more details and more examples, see <https://challengedance.org/Rectify.pdf>.

## Revert

See the section in Book 1 on Tagging Call Combinations.

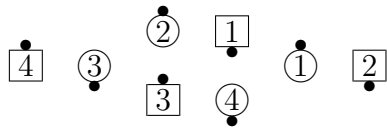
## Rewind

Much has been written about this concept elsewhere. (See <http://www.challengedance.org/rewind/rewind.html>.) Each dancer imagines facing a phantom on their own spot, who has just completed the call. Push that phantom backward (typically while you are walking forward) through the call.

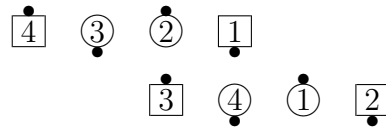
## <direction> Rigger

These are typically done from a setup called a “Rigger” or “Bat”. The <direction> is typically In or Out, but may also be Right, Left, Front, or Back.

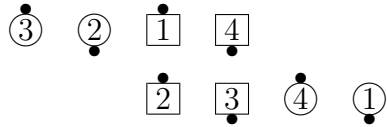
The basic idea of Rigger involves two offsets. The first offset is the “Rigger offset”, and is always taken out. This consists of the Outer 2 dancers moving (usually) forward or backward, dragging the adjacent person with them, until they are facing In (for In Rigger) or Out (for Out Rigger) of a Parallelogram. The call is then done in that Parallelogram. When it completes, the outer pairs of dancers move as required to center themselves in (usually) a new “Rigger” formation.



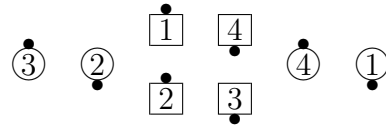
before Out Rigger  
Out Roll Circulate



remove Rigger offset,  
Side Boys are looking out

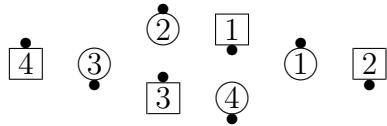


do Parallelogram  
Out Roll Circulate

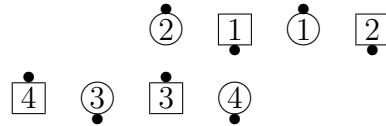


Ends recenter

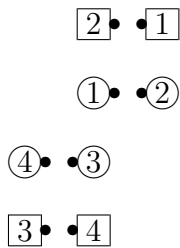
If the call is a shape-changer, the result of doing it in a Parallelogram might be an offset formation. In this case, the outer dancers still move as required to center themselves.



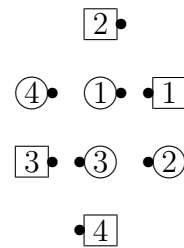
before In Rigger  
Linear Cycle



remove Rigger offset

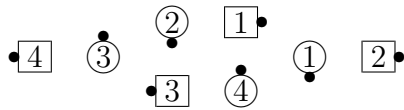


do Parallelogram  
Linear Cycle

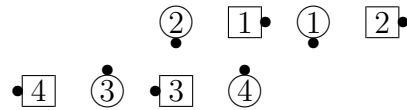


Ends recenter

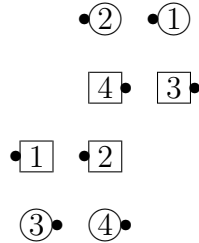
“Right Rigger” and “Left Rigger” tell the outermost dancers to move right or left, respectively. The adjacent person goes with them, regardless of their facing direction.



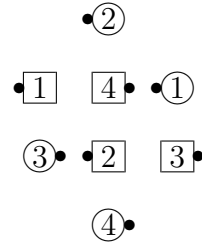
before Left Rigger  
Follow to a Diamond



remove Rigger offset,  
Side Boys slide left



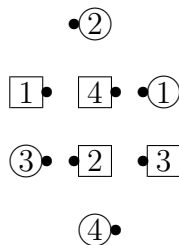
do Parallelogram  
Follow to a Diamond



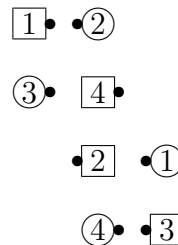
Ends recenter

One may also hear “Front Rigger”, telling the outermost people to go forward, or “Back Rigger”, telling them to back up.

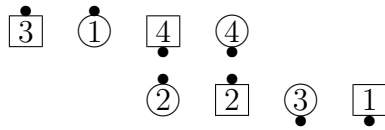
These concepts can also be used in 1/4-tag-like setups. The outside people both move in the direction indicated (which must be consistent), and then everyone does the call in Offset Lines or Columns.



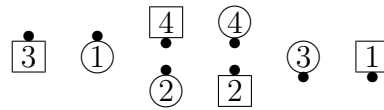
before Left Rigger  
8 by Bingo



Ends slide left



do Offset Lines 8 by Bingo



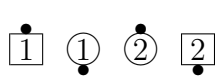
Ends recenter

The final recentering operation is sometimes used as a call in its own right: “Like a Rigger”.

## Rolling <anything>

Roll, and then **Finish** the <anything> call.

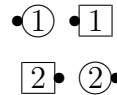
All of the “ing” calls (Flowing, Rolling, etc.) apply some action based on the flow of the preceding call, and then let that action replace the first part of the “anything” call.



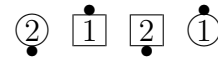
before Recycle



before Rolling  
Contour the Line



after Roll



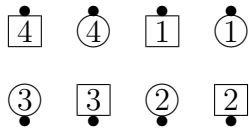
finished

## Roundtrip

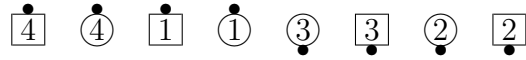
Do the call, and then Finish Reverse Order the call. If the call has parts A, B, C then the Roundtrip version is A, B, C, B, A. Roundtrip Remake is Swing the Fractions.

## Sandwich

This is really the same as “Interrupt after 1/2”. It takes two calls, as in “Sandwich Swing Thru around Mix”. Do the first half of the first call, do the second call, and do the last half of the first call. The first call does not need to have an even number of parts—it just needs to be able to be interrupted at the halfway point.



before Sandwich Wheel Around  
around Ferris Wheel



after

Applications of Sandwich are defined to have 3 parts, independently of the calls used:

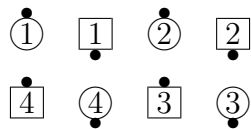
1. First 1/2 of the first call
2. All of the second call
3. Last 1/2 of the first call

In theory, nested concepts may go more deeply into the parts of each call, but this is rarely used. An example might be: “Finally 1/2, Sandwich Change the Wave Around Mix”. This would mean:

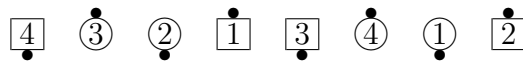
1. 1/2 Change the Wave
2. Mix
3. Centers Cross Run

## Scatter

The intention of this concept is to apply the relationship between Scatter Scoot and Scoot Back to other calls. It only applies to calls done from Parallel Waves where the leads’ part begins with a Split Circulate or similar action, such as Reach Out or Follow to a Diamond. The trailers do their part normally while the leads “Scatter” by going to where the other lead in their wave would have gone on the unmodified call.



before Scatter Reach Out



after

The original definition of this concept stated that the leads replace their Split Circulate with an All 8 Circulate. The newer definition is intended to better match the dance action on calls like “Scatter Scoot Reaction” where the dancers exchange places with each other but never complete an All 8 Circulate. In practice, the examples in use today can generally be danced with either method.



## Shadow <setup>

From any setup in which the outsides are in tandem with each other, they do their part of Cast a Shadow, but without the final Spread. The others do whatever the call is. The concept names the centers' setup.



before Shadow Box Follow Thru

after

## Shift <N>, *Shifty*

On Shift <N>, skip the first <N> parts of the call are skipped, then do the rest of the call, and then do the <N> skipped parts.

Shifty means Shift 1. This was a predecessor to Shift <N> and is no longer commonly used.

Shift 1 Alter the Wave is:

- Centers Cast Off 3/4, Ends U-Turn Back (Fan Back)
- Counter Rotate the Diamond 1/2
- Flip the Diamond
- Trade

This concept can become quite complicated when mixed with fractional concepts, Reverse Order, and meta-concepts.

## Short 6, Tall 6

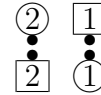
See the section on Formations in Book 1.

## Single File

This was originally a generalization of the “put the belle in front” action at the start of calls like Ladies Chain, Dixie Style, Dixie Chain, and Flutter Wheel. It skips that first action. The call finishes normally.



before Single File Flutter Wheel



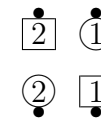
after

It has been extended to apply to any 2x2 call in which some people cross the center line of the 2x2 before the others. It is done from a 1x4, and the role of the person who crosses the center line first (in the 2x2) is played by the person already in the center.

It was applied to calls done in a single file column, in which people cross the center in a forward direction:



before Single File Cross and Turn

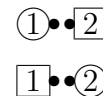


after

or a backward direction:



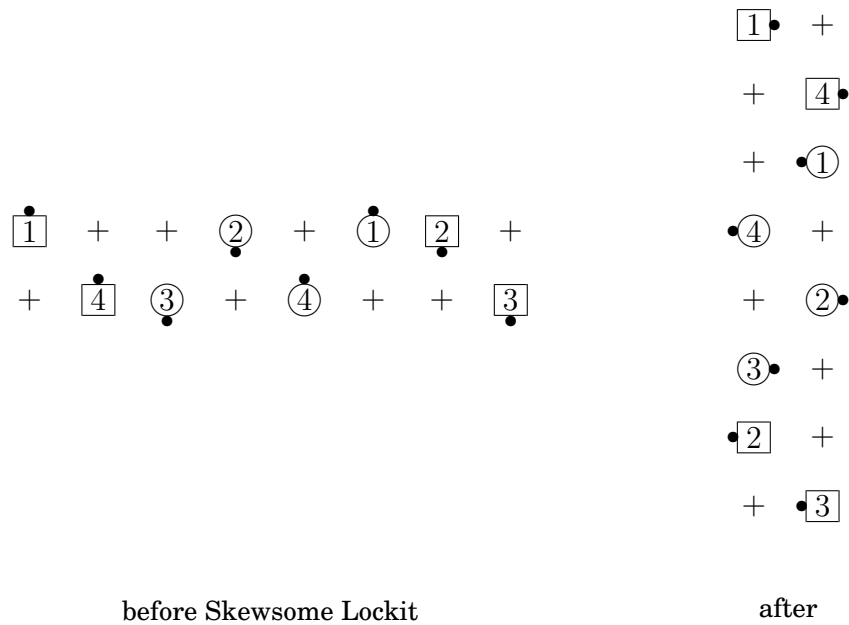
before Single File Shakedown



after

## Skew, Skewsome

Skew is like As Couples or Tandem, but the people being paired are neither beside each other nor in tandem. They are diagonal from each other in a 2x2 Box. Skewsome is the Twosome version of this. The concepts are essentially Phantom Solid Box or Phantom Boxsome, but the Boxes must consist only of two diagonal people.



See [Melded Skewsome](#), page 42.

## Snag the <anyone>, *Snag*

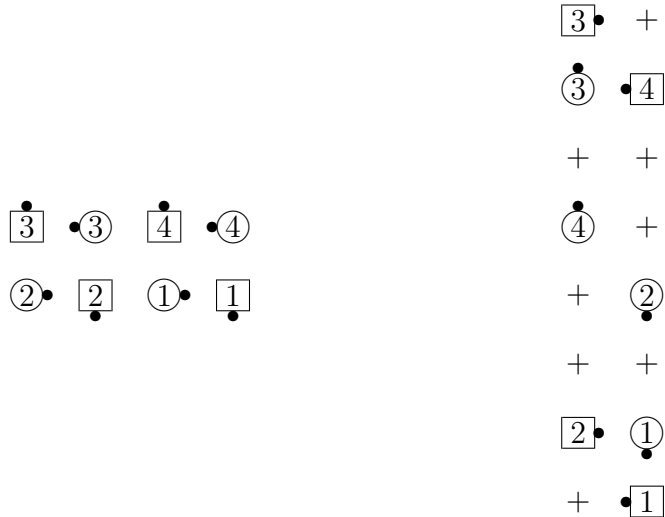
The designated people do half of the call, while the others do the entire call.

If “Snag” is given with no designator, the centers do half of the call. (that is, “Snag the Centers”). This evolved from the old call “Snag Circulate”—centers 1/2 Circulate while the ends do a full Circulate.

## *Standard*

This is a word that is used before a concept like Split Phantom Columns, to force the axis of the division to be a certain way. In the normal use of such concepts, the word “columns”, “lines” or “waves” determines the division axis. For example, Interlocked Phantom Columns would cause a different division from Interlocked Phantom Lines. But that only works when everyone faces the same general direction. (It is still legal to call Interlocked Phantom Columns when people are T-boned, but in that case everyone uses their own, inconsistently oriented, Interlocked Phantom

Columns.) If people are T-boned, designating people as Standard says that everyone divides the setup the way the column/line/wave word applies to those people.



before Boys are Standard  
in Split Phantom Lines  
Counter Rotate 1/4

after

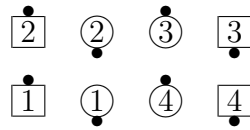
## Straight

The end looking in (who must be in line-like orientation) does a Cross Over Circulate, while the others do the call normally.

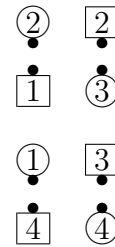


before Straight Cut the Diamond

after



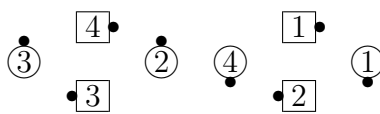
before Straight Recycle



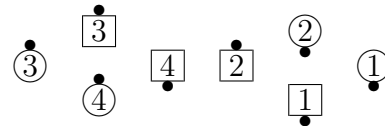
after

### Stretched <setup>

A slightly more restricted version of this is used at lower levels. The general rule is that the number of people who cross over to the other setup must be between 2 and 4. In some cases (diamonds, for example), only the very center 2 move over to the other subsetup



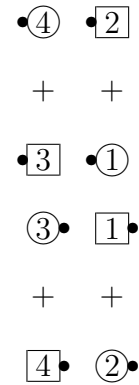
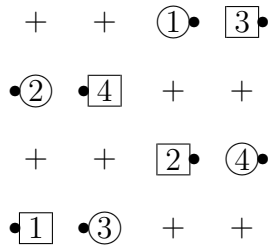
before Center 6, Stretched Triangle,  
Reshape the Triangle



after

### *Stretched Split Phantom Columns, Lines, Waves, Boxes*

This is analogous to the Stretched <setup> concept. In a setup in which one might use a Split Phantom formation concept, the center two of the four subsetups move past each other as they start the call, and finish in the Split Phantom formations.



before Stretched Split Phantom Columns  
Track 2

after

## Sweeping <anything>

Sweep 1/4, and then **Finish** the <anything> call. See [Rolling <anything>](#), page 68.

## Tall 6

See the section on Formations in Book 1.

### *[Interlocked] Trace*

Trace is done from a 1/4-tag-like or diamond-like setup. It is similar to Jay, but with people working in inconsistent groups and doing different calls. Each end of the center line and their adjacent person do the first call with the outside people that the end faces. That call is done in a distorted 2x2 Box. Those outsides work with the *other* two people in the center line for the second call, which is also done in a distorted 2x2 Box.

The only significant facing directions are those of the ends of the center line. Everyone else's actions are dictated by their locations.



before Trace Bingo  
by Stack the Line

after

On Interlocked Trace, the end of the center line and person once removed from them work with the outsides that the end of the line faces. Those people work with the other two once removed people in the center.

Reasonable shape-changers are allowed, as for the Jay concept.

There is an obsolete usage, in which numbers are given instead of calls, such as “Trace 2 by 1”. Do the indicated number of Box Circulates.

## Triangle (working as a Box)

Some Box calls can be done from a Tandem-Based Triangle. Some of these calls are used at lower levels, such as “Triangle Peel and Trail” or “Triangle Peel to a Diamond”. At C4, this idea is used with a greater variety of calls, and a longer explanation is necessary to cover all of the details.

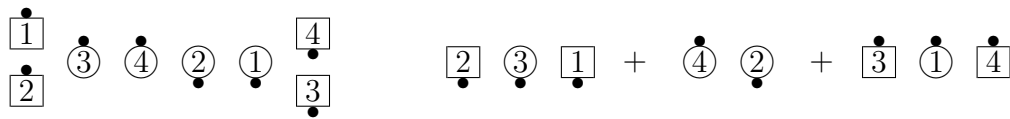
Note: the term “working as a Box” is not stated explicitly. Instead, dancers are expected to automatically apply this concept when a Triangle is designated and the call given is normally done from a Box. For example, you may hear “Outside Triangles, Cross Back” or “Tandem Based Triangles, Loop and Tag”.

To “work as a Box”, the apex effectively backs up and plays the role of a Trailer in a Box. The spot in front of that dancer is a phantom. The dancers do the call in that Box, working with the phantom as needed. At the conclusion of the call, the phantom is usually removed so as to return to a 3-dancer setup. The exact rules for removing the phantom at the end depend on the overall ending setup and can be controversial in some cases.

Here, we’ll first consider cases where the ending setup of the Box call is a 1x4 or Diamond. Then, we’ll consider the 2x2 endings.

### 1x4 and Diamond Endings

If, after doing the Box call, the resulting setup is a 1x4 or Diamond, and the phantom spot is on the end closer to the center of the overall formation, then that phantom spot goes away (and the dancers slide inward). This makes calls such as “Outside Triangles, Peel and Trail” and “Outside Triangles, Peel to a Diamond” end in normal formations (without gaps). Below is an example.



before  
Outside Triangles  
Turn to a Line

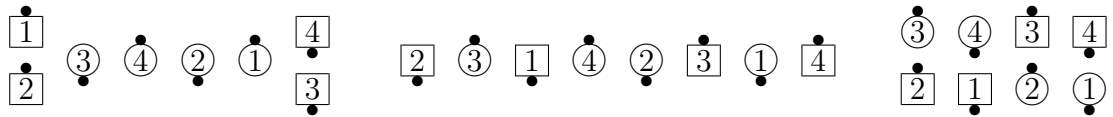
after Turn to a Line  
but before removing phantoms



finished

The phantom spot is also generally ignored if it is on the end farthest away from the center of the overall formation (as the real dancers will already be in a normal (compact) center setup, such as a 1x8).

Examples such as “Initially Outside Triangles, Recoil” are fairly common. The Outside Triangles do the Box Recycle, creating a Tidal Wave. Then everybody does the Step and Fold.



before  
Initially Outside Triangles  
Recoil

after  
Outside Triangles  
Box Recycle

finished

Calling programs such as Sd (Bill Ackerman) and CSDS (Vic Ceder) disagree on how to handle other 1x4 endings. Sd tends to prefer creating a 1x3 and CSDS tends to prefer creating a 1x4 with gaps if necessary. Examples of this type are not commonly used.

## 2x2 Endings

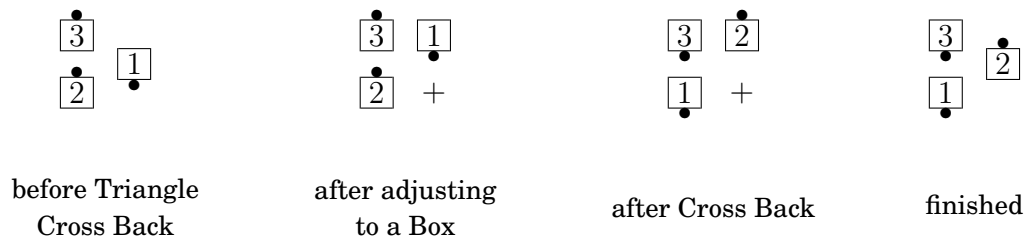
If, after doing the Box call, the resulting setup is a 2x2, one of the dancers adjacent to the phantom will adjust 1/2 spot inward (towards the phantom) so as to produce a new triangle. However, there will generally be two dancers adjacent to the phantom and either one of them could theoretically adjust to make a new triangle. How do you decide which dancer adjusts? There are (at least) 3 separate rules that some callers have suggested in the past:

1. Select the dancer who can adjust in a way that the original Triangle spots are preserved. If this is not possible, the call is improper.



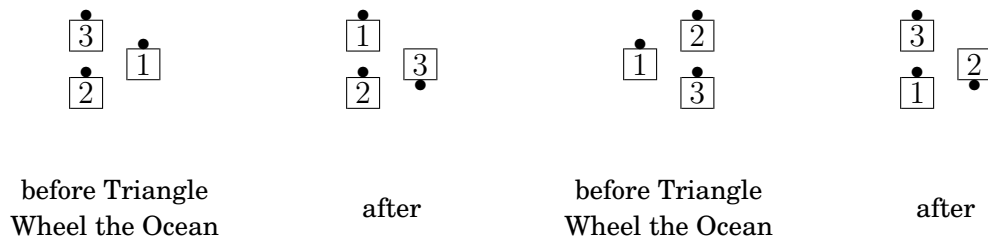
2. Select the dancer who is Tandem with the phantom (and can adjust by moving forward or backward).
3. Select the dancer who would adjust along the same axis as the original adjustment (that is, north/south or east/west).

On some examples, the results are the same for all 3 rules.

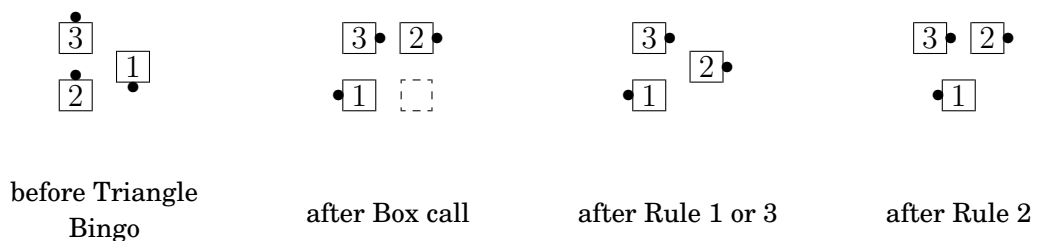


For the final adjustment on the call above, dancer #2 moves backward, along the same axis as dancer #1's original adjustment, and into one of the original Triangle spots. Thus, this call satisfies all 3 rules.

Triangle Wheel the Ocean can be slightly different depending on the exact starting setup. The first example below follows all three rules. The second example satisfies Rules 2 and 3 but would not be permitted under Rule 1.



On calls where dancers change their facing direction by 90 or 270 degrees, Rules 2 and 3 can produce different results:



Most of the examples called in practice tend to be intuitive and dancers do them smoothly without specifically making the adjustments described above. The Cross Back example above is danced by simply working to spots and having the two relevant dancers Pull By with each other (and the lead dancer U-Turn Back in place). The Wheel the Ocean examples can be danced by having the one lead dancer do the Wheel Around with a phantom and finish by themselves as the apex, while the

two dancers acting as Trailers end up in Tandem with each other in the base. Callers who use the Bingo example above typically intend for it to be intuitive and work to spots (using the “Rule 1 or 3” ending).

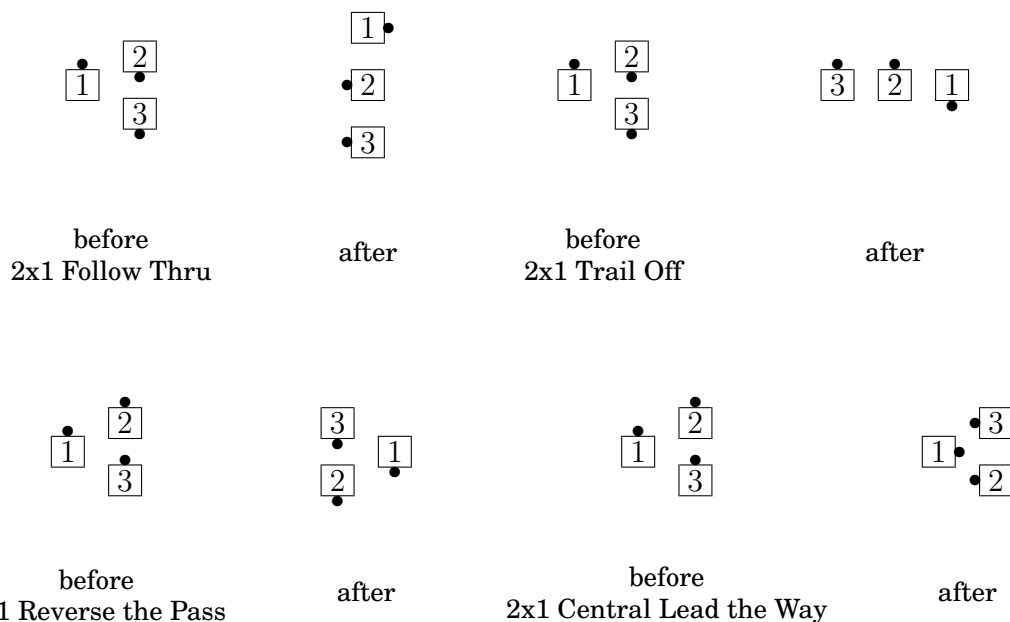
Rule 3 has been documented by Keith Rubow (See <https://krubow.com/Papers/TriangleAsBox.pdf>) and that rule does work on all the examples above (in terms of matching what callers typically want). However, callers are encouraged to exercise caution when considering new examples, as many dancers may have internalized a different rule.

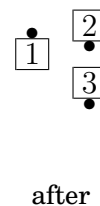
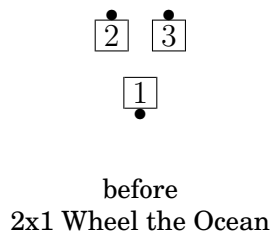
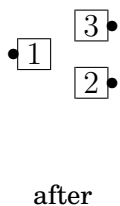
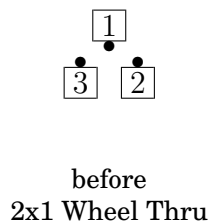
Currently, the Sd program only permits examples where Rules 2 and 3 agree, so many callers will only use those examples in new material today. Historically, Sd has used Rule 2, even when that rule produced different results from Rule 1 or Rule 3. Some older material may have been written with that rule.

### Alternatives using 2x1

When doing calls in Triangles, some callers prefer to use the 2x1 concept rather than the “working as a Box” concept. The 2x1 concept is a variation on the 3x3 and 3x1 concepts. From a Triangle, 2x1 is particularly straightforward because the dancers in the base will always be the group of 2 (doing the call normally), and the apex will always be the group of 1 (doing the call Single).

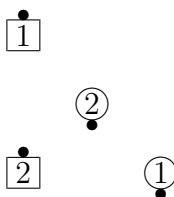
Depending on the call, the 2x1 version may be the same as the “working as a Box” version or completely different. The examples below include some in each category.





## Triangular Boxes

A Triangular Box is a distorted 2x2 that resembles a big Triangle, such as:



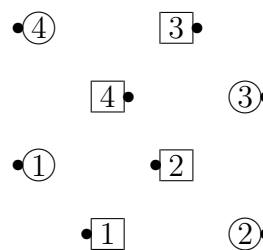
Some people think of it as a “Block” that has one person distorted inwards.

Identify such formations, with real people, and do the call in that distorted 2x2 Box.

Triangular Boxes are most commonly found in “Blocks” formations. They can be difficult to see. It helps some dancers to find the Blocks first, and then have the very centers work with the other Block.

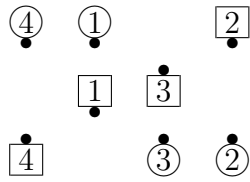


before Triangular Boxes Wheel Thru

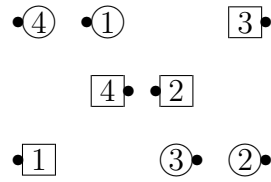


after

They sometimes occur in other formations, which can be even harder to see.



before Triangular Boxes Wheel Thru

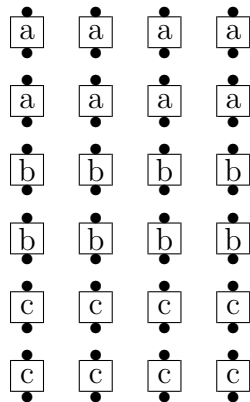


after

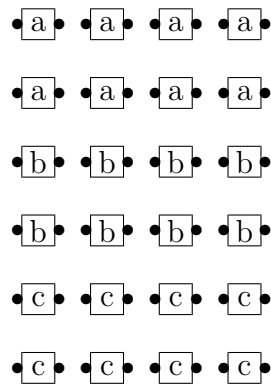
## Triple Twin Columns / Lines / Waves

These are done from a 4x6 setup. The setup is divided into three 2x4 setups, and the call done in each of them.

In the diagrams below, the letter “a” represents one setup, the letter “b” represents another setup, and the letter “c” represents another setup.



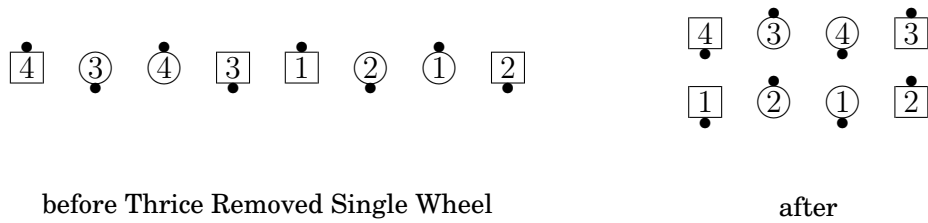
Triple Twin Lines



Triple Twin Columns

## Twice Removed, Thrice Removed

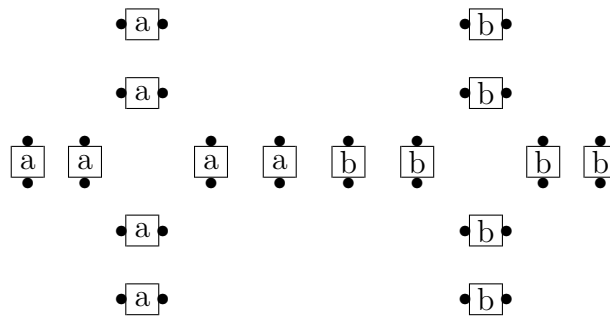
These are variations on Once Removed that indicate dancers with 2 spots between them (for Twice) or 3 spots (for Thrice).



*Twin (Phantom) <setups>*

Generally, this means two of the same setup adjacent to each other. The most commonly-used examples of “Twin” have separate sections in this document; please see [Twin Phantom Tidal Columns / Lines / Waves](#) and [Twin Phantom Diamonds or 1/4 Tags](#).

Less common examples of “Twin” might include Twin Phantom Galaxies, Twin Phantom Thars, or Twin Phantom Bones. Here are Twin Phantom Thars:



Twin Phantom Thars

Historically, some arrangements of two 8-person setups were given the name “Twin Phantom” and other arrangements were given the name “Split Phantom”. For example, “Twin Phantom Tidal Waves” is done from a 2x8 and consists of two horizontal 1x8s stacked vertically. Historically, the term “Split Phantom Tidal Waves” was used to designate two tidal waves stacked end-to-end, making a 1x16. That latter setup is typically just called “Split Phantom Waves” today, and it is the dancers’ responsibility to figure out that the caller means the 1x16 Split Phantom Wave setup, not the 4x4 version.

Some remnants of this distinction remain with us today. The terms Split Phantom Diamonds (or 1/4 Tags) and Twin Phantom Diamonds (or 1/4 Tags) are still in use and refer to different setups. Some callers also use the terms “Twin Phantom Bones” or “Split Phantom Bones” to mean one of the two possible arrangements of “bone” setups stacked horizontally or vertically. These setups are not commonly used, and callers don’t all use the terms the same way. If one of these is called, just look for a setup that looks like a “bone” (or other named setup) on your side of the square, and do the call in that setup.

## Twin Parallelograms

This is done from a 3x4 setup occupied as if for the Offset Columns / Lines / Waves concept. However, the same 1x4's used in those concepts are instead treated as distorted (diagonal) 2x2 Boxes.

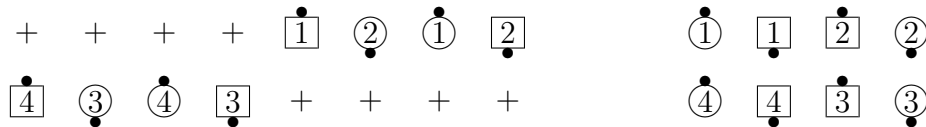


before Twin Parallelograms Shakedown

after

## Twin Phantom Tidal Columns / Lines / Waves

This is done from a 2x8 setup. The setup is divided into 1x8's, with phantoms, and the call is done in each of those. Shape-changers are allowed.

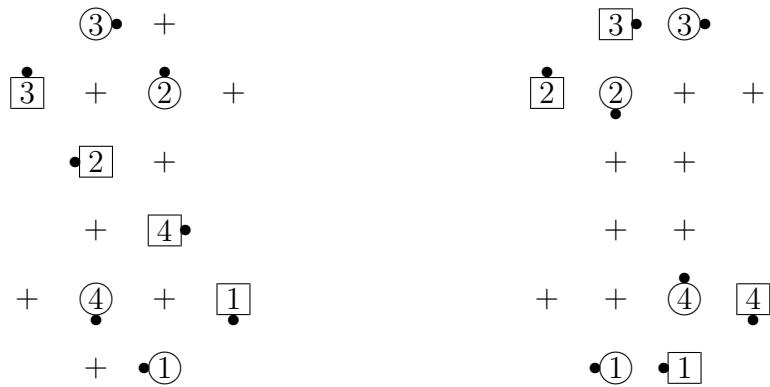


before Twin Phantom Tidal Waves  
Relay the Shadow

after

## Twin Phantom Diamonds, 1/4 Tags

This is similar to Split Phantom Diamonds or Split Phantom 1/4 Tags, but the setups are arranged differently.



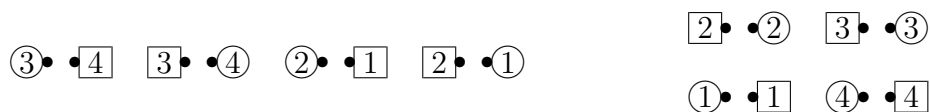
before Twin Phantom Diamonds  
6x2 Acey Deucey

after

The diagram shows a nice neat 4x6 matrix and should be (relatively) easy to see. In practice, sometimes the setup looks more like a “2x2 grid of diamonds” and you may have more difficulty locating your setup. One possibly helpful hint to finding these setups: Look for the people who appear to be in the outside line of a 4x4. They will be the center line of the Twin Phantom 1/4 Tag or Twin Phantom Diamond setup.

## Twisted

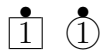
This was originally intended to apply to calls that begin with a Pull By or Pass Thru. Halfway through that Pull By or Pass Thru, the two people do an Arm Turn 1/4, and then they continue.



before Twisted Load the Boat

after

It was then extended to any initial action that causes two people to exchange places. No matter what else they are doing, halfway through that action they must be in a 1x2 along the opposite axis. They must have “orbited” clockwise or counterclockwise to get there. When the Twisted concept is applied, they orbit another 90 degrees at that point, in the same direction, and then finish whatever they were doing.



before Twisted Half Sashay



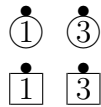
after; they orbited counterclockwise



before Twisted Boys Run



after; they orbited clockwise

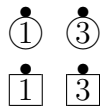


before Twisted Zoom

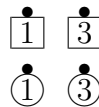


after

Doing the orbiting halfway through a call can be disorienting. In difficult cases, it may be easier just to do the call, note which way the orbiting went, and then do the orbiting afterward.



before Twisted Zoom

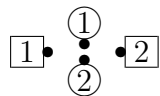


do the Zoom, each pair notes orbit direction

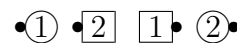


do the orbit

The Twisted concept applies to any call which either is, or begins with, such an action. It only applies to the first such action in the call. In a Twisted Double Pass Thru, only the first people to Pass Thru apply the Twisted Concept:



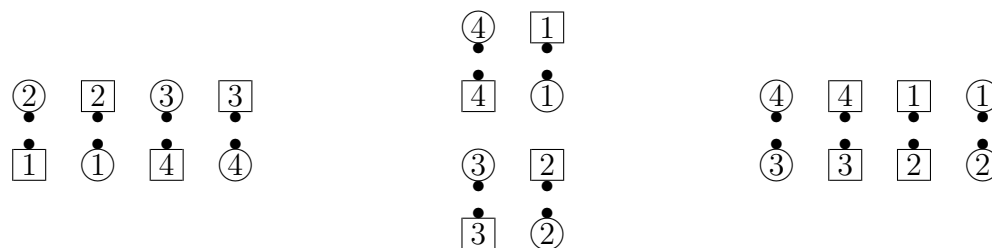
before Twisted Double Pass Thru



after



Of course, meta-concepts such as Finally or Piecewise can change which parts of the call Twisted applies to.



before Finally Twisted  
Chisel Thru

after 2/3 Chisel Thru

after entire call

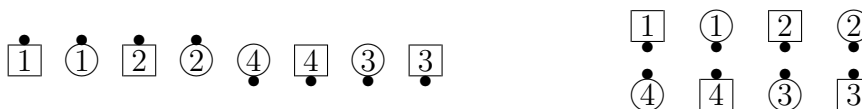
The last part of Chisel Thru is Pass In, and “Twisted” is applied to that. “Twisted Pass In” is Twisted Pass Thru and then a normal Face In. Don’t rush this. It is harder than it sounds.

## Twosome Variations

Twosomes are currently on the C3A list. Here, we focus on variations.

### <N>-some

These are typically Threesome or Foursome, although larger numbers are possible. They are similar to Twosome but specify that there are more people in each group. Each group works together with the same relationship as Twosome (staying in the same order, closer to the same wall). As with Twosome, typically the caller will specify Couples or Tandem.

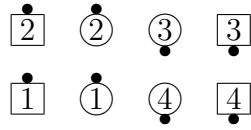


before Couples Foursome  
Single Wheel

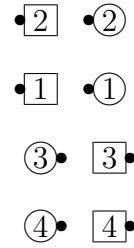
after

### Boxsome, <formation>-some

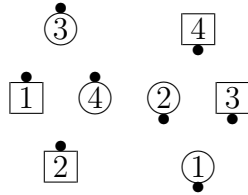
These concepts are similar to <N>-some, but they select people in a specific formation. Everyone in the named formation must be facing the same direction. Each group works together as with <N>-some.



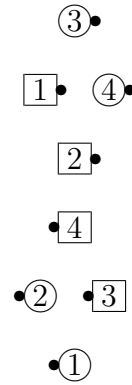
before Boxsome Shazam



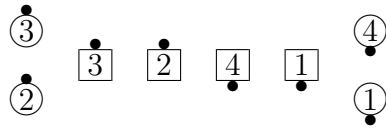
after



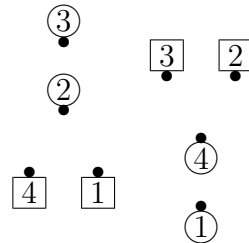
before Diamondsone Hinge



after



before Y-some Single Wheel



after

One can also do these “Solid”, which is the same as the “working as a unit” concept from C2. These are typically called as, for example, “Diamonds are Solid”.

One can also do these Fractional Twosome, as in “Y-some 1/2 Solid”, or “Diamonds are Solid 1/4 Diamondsone”.

One more note on working with Y’s. Look again at the “after” picture from Y-some Single Wheel

above, and consider doing another Y-some call. You might, at first, have difficulty identifying the Y's, as the Couples could form a "Y" work with either the Tandems in front of them or the Tandems to their side. Note, however, if the call is "Y's work Solid" or "Y-Some", the Y's must consist only of dancers facing the same direction. So, the Couples would work with the Tandems that are facing the same direction they are.

### **<fraction> Twosome, Twosome <fraction> Solid**

These are variations of Twosome where the dancers work Solidly (e.g. As Couples or In Tandem) for a portion of the call and Twosomely for the rest of the call. Specifically, Couples N/4 Twosome or Tandem N/4 Twosome means that each group of dancers (Couples or Tandems) works Solidly until they have turned a total of N/4, and then they work Twosomely thereafter. (This is analogous to the N/4 Stable Concept, where dancers work normally until they have turned a total of N/4, and Stably thereafter.)

To apply the two concepts (Solid and Twosome) in the other order, the caller will give the Twosome concept, then a fraction, and then the word "Solid". For example, "Couples Twosome 1/4 Solid". The groups (Couples in this case) work Twosome until they turn the specified fraction, and then become Solid (Couples or Tandem).

The groups can also be Siamese, Couples/Tandems of 3, Couples/Tandems of 4, Boxes, Triangles, Diamonds, or possibly others.

The nomenclature sounds intimidating at first, but it is actually quite logical. The two ways of working (Solid or N-some) are done in the same order in which they are spoken. The fraction is spoken between them. Do things the first way until you reach the fraction, then do them the other way. So, for example, "Couples 1/2 Twosome" means "Couples until you have turned 1/2, then Twosome". Other examples you might hear include:

Tandem 1/4 Twosome  
Couples of 3 1/2 Threesome  
Siamese 3/4 Twosome  
Boxes are Solid 1/4 Boxsome  
Diamonds are Solid 1/2 Diamondsome  
Tandem Twosome 3/4 Solid  
Couples Threesome 1/4 Solid  
Siamese Twosome 1/4 Solid  
Diamondsome 1/4 Solid

More details and examples can be found in a separate document. See <https://challengedance.org/ftwosome/ftwosome.html>.

### **Use <call>**

See the section in Book 1 on Concise Modifiers.

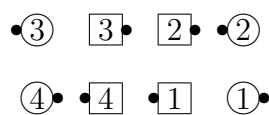
## Veering <anything>

Veer in flow direction (Veer Left or Veer Right), and then **Finish** the <anything> call.

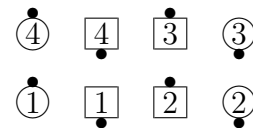
See [Rolling <anything>](#), page 68.

## Left/Right/Other Wing

In this concept, everyone dances the call as if they had started in a miniwave of the indicated handedness. They blend into the correct action as they go along. It is common to simply sashay at the start of the call to get into the desired handedness, but this can sometimes lead to awkward dancing. Figuring out where you need to go, and how to get there smoothly, is often better.



before Right Wing  
Transfer the Column



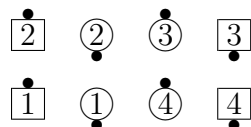
after

For Other Wing, everyone assumes the opposite handedness from their actual starting handedness.

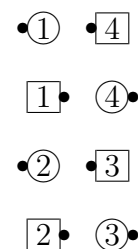
## Yoyo

Yoyo is an older concept that has been partially (but not completely) replaced by Generous (C3B) today. While Generous specifies that you add 1/4 Turn to the first Arm Turn in the call (of any amount), Yoyo specifies that you replace the first Arm Turn 1/2 with Cast Off 3/4.

The Yoyo concept was originally intended to apply to those calls that start with Arm Turn 1/2, such as Spin the Top or Relay the Deucey.

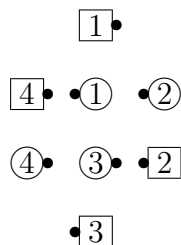


before Yoyo Alter the Wave

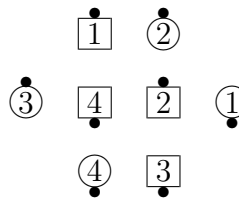


after

It was then extended to apply to the first Arm Turn 1/2 (or equivalent Trade) that occurs, wherever that is.

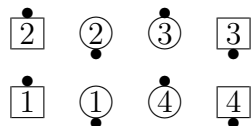


before Yoyo Scoot Chain Thru

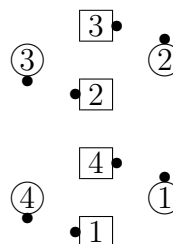


after

As with Generous/Stingy, Yoyo can be applied in ways that test your knowledge of call definitions. For example, the first part of Mix is a Centers Cross Run. That part does not contain an Arm Turn or Trade. Yoyo (and Generous/Stingy) apply only to the second part of Mix (the Centers Trade).

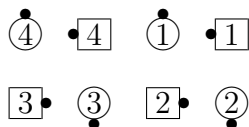


before Yoyo Mix

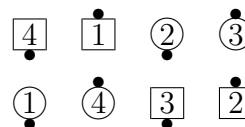


after

Yoyo (and Generous/Stingy) can allow calls to be used from unusual starting setups.

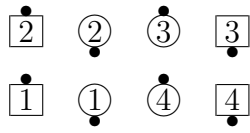


before Yoyo Scoot Reaction

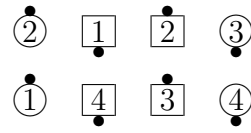


after

While Yoyo only applies to the first Arm Turn 1/2 that occurs, concepts such as Finally or Piecewise can change that.



before 1/2 Crazy Finally  
 Yoyo Swing Thru  
 (known to Plus dancers  
 as Spin Chain Thru)



after

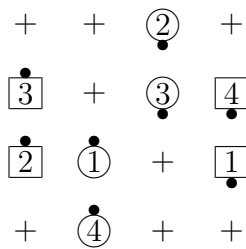
Yoyo has sometimes been used in the past to turn a Partner Trade into a (pushy) Cast Off 3/4. These examples tend to be controversial, but are not explicitly forbidden the way they are with Generous/Stingy.

## Z Variations

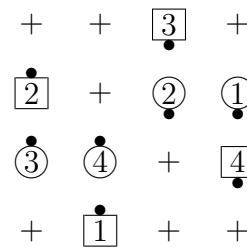
The Z Concept is defined at C3B but some additional variations are used at C4.

### Interlocked Z

This is best illustrated with an example. In the diagram below, Couples 2 and 3 are in one Interlocked Z and Couples 1 and 4 are in the other one.



before  
 Interlocked Z  
 Circulate



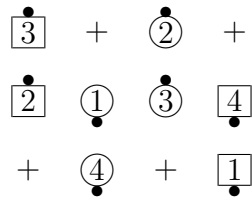
after

Typically the Interlocked Z will be either in your Interlocked Phantom Columns or in your Interlocked Phantom Lines.

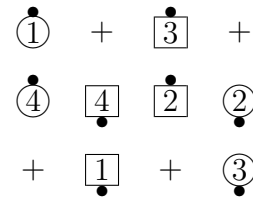
### Z Columns / Lines / Waves

Z Columns, Lines, or Waves are formed by having two Z's work together to form a distorted 2x4 of the specified type. As there are many possible setups containing Z's, there are also many possible

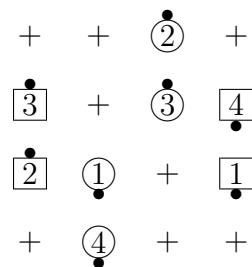
setups containing Z Columns, Lines, or Waves. The most common examples are from 3x4 or 4x4 setups.



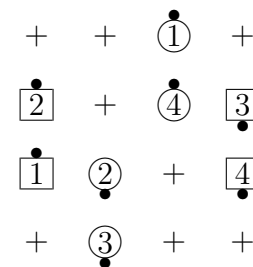
before Z Waves Swing Thru



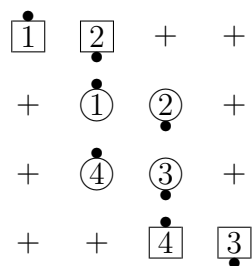
after



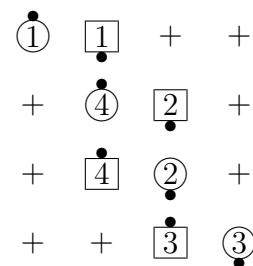
before Z Waves Acey Deucey



after



before Z Columns Circulate



after

When doing more complicated calls from a 4x4 setup, it is helpful to first notice whether the Centers or Ends are “normal” (not offset). In the Acey Deucey diagram above, the Ends (of the Z Waves) are normal and the Centers are offset. In the Z Columns diagram above, the Centers are normal and the Ends are offset.

## History of Document Changes

Date	Change
21 Oct 2012	Mark <b>Double Offset 1/4 Tag</b> obsolete, fix <b>Jay</b> .
23 Mar 2014	Add (obsolete) <b>In &lt;anything&gt; Out &lt;anything&gt;</b> .
30 Apr 2014	Create change log.
11 May 2014	Add <b>Reflect</b> and <b>Revert</b> .
1 Jun 2014	Add table of contents.
4 Jun 2014	Add <b>Offset Triple Boxes/Columns/Lines/Waves</b> .
4 Jul 2014	Add <b>Melded As Couples / Tandem / Siamese</b> .
8 Aug 2014	Expand on <b>Twisted</b> .
9 Mar 2015	Clarify <b>Twin Parallelograms</b> .
5 Jun 2016	Cut out wasteful whitespace.
13 Dec 2019	Clarify <b>Diamond</b> for calls that do not require a specific handedness.
29 Aug 2022	Remove superfluous word.
18 Feb 2023	Add <b>fraction and fraction, Multiple Echo, Clockwise/Counterclockwise Jay</b> .
19 Feb 2023	Add <b>Right / Left Wing</b> .
23 Jun 2023	This begins a substantial update by Sue Curtis, in consultation with Coop Bellini. Expanded discussion and examples in Grand Working, Common Spot, Overlapped Diamonds/C/L/W. Added section on Piecewise. Removed concepts now on lower levels: Initially, Finally, Secondly, Oddly/Evenly, Quadruple formations, Reflected, Any Hand. Removed obsolete concept "In (anything) Out (anything)". Removed one obsolete example in Single File.
24 Jun 2023	Changed wording in Scatter definition and added a diagram for Scatter Reach Out. Replaced C4 call examples with lower-level examples in Sandwich, Shift N, Stretched Triangle, Straight, Twisted, and Diamond.
25 Jun 2023	Added new section for Paranoid. Added comments to Triangle (working as a Box), Multiple Formations Working, Mystic. Replaced section on 12 Matrix/16 Matrix with N Matrix/MxN Matrix and removed obsolete examples. Added comments to Melded to clarify Melded Siamese vs. Overlapped Siamese.
1 Jul 2023	Added diagrams for Twisted Boys Run and Twisted Double Pass Thru. Added intermediate setup for 4 Phantom (Interlocked) Blocks and revised wording. Added diagrams for Triple Twin Lines/Columns and Z C/L/W. Revised wording and added a diagram for Twin (Phantom) setups. Revised wording of Crazy to focus on issues beyond typical C2 usage.
2 Jul 2023	Diamond: modified description to avoid describing it as 2 separate concepts. "Add", "Use": Added sections.
3 Jul 2023	Flowing, Rolling, Sweeping, Veering: Moved from book 1 to book 2. Nose: Added brief section.
6 Jul 2023	Diamond concept: Fixed some spacing and wording issues. Diagonal 1/4 Tag: changed to italics (less commonly used). Offset Triple Boxes: Removed out of date comment. Phantom Interlocked 1/4 Tag (obsolete): Removed. Half and Half: Changed title and added details to example. Invert: Changed title and added examples.
9 Jul 2023	Added comment on Y-some. Fixed some minor wording or format issues.



Date	Change
12 Jul 2023	Added examples to Offset Triple Boxes and made minor wording changes. Added clarification to Mystic.
13 Jul 2023	Added dancing hints to Offset Triple Boxes. Added brief sections for Mimic and Dynamic.
2 Aug 2023	Yoyo: Added comments comparing Yoyo to Generous. Nose: Added 2 simple examples. Triangle working as a Box: Added more pictures, removed some controversial examples, added some 2x1 examples. Mystic: Fixed missing punctuation. Replaced “C/L/W” with “Columns / Lines / Waves” in multiple places. Cleaned up formatting of some titles. Common Spot: Changed title and added comments on Common Center/End. Added comment that other setups are included in the external reference. Grand Working: Modified to include “as Centers/Ends” in the title. Phantom Butterfly or O: Clarified reference to other phantom concepts. Also changed the example name from Box Checkmate to Single Checkmate. Fractional Twosome: Modified wording. Added reference to original paper.
5 Aug 2023	Added brief section on 3x3 and 4x4, with external references. Changed title of N Matrix to be include 12 Matrix, 16 Matrix.
5 Sep 2023	Expanded section on Echo to describe variations more clearly.
13 Nov 2023	Expanded discussion of Triangle working as a Box. Added discussion of Melded Phantom As Couples/Tandem to the Melded section. Added a brief separate section for Melded Phantom As Couples/Tandem referencing both component concepts. Added Reverse Double Echo (in the Echo section). Changed the following to be labeled less commonly used: Stretched Split Phantom setups, 6x2 concept, Shifty, Snag. Added section on Magic Lines/Waves/Diamonds. Added brief sections on Rectify, Roundtrip, and Fast. Added a section named Z Variations to include (newly added) Interlocked Zs in addition to existing section on Z Columns/Lines/Waves. Added a section named Concentric Variations, alphabetized under C, which now includes the (Grand) Single (Cross) Concentric calls and Concentric Triple Boxes. Fixed a few typos and formatting issues.
20 Nov 2023	Added sections on First/Middle/Last $\langle$ fraction $\rangle$ , Checker Diamond, and 3x1 (within 3x3/4x4). Expanded discussion and changed examples in MxN As Couples. Created section on Twosome Variations, which now includes (newly added) N-some, Boxsome, and $\langle$ fraction $\rangle$ Twosome. Clarified wording in Twice Removed.
28 Nov 2023	Revised wording and added more diagrams in section on [Split][Interlocked] Phantom concepts. Created section on Checker Board/Box variations, now including Checker Diamond and the Orbit versions. Modified wording in the Orbit section to clarify reference to Trade Circulate. Changed spelling of all the Checker concepts from one word to two words (for consistency with Callerlab and Vic Ceder’s website). Changed wording and added hint in Triangular Boxes section. Changed “Inrigger/Outrigger” to be “ $\langle$ direction $\rangle$ Rigger” and now alphabetized under “R”. Added example of larger values of MxN in 3x3 section. Moved History of Document Changes to the end of the document, and put some introductory paragraphs and the copyright statement on the first page instead. Removed some items now in the Book 1: Revert (now in tagging calls section), Head/Side Liners and Head/Side Corners (now in Designators section), Short/Tall 6 (now in Formations section), Add/Use (now in Concise Modifiers section).

Date	Change
19 Apr 2024	<p data-bbox="456 254 1477 317">Added comment on using “Piecewise Grand Working” to describe other Grand calls such as Grand Mix and Grand Run Wild.</p> <p data-bbox="456 317 1477 380">Rewrote section on “More or Less” to better describe current usage and include more examples.</p> <p data-bbox="456 380 1477 415">Fixed spacing and punctuation in a few places.</p>
24 Apr 2024	<p data-bbox="456 415 1477 447">Deleted one potentially misleading comment in Grand Working.</p> <p data-bbox="456 447 1477 472">Fixed some spacing and capitalization issues in a few places.</p>