The 3 By 3 Concept

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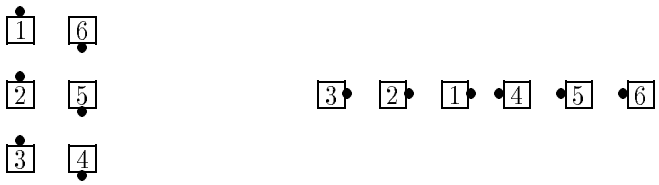
The phrase "3 by 3" has been applied to 12 Matrix calls to specify that three people do one part of the call and three people do the other part, or that people work together in groups of 3. I would like to define the 3 by 3 concept more precisely, following a method similar to Eric Brosius's definition of the Single Concept [1]. The definition proposed here agrees with current usage on column calls such as 3 by 3 Transfer and 3 by 3 Checkmate and also applies to surprisingly many other calls. The 3 by 3 concept could help clarify the 12 Matrix concept since it provides a well-defined method of converting 8-person calls to 12-person calls.

Introduction

It will be easier to understand the definition if we begin by discussing some examples. You probably already have some intuitive feel for what 3 by 3 means, even in cases where it doesn't mean "three people do the leaders' part and three people do the trailers' part." For example, you could probably figure out 3 by 3 Peel the Deal:



before — after 3 by 3 Peel the Deal

or 3 by 3 Shakedown:

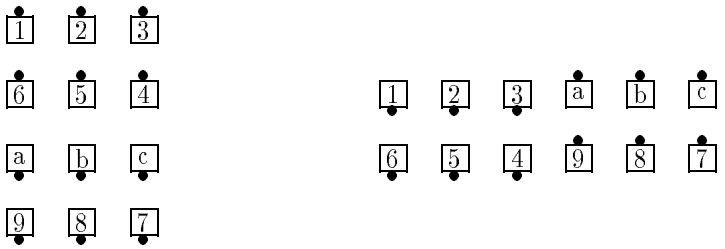
before — after 3 by 3 Shakedown

How did you figure out these calls? You probably recognized that on a Peel the Deal, two people work in tandem with each other, so on a 3 by 3 Peel the Deal, three people work in tandem with

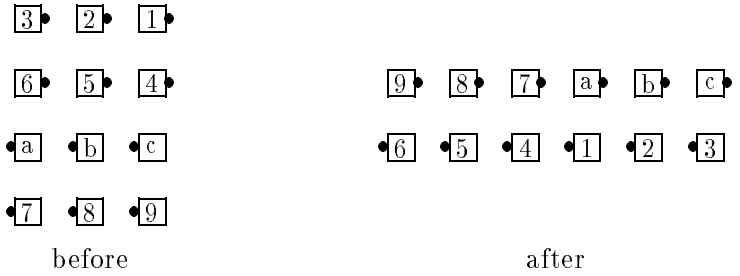
each other. Also, you probably recognized that on a normal Shakedown, two people start as a couple facing out and finish as a couple facing in, so on a 3 by 3 Shakedown, three people start as a couple of 3 facing out and finish as a couple of 3 facing in. Although the dancers do not work as couples throughout the call, the three dancers working together on the 3 by 3 version can still *maintain the same relationship* as the two dancers working together had on the original call.

In a 12 Matrix, you can do 3 by 3 versions of 8-person calls. Here are some 12 Matrix examples you can probably figure out.

3 by 3 Polly Wally:



3 by 3 Presto:



Note that in the original version of each of these calls, two dancers are working together doing the same part. In the 3 by 3 version, these two dancers are replaced with three dancers who maintain the same relationship with each other as the original two dancers had. In the 3 by 3 definition given below, we define more precisely what it means to "do the same part" as another dancer, and to "maintain the same relationship."

3 By 3 Concept Definition

To apply the 3 by 3 concept to any call, it must be possible to pair up all the dancers doing the call so 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 create the 3 by 3 version of the call, replace each such pair with three dancers facing the same direction by adding a new dancer between the original two. The new dancer goes through the same turning motions as the original two dancers and remains between them throughout the call.

This definition implies that the ends of each group of 3 will always do the call normally (as if the center person wasn't there), since they correspond to the pair of dancers doing the original call. The center of each group of 3 always stays between the two ends, since this person corresponds to the new dancer added to create the 3 by 3 version. You may want to look back through the

examples shown earlier and verify that this definition works whether the two dancers in each pair are working in tandem, as a couple, twosomely, or even if they have some other relationship we don't yet have a name for.

On most calls that can be done 3 by 3, the dancers in each pair start and finish adjacent to each other. However, on a few calls, the dancers in each pair start or finish once removed from each other. For example, on a Transfer the Column, the dancers in each pair start adjacent (in tandem) and finish once removed. On a Follow Your Leader, the dancers in each pair start once removed and finish adjacent. To apply the 3 by 3 concept to these calls, replace each pair of once removed dancers with three dancers all once removed from each other, closer to the wall that the original two dancers were closer to. Here is 3 by 3 Follow Your Leader:

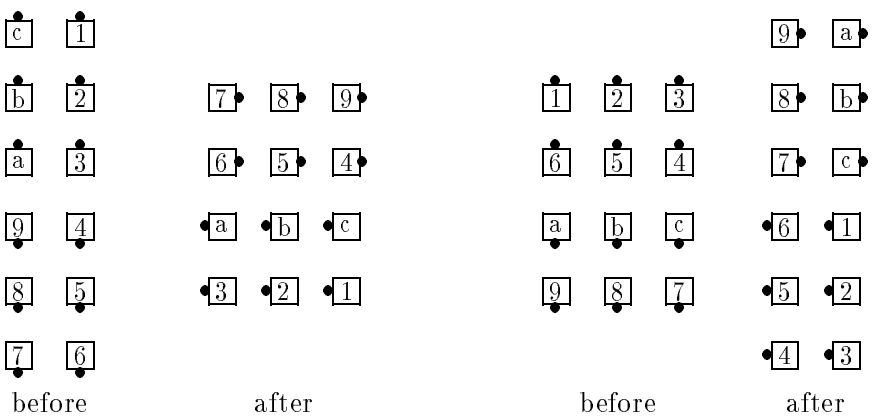
before after 3 by 3 Follow Your Leader

A few calls that satisfy the facing direction requirements cannot be done 3 by 3 because the dancers in each pair are positioned such that it would be difficult to replace them with a group of 3. For example, consider Trixie:

before after Trixie

If you look for people who start and finish facing the same direction as each other, you will want to pair up dancer #1 with #3 and dancer #2 with #4. You will then have a problem when you try to add a new dancer between the two dancers in each pair. Thus, we specifically exclude cases like this and require the dancers in each pair to be adjacent or once removed.

Several calls contain more than two dancers who start and finish facing the same direction as each other and go through the same turning motions. On some of these calls, we can create two different 3 by 3 calls by pairing up the dancers in different ways. For example, consider Countershake. If we pair up the dancers who start in tandem and replace them with tandems of 3, we get a 2×6 setup. If we instead pair up the dancers who start as couples and replace them with couples of 3, we get a 3×4 setup. Thus, 3 by 3 Countershake can be done from either a 2×6 or a 3×4:



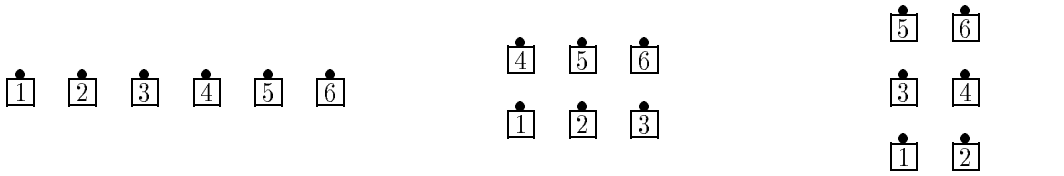
before after before after

Several other calls have this property, including 3 by 3 Hang a Right, 3 by 3 Polly Wally, 3 by 3 Ferris Wheel, 3 by 3 Turnaway, and 3 by 3 Roll Out to a Column. These calls are unambiguous for the dancers because each version of the call has a different starting setup. However, some 3 by 3 calls *are* ambiguous for the dancers because there are two different versions of the call with the same starting setup. For example, consider Shuffle the Deck:

before

after normal
Shuffle the Deck

All four dancers involved in a normal Shuffle the Deck start and finish facing the same way as each other and never change their facing direction, so we can pair up the dancers in two different ways. If we pair up the dancers who work as couples and replace them with couples of 3, we create 3 by 3 Shuffle the Deck #1, shown below. If we instead pair up the dancers who start once removed and finish in tandem, we create 3 by 3 Shuffle the Deck #2, also shown below.



before

after 3 by 3
Shuffle the Deck #1

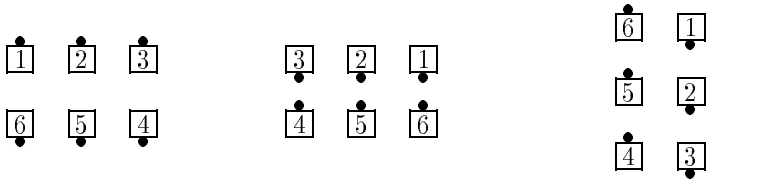
after 3 by 3
Shuffle the Deck #2

Since both of these calls have identical starting setups, the dancers cannot tell which one to do if 3 by 3 Shuffle the Deck is called. I think 3 by 3 Shuffle the Deck #1 is more natural since adjacent dancers form each group of 3, but 3 by 3 Shuffle the Deck #2 also satisfies the definition of the 3 by 3 concept. Since this problem also occurs on several other calls, I suggest the following rule: Whenever it is possible to pair up either the dancers who start adjacent to each other or the dancers who start once removed from each other, always choose the adjacent dancers.

Dancing the more difficult calls

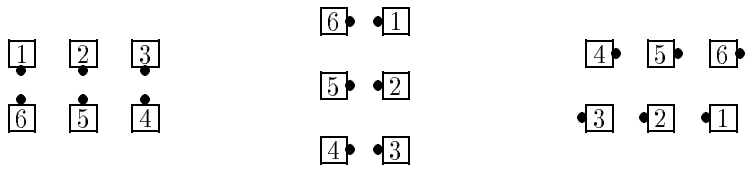
As mentioned earlier, the people in each group of 3 always maintain the same relationship to each other as the people in each group of 2 had on the original call. On many calls, such as the examples shown at the beginning, this relationship will be obvious and easy to apply to a group of 3. On calls where this relationship is not immediately obvious, the ends of each group of 3 can do the call normally (working "disconnected" with each other, if you like) and the centers can do whatever it takes to remain between the ends.

To illustrate this method, let's discuss a more difficult example, such as 3 by 3 Wheel the Ocean. The couples of 3 begin with a Wheel Around, but who does the Pull By—should it be two people or one? Remember that the ends of each line do the call normally, and the centers stay between them. This means that the right-most dancer does the Pull By, but the center dancer must step in front of the left-most dancer, like this:



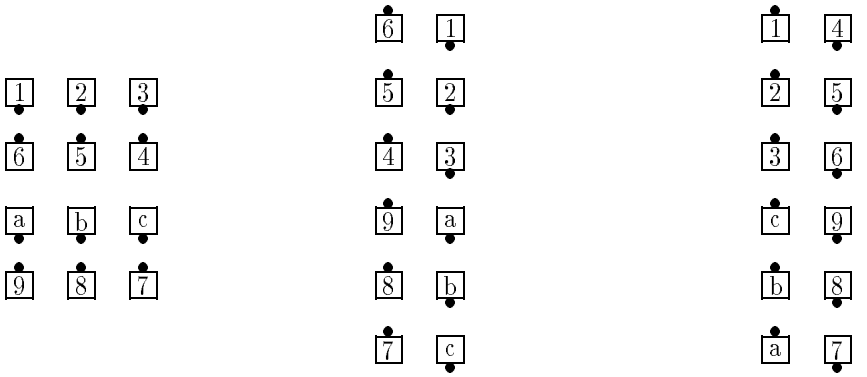
before | after 3 by 3 Wheel Around | after 3 by 3 Wheel the Ocean

This example may seem strange at first, but it satisfies the definition. 3 by 3 Circle to a Wave is similar—the first part is easy, but then you must carefully apply the definition to figure out the Walk and Dodge part. The end beau Walks, the end belle Dodges, and the center steps ahead slightly to finish between them, like this:



before | after 3 by 3 Circle Left 1/4 | after 3 by 3 Circle to a Wave

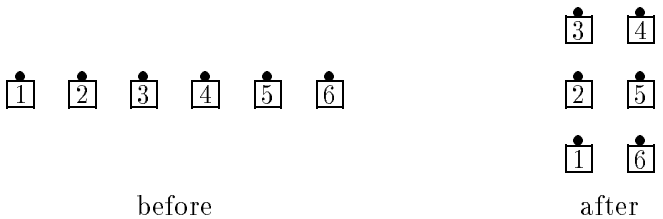
Another call containing 3 by 3 Beaus Walk, Belles Dodge is 3 by 3 Beaus Advance to a Column:



before | after 3 by 3 Beaus Walk, Belles Dodge | after 3 by 3 Beaus Advance to a Column

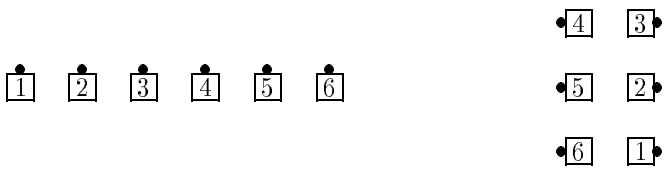
Here are some 1×6 calls where I find it helpful to have the ends of each group of 3 do the call normally, and the centers stay between them.

3 by 3 Step and Slide:



before | after

3 by 3 Explode the Line:



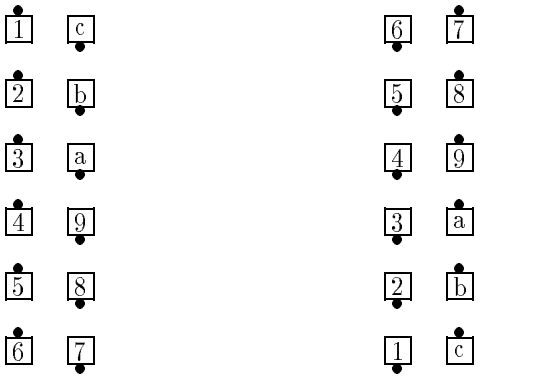
before after

3 by 3 Explode the Line is particularly interesting because you could probably make up a rule specifying how to do it with arbitrary facing directions, although it only fits the 3 by 3 concept definition if everybody on one side of the line is facing the same way. 3 by 3 Vertical Tag, 3 by 3 Splash, and 3 by 3 Gee Whiz are similar.

Sometimes calls containing "Circulate 2" as part of their definition are tricky to do 3 by 3 because you must effectively Circulate 3 positions, so that three people can go where two people would have gone on the original call. For example, here is 3 by 3 Drift Apart:

before after 3 by 3 Drift Apart

Roll Out the Barrel [2×6 lines], Turntable [3×4 columns], Rotary Circulate [2×6 waves], and Contour the Line [1×6 waves] also work this way. Similarly, on 3 by 3 Exchange the Boxes you effectively go 6 spots (dancers #4 and #a lead):



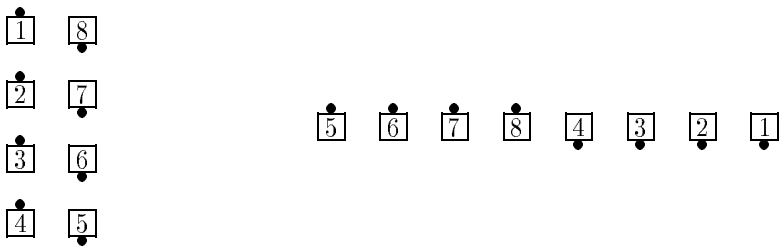
before

after 3 by 3
Exchange the Boxes

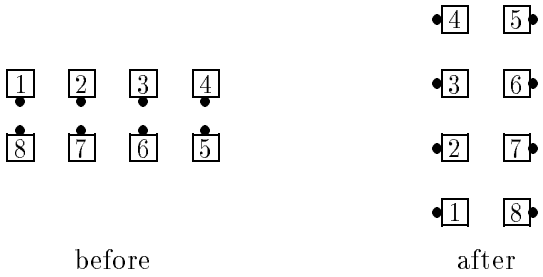
The 4 By 4 Concept

The 4 by 4 concept can be defined similarly to the 3 by 3 concept by replacing pairs of dancers with groups of 4 instead of groups of 3. The advantage of the 4 by 4 concept is that since 4 by 4 versions of 4-person calls require exactly eight people, you can create new calls that involve everyone in the square without using phantoms. A few of these calls have already been used; for example, callers occasionally say "4 by 4 Tag the Line" or "4 by 4 Wheel and Deal" to designate the "Line of 8" version of a call. Here are some more examples.

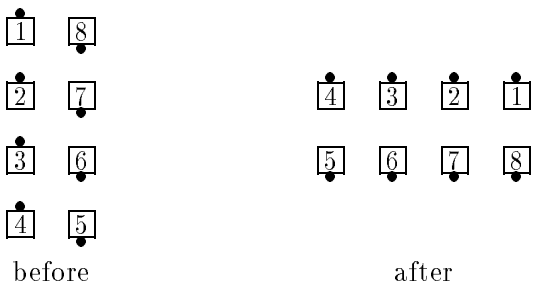
4 by 4 Trail Off:



4 by 4 Split Swap:

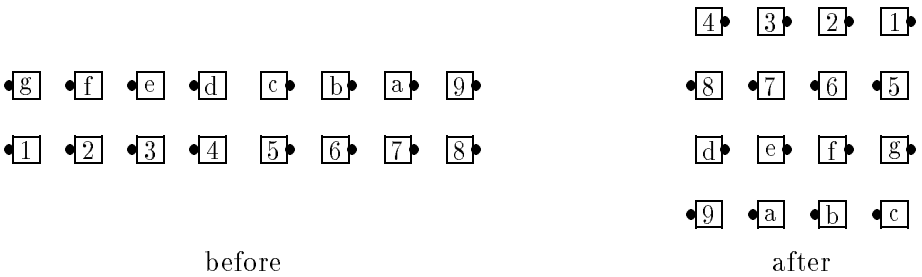


4 by 4 Walk and Dodge:



If you would like an alternate name for the Grand Concentric and Grand Cross Concentric concepts, you might like 4 by 4 Single Concentric and 4 by 4 Single Cross Concentric. Here is 4 by 4 Single Concentric Latch On:

The 4 by 4 concept can also be used in a 16 Matrix just as 3 by 3 is used in a 12 Matrix. For example, here is 4 by 4 Track 2:



Clarifying the 12 Matrix Concept

Since the 3 by 3 concept provides a well-defined method of converting 8-person calls to 12-person calls, we can use it to help clarify the 12 Matrix concept. Unfortunately, we cannot simply say "12 Matrix means work 3 by 3," since the 3 by 3 concept does not apply to every call we do in a 12 Matrix, and in some cases where it could apply the 3 by 3 call is different from the traditional 12 Matrix call. (For example, consider 3 by 3 Drift Apart and 3 by 3 Walk and Dodge.) However, callers could begin using the name "12 Matrix 3 by 3" for calls where the 3 by 3 definition does apply. This would be particularly helpful on calls such as 12 Matrix Peel the Wave, 12 Matrix Follow Your Leader, and 12 Matrix Split Counter Rotate, where dancers are often uncertain whether to work 3 by 3 or something like Triple Setups Working Together.

The 3 by 3 concept also suggests many new 12 Matrix calls that have never been used before. The 3 by 3 concept is a good way to create new 12 Matrix calls because it is well-defined, it applies to many calls, and the new calls created automatically "work" (i.e. no crashes) with 12 real people. Furthermore, the 3 by 3 versions often retain the "feel" of the original calls since the people working together maintain the same relationship as on the original call and go through the same turning motions. Although it will take more than the 3 by 3 concept to completely define the 12 Matrix concept, we can take a step in that direction by using more calls that satisfy the 3 by 3 definition and by using the 3 by 3 terminology whenever it applies.

References

[1] Brosius, Eric, "The Single Concept," June 1987.

List of Calls

Here is an incomplete list of 3 by 3 calls and their starting setups. The main purpose of this list is to show that the concept applies to many calls, but you can also test your understanding of the concept by seeing how many of these calls you can figure out. Be aware that some of the base calls listed here can be done from several different setups or sets of facing directions, and the 3 by 3 concept does not necessarily apply to all such possibilities.

3-person setups	Single Shuffle	Half Sashay	Mesh
2×3 columns	(Cross) Loop and Tag	Peel/Trail the Deal	Follow Thru
	Peel/Trail Off	Walk and Dodge	Turnover
	Single Ferris Wheel	Stack the Line	Scoot Apart
	Box Counter Rotate	Trailers In	Couple Up
2×3 lines	Right and Left Thru/Roll	Turn and Left Thru	Travel Thru
	Belle/Beau Hop	Circle to a Wave	Circle By
	Circle to a 2-faced Line	Cross Trail Thru	Wheel Thru
	With the Flow	By Golly	Vertical Tag
	Chase the Tag	Wheel the Ocean/Sea	Nip and Tuck
	(Reverse) Split Swap	Shake and Rattle	Shakedown
	Split Sidetrack	Turn to a Line	Triple Turn
1×6 lines	Wheel and Deal	Turn and Deal	Tag the Line
	1/4, 3/4 Wheel the Ocean/Sea	Stack the Wheel	Crossfire
	Shuffle and Wheel	(push) Cast Off	Step and Slide
	(Reverse) Explode (the Line)	(Cross) Pair the Line	Bend the Line
	Contour the Line (waves)	Nicely (waves)	Bounce
1×6 columns	Single Countershake	Single Hang a Right	Double Pass Thru
	Single (Cross) Concentric	Single Polly Wally	
2×6 columns	Transfer (and)	Checkmate	Checkover
	Invert the Column	Press for Time	Mark Time
	Exchange the Boxes	Beau/Belle Tie	Slim Down
	Hang a Right	Cloverleaf	Turnaway
	Countershake	Polly Wally	Track 0, 2, 4
2×6 lines	Flare Out to a Line	Cross and Wheel	Ferris Wheel
	Create a Diamond	Tag Circulate	Splash
	(Reverse, Single) Rotate	Easy Does It	Gee Whiz
	Rotary Circulate	Follow Your Leader	Link Up
	Roll Out the Barrel	Round Off (and Cross)	Roll the Line
	Tagger's Flow (Cross, etc)	Mix the Line	Slim Down
	(Crossover) Circulate	Revert the Tag	Busy (many)
3×4 columns	Cross Chain Thru/and Roll	Rotary Spin	Eight Chain n
	Advance to a Column	Circle to a Line	Strut Right
	Countershake	Polly Wally	Sidetrack
	Roll Out to a Column	Hang a Right	Turntable
	Wheel and (many)	Turnaway	
3×4 lines	Buckle and (many)	(many) The Wave	Drift Apart
	Revert the Tag	Ferris Wheel	Presto