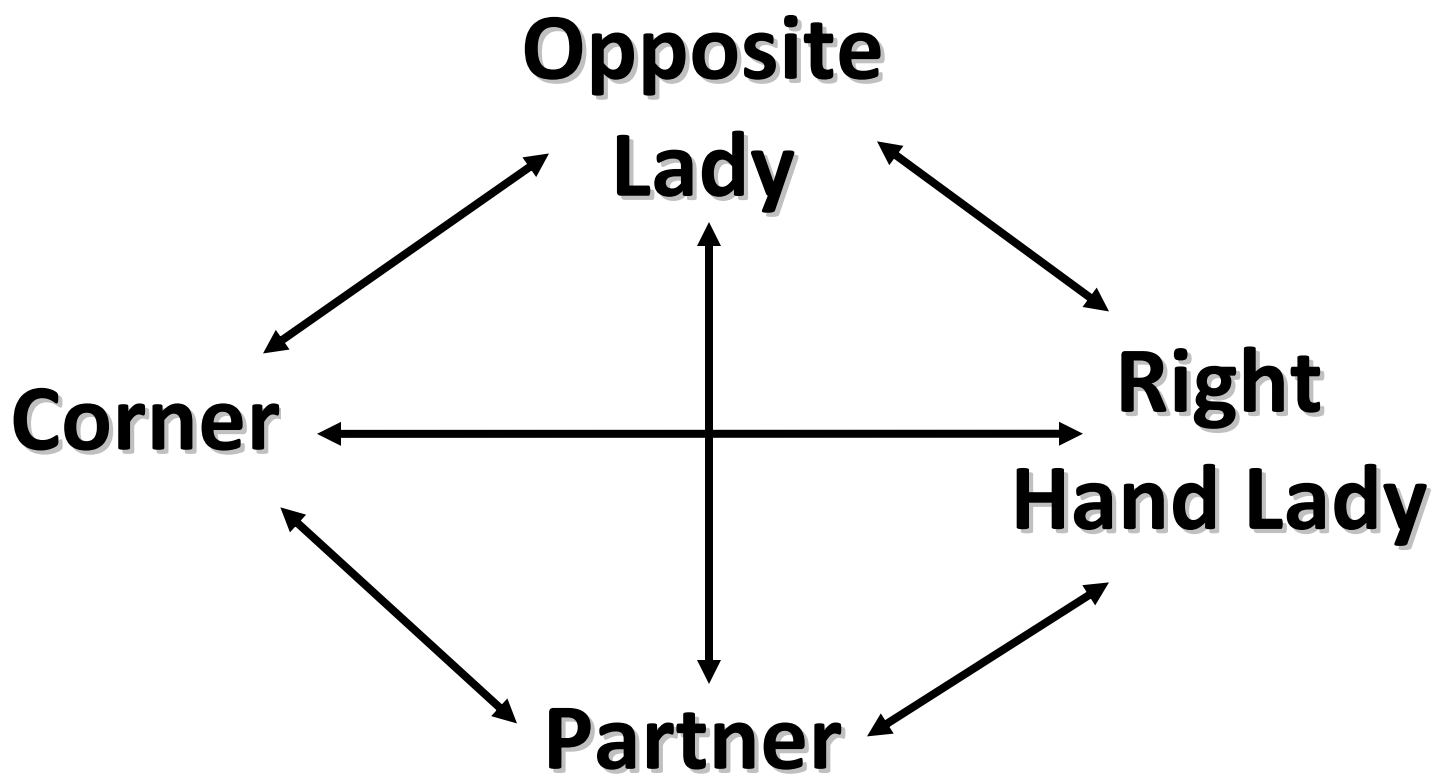


Controlling Choreography With Relationships



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Dedicated to

**Jerry, Jon and Deborah
Caller-Coaches Extraordinaire**

Table of Contents

Introduction.....	1
Chapter 1: Relationships and Stations.....	3
Chapter 2: Recognizing Stations.....	6
Chapter 3: Four Couples Not Needed.....	9
Chapter 4: The Easiest Resolutions from Stations	11
Chapter 5: Preserving the Station	13
Chapter 6: Disguising the Transitions	17
Chapter 7: First Steps with CRaMS	19
Chapter 8: Changing Stations	22
Chapter 9: Controlling the Station Changes	27
Chapter 10: Get-Ins to Any Station.....	29
Chapter 11: Getting Ready to Get Out	30
Chapter 12: Launching Get-Outs from Any Station	34
Chapter 13: Advanced Station Recognition Techniques	40
Chapter 14: Overlapping Stations - More Than One Look	43
Chapter 15: Surviving Errors.....	47
Chapter 16: Writing Your Own Get-Outs.....	49
Chapter 17: More on CRaMS.....	50
Summary	55
Appendix 1: Are There Really Only Four Stations?	56
Appendix 2: Moving Dancers Between Groups	60
Appendix 3: Other Technical Considerations	64
Appendix 4: One Answer for the Get-Out Exercise	70

Introduction

From a choreographic point of view, callers describe the position of the dancers in a square by using four descriptive attributes: Formation, Arrangement, Sequence and Relationships.

- Formation describes the spots on the floor in which dancers are standing,
- Arrangement describes the way dancing genders are standing relative to one another,
- Sequence describes whether or not dancers are in the original squared set order, and
- Relationship describes which men and which women are near one another.

Together, these four attributes can be used to precisely define the choreographic state of a square¹, and a specific combination of these four values is called a "FASR" (pronounced "fah-zer").

For decades, many callers have focused on Formation, Arrangement and Sequence while tracking dancers as they move through a sequence. Although

¹ Strictly speaking, FASR describes the state of dancers relative to one another, but not the geographical rotation of the entire square -- the distance dancers would need to promenade home. We're going to completely ignore that point.

formation and arrangement are fairly easy to see, sequence is not -- especially "on the fly" since many calls will change the sequence of some or all dancers. There are specific techniques that can be used to resolve a square using just formation, arrangement and sequence, but these techniques may require several steps to reach the final desired result. The complexity of those techniques leads many callers to "hunt for corners", trying one call after another until the dancers fall into a recognizable FASR.

With this focus on Formation, Arrangement and Sequence the fourth leg of the nomenclature system, Relationship, has generally been ignored.

But it turns out that the relationships of the dancers can actually be easier for many callers to understand and see while a square is in motion, and the principles of using relationships while calling can be learned in just a few minutes. Once relationships are recognizable, the state of the square is easily identified in almost any FASR at all. A few simple "cookbook" rules allow a caller to consciously change the relationships at will, giving the caller a

great deal of control over the state of the square.

There are three main ways that callers can use relationships:

- Finding their way out when they're lost: being able to recognize the state of the square, then regaining control by consciously changing stations;
- As a framework within which modules and desired choreographic sequences can be used. Put the dancers into a known station, dance them around as desired while preserving the station (or consciously changing it to a different one), and finally resolve without question because you know exactly where the dancers are.
- As a launching pad for using memorized get-outs from many different starting positions.

We'll discuss each of these areas in the pages that follow.

Relationships and CRaMS

For the last several years, some callers² have been advocating a larger calling system named CRaMS, the "Controlled Relationship and Manipulation System." Readers that are familiar with CRaMS will recognize much of the material in this book. CRaMS uses relationship choreographic control as just one of several tools and techniques to achieve the broader goal of helping callers to improve upon their craft. We'll talk more about the larger system of CRaMS in Chapters 7 and 17.

Relationships and Mental Image

Astute readers may also notice several similarities to Don Beck's Mental Image system, particularly in the way that calls are classified based on the way they affect the setup of the square. Both systems (Relationships and Mental Image) rely on the symmetries of the square as calls are executed -- and therefore are likely to resemble one another, even while coming at the problem from very different directions and using completely different vocabularies.

² Jerry Story, Jon Jones and Deborah Carroll-Jones are among the most vocal proponents of CRaMS. Their teachings have been the inspiration for this book.

Chapter 1: Relationships and Stations

Relationships

Throughout this book, we'll be talking about relationships of dancers to one another. Four specific relationships are defined from the perspective of each man in a squared set at the beginning of a sequence: one lady is his partner, another is his corner, a third is his opposite lady, the fourth is his right-hand lady.

Each man's current partner changes frequently throughout a sequence, as does his current corner (and presumably his opposite and right-hand lady).

Certainly those relationships change during a course of a typical singing call: as the ladies progress from partner to partner, the relationships change.

For the sake of brevity in writing, our references to partners, corners, opposite ladies and right-hand ladies should always be interpreted as *original* partners, corners, opposite ladies and right-hand ladies. If a caller chooses to progress these relationships throughout the course of a set (as with a singing call), that's fine... the caller can (in his mind) establish new original partners, corners, etc.

The Fundamental Truth

Relationship calling is based on one simple fact: Any time you split the dancers of a square into two side-by-side groups of four³, exactly one of these four conditions will be true:

- Every man's partner will be in his group of four, or
- Every man's corner will be in his group of four, or
- Every man's opposite lady will be in his group of four, or
- Every man's right-hand lady will be in his group of four.

Whichever one of those conditions is true at a moment will be true for every man in the entire square. Relationship calling provides an easy way to recognize which of these four states that the square is in and provides tools to move dancers around while either preserving or intentionally changing the station.

The Definition of Stations

We use the word "station" to describe the relationship state of the square: If

³ Strictly speaking, the only rule we must follow for separating the dancers into two groups of four is that no dancer can be in the same group of four as that dancer's diagonal opposite. When we use symmetric choreography, applying this rule will always lead us to having "side by side" groups of four each containing two men and two ladies.

the dancers are "in the Partner Station", that means that every man's original partner is somewhere within his group of four dancers; "in the Corner Station" means that every man's original corner is somewhere in the group and so on.

Of course, every man has some sort of dancing relationship with every lady in the square... and every lady has a dancing relationship with every man. As an example, consider the case where from a squared set we call Heads Lead Right.

If we split the resulting Eight Chain Thru formation into two groups of facing couples, we'll have couples 1 and 2 over on one side, and couples 3 and 4 on the other side. Since every man's partner is somewhere within his group of four, we would consider the dancers to be in the Partner Station.

But being in the Partner Station doesn't mean that there aren't any corners present: Lady 1 and Man 2 are corners, and they're in the same group of four. In fact, there's a right-hand lady relationship present in that same group of four: Man 1 and Lady 2. But the *only* relationship that's true for *both* men in the group (in fact, for all four men in the square) is that their original partner is somewhere within their group of four. That's why we call this the Partner

Station, even though some corners and right-hand ladies are present.

Having the dancers in the Corner Station means that every man's corner is somewhere in his group; the Right-Hand Lady Station means that every man's right-hand lady is somewhere in his group; and the Opposite Lady Station means that every man's opposite lady is somewhere within his group of four dancers. Some other relationships may also be present within a group of four, but those other relationships won't be present for *all* of the dancers in the group at the same time.

Stations Aren't Places

When used in the context of trains or buses, the word "station" has a geographical context: A train station is at a specific and fixed location within the world, and moving from one station to another means physically going somewhere. In the context of relationship calling, a station does *not* relate to anything geographical or physical: stations do not correspond to locations on the dance floor, and "switching to a different station" may simply mean that the caller is looking at the square from a different perspective, rather than physically moving any dancer at all.

In fact, relationship stations are the least geographical of the four terms we use to

describe the choreographic state of a square (Formation, Arrangement, Sequence and Relationship). Formation and Arrangement obviously have to do with the geographical positions of dancers: are they next to one another or far apart? Are they facing the same way? Are the men in the center, or do we have 'normal couples'? Sequence is defined as the circular order of the dancers, and certainly can be affected when dancers take steps across the floor.

Stations are independent of all of those things. Once we mentally establish a group of four dancers and determine the station those dancers are in, those four dancers in that group remain in that station regardless of what we do with them. We can change their formation (from boxes to waves to lines to diamonds); we can change their arrangement; we can change their

sequence; we can even move them anywhere at all around the floor. As long as we don't change *who* is in the group of four, the station of the dancers won't change.

As we'll see, we have a great deal of freedom and flexibility when we use stations in our choreography. Any sequence of calls that keeps our groups together will not change the station, but calls that do change the membership of the groups will change the station in predictable ways. Relationship calling takes full advantage of that flexibility.

Station Ladies

Throughout this book, we'll have occasion to reference a man's "station lady". By this, we're simply referring to the man's original corner when the dancers are in the Corner Station, to his right-hand lady when in the Right-Hand Lady station and so on.

Chapter 2: Recognizing Stations

The most useful skill in relationship calling is being able to recognize which station the dancers are in.

One approach to determining the station is to look at a group of four and start guessing. "Hmmm. I see Joe over there. Is Joe's corner in the group? Yes? OK, I see that Fred is in that group with Joe. Is Fred's corner in the group? No? Well, then it can't be a Corner Station, so let's try something else..."

Obviously, that's a difficult way to figure things out. It's a good thing that there are easy short-cuts.

Definition of Matches

These short-cuts involve the concept of "matching dancers", or just "matches": we scan a group of four dancers and look for sets of original partners that are in the same group. Every pair of original partners that appear *somewhere* in a group is considered a match, even if they're not next to their original partner at the moment.

If you know that Joe and Betty are original partners (or "the folks in purple", or "the bald guy and the lady in the white blouse") -- and you see them together *anywhere* in the same group of four, it counts as a match.

Later, we'll use the word "pair" to mean original partners that are also current partners; "pairing up" a couple will mean maneuvering a matching couple together to become current partners.

In order to use the shortcuts to recognizing stations, you also have to be able to recognize at least one known set of corners: it might be "the big beard and the lady in yellow", or it might be Juanita and George, or whoever... but you need to be able to recognize when your known corners are in the same group of four.

Without further ado, here are the shortcuts:

- If you see two matching couples anywhere in a group of four, then the dancers are in the Partner Station (and every man's partner is somewhere in his group of four).
- If you see *no* matches in a group of four, then the dancers are in the Opposite Lady Station (and every man's opposite lady is in his group).
- If you see one matching couple AND your known corners are in the same group, then the dancers are in the Corner Station (and every man's

corner is somewhere in his group).

- If you see one matching couple AND your known corners are *not* in the same group, then you're in the Right-Hand Lady Station (and every man's right-hand lady is in his group).

So to recognize the station, we look at a group of four dancers and count the matches. If we see 2 or 0 matches, we immediately know the station (partner or opposite lady, respectively). If we see only one matching couple, then we have to ask ourselves a second question: is the corner present? If so, we're in the Corner Station -- if not, we're in the Right-Hand Lady Station.

"How many matches?" "Got Corner?" That's all of the information we need to be able to figure out the station.

Identifying matching couples (or checking for corners) may not be instantaneous... in fact, it often takes callers a few seconds to figure those things out. But because the station doesn't depend upon the formation, arrangement or sequence of the dancers, we can keep the dancers moving while we look for matches or corners.

Consider an Eight Chain Thru formation. Calling Swing Thru, Centers Run, Wheel and Deal gives us about 5 seconds of

time to answer our questions (if we need that long). If that's not long enough, you can take as long as you like as long as you keep the group of four dancers working together.

With practice, the ability to count matching pairs of dancers becomes very easy, leaving only the question of "Are my corners in the same group"... and that's only needed in some of the cases.

THE FIRST STEP IN
LEARNING RELATIONSHIP
CALLING IS TO PRACTICE
RECOGNIZING THE
STATIONS.

Count the matching couples that appear anywhere in the group of four and (if necessary) look for known corners. Practice this from time to time while calling, and practice it while dancing to other callers.

It's important to notice the order of our two questions. We count the matches first, and then (if necessary) decide if a corner is present. To see why the order is important, look once again at a group of four dancers containing Couples 1 and 4. If we are in the habit of watching for the presence of corners first, we might see Man 1 and Lady 4 as our known corners, and jump to the

erroneous conclusion that we're in the Corner Station. If we look for partner matches first, we'd see immediately that there are two matches and know that

the dancers are in the Partner Station... and that it doesn't matter that our known corners just so happen to be together.

Chapter 3: Four Couples Not Needed

In the previous chapter, we talked about recognizing stations by counting the number of matches within a single group of four dancers. That's the easiest and fastest way, but it does imply that you can recognize any couple within a square of dancers.

When couples are dressed alike or when you know the dancers well, that may be possible. But there are many times when you probably cannot recognize all four couples in a square. That's OK -- we can still determine the stations with less information, but you may have to open your eyes a little wider and look at a larger group. The principles remain the same: Count the matches and look for corners if necessary.

Callers often train themselves to be able to recognize two couples in a square that are adjacent to one another. Many callers will always focus on couples in the same location in the square, like Couples 1 and 4. But with relationship calling, knowing **any** two couples in the square is fine, as long as they aren't across from one another. You'll also need to be able to recognize the single pair of corners for those two couples: Perhaps it's Lady 2 and Man 3, or Man 4 and Lady 3: As long as you can recognize one set of corners and their

partners, you have enough information. Feel free to use the most visibly recognizable couples, not just those standing in a specific spot on the floor.

But in this case you need to look at the *entire* square, not just one group of four dancers. Look at both groups and see if either (or both) of your two known couples are together in their respective groups of four. If both men have their partners in their group of four, the dancers are in the Partner Station. If neither man's partner is with them, the dancers are in the Opposite Lady Station. If one man's partner is near him, but the other man's partner isn't, then you're in either the Corner or Right-Hand Lady Station. Look to see if your single known set of corners are together, and you'll have the answer.

For example, suppose that you can recognize Couples 1 and 2 (so Lady 1 and Man 2 are your known corners). From a static square, consider Heads Lead Right, Veer Left and Couples Circulate. How could we recognize the station from here? We'd look to our left and see that Couple 2 is together. (OK, that's a total of 1 match so far). We then look to the group on our right and see that Couple 1 is together. Now we know we have 2 couples matching, so

we know that the dancers are in the Partner Station.

The same process works for any station. Count your matches across both groups of four and proceed from there.

YOU DON'T HAVE TO
KNOW ALL FOUR
COUPLES TO DETERMINE
THE STATION.

Chapter 4: The Easiest Resolutions from Stations

Once we can recognize stations, we can immediately begin using that knowledge to resolve squares. There are more sophisticated techniques that we'll look at later, but we can introduce the simplest ones already.

Resolving from the Corner Station

If you know that the dancers are in a Corner Station, then resolution is very simple: Pair up the single matching couple, and put them on the outside of an Eight Chain Thru formation.

Everyone will be looking at their corner, and you can Allemande Left and return to partners.

There's nothing else you need to know, do or check: If the dancers are in a Corner Station, just put the matching couple on the outside and you're done. Of course, any Corner Box get-out would work from here as well.

Resolving from the Right-Hand Lady Station

Resolving from the Right-Hand Lady Station is nearly as simple as resolving from the Corner Station: Put the matching couple on the *inside* of an Eight Chain Thru formation looking out - - then Pass Thru, Trade By to corners!

Like resolving from the Corner Station, you pair up your matching couple. You

then put them on the *inside* looking out, and you're simply a Pass Thru, Trade By (or any other equivalent) from a Corner Box and an Allemande Left.

Resolving from the Partner Station

Of course, if you know that every dancer's partner is somewhere in the same group of four, then resolving is also simple: put the partners together into normal facing lines. If your known corners are facing each other in the center (or at distant ends of the same line), call a Right and Left Thru. You'll be in a Partner Line, and can Allemande Left back to partners. Of course, any Partner Line Get-out would work from here as well.

Resolving from the Opposite Lady Station

For now, it's easier to resolve from some other station. Put the dancers into a formation where you can have either the men or the ladies circulate (which will put the dancers into either the Corner or Right-Hand Lady Station) and resolve from there.

How does this process differ from any other resolution system?

These resolution examples are intentionally simplistic and of no surprise to any experienced caller. The

subtle difference, though, is the discipline of first recognizing the station in which the dancer are in, then taking action based on that knowledge.

YOUR NEXT STEP IS TO
PRACTICE THESE
RESOLUTIONS FROM
EACH OF THE STATIONS.

Chapter 5: Preserving the Station

Calling Without Changing Group Membership

As we said earlier, the relationship station does not depend on the formation, arrangement or sequence of the dancers -- nor does it depend on the geographic location or orientation of the group of four dancers. The only thing that can change the station is a call that affects the membership of the group. That implies that any call, or sequence of calls, that does *not* change the membership of a group will *not* change the station.

Suppose Al, Betty, Charlie and Donna are dancers in the Corner Station. Any set of calls that keeps those four dancers together will not change the station: that group of four will ALWAYS be in the Corner Station. In fact, suppose that we send Al and Charlie over to the other group of four dancers for a bit (which WILL change the station) -- if we later bring Al and Charlie back together with Betty and Donna, then they'll once again be in the Corner Station.

If Al, Betty, Charlie and Donna start off as a group of four dancers in a Corner Station then ANY sequence, no matter how long or complicated, that concludes with those same four dancers together will put them back in the Corner Station.

In fact, that's true for any group of dancers in any of the stations. As long as your sequence of calls ends with the same dancers together in a group, then the sequence will leave the dancers in the same station as the one in which they started. If four dancers are in a Opposite Lady Station, then you dance them all over the square a while and finally somehow put those same four dancers back together again, then they'll once again be in an Opposite Lady Station.

So one technique for moving dancers around without affecting the station is simply that: Do anything you want, but keep the group together (or at least reassemble it if you've broken it apart).

Changing Membership Without Changing Station

But there are also methods that will move people around the square without changing the station even while changing the membership of a group of four. This is one of the easiest ways to use relationships to gain control over choreography within a sequence.

To see how this works, let's first work with the Partner Station. From a squared set, consider Heads Lead Right, Veer Left. You've now got a two-faced

line that is in the Partner Station (every man's partner is somewhere in his group of four dancers). Make a few calls, then pair original partners back together again and move either couple to the other group of four with something like Couples Circulate.

If we start in the Partner Station, and replace one pair of original partners in a group with a different pair of original partners, then the dancers must still be in the Partner Station! We started with every man's partner being somewhere in his group, and we ended with every man's partner still within his group. That's the *definition* of being in the Partner Station.

WE CHANGED THE
MEMBERSHIP OF THE
GROUPS WITHOUT
CHANGING THE STATION!

We could repeat that process (call a few things, then move a pair of original partners to the other group)... and when it came time to resolve, we'd absolutely know that we're still in the Partner Station, and resolution would be simple.

Expanding our understanding

Our example in the previous paragraphs was easy to follow because we chose to

start with dancers in the Partner Station. But the same concept works for *every* station! Suppose we have dancers in a Corner Station and we send one couple over to the other group of four. If the couple that is changing groups is a man and his original corner, then the dancers will still be in the Corner Station.

Let's try another example: From a squared set, Heads Star Thru, Pass Thru and Slide Thru. We know that we're in a Right-Hand Lady Station (there's only one matching couple in the group, and our known corners are not in the same group).

After this sequence, we know that Man 1's right-hand lady is his current partner.

Actually, we know quite a bit more than that. Since we're in the Right-Hand Lady Station, we know that every man's right-hand lady is in the same group as he is. If Man 1 has his original right-hand lady as his current partner, then the other man in his group must have *his* right-hand lady as his current partner... and symmetry tells us that the men in the other group must also have *their* right-hand ladies as their current partner.

In fact, that's a general rule and one of the most useful aspects of relationship calling.

IF **ANY** MAN HAS HIS
STATION LADY AS HIS
PARTNER, THEN **EVERY**
MAN HAS HIS STATION
LADY AS A PARTNER!

Wow! Can that be true? If, for example, we're in the Opposite Lady Station, and Man 3 happens to have his opposite lady as his partner, then all three of the other men will have their opposite ladies as partners? Yes, that's absolutely correct. Take a few moments to work it out on paper, and you'll become a believer.

Working with a Station Lady

Anyway, back to our example. If we take a mental snapshot of Man 1 and his current partner (his original Right-Hand Lady) to remember them, we can dance the folks in our group of four for a bit. Then we pair up Man 1 and that lady we noticed, and move them (or the other couple) to the other group of four with something like a Couples Circulate or a Ferris Wheel⁴.

⁴ There are **many** ways to move two dancers from one group of four to the other. One classic comes from the 1950's "Chicken Plucker" routine: From an eight chain thru formation, use either Dive Thru, Pass Thru or the slightly more modern Pass Thru, Trade By. Even an All 8 Circulate from parallel ocean waves can be used, as long as the dancers you want to keep together are facing the same direction when they begin to circulate. **Use your imagination!**

Of course, that action kept the dancers in the Right-Hand Lady Station. We started in the Right-Hand Lady Station, and we moved a man and his right-hand lady into the other group -- replacing them with some other man and *his* right-hand lady. Every man's right-hand lady is still in his group of four, so we're still in the Right-Hand Lady Station.

We can repeat that process -- dance for a few calls within the group, then move people along. As long as we keep Man 1 and his right-hand lady together when we move either couple to the other group of four the dancers will remain in the Right-Hand Lady Station.

And when it's time to resolve? Just like we said in the earlier section for the Right-Hand Lady Station: We find our one matching couple (there has to be one!), pair them up on the inside facing the other couple, and Pass Thru, Trade By to corners!

Wait a moment. Was it really that easy?

We got into the Right-Hand lady station (Heads Star Thru, Pass Thru), and then did a Slide Thru to put every man next to his right-hand lady. *We made mental note of any man and his current partner (his original right-hand lady) for a few moments.*

We danced people around inside their group of four, then put our remembered couple back together and moved any couple to the other group of four. We didn't count matches, we didn't look for partners or corners -- when it was time to change, we simply put our one remembered couple back together and moved along.

We danced some more inside this new group of four, and moved a couple across again (again simply keeping our one remembered couple together). We did that as often as we wish.

Then, to resolve, we find *any* matching couple, pair them up on the inside facing the non-matched couple, call Pass Thru, Trade By, Allemande Left???

Simplifying that process even more: We called a memorized get-in ("Heads Star Thru, Pass Thru, Slide Thru"), made note of **one** couple to watch and put them

together from time to time. In the middle, we danced people anywhere around the floor as long, just making sure that whenever we changed group membership, we kept our noted couple together. At the end, we looked for *any* pair of original partners, paired them up, put them in a specific spot and called a simple memorized get-out ("Pass Thru, Trade By, Allemande Left").

We didn't have to know sequence? We didn't have to hunt for corners --- instead, we just paired up two people that may even have dressed alike? We didn't have to find a corner box or partner line? And it's guaranteed to work, every time?

THAT'S THE POWER OF
RELATIONSHIPS.

Chapter 6: Disguising the Transitions

Knowing how to preserve the station while changing the groups that dance together (by putting a man together with his station lady and sending one couple to the other group) is one of the easiest ways to control a tip using relationships. But you don't have to make it obvious to the dancers.

For example, if your groups of four were always oriented as 'right' and 'left' (and never 'near' and 'far'), and you always used Couples Circulate to move the dancers, then every little sequence inside your tip will feel the same. To the dancers, it would seem a little like doing a "Chicken Plucker", with one couple shuttling back and forth across the square.

By disguising your couple exchanges, and by having the dancers dance in different geographic orientations, you can make your use of this technique nearly invisible. **Any** call (or sequence of calls) that moves two known dancers from one group of four to the other can be used to exchange dancers. Couples Circulate, Ferris Wheel, "Spin Chain Thru and the Ends Circulate One Time", and Spin Chain the Gears are all easy calls to use in this fashion.

Even Bend The Line can be used: Put your four dancers into a two-faced line, Bend it and use the new facing lines of four as your groups -- each line will have two dancers from each of the two-faced lines. Or even a little more complex: Lines Pass Thru, Tag the Line, Face Out, Bend the Line will make the couples exchange, move the dancers to a different section of the square and change the working axis of the formations. Again, if any one man and his station lady begin as partners, then these types of transitions are guaranteed to preserve the station.

Even an All Eight Circulate from Waves will work -- as long as both people in your remembered couple are facing the same direction. In this case, the two people you'd like to "keep together in the same group of four" aren't even side by side with each other as you make your exchange.

Combine this with "invert and rotate" modules⁵ that change the pairings and orientation of the square, and most

⁵ See Appendix 3 for a lengthy discussion of inversion modules. Essentially, these modules change which dancers are together without affecting anything else. The same sequence of calls danced with different partners and facing a different direction can feel completely different to the dancers.

dancers will never recognize your technique.

Once you move dancers around without changing the station, then you are beginning to control your choreography: Get them into a known station, dance them all around the floor while preserving the station, then apply the simple resolution rules and you'll **know** that you're hitting your corners every time.

YOUR NEXT STEP IS TO
LEARN HOW TO MOVE
DANCERS AROUND THE
FLOOR *WITHOUT*
CHANGING THE STATION.

Chapter 7: First Steps with CRaMS

As we mentioned earlier, the larger calling system named CRaMS uses many tools, including relationships, to achieve the larger goal of improving the dancers' experience.

One of the ways that CRaMS improves that experience is by increasing a caller's "efficiency", particularly by reducing the time it takes for a caller to resolve a square. Another experience improvement comes from giving dancers the feeling that they've been dancing "all over the floor", and a third is to increase the "surprise" that comes from unexpectedly coming to meet the dancer's corner or partner as part of the resolution.

We can begin to work on these three areas using just the little bit of relationship calling that we've discussed so far. Consider this outline for a small segment of a hash tip:

1. Get the dancers into a Right-Hand Lady Station, and make a mental note of any man and his right-hand lady.
2. Call a "theme" that moves those four dancers around in their current box, and lasts for just a few calls.
3. Using a tiny bit of sight calling, pair up the man and right-hand lady you identified. Move them to a different "quadrant" of the square, joining them with a different couple, with something like "Lines Pass Thru, Bend the Line".
4. Repeat your theme -- again, it may just be a call or few.
5. Pair up your identified couple (the man and his right-hand lady), and move them to yet another quadrant of the square.
6. Repeat your theme.
7. Because we've carefully kept the dancers in the Right-Hand Lady Station, each group of four dancers is still guaranteed to have a single pair of original partners. Put those original partners on the inside of the square facing the unpaired couple.
8. Pass Thru, Trade By, Allemande Left!

In the 20 or 30 seconds it takes to do this, you will have:

- Changed the working axis of the square at least twice,
- Moved the dancers to several different locations on the floor,
- Changed the group of dancers working together three times,
- Prepared the dancers for a larger surprise by practicing a segment of a larger routine several times,

- Kept each dancer away from their corner until the very end, and
- Resolved the square with absolute certainty of success.

Furthermore, if any of the squares had difficulty in executing the calls, you've given them a chance to put their square back together and get started again almost immediately.

You can repeat that framework for a sequence over and over -- rewarding the dancers with a resolution perhaps 10 or 15 times during the course of a 7 minute tip. With all of those resolutions, the dancers feel like they're having success - they're winning. The chance of dancers making an error is smaller in these short sequences (since we know that the longer a sequence goes on, the higher the probability that some dancer in the square is going to make a mistake). Even if they do make a mistake, they're back home and moving again within relatively few seconds.

With that framework, you "Got them in, Got them going, and Got them out." You did it quickly and efficiently. What's more, there was absolutely no guess-work or "hunting for corners" whatsoever. The **only** time you relied on sight calling was to reconnect your designated man with his right-hand lady just before you moved them to a

different part of the square. And that piece probably took just one call (like Ladies Trade or Flutterwheel) -- and you might not even have had to call *anything* to put them together!

The secret to this "first step" with the CRaMS system was leveraging relationships: We put the dancers into a known station and kept them in that station until it was time to resolve... and then used our knowledge of that station to resolve with absolute confidence.

For many callers, this process is mind-blowing. Rather than simply calling extemporaneously, it is calling with a plan. Rather than hunting to bring two sets of partners together, we were able to watch just two people -- and even then, only needing to watch them at a few specific moments throughout the sequence.

What's more, we didn't have to think for an instant about the sequence of dancers. We didn't have to count our "X's" and "O's", or cancel anything out. We didn't have to make ocean waves or two faced lines and pick the right combinations of trades and circulates. We didn't have to follow the steps in a flow chart to resolve.

And yet, we weren't calling a memorized routine. We had the flexibility to change the sequences, to repeat them if

necessary. We used our sight calling skills when needed (to pair up our desired dancers and move them along), but that is fairly low-risk operation.

We weren't calling "by accident", we were calling "on purpose" and with a plan, and we never once lost control.

USING THE PRINCIPLES
OF CRAMS, WE BECAME
A BETTER CALLER.

Chapter 8: Changing Stations

Stations Themselves are Related

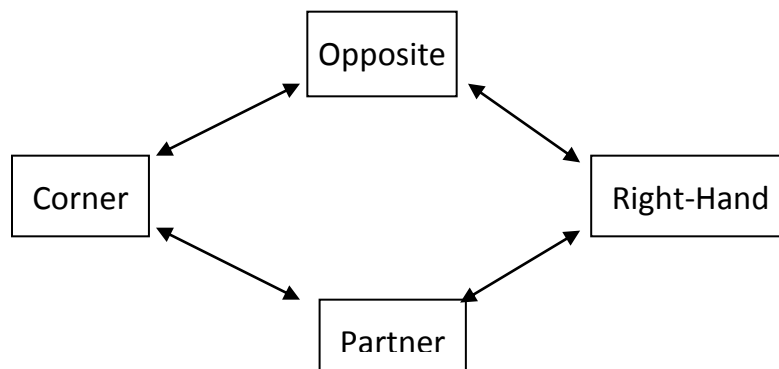
We've already talked about techniques of preserving the station while changing the dancers in each group of four, and we've illustrated how that approach could be used. But the techniques for consciously changing the stations are just as straightforward.

We know that any call or sequence of calls that doesn't change the dancers in a group of four absolutely cannot change the station. If you put men together with their opposite ladies and don't replace any dancers within the group, then the men's opposite ladies are still in the group with them, no matter what you've called or where the group may have moved.

We also know that if the dancers are in one station (say, the Opposite Lady Station) and we send a man and his corresponding station lady (in this case, his opposite lady) to the other group of four, then the station again stays the same.

To change the station, we must do something different. We need to either replace just one dancer in the group or to send two dancers across that *aren't* a man and his station lady.

Before we talk about changing 1 or 2 dancers, let's look at the relationships of the stations themselves. Here's a diagram with the stations arranged to resemble a squared set:



Relationship Stations

Rotating Around the Outside

It turns out that any call that exchanges any single dancer with someone from the other group of four will change the

station -- and the new station will be "adjacent" to the original station. In other words, the change in the station will follow the arrows in the diagram

above, "rotating" the station one notch to a neighboring station.

Consider this sequence: From a squared set, Sides Square Thru 4 and Step To an Ocean Wave. Each wave will clearly be in a Corner Station.

From those waves, if we have either the Ends Circulate or the Centers Circulate, we'll send one dancer out of each wave across the square to join the other wave. Depending on which of those calls we use, the station will "rotate" to either the Opposite Lady Station or to the Partner Station. (We can scan our groups of four and count matching pairs to see which of those two stations the dancers are in).

If we start from the Right-Hand Lady Station, sending one dancer to the other group will result in either the Partner or Opposite Lady station. From the Partner Station, using a call like that would switch the dancers to either Corner or Right-Hand Lady Station.

The "Magic Modules"

The simplest approach is to memorize two particular "magic modules" that switch stations. The first one specifically switches from a Corner Box (which is a Corner Station in which the paired couple is on the outside) to a Partner Line. The module is:

Swing Thru
Girls Circulate, Boys Trade
Boys Run, Bend the Line

In this module, the single call that actually changes the station is the Girls Circulate -- the rest of the module is window dressing that fiddles with formations and arrangements to reach the desired FASR.

To switch from that Partner Line back to the Corner Box, use this module:

Touch 1/4, Column Circulate,
Boys Run

Again, the Circulate is the one call that actually rotates the station from Partner to Corner.

Getting More Adventurous

The two "magic modules" listed above are standard fare for teaching callers how to convert from Corner Boxes to Partner Lines and back. But armed with our new knowledge of relationships and stations, we can explore more ways to use those modules.

First, the direction in which a call will rotate the station turns out to depend upon the sequence state of the dancers. While relationship calling doesn't emphasize recognizing the sequence of dancers, that doesn't mean we can't use it to our advantage. Let's look at what

happens if we tweak our magic modules just a little.

Consider that Corner Box (from a squared set, Heads Square Thru 4), and add a Right and Left Thru. We're still in the Corner Station, but our paired couple is on the inside, instead of the outside. If we now apply the "box to line" magic module, our station "rotates" in the other direction to the Opposite Lady Station! Inside of moving to a Partner Line (where every man has his original partner), we're in the station where there are *no* matching pairs anywhere.

For many callers, this is a confusing station. When callers are accustomed to looking for "primary couples" or "secondary couples", they are sometimes unsettled when they can't find any couples together at all. And callers that are new to relationship calling will sometimes be confused when they see their known corners together -- they may think that they're in the Corner Station, but that's not correct. Remember, when there are no matches, we're in the Opposite Lady Station!

But all of our rules still apply. At this point, every man will have his opposite lady as a partner. If we "take a snapshot" of any one couple, and dance around within our station, or keep these

two dancers together while sending a couple to the other side, we'll remain in this station as long as we wish.

Put those two dancers back together as partners in facing lines, and apply the "line to box" magic module (Touch 1/4, Circulate, Boys Run). We know that will rotate the station one notch -- either to Corner or Right-Hand Lady. Got Corner? If so, you're in the Corner Station (although you probably have the paired couple on the inside, so you'd need a Right and Left Thru if you wanted to resolve). If no corner, you're in the Right-Hand Lady Station: Pass Thru, Trade By to the Corner Station.

So our two "magic modules" ('box to line' and 'line to box') really just rotate our stations one notch around the diagram. We can use them to take us to places most other callers won't go (like to the Opposite Lady Station), and use them again to get back to more familiar territory (Corner or Right-Hand Lady Stations).

ANY SEQUENCE OF CALLS
THAT MOVES ONE
DANCER TO THE OTHER
GROUP WILL ROTATE
THE STATION ONE
NOTCH.

Cutting Across the Square

Suppose that we want to switch "two places" around the station diagram to "get to the other side". Suppose, for example, that we have dancers in the Opposite Lady Station and we'd like to get to the Partner Station. How can we do that?

One way is to rotate around the edges twice. We could, for example, use the "box to line" conversion, then do a right and left thru, and do the "line to box" conversion.

We know that a call like "Ends Circulate" from parallel waves will also rotate the station (since it sends one dancer across), and we can guess that calling that twice will rotate the station twice in the same direction. That works, too.

In fact, *any* call (or sequence of calls) that moves any two dancers from one group to another can be used to change the station. The trick, though, is that we *don't* want to send across a man and his corresponding station lady -- we want to break those people up instead of keeping them together.

Let's again look at All 8 Circulate from parallel ocean waves, and let's set up an example that's easy to see. Consider (from a squared set) Heads Lead Right and Step to a Wave.

In this case, we know that we're in a Partner Station (it should be obvious to you by now), and that each man is facing the same direction as his partner. If we call All 8 Circulate from here, the men going across to the other side will be accompanied by their partners, and we'll still be in the Partner Station.

But what would happen if we call Ladies Trade before that Circulate?

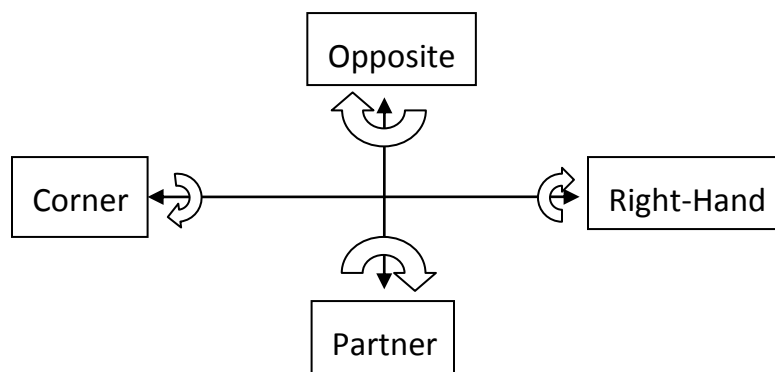
In that case, the men that are changing waves aren't taking their partner -- they're leaving their partners behind. And the ladies moving from one wave to another are also leaving *their* partners behind. When the Circulate finishes, every dancer's partner is in the other ocean wave. We won't find any matches within our waves, so we must be in the Opposite Lady Station.

In fact, it's a general rule. If you send any two dancers from one group to another, the **only** way that you can keep the station the same is to send a man and his station lady. Sending across any other pair of dancers (two men, two ladies, or a man and the lady that isn't his station lady) will switch the station to the one across the diagram.

So, "Heads Lead Right, Veer Left, Ferris Wheel" will result in the Partner Station, while "Heads Lead Right, Veer Left,

Ladies Trade, Ferris Wheel" will result in the Opposite Lady Station.

MOVING TWO DANCERS TO THE OTHER GROUP WILL KEEP THE STATION THE SAME, OR SWITCH IT TO THE "OPPOSING" STATION ACROSS THE DIAGRAM.



Moving Two Dancers to the Other Group

Intentional Changes

Knowing what types of calls affect the station and being able to predict the nature of those changes means that we can consciously and intentionally begin using station changes to our advantage.

In an Opposite Lady Station and want to get somewhere else? No problem: simply move any one dancer to the other group, and we know we'll be in one of the single-match stations (Corner or Right-Hand Lady). Want to go to the Partner Station? No problem: Move

two dancers across the floor and check again... if that didn't work, we must have moved a man and his opposite lady, so trade the ladies (or men) and repeat the call.

WE CAN INTENTIONALLY CHANGE THE STATION BY SENDING 1 OR 2 DANCERS ACROSS TO THE OTHER GROUP.

Chapter 9: Controlling the Station Changes

Controlling the Rotation

Calls that exchange just one dancer rotate the sequence around the outside of our first diagram. We know, for example, that such a call from the Corner Station will take us to either the Partner or Opposite Lady Station. But how can we be certain that we're changing the station to the one that we want?

Like the other things we've seen, it turns out to be easy.

Suppose we're in the Corner or the Right-Hand Lady Station, and we want to rotate to the Partner Station. We know that we have one matched couple in each group of four already. To switch to the Partner Station, all we have to do is keep our matched couple together and send either one of the not-matched dancers to the other group.

Huh? How does that work?

We know that sending just one dancer to the other side means that we're going to rotate the station one spot. Since we're in Corner (or Right-Hand Lady) Station, that rotation can only take us to either to Partner or Opposite Lady Station. We know that this will give us either 0 or 2 sets of matched dancers.

There just aren't any other choices in this case.

So if we keep our matched couple together in this group, then we know that we'll have at least one match -- and if we have one match, then we must be in the Partner Station, so the other couple must be matched up as well!

It's very, very simple: If you've got only one matched couple in a group of four and you'd like to have two matched couples, then simply send either of the unmatched dancers to the other group. You'll immediately have two matched couples and be in the Partner Station.

Conversely, from Corner or Right-Hand Lady Station, if we want to switch to the Opposite Lady Station, all we have to do is break up our matched dancers, sending one of them to the other side. That's guaranteed to switch us to the Opposite Lady Station.

So what about going from Opposite Lady or Partner to the Corner Station? In that case, what we want to do is find a pair of separated corners and bring them together by sending one across to the other. Alternatively, your known corners might already be together in the same group of four (even though you're in the Opposite Lady or Partner

Stations). In that case, you want to keep your known corners together while sending someone else out of the group.

Let's look at this last point for a moment. Consider this: Suppose you only know how to recognize Couples 1 and 4, and from a squared set you have the Heads Lead Left (left, left..) and Veer Right (right, right...). The dancers will be in the Partner Station, obviously, but your two known corners are together in the same group. To rotate to the Corner Station, you need to send one dancer across to the other side, but who should you send?

If you send over one of your two known corners, you're splitting them up, so obviously you couldn't be switching to the Corner Station (where every man's corner is in his group of four). That must switch you to the Right-Hand Lady Station, not what you want.

But if you send away one of the dancers that *isn't* your known corner, then you're keeping your corners together, and the rotation **MUST** be to the Corner Station. (We know that it is rotating from Partner to either Corner or Right-

Hand Lady, and so if there's one set of corners present, it must be rotating to the Corner Station.)

So to rotate from Partner or Opposite Lady to Corner Station, look first for your known corners. If they're apart, bring them together by sending one of them across to the other; otherwise keep them together while sending either of the other two dancers to the other side.

Using these two techniques (building or breaking apart matched couples, and building or breaking apart corners) you can absolutely control the rotation of stations.

THE FINAL STEP TO
MASTER RELATIONSHIP
CALLING IS LEARNING
HOW TO IDENTIFY
EXACTLY WHICH
DANCERS HAVE TO
CHANGE GROUPS TO
MAKE A SPECIFIC
CHANGE IN STATION

Chapter 10: Get-Ins to Any Station

Many callers begin a sequence with some variation of a Square Thru 4, putting the dancers into a Corner Box setup (everyone facing their corners and in sequence). The caller might use ten different equivalents to the Square Thru 4, but the paths to a Corner Box are deeply engraved on the minds of the dancers.

Relationship calling reminds us that whatever works in the Corner Station would work the same in *any* station. We don't have to start with corners -- we can start *anywhere* for variety, and we can use our simple techniques for resolving from any station we choose.

For the purposes of stations, we don't really care exactly what formation the dancers finish in, so the count of possible get-ins to the various stations is enormous. To keep it short, let's limit ourselves to get-ins that are amenable to the process of "get 'em in, get 'em going, get 'em out". For this purpose, we'll just look at sample get-ins that yield normal facing lines of four, where each man is paired with his station lady.

To Corner Station:

- Heads Square Thru 4, Slide Thru
- Heads Pass the Ocean, Extend, All 8 Circulate, Recycle & Sweep a Quarter

- Heads Flutterwheel, Heads Lead Right, Veer Left, Chain Down the Line

To Partner Station:

- Heads Lead Right, Circle to a Line
- Heads Lead Right, Veer Left, Bend the Line
- Heads Right and Left Thru, Lead Left, Veer Right, Bend the Line

To Opposite Lady Station:

- Side Ladies Chain, Heads Star Thru, Pass Thru, Circle to a Line
- Four Ladies Chain, Heads Lead Left, Veer Right, Bend the Line
- Heads Pass the Ocean, Extend, Girls Circulate, Recycle & Sweep a Quarter

To Right-Hand Lady Station:

- Heads Star Thru, Pass Thru, Slide Thru
- Heads Pass the Ocean, Extend, Recycle & Sweep a Quarter
- Four Ladies Chain, Sides Square Thru, Slide Thru

You can use these get-ins to *any* station, instead of just the Right-Hand Lady Station, when using the techniques described in Chapter 7. Chapter 4 tells you the simple resolution process for each station.

Chapter 11: Getting Ready to Get Out

As your understanding of relationships grows, the possibilities for adding get-outs increases greatly. We can go far beyond the trivial resolution processes described in Chapter 4.

With a vocabulary for describing the state of the square, the ability to change the station by design through appropriate calls, and the ability to intentionally switch from any station to any desired station by pairing or splitting matched couples, your mastery is nearly complete. There are just a couple more pieces needed: Finding the station lady and checking sequence.

Finding the Station Lady

We've often described conditions where a man was partnered with his station lady -- his corner in the Corner Station, his opposite lady when in the Opposite Lady station, etc. But so far, we haven't really discussed how, exactly, you can determine which of the two ladies in a group is the man's station lady.

One technique is to identify a man's station lady as soon as the dancers switch to a specific station and remember her for the time that the dancers remain in that station. Back in Chapter 7, we used that technique fairly effectively: We put the dancers in the

Right-Hand Lady Station paired a man with his right-hand lady and moved dancers all around the floor while we kept them in the Right-Hand Lady Station. When we were ready to get out, we *unpaired* the remembered man and his station lady (which guaranteed we'd have one pair of original partners in the group) and used the position of that paired couple to do our simple switch to corners.

But if you haven't been intentionally controlling the station throughout the tip, or if you need to "recover" from some unexpected change, then knowing how to identify the station lady in every one of the stations is a useful tool. And once again, we glance at the square and look for matches to make our decision.

Corner and Right-Hand Lady Stations

If the dancers are either of the single-match stations (Corner or Right-Hand Lady), it's easy: Every man will have his station lady at hand if the one matched couple is *not* paired up.

If you think about it for a moment, it should be apparent. We know there is only one matched couple in either of these two stations. If a man is with his original partner, then he certainly isn't with his corner or right-hand lady -- and

since there's only one other lady in the group of four, then that other lady *must* be his station lady.

Partner Station

Perhaps this is obvious: In the Partner Station, each man will have his station lady (his original partner) when *any* couple is paired up.

Opposite Lady Station

This station is the one that gives most callers trouble. The secret to understanding it is that it works just like the Partner Station *except* that all of the techniques are "opposite" those of the Partner Station.

When in this station, to ensure that a man is with his station lady you want to get matching partners as far away from one another as possible (instead of the Partner Station's goal of putting them closely together). There's not much room in a square for dancers to get away from each other -- so the farthest dancers can be apart is when they're diagonally across the square from one another.

Let's look at facing normal lines of four, where each box of facing couples are in the Opposite Lady Station. Each man will have his station lady (his opposite lady) when you see matching partners "on the diagonal" -- that is, each man's original partner will be in the other box

of four *and* in the other line of four. A line drawn from any man to his original partner will be a diagonal line from a couple on one end of one line to a couple on the far end of the other line.

From these facing lines, if you spot matching partners "down the line" (that is, on the far end of the same line of four), then the men do *not* have their station lady in hand, and a Ladies Chain (or Flutterwheel or Reverse Flutterwheel or any other call that switches the ladies or men) will connect each man with his station lady.

From an Eight Chain Thru formation in the Opposite Lady Station, you'll find that men are with their station lady when each outside dancer's original partner is on the far end of the dancer's column. Once again, we see that each outside dancer's original partner is as far away from them as they can be in this formation.

TO PAIR WITH A STATION
LADY IN PARTNER
STATION, PAIR UP
ORIGINAL PARTNERS;
EVERYWHERE ELSE,
BREAK THEM APART!
OPPOSITE LADY STATION
WILL HAVE MATCHES ON
THE DIAGONAL.

Checking Sequence

Relationship calling doesn't emphasize recognition of the sequence state of dancers (Are the boys in sequence? Are the girls in sequence?). Sequence can be difficult to spot by tracing the order of dancers, and many individual calls change sequence, so it can be hard to sort out while the dancers are moving.

However, that doesn't mean that sequence is irrelevant. Determination of sequence is most commonly a concern when you're about to call a get-out from the Partner and Opposite Lady Stations⁶.

As described in other types of calling systems there are visual techniques that help to put dancers in a known sequence state.

Corner and Right-Hand Lady Stations

When in the Corner or Right-Hand Lady Stations, there will always be exactly one matching couple in each group of four. Pair up this matching couple and put them on the outside of an Eight Chain Thru formation.

In the Corner Station, this will give you a Corner Box, where everyone is in sequence and facing their corners. An Allemande Left (or any other memorized

Corner Box get-out) will resolve the square.

In the Right-Hand Lady Station, this particular setup is known as an "Across the Street Box", and there are many published get-outs from here. The dancers are actually out of sequence, but most callers are quite familiar with this particular setup. (A simple resolve: Right and Left Thru, Pass Thru, Trade By, Allemande Left).

It is easy to determine both the station lady *and* the dancer sequence in either of these stations with a single check from normal facing lines. Look at either of the facing boxes of four on the ends of the lines: The men will be with their station ladies *and* in sequence when the one pair of matching dancers in that box are facing each other on the ends of the lines (for the Right-Hand Lady Station) or in the center of the lines (for the Corner Station).

Partner and Opposite Lady Stations

In these stations, sequence checks are most convenient from normal facing lines, rather than an Eight Chain Thru formation. And instead of looking for matching partners in these facing boxes of four, we're going to look for matching *corners*.

From facing lines of four in the Partner Station, where each man has his station

⁶ Actually, it's just as important from the Corner and Right-Hand Lady Stations, but there are easy techniques for those stations.

lady (his original partner) as a current partner, the dancers will be in sequence when your known corners are adjacent to one another. By adjacent, we mean that they will either be facing one another on the ends of the lines of four, or side by side in the center of the lines.

Once again, we have to use the "opposite" rule when the dancers are in the Opposite Lady Station. From facing lines of four where each man has his station lady as a partner (original partner matches can be seen on the diagonal), the dancers will be in

sequence if known corners are *not* adjacent: if they are on opposite ends of the same line, or facing one another in the center of the lines.

WHEN IN SEQUENCE IN
THE PARTNER STATION,
CORNERS WILL BE
ADJACENT. IN OPPOSITE
LADY STATION, CORNERS
WILL BE APART.

Chapter 12: Launching Get-Outs from Any Station

Most highly-skilled callers will use a memorized library of get-outs to add pizzazz to their tips. And with our visual techniques for recognizing the station lady and dancer sequence from any station, we're now ready to be able to launch get-outs with confidence from any relationship station at all.

One of the biggest advantages of relationship calling is that it gives us a vocabulary to describe setups from which get-outs can be called -- and it gives us the tools to get to those setups.

A Real-Life Example

Deborah Carroll-Jones has a favorite anecdote on this topic. One day, she decided that she wanted to use "Square Thru 2, Trade By, Right and Left Grand" for a get-out. If you work it backwards, you can see that the starting point would be "opposite lady lines, out of sequence, half-sashayed."

To most sight callers, finding the opposite lady is very difficult. If you've only memorized two couples (say, couples 1 and 4) -- how could you possibly get there by sight? You don't have a clue who the opposite ladies are for either of your known men. But by using relationships, we know that the dancers will be in the Opposite Lady

Station any time that there are no matches in a group of four dancers... and we know the techniques to get to that station from any of the others.

Try it for yourself pushing checkers. Put the dancers into, say, a Right-Hand Lady Station, and then switch to the Opposite Lady Station by breaking apart the one matched couple. Put the dancers into facing lines, check for station lady (matches on the diagonal) and sequence (corners not adjacent) and adjust as necessary. Then Right and Left Thru with a Half Sashay, Square Thru 2, Trade By, Right and Left Grand!!

Get Outs from Multiple Setups in Every Station

For the purposes of teaching, we've chosen to publish relatively simple get-outs instead of flashy ones. We also encourage newer callers to absorb this information slowly. Start with a single station, learning just a single get-out from one or two of the setups. Practice just this little bit until it becomes a familiar friend and you'll "own" that station. Then add a little more (another station? another setup?) and practice until you "own" those as well. Eventually, you'll "own" all four stations and be surprised at how easy it has become.

In these discussions, we'll use AL, RLG as abbreviations for Allemande Left and Right and Left Grand, respectively. We'll also make use of a couple of choreographic equivalents (sequences that essentially have the same effect as other calls, but may change the distance that the square needs to promenade).

For example, from facing lines we can change sequence with a Right and Left Thru, but that doesn't always flow well at a given moment. If every man has his station lady as a partner, then from facing lines a Pass Thru, Bend the Line will serve as a choreographic equivalent to a Right and Left Thru. (Even though we've changed the dancers in a group of four, we did so in a way that preserved the shape of the formation, the arrangement of the dancers and the relationship station -- keeping the "F", "A" and "R" of the FASR and changing only the sequence.)

From those same facing lines (where the men are paired with their station lady), Pass the Ocean, All 8 Circulate will always switch us to the "opposing" station and pair each man with his appropriate station lady in the new station (although the Pass the Ocean also changes sequence).

So let's get into the nitty-gritty of get-outs from anywhere.

Corner and Right-Hand Lady Stations

Most published get-outs from these two stations begin in an Eight Chain Thru formation: Either from a Corner Box (Corner Station with paired couple on the outside) or an Across the Street Box (Right-Hand Lady Station with the paired couple on the outside), and normally resolve to an Allemande Left. Lists of get-outs for these setups are commonly published on web sites like Vic Ceder's ceder.net or Rich Reel's all8.com

Let's look at facing lines. There will be a single matched couple, and that couple will either be face to face or side by side.

Corner Station, matching couple facing each other as centers of normal lines.

We know this means each man has his station lady as a partner and that the dancers are in sequence. A Slide Thru would get us facing our corners, but it changes sequence. So let's play with some alternatives:

- Right and Left Thru, Slide Thru, AL
- Pass Thru, Bend the Line (the equivalent to Right and Left Thru), Slide Thru, AL
- Star Thru, Dive Thru, Centers Square Thru 3, AL
- Plus: Pass the Ocean, Trade the Wave, AL

Corner Station, matching couple facing each other as ends of normal lines.

Each man has his station lady as a partner, but the dancers are out of sequence. A Slide Thru is all it takes. Let's dress it up a bit:

- Right and Left Thru, Pass Thru, Bend the Line, Slide Thru, AL
- Pass the Ocean, Ladies Trade, Swing Thru Double, Recycle, AL
- Plus: Pass the Ocean, Linear Cycle, Slide Thru, AL

Corner Station, matching couple are partners, paired man on end of line

The dancers in our paired-up couple are facing their corners, but we need to "rotate" the group of four by ninety degrees before calling Allemande Left. Wheel and Deal, Ferris Wheel and Recycle all work well for this purpose.

- Pass Thru, Wheel and Deal, Centers Pass Thru, AL
- Pass the Ocean, Swing Thru Double, Recycle, AL
- Pass the Ocean, Recycle, Veer Left, Ferris Wheel, Centers Pass Thru, AL

Corner Station, matching couple are partners, paired man in center of line

The dancers in our paired-up couple are facing their corners, but again we need to "rotate" the group of four by ninety degrees to get that paired couple on the outside looking in. Note that since the men are not with their station lady, that

means that we cannot use Pass Thru, Bend the Line as a choreographic equivalent to Right and Left Thru.

- Pass the Ocean, Recycle, AL
- Right and Left Thru, Pass Thru, Wheel and Deal, Centers Pass Thru, AL
- Pass Thru, Wheel and Deal, Zoom, Centers Pass Thru, AL
- Square Thru 3, Wheel and Deal, Centers Pass Thru, AL

Right-Hand Lady Station, matching couple facing each other as centers of normal lines.

Again, we know each man has his station lady. The dancers are out of sequence, but that's OK: The trivial resolution is Slide Thru (which puts the matched pair on the inside of an Eight Chain Thru formation), Pass Thru, Trade By, AL. But again, we can disguise this simple resolution:

- Square Thru 2, Trade By, AL
- Pass the Ocean, All 8 Circulate (switches to Corner Station with new station lady in hand), Scoot Back, U-Turn Back, AL
- Plus: Right and Left Thru, Flutterwheel, Pass Thru, Wheel and Deal, Dixie Grand, AL

Right-Hand Lady Station, matching couple facing each other as end of normal lines.

Men have their station lady and we're in sequence. The simple resolution is Square Thru 4, Trade By, AL. What else?

- Square Thru 4, "Right to your partner, Pull on by", AL
- Right and Left Thru, Slide Thru, Pass Thru, Trade By, AL
- Pass the Ocean, All 8 Circulate, Ladies Trade, Recycle, AL

Right-Hand Lady Station, matching couple are partners, paired man on end of line

Again, we'd like to "rotate" the paired couple to the outside of an Eight Chain Thru formation, except that we'd like to send two dancers across (switching us to the Corner Station) as we do so. Pass Thru, Wheel and Deal does that quite nicely, but leaves our center dancers facing the wrong way.

- Pass Thru, Wheel and Deal, Centers Square Thru 3, AL
- Right and Left Thru, Pass Thru, Wheel and Deal, Double Pass Thru, Leaders Partner Trade, AL
- Pass the Ocean, Recycle, Veer Left, Ferris Wheel, Centers Square Thru 3, AL
- Pass the Ocean, Recycle, Dive Thru, Pass Thru, AL

Right-Hand Lady Station, matching couple are partners, paired man in center of line

- Square Thru 3, Wheel and Deal, Centers Square Thru 3, AL
- Pass Thru, Wheel and Deal, Zoom, Centers Square Thru 3, AL
- Pass Thru, Bend the Line (now in Corner Station), Pass the Ocean, Recycle, AL

Partner Stations

Get-outs from this station usually begin from facing lines, because it's generally easiest to check sequence from lines.

Once again, we'll confine ourselves to normal facing lines where each man has his station lady as a partner. In this case, we'll look to see if our known corners are adjacent to one another (facing on the ends of lines, or else side by side in the center of the lines) to check sequence.

Partner Station, Known Corners Adjacent.

This setup is a Partner Line, where every man has his partner on his right and his corner on his left. The most trivial resolution is to simply call Allemande Left. Many, many get-outs are published from this setup. These are some well known ones:

- Slide Thru, Square Thru 3, AL
- Touch 1/4, Column Circulate, Boys Run, AL

- Touch 1/4, Column Circulate, Girls Run, RLG
- "Up to the middle, take 3 steps back", Ends Fold, RLG
- Left Square Thru 4, AL
- Circle Right, Go Single File, Ladies Backtrack, "Meet your Partner", RLG

Partner Station, Known Corners Apart.

Every man has his partner, but the lines are out of sequence. A Right and Left Thru or equivalent would set up the Partner Lines for any common get-out from that position.

- Pass the Ocean, Boys Run, Promenade Home
- Pass the Ocean, Scoot Back, RLG
- Right and Left Thru, Dixie Style, Boys Trade, Boys Cross Fold, RLG
- Pass Thru, Boys Run, Single Hinge, RLG

Opposite Lady Stations

As you'll see, many Opposite Lady get-outs involve a conversion to Partner Station. If you do this conversion from a half-sashayed arrangement, it will often result in a suitable arrangement for a Right and Left Grand (or perhaps a Wrong Way Grand).

Opposite Lady Station, Known Corners Apart.

This would be the "normal" opposite lady case with matches on the diagonal (so we know each man has his opposite

lady as a current partner) and corners distant from one another (so that we know we're in sequence). A Four Ladies Chain (which is unusual but permissible from facing lines) would convert the setup to Partner Lines, and could be followed by an Allemande Left. Other possibilities:

- Circle Left. Ladies in, Men Sashay (twice), AL
- Star Thru, Pass Thru, Trade By, Square Thru 3, AL
- Right and Left Thru, Star Thru, Pass Thru, Trade By, "Pull your partner by", AL
- Right and Left Thru, Pass the Ocean, All 8 Circulate, Wrong Way Grand
- Right and Left Thru, Pass the Ocean, All 8 Circulate, Scoot Back, RLG
- Pass Thru, Bend the Line (Right and Left Thru equivalent), Pass the Ocean, All 8 Circulate, Scoot Back, RLG
- Pass Thru, Bend the Line, Pass the Ocean, All 8 Circulate, Swing Thru, Boys Trade, RLG

Opposite Lady Station, Known Corners Adjacent.

Each man has his station lady, but the dancers are all out of sequence.

- Slide Thru, Eight Chain 3, AL
- Pass the Ocean, All 8 Circulate, Scoot Back, RLG

- Pass the Ocean, Swing Thru, Boys Trade, All 8 Circulate, RLG
- (*Debra's favorite*) Pass Thru, Tag the Line In, Square Thru 2, Trade By, RLG
- Plus: Pass the Ocean, Dixie Grand, AL

Opposite Lady Station, Partners Matching "Down the Line"

This station does *not* have the men with their station lady. Pass Thru, Bend the Line, Star Thru would convert this setup to the Partner Station, where each man would be with his original partner.

Get-outs when the men are in sequence:

- Bend the Line, Spin the Top, RLG
- Spin the Top, All 8 Circulate, RLG

Get-outs when the men are out of sequence:

- Square Thru 2, Trade By, Square Thru 3, AL
- Square Thru 4, Trade By, Box the Gnat, RLG
- Square Thru 4, Trade By, Pass Thru, AL
- Square Thru 4, Trade By, Pass Thru, U-Turn Back, RLG

Chapter 13: Advanced Station Recognition Techniques

Knowing Only Two Couples, but Looking at Just One Group of Four

Earlier, we mentioned that you can recognize stations even if you only know two of the four couples. At that time, we suggested that you simply count your matches across the both groups of four. That works just fine, but it really isn't necessary. It's very possible to recognize the station from a glance at a single group of four, even if you can only recognize two couples.

We suggest that you don't start with this immediately. Wait to try this until you feel comfortable with recognizing stations using the easier techniques. But when you're ready to try it, here's how it works. Again, the rules are simple; it's just that there are a few more cases to remember. That's where the practice comes in -- once you can recognize each of the cases, it's very quick.

Look at a group of four and quickly count how many of your known dancers are in that group. Obviously, it must be either 0, 1, 2, 3 or all 4 of them.

If you see all four of your known dancers, well, then it's obvious that both of your couples are in the same group and the dancers are in the Partner

Station. Then again, if you don't see *any* of your dancers in the group, then they *must* all be over in the other group and again, *must* be in the Partner Station.

So what if you see just two of your known dancers? If the two are partners, then you have one couple in this group and the other couple *must* be in the other group. Once again, Partner Station. But if the two dancers are NOT partners, then the dancers must be in the Opposite Lady Station.

The cases get a little more interesting if you see just 1 or 3 of your known dancers in the group. That means that there is just one matched set of partners in the groups of four. The dancers must be in either the Corner or Right-Hand Lady Station... but how can you tell?

If you see just one of your known dancers and that person is one of your known corners, then (of course) corners cannot be together and the dancers must be in the Right-Hand Lady Station. If that single dancer is NOT one of your known corners, then your two corners must be together over on the other side, so it's got to be Corner Station.

Similarly, when you see three dancers known together: either your known corners are both the same group or they

aren't. That will tell you whether the station is Corner or Right-Hand Lady.

Actually, most callers that work to recognize stations on the fly quickly glance at one group of four. If they don't see a match, they just skip to the other group of four and look over there. That way, they'll be looking at a group with at least one matching set of partners and it's easier to count. Of course, if there aren't partners in either group, that means Opposite Lady Station.

So you don't even have to remember all five cases. You can determine the station just by seeing 2, 3 or 4 of your known dancers in a single group of four.

Couple Recognition Across Multiple Squares

Interestingly enough, the two couples you're looking to match don't even have to be in the same square! Suppose that Couple 1 in the square right in front of you has one immediately recognizable outfit, and Couple 2 in another square is also easily recognized. You can count the matches of those two couples in the two different squares, and the results will work just as well. You can even think of Lady 1 in the front square as the corner to Man 2 in the other square -- and when you need to check for corners, you see if those two dancers in the same group of four in their respective squares.

In fact, at many dances, you may have couples in each of several squares that are immediately recognizable. As long as those couples aren't all in the same positions in the square, you can work with any of them. If you see a couple matched up in one square, take a look at your other squares and see if you have other couples matched up in the *other* part of the corresponding group of four.

Don't forget: You don't have to recognize the couples in both squares instantaneously. Look at one square, then call a zero (such as "Swing Thru, Centers Run, Ferris Wheel, Centers Pass Thru") while you look at the second square for your other match. Keep the dancers moving while you take whatever time you need.

So if you have one pilot square that you're watching, and it breaks down, you can start surveying other squares for apparent matches. If you at least noted which squares had obvious matches (and can find apparent matches that wouldn't be across from one another if they were in the same square), it only takes a little practice to figure out the stations from dancers in one or more other squares.

The hardest part of that, of course, is if you don't have any corners you know in any of the other squares on the floor. In

that case, bring the dancers to a Partner Station where the only question is whether they're in or out of sequence. In that case, if you wish, you can pair up your new-found couple from a different square, put them on the outside of an eight-chain thru formation and ask... "Is

that your corner?!?" If the floor roars back with a YES, call a zero and then Allemande Left. If the floor roars back with NO, then you're in the Right-Hand Lady Station and you simply need a Right and Left Thru, Pass Thru, Trade By to corners.

Chapter 14: Overlapping Stations - More Than One Look

Obviously, splitting dancers into two groups of four is important to recognizing stations. What may not be quite as obvious is that there is more than one way that the dancers can be split into their groups.

Consider parallel ocean waves. Each wave can be considered a group of four. But we could also logically split those two waves in half, and look at the dancers grouped into two side-by-side boxes of four. The same approach applies to facing lines: Each line could be considered a group, or we could consider each pair of facing couples as a group.

We call these "overlapping stations". Any pair of adjacent dancers can be in either of two different groups of four⁷, so geometrically the two ways of grouping dancers overlap one another.

Does it matter which sets of groups we use for determining the station? Not really... although at any moment in time, you as a caller might have a specific reason to look at one vs. the other.

⁷ Actually, it's possible to find *eight* different ways to group the dancers into two groups of four by picking and choosing the dancers for your group. One or two of these will normally be apparent; the others will appear "twisted".

Let's pick an easy example. From a squared set, Heads Lead Right, Veer Left and Bend the Line. Each line is in the Partner Station (every man's partner is in his line of four). But we can split the square into two sets of facing couples. These boxes are *also* in the Partner Station, since every man's partner is also in his box of four.

Do the stations of the two overlapping groups always have to match? Nope -- but the stations of the two groups are indeed related to one another.

Look back at our facing lines of four, and Chain the ladies across. Each pair of facing couples is still in the Partner Station: every man's partner is facing him, so they're in the same set of four. But when we look at the lines, we see something completely different: No man's partner is in his line of four (after all, we just chained his partner away from him!) So there will be *no* matches in either of the lines, which means that the lines are in the Opposite Lady Station!

In fact, any time we have overlapping stations, the stations will either be the same (like Partner and Partner) or opposed to one another (like Partner and Opposite Lady, or Corner and Right-

Hand Lady). If each man has his station lady as a current partner, the stations will be the same -- otherwise, the stations will be opposed to one another.

Facing lines and parallel waves give us the easiest ways to see these overlapping stations: we can always look down the line (or wave), or across the boxes of four to find our matches.

And with these two looks, we can use overlapping stations to our benefit. Suppose we're in the Opposite Lady Station and we want to switch to Partner Station. It's easy: Make facing lines and look both ways.

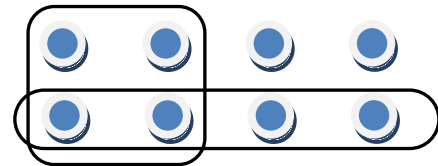
If the men are paired with their opposite lady, then we won't see any pairings in either the lines or the boxes. In that case, Chain the ladies across! The boxes will still be Opposite Lady (because we didn't change who was in the box)... but the lines will be in Partner Station! The men won't be with their original partners just yet, but each line of four will have two sets of original partners, and you can work from there.

In fact, the easiest way to switch the dancers from one station to another may simply be for you to look at the other overlapping station in the formation.

Finding the Overlapping Station

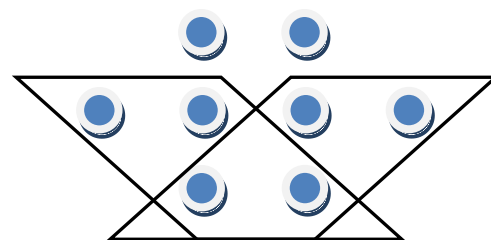
So where can we see these overlapping stations? From some formations, it's easy.

From a generalized formation that is two dancers wide (or tall) by four dancers tall (or wide), the most apparent overlapping stations are these:



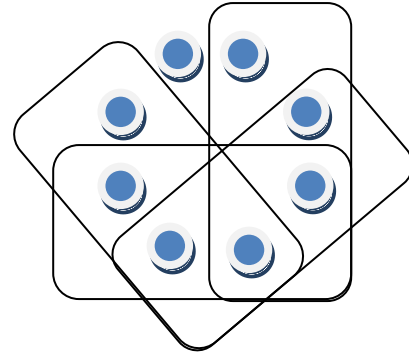
In this diagram, the dancers can be facing in any direction at all: this could be lines (facing in, facing out, inverted, etc.); it could be columns (right-handed, left-handed; it could be an Eight Chain Thru, Trade By or T-Bone formation. Again, for the sake of the relationships, all we care about is *who* is in the group, not what direction they're facing.

From other formations, the overlapping stations may not be quite as easy to see. Let's look at the overlapping groups in another common setup (a general 1/4 tag):



When we get into more exotic formations, the overlapping stations are

sometimes easy to spot. For example, the variations on columns, lines and boxes often used at the challenge level (Os, Butterflies, Parallelograms and Blocks) can be viewed as normal columns, lines and boxes for the sake of finding the overlapping groups after making the same mental adjustments used by the dancers when working in these formations. In Interlocked Blocks, if we mentally consider the outlying dancers to have pressed in, then we can see our overlapping groups as general lines and boxes.



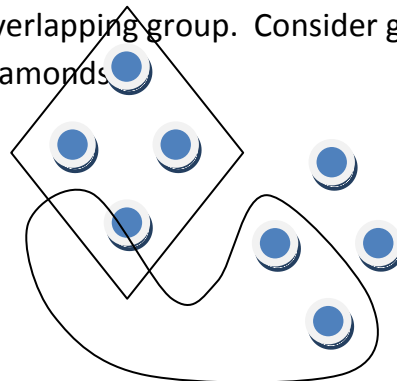
This multitude of stations isn't completely free-wheeling, though. If that circle were completely in sequence with partners (as if a static square had begun to circle left), you would see that each of these four overlapping groups of four are in either the Partner Station or the Corner Station. If the four ladies had chained before beginning to circle, the four groups of four would either be in Opposite Lady Station or Right-Hand Lady station. While circling, "Ladies In, Men Sashay" will rotate the station of any particular group of four by one spot.

When working Siamese, the overlapping groups of four are one of the couples together with each one of the tandems.

But at every level, there are other formations where finding overlapping stations is *too* easy, and some where finding them is much more difficult.

Consider a circle of eight: Where are the overlaps here? You can slice the circle in half any one of four different ways and get valid groups of four, so we have *four* conveniently overlapping stations here, like this:

Finally, let's look at some formations where it's relatively easy to find one group of four but not so easy to find an overlapping group. Consider general diamonds



This goofy-looking set of overlapped groups of four illustrates the generalized rule for finding an overlapped group of four that could be in the opposite station. Pick one of your groups, and keep a man and a lady from that group. Replace the other two dancers (the other man and lady) with their diagonally opposite dancers (replacing Man 3 with Man 1, for example, or Lady 2 with Lady 4). This new group of four will overlap the first group (since two dancers are in both groups) and still meet the requirement that no dancer is in the same group as that dancer's diagonal opposite.

Of course, we could have looked at the twin diamonds in the same way that we looked at a quarter-tag formation, but it seems more natural to look at each diamond as its own group of four.

In general, the formations that make it difficult to find the overlapping stations will be those that have one four-dancer

formation nested inside another four dancer formation of a different shape: A wave inside a box (our twin diamond example), a diamond in a box (an hourglass), a box inside a diamond (a galaxy), and so on. Most (but not all) of the tricky formations will have defined very center dancers.

When the dancers are in those nested types of formations, you must be very careful to avoid the temptation to use the inner and outer formations as the groups of four. DON'T, for example, try to determine the square's relationship station by looking at the center diamond of an hourglass. If you do, you'll be including diagonally opposite dancers in the same group and the mathematics of relationships will no longer apply.

In this author's opinion, overlapping stations are just too awkward to use from nested formations.

Chapter 15: Surviving Errors

Dancers Make Mistakes!

As things have been presented so far, recognition of the station depends using symmetric choreography -- and it also depends upon the dancers not making any mistakes. Although most callers would never even consider calling something that isn't symmetric, it's a rare pilot square that will never make a mistake during an evening of dancing.

So how can this system help in those areas?

Watch Multiple Squares

You can always choose to watch multiple squares, knowing that one square may fail. Relationship calling allows you to remember the most memorable couples in a square, not just those couples that happen to be standing in your favorite spots. You may be able to recognize Couples 2 and 3 in one square, Couples 3 and 4 in a different square, and Couples 1 and 4 in a third square. The rules of recognizing stations and resolving work exactly the same for all of those squares.

Suppose you missed seeing your pilot square make a mistake. You can actually check your results across multiple squares to see if they match. For example, put one of your known

squares into the Partner Station. ALL of your squares should now be in the Partner Station -- you should have matches in every square on the floor. And if you don't? Well, perhaps the square you watched was wrong. Put some other square into the Partner Station and survey the floor. Choose whichever setup seems to work the best for the majority of squares.

Don't Depend On Dancers

Perhaps the best way that Relationship Calling can help you survive dancer error is by reducing your dependence on the accuracy of the dancers.

For the moment, suppose that you started with a static square of dancers and immediately put them into the Corner Station. We've already discussed techniques you can use to move the dancers all over the floor without leaving that Corner Station. When you're ready to resolve, you KNOW that you're in the Corner Station, and all you have to do is put a paired couple on the outside of an 8 Chain Thru formation and you're done. Odds are you'll be able to recognize a paired couple *somewhere* on the floor.

Of course, this technique works with any station, not just the Corner Station.

Calling With Your Eyes Closed

As we'll discuss in the upcoming chapter on CRaMS, the use of modules can reduce your dependency on dancers. Put the dancers into any known station, and call a module or few that you *know* start and end in the same location. When you're done, you *know* exactly where the dancers ought to be and you can call the appropriate get-out.

How does this differ from simply memorizing enough choreography to call a full dance? It doesn't, really, except that you can use your knowledge of stations to help you move in and out of particular setups. By varying the station throughout a tip, the dancers won't be able to recognize (at least as easily) your technique.

Double-Checking Yourself

Now and then, you may find yourself doubting whether you've got something right. You can use your control of stations to double-check whether you were correct and then return.

For example, suppose that you *think* you've got corners facing in a corner box but you suddenly have a flicker of doubt about whether you're in the correct sequence. You can double-check by quickly switching to what should be the Partner Station by applying the well-known Box to Line conversion module:

Swing Thru, Ends Circulate while Centers Trade, Centers Run, Bend the Line.

That SHOULD take you to the Partner Station, and you should be seeing matches everywhere. It worked? OK, let's go back by applying the Lines to Box conversion: Touch 1/4, Circulate, Boys Run. You're back to your corner box.

But if you don't see ANY matches when you thought you'd see partners? You're in the Opposite Lady Station, and the station rotated in the wrong direction. The only thing wrong back when you were looking at corners was that you had the paired couple on the outside instead of the inside. So let's go back by applying the Line to Box conversion module: Touch 1/4, Circulate, Boys Run. Now you know *exactly* where you are: you just need a Right and Left Thru equivalent before resolving. Dive Thru, Centers Square Thru 3!

Knowing how these two conversion modules (Box to Line and Line to Box) work and knowing how they affect the stations allows you to "check your work" quickly and easily.

This is also a good technique for checking the integrity of a particular square. If that square's dancers don't move from the expected station to the expected station, then the square probably has made a mistake.

Chapter 16: Writing Your Own Get-Outs

For many callers, writing get-outs is so tedious that they seldom attempt the effort, or wind up with only simple get-outs from the most common stations⁸. Many times, these get-outs are fairly apparent to dancers: while they may not know exactly what call is coming next, they can sense that they're dancing with corners (or partners) and that the end must be near.

We can use our knowledge of how calls affect relationships to design get-outs from different stations. The dancers start with one group of people, get rearranged somehow, and then (surprise!) there's a resolution.

Deborah Carroll-Jones' get-out in Chapter 12 is a terrific example. When the dancers are in an Opposite Lady Station, no-one sees their partner anywhere nearby, and only two dancers in each group see their corner anywhere close at hand. Putting the dancers half-sashayed increases the level of uncertainty... now they really don't

know where they are or what's about to happen. The Square Thru 2 is innocuous, but then the Trade By moves the dancers from the Opposite Lady Station to Partner Station and Bang! There's a partner for a Right and Left Grand! Their partner wasn't anywhere nearby until suddenly the Trade By brought them together for a surprise and celebration.

So when designing a get-out, consider changing the station once or twice as part of the effort. Use the calls listed in Appendix 2 (or others like them) to switch the station from the unfamiliar to the familiar.

For an exercise, design a get-out that uses Spin Chain and Exchange the Gears (which rotates the station one notch) and an All 8 Circulate (switching to an opposing station) along the way.

⁸ My own first get-out is a good example: It started from a corner box and just shuffled those dancers around. Not very exciting. (What was it, you ask? Dosado to a wave, ladies trade, boys cross-run, girls cross-run, boys cross-run, allemande left.) It could be improved quite a bit by having it start from waves in a Right-Hand Lady Station, where an All 8 Circulate brings the dancers into the proper position for the three Cross Runs.

Chapter 17: More on CRaMS

Many callers that have listened to presentations on the Controlled Resolution and Manipulation System (CRaMS) will have recognized much of the material in this book. CRaMS incorporates relationship choreography as one of its fundamental tools, and the information on relationship calling often takes up the most time in a CRaMS presentation.

But CRaMS, as a system, focuses on solving a wider problem: Callers that emphasize extemporaneous choreography while not being able to predict the results of their choreography. Although the callers may believe that inventing sequences "on the fly" leads to unpredictable and fun dance sequences, it oftentimes has just the opposite effect: stop and go choreography, poor body flow, repetitive calls while hunting for corners and sequences that last (literally) for minutes without coming to conclusion.

While the caller may be having fun, many times the dancers are not enjoying it as much as the caller would like.

To improve matters, CRaMS incorporates several types of choreography tools: themes, modules, targeted use of sight calling (or

"recognized calling"), controlled use of relationships, and memorized get-ins and get-outs. When these tools are all used together, extemporaneous calling can be taken to a much higher level of skill.

The CRaMS mantra is "Get 'em in, get 'em going, get 'em out." Get the dancers into a known relationship station, incorporate themes and modules to dance them about the square without losing control, and get them back out (resolve) quickly. Using this approach, a typical sequence might last only 20 seconds; and the square might be resolved ten or fifteen times during a single hash tip.

CRaMS also recognizes that the weakest point in resolving a square through sight resolution is usually the dancers: If the caller's pilot square (or squares) make a mistake, he's generally unable to resolve. By keeping track of the relationship station (more specifically, by putting dancers into one station and keeping them there until it's time to resolve), callers can have far more success in resolving even if a pilot square breaks down.

Let's look at these points in more detail.

Get 'Em In: Memorized Get-Ins

For one caller's seminar, the coach observed twelve callers throughout the course of an evening dance. For each caller, he counted the number of sequences within each patter tip, noted the opening of each sequence, the lengths of the sequences, and the resolutions.

Of the 80 or so sequences analyzed, all but two started by taking the dancers to either corner boxes or right-hand lady boxes. About two-thirds of the sequences began with some type of Square Thru, and nearly all of the remainder started with Pass the Ocean.

Clearly, the twelve seminar participants⁹ were not very creative with their opening calls.

CRaMS suggests that memorized get-ins can be used to bring the dancers to a known station and that callers are capable of remembering several (or many) get-ins; certainly enough to break up the monotony of "Heads Square Thru". Chapter 10 contains suggested get-ins that will take you to various stations; you are encouraged to write more of your own. Remember, the get-in doesn't have to take you to a box or

⁹ Tony Oxendine was the coach and this author was one of the twelve; that seminar and others have also provided inspiration for this book.

facing line; focus first on getting to stations, then work from there.

Get 'Em Going: Modules

By definition, a module is a sequence of calls that take the dancers from one known FASR to another. Those modules can be simple (Swing Thru, Centers Run, Wheel and Deal) to complex; they can be memorized or read; they can be chained together as long as one module's ending FASR matches the next module's beginning FASR (and hand usage and body flow also works correctly).

There are entire books devoted to listing various modules with their beginning and end states. Any caller that uses memorized singing call figures is using memorized modules.

From a CRaMS perspective, a strong benefit to modules are that the starting and ending states are known. Modules can be separated into two groups: Those that retain the relationship station of the dancers, and those that change the station. A caller can get the dancers into a known station, use a module that preserves the station, move the dancers to a different spot on the floor, use the module again, and resolve.

To add variety, modules that change the station of the dancers can be consciously used at the proper points in

the sequence, and resolution can happen from *that* new station.

Get 'Em Going: Themes

Themes are sort-of "mini-modules": short sequences of calls that can be used in a variety of ways. For example, one theme might be "Boys Run, Boys Trade, Wheel Around". One could put dancers into a right-hand wave with the men on the end, and call "Boys Run, Boys Trade, Wheel Around", to end in two-faced lines with the girls in the center. Some simple sight calling could be used to set up the theme again: Chain Down the Line, Pass the Ocean, where the theme is practiced again.

After a couple of iterations, the caller can move the dancers to a different spot on the floor (and change groups of four without changing the station), and apply the theme another time or few. Repeat the change of location and dancers, and repeat the theme -- then be ready to get out.

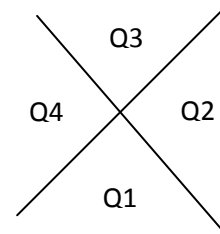
A benefit of themes is that they tend to be very short... and can be components of a larger module being worked on throughout the evening. By practicing different pieces of the module, the dancers can gain the skills they need to execute a complex module completely through without error as the achievement of the dance.

Get 'Em Going: Quadrants and Pairings

We train dancers to respond to recognize and respond to patterns: We put them in a particular formation and give a command; we expect them to recognize the starting point and know the actions to take. We use their favorite music for signing calls, and they sing along with the chorus.

They can also recognize geographic patterns: If you keep a particular dancer in one small area of the square for an extended period of time, they notice -- and it's generally not favorable. It's the same with the dancers they're dancing with: If you keep a dancer paired up with his partner or corner for much of the sequence, resolutions are seldom a surprise.

CRaMS encourages callers to move dancers to different "quadrants" of the square throughout a sequence, and certainly throughout a tip. Split the area centered on the square into four quadrants like this:



Most of our choreography will have either a "north-south" orientation (with dancers primarily in the top or bottom quadrants), or an "east-west" orientation (with dancers primarily in the left and right quadrants). Keeping any one dancer in one quadrant for much of a sequence (or a tip) is boring.

CRaMS advocates moving dancers from quadrant to quadrant within the course of a sequence. It doesn't have to be hard: from facing lines, a Pass Thru, Bend the Line, Slide Thru will change the orientation of the main axis of the dancers (from East-West to North-South, for example), put the dancers into different quadrants, and it will even change the dancers with whom they are partnered.

One well-known caller says that he attempts to have every man dance with every lady in every quadrant during every sequence. Even if he doesn't achieve that goal with every sequence, he's likely to achieve it over the course of every tip.

Get 'Em Out: Memorized Get-Outs from Multiple Stations

One of the principal benefits of relationship calling is our ability to recognize whatever station the dancers are in at the time and to quickly get the dancers to a known, recognized state where we can trigger a get-out.

If you know you're in the Right-Hand Lady Station, then it only takes a moment to create an "across the street box" (with the paired couple on the *outside*), and be able to call any memorized get-out designed for that box. If we see that we're in the Opposite Lady Station, then it only takes a moment to get to facing lines -- and if we see our matches on the diagonal (and corners not able to touch), we're ready to pull the trigger on an Opposite Lady get-out.

Using relationship calling, we can get out of *any* station -- which means that we can begin to resolve absolutely any time we wish, without having to hunt for the right sequence of trades and circulates that would bring us to corners.

CRaMS encourages resolving the square often during a tip. Resolution brings a sense of, well, resolution to the dancers: They know they've successfully accomplished something, and they're ready to start again. If they did make a mistake during the sequence, they can get it repaired quickly once they realize you've resolved, and they get another chance (very soon!) to do it right the next time.

Get 'em in, Get 'em going, Get 'em out
CRaMS emphasizes a caller's mastery of choreography, consciously controlling the state of the square and combining a limited amount of sight calling with themes or memorized modules. The approach is simple: Get the dancers into

a station, repeat a theme or small module in different quadrants and partner pairings around the square, and get them back home again quickly.

Rinse and repeat -- with guaranteed success.

Summary

Relationship calling is easy to learn: If you can recognize partners and at least one pair of corners and can count to two, then you have the skills necessary to recognize the four relationship stations.

Calls that move a single dancer from one group of four to the other will rotate the station one position, and we can control that rotation by choosing to keep matched dancers together or split them apart.

Calls that move two dancers from one group to the other will either keep the station the same (if the dancers moving across happen to be a man and his station lady), or switch to the opposing station (when sending across any other two dancers).

The well-known "magic" conversion modules that convert from corner boxes to partner lines and back are quite useful from all of the relationship stations, not just from Corner and Partner -- and judicious use of a Right and Left Thru or equivalent before applying the module will switch the direction of rotation.

Identifying whether a man is partnered with his station lady is simple: Unless

the dancers are in the Partner Station, the men will be with their station lady if no matching couples are paired up. In the Opposite Lady Station, all matches should be on the diagonal, not within the same facing line.

By tempering the use of modules or extemporaneous choreography with conscious control of stations, a caller can control the outcome of a sequence - he can know exactly how to get to corners without guessing, without hunting, and without a need to find a corner box. A caller's repertoire of memorized get-outs can be expanded to include get-outs from stations other callers usually avoid.

Relationship control is particularly effective within a tip: call a module, switch dancers while preserving the station, and call the module again; then use your station knowledge to quickly resolve.

RELATIONSHIP CALLING
IS EASY ENOUGH FOR A
BEGINNER TO USE,
WHILE RICH ENOUGH
FOR EVEN A PRO.

Appendix 1: Are There Really Only Four Stations?

At the beginning of this book, we make a strong statement that forms the foundation of relational-based calling. That strong statement is this:

Any time you split a square into two side-by-side groups of four, exactly one of these four conditions will be true:

- Every man's partner will be in his group, or
- Every man's corner will be in his group, or
- Every man's opposite lady will be in his group, or
- Every man's right-hand lady will be in his group.

Is that statement really true? With all those dancers, and all of the intricate calls we can make, isn't it possible for us to come up with *some* other odd combination?

The statement really does turn out to be true. Let's prove it to ourselves. First, let's be very precise about the fundamental (and only) rule:

When you split the square into two groups, you must do it in such a way that no dancer is in the same group as that dancer's diagonal opposite.

That means that Man 1 and Man 3 must

be in different groups, Man 2 and Man 4 must be in different groups, Lady 1 and Lady 3 must be in different groups, and Ladies 2 and 4 must be in different groups.

When you apply this rule to a symmetric group of dancers, it works out quite naturally: It splits the eight dancers into two groups that are "side by side" with each other, not "nested" one group inside the other. For the geometrically inclined, another way to look at it might be to build a straight (or symmetrically curved) wall that crosses the flagpole center of the square. That wall should separate the dancers into two groups of four, one group on each side of the wall.

Moving on, let's get to the proof of the matter. First, we know that Man 1 will be in one of the two groups. We'll start by looking at all of the possible dancers that can be in Man 1's group of four. For each of those possible combinations, we'll determine the dancers that *aren't* in Man 1's group, and we'll inspect all of those possible results to see which (if any) of our four conditions above apply. If we find that exactly one of those conditions applies to each possible combination, then we'll have proved that our statement is true.

Let's get one other thing out of the way first. If we're selecting a group of four dancers from the eight in a square and the group cannot include any of dancers' diagonal opposite, then that group **must** consist of two men and two ladies. By the time you've put two men into a group, all of the men have been accounted for: your chosen two are in the one group, and their two diagonal opposites are in the other group. Same for the ladies: you can't put three of them into a group without including a diagonal opposite. So each group has to end up with two men and two ladies... any other combination breaks our rule.

So if Man 1 is in a group of four, we know there can be only one other man in there with him. Let's write down all of the possible combinations of men (that include Man 1), and cross off those combinations that include a diagonal opposite. The only possible combinations are Men 1 & 2, Men 1 & 3 and Men 1 & 4 -- and we have to cross "Men 1 & 3" off our list because those two are diagonal opposites. So the only two men that could join Man 1 in his group are 2 and 4.

Possible Men
1, 2
1, 4

What about the ladies? Again, let's make a list of all possible combinations of two ladies, and cross off those that are diagonal opposites. The complete list of combinations are 1 & 2, 1 & 3, 1 & 4, 2 & 3, 2 & 4 and 3 & 4. We have to cross off 1 & 3 and 2 & 4 because those ladies are diagonal opposites. So we have four possible combinations of ladies that can be in the group of four with Man 1: Ladies 1 & 2, 1 & 4, 2 & 3, and 3 & 4.

Possible Ladies
1, 2
1, 4
2, 3
3, 4

We have two possible combinations of men, and four possible combinations of ladies. Let's write down every way we can combine the lists of possible men and women:

Men	Ladies
1, 2	1, 2
1, 2	1, 4
1, 2	2, 3
1, 2	3, 4
1, 4	1, 2
1, 4	1, 4
1, 4	2, 3
1, 4	3, 4

As you can see, there are only eight combinations of dancers that can

appear in the same group of four as Man 1. Knowing the dancers that are together with Man 1 in his group, let's figure out which dancers will be in the *other* group for each of our cases:

Man 1's Group		Other Group	
Men	Ladies	Men	Ladies
1, 2	1, 2	3, 4	3, 4
1, 2	1, 4	3, 4	2, 3
1, 2	2, 3	3, 4	1, 4
1, 2	3, 4	3, 4	1, 2
1, 4	1, 2	2, 3	3, 4
1, 4	1, 4	2, 3	2, 3
1, 4	2, 3	2, 3	1, 4
1, 4	3, 4	2, 3	1, 2

So far, we've been able to demonstrate that there are only eight possible ways

Man 1's Group		Other Group		All Partners Present	All Corners Present	All RH Ladies Present	All Opposites Present
Men	Ladies	Men	Ladies				
1, 2	1, 2	3, 4	3, 4	X			
1, 2	1, 4	3, 4	2, 3		X		
1, 2	2, 3	3, 4	1, 4			X	
1, 2	3, 4	3, 4	1, 2				X
1, 4	1, 2	2, 3	3, 4			X	
1, 4	1, 4	2, 3	2, 3	X			
1, 4	2, 3	2, 3	1, 4				X
1, 4	3, 4	2, 3	1, 2		X		

That's it! Inspecting each of our eight different possible combinations of dancers shows us that for every combination, only one type of relationship will be present for *all* of the dancers at the same time.

we can split the dancers of our square into two groups, where no two diagonal opposites are in the same group. While that may be hard to believe at first, it's absolutely true -- there simply aren't any other ways to group the dancers without breaking our rule.

Let's now look at each of those eight cases, and see which (if any) of our four cases are true.

Of course, there are other relationships present to some extent in every combination of dancers. For example, our first combination has couples 1 and 2 in one group, and couples 3 and 4 in the other group. We say that those dancers are in the Partner Station. Does

that mean that there are *no* corners present at all? Of course not -- Lady 1 and Man 2 are corners, and they're together in the group. There's also a right-hand lady relationship present in the group: Man 1 and Lady 2. But the *only* relationship set that's true for *both* men in the group is Partner... and it's true for both men in the other group as well.

INDEED, THERE ARE ONLY
FOUR POSSIBLE
STATIONS IN
RELATIONSHIP CALLING.

Appendix 2: Moving Dancers Between Groups

Relationship stations can only be changed if a call (or sequence of calls) change the dancers that are members of a group of four. There are some calls that won't change the membership of a group, other calls that will replace one dancer in the group with another, and still others that will replace two dancers.

However, since there are often two easy ways to split the dancers into groups of four, there are many calls that may not change dancers if you look at one group, but exchange two dancers if you look at the groups in the other way.

For example, consider parallel waves and the call Centers Trade. If you look

at each wave as a group of four, then Centers Trade is a "do nothing" call that doesn't affect the station. But if you're watching the boxes of four, then Centers Trade will send two dancers to the other group in exchange for others.

So it's not possible to spin through the list of calls and write a "0", "1" or "2" next to each one. Everything depends on the setup and your perception.

But there are several calls worth discussing as tools for moving dancers about. Use these discussions to spark conversation and ideas of your own, not as hard and fast rules to apply.

Single Dancer Exchanges	
Circulate Column Circulate Acey Deucey Coordinate	<p>Circulates that move four dancers (Centers/Ends/Boys/Girls Circulate) just one position are always good for exchanging a single dancer in a group of four.</p> <p>A Single File (or Column) Circulate will exchange just one dancer each way across the center of the column, even though all 8 dancers are moving. Or, if you're looking at each column as a group of four, then just one dancer flips off the leading end of the column to be replaced by a single new dancer on the trailing end.</p> <p>Calls that have a single Circulate or Column Circulate within their definition (like Acey Deucey and Coordinate) will also fill this bill.</p>

<p>Very Centers Trade Grand Swing Thru Spin Chain Thru Center Wave Swing Thru Spin Chain & Exchange the Gears</p>	<p>Any time you have a formation with "Very Centers" (such as a tidal wave, quarter tag, twin diamonds, point-to-point diamonds or an hourglass), the two very centers will always be diagonally opposite dancers, which means they will <i>always</i> be in different groups of four.</p> <p>Therefore, Very Centers Trade will <i>always</i> exchange a single dancer with the other group. Each of these calls listed incorporates a "Very Centers Trade" as part of the dance action.</p>
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Two-dancer exchanges are much more common, since most of our calls have all eight dancers moving at once. Any call that sends two dancers "across a center line" is a good candidate for a two-dancer exchange.

man and his station lady, then the station of the groups will not change. Any other combination of two dancers sent across will switch the station to the "opposing" station (Partner ↔ Opposite Lady, or Corner ↔ Right-Hand Lady).

Remember, if the two dancers being sent to the other group of four are a

Two Dancer Exchanges	
<p>Bend the Line Cast Off 3/4 Sweep a Quarter</p>	<p>These calls rotate couples by 90 or 270 degrees. If you are focusing on the resulting lines or waves as your groups of four, then these calls will have effectively switched two dancers from one group to another.</p>
<p>Ladies Chain Flutterwheel Reverse Flutter Walk and Dodge</p>	<p>We most commonly think of these calls as working within a 2x2 formation (a box or facing couples), and won't change the membership of that group. But they <i>will</i> change the membership of an overlapping 1x4 formation (parallel lines or waves).</p>
<p>Ferris Wheel Trade By Cloverleaf Track II</p>	<p>These calls all exchange two dancers with the other group of four.</p>

Centers Trade Ends Trade Cross Run Cross Fold	These calls exchange two dancers across the center of a 1x4 formation (a line or wave). The station of the line or wave will not change, but the station of the overlapping box formation might change.
Couples Circulate All 8 Circulate Spin Chain the Gears Ping Pong Circulate	Although these calls are commonly used to move two dancers across to a group, they also preserve the Formation, Arrangement and Sequence of the setup. If the couples being moved are a man and his station lady, they preserve relationship, which means they are choreographic zeroes. However, if the couple being moved are <i>not</i> a man and his station lady, then the Relationship changes to the opposing station. See Appendix 3 for an expanded discussion of this topic.

This type of analysis can be extended to any call at any level of dancing, since all of our square dance calls are defined symmetrically. For example, the C3A call "Flip Reaction" (which is defined as "Flip Back Centers to a Wave then Chain Reaction") will exchange either 0, 1 or 2 dancers among the two parallel waves¹⁰, and will have a predictable effect on the station of the dancers.

What works for any one call also works for any sequence of calls. From an Eight Chain Thru formation, Right and Left Thru, Veer Left, Ferris Wheel, Pass Thru is a zero and won't, of course, change the station. But if we inspect the station at each point along the way, we'd see that the Ferris Wheel (perhaps) *did* change the station for just a moment,

¹⁰ Looks like it exchanges two dancers, if I've pushed my checkers correctly.

and that the Pass Thru undid whatever change may have been introduced.

So callers that use favorite sequences or modules can work out the effect that the entire sequence would have, and understand the effect that sequence as a whole would have on the station.

Callers have been doing this for decades, but typically have constructed or searched for just those sequences that serve as zeroes (exchanging no dancers) or "conversion modules" from one well-known FASR setup to another (such as Partner Lines to a Corner Box). With our understanding of relationships, we don't need to limit ourselves to such narrowly defined boundaries. If a particular ten-call sequence happens to exchange one dancer in our group of four, then we know we can use that sequence any time we'd like to rotate the station. It

would be even more useful if we also knew exactly which dancer is exchanged, because then we could use

that ten-call sequence to rotate the station in *exactly* the way we'd like.

Appendix 3: Other Technical Considerations

We can use the lens of relationships to look back at other technical topics and perhaps gain further insight into things many callers have learned by rote.

Inversion Modules

Many caller schools teach newer callers about "Inversion" or "Invert and Rotate" modules. Inversion modules are those which will "un-pair" one set of original partners and "pair" a different couple while otherwise behaving like a zero. An "Invert and Rotate" module is simply one that does an inversion while also rotating the working axis of the square (for example, switching from parallel waves at the side positions to parallel waves at the head position).

The most commonly taught example begins from an Eight Chain Thru formation: Slide Thru, Pass Thru, Bend the Line, Slide Thru. If, for example, you begin from a Corner Box, it will result in another Corner Box that has a different paired couple on the outside (the "inversion"), changes the working axis of the square (the "rotation"), but still leaves everyone in sequence and facing their corner.

What can our study of relationships tell us about these types of sequences?

First, we know that in order to get the effect of the "inversion" ("un-pairing" one couple and "pairing" another), an inversion module must be used in one of the stations that has only one couple paired up: The Corner or Right-Hand Lady Stations.

Next, because inversion modules are designed to act as zeroes (which means that they need to preserve the full FASR state, including relationships, when used correctly), we know that when the module starts from a Corner Box, it begins and ends in the same station (the Corner Station). Yet we also know that it changes the membership of each group of four -- it must, because the paired up couple at the end of the sequence weren't together at the beginning. So any inversion module **must** send two dancers from one group of four to another (since that's the only way we can change group membership without changing station), yet the module must still preserve Formation, Arrangement and Sequence. To work properly as a zero, it must be launched from a position such that the two dancers that change groups of four must be a man and his corresponding station lady.

Hmm. That actually sounds fairly easy. Let's double-check our understanding by looking at our example in detail. Again, we'll use the commonly taught "Slide Thru, Pass Thru, Bend the Line, Slide Thru" module for our dissection.

From a corner box, we:

1. *Slide Thru*. No change in the group of four.
2. *Pass Thru*. Still no change, but each man and his corner are current partners and they're now back-to-back with the dancers they originally faced.
3. *Bend the Line*. **Aha!** If we're choosing to look at boxes for our groups of four, then membership of our groups just changed! We have one man and his corner from the original group now facing a man and *his* corner from the other group. And, of course, this new group is still in the Corner Station since every man has his corner in hand.
4. *Slide Thru*. We don't change the membership of the group, but we do change partners. Since we *know* we're still in the Corner Station and we know that no man had his partner before the slide thru, then ONE of the men will have his partner when we're done. And since we know that we sent the original paired up couple in different directions in

the first two steps, then we know that we must have successfully paired up the couple that was originally unpaired.

So any call or module that sends two dancers across to the other group can be an inversion module as long as it also preserves Formation, Arrangement and Sequence. And this module will only work as a zero if it's used in such a way that the relationship station remains unchanged.

That means that there must be a *lot* of possible inversion modules out there. We can think of several very quickly:

- All 8 Circulate
- Dive Thru, Pass Thru
- Pass Thru, Trade By
- Spin Chain Thru, Ends Circulate Once
- Spin Chain the Gears
- Column Circulate 2 Times

All of these will preserve formation, arrangement and sequence. Because each call send two dancers to the other group of four, then they will preserve relationships as well *if* set up properly so that the two dancers that change are a man and his station lady.

When used in from the Corner or Right-Hand Lady Stations, they will each have the effect of switching the matching couple in each group of four.

"Abusing" Inversion Modules

Given what we now know about relationships, can we predict any behaviors that would result from using this module "improperly"?

Well, if it can be used as a zero from a Corner Station, then it can be used as a zero from *any* station as long as the couple sent across is a man and his corresponding station lady. Consider the specific Invert and Rotate module we mentioned earlier: from a normal eight chain thru formation, Slide Thru, Pass Thru, Bend the Line, Slide Thru.

If we were to start in a Partner Station with each man facing his partner, then we will also end in a Partner Station with each man facing his partner, but the membership of the group will have changed¹¹.

Same thing with Opposite Lady: If the dancers all start facing their opposite lady, they'll end facing the same lady even though their current partner will have changed.

But what happens if the men start off facing not their station lady but the *other* lady? Well, we then know that

¹¹ Gee, that sounds like it could make an cute get-out: Eight Chain Thru formation, every man facing his partner, men in sequence: Slide Thru, Pass Thru, Bend the Line, Slide Thru (so we're still in sequence and still facing partners), then Pass Thru, Left Allemande!

these types of sequences (that send two dancers across to the other group of four) will switch the dancers to the opposing station: Corner to Right-Hand Lady, for example, or Right-Hand Lady to Corner, and will generally apply a "four-ladies chain" effect. Can we leverage this?

Of course we can. Among other ways, it would seem to be fertile ground for get-outs.

The exercise of controlling relationships though "improper" use of inversion modules is left to the reader.

Technical Zeroes

While we're on this subject, we can fold in one other arcane detail: Technical Zeroes.

Technical Zeroes (sometimes called Conditional Zeroes) really don't have a good standard definition. Most of the time, Technical Zeroes are defined in terms of their behavior: They are sequences of calls that are zeroes (preserving Formation, Arrangement, Sequence and Relationship) "while exchanging the relative positions of dancers in the formation"¹². They are zeroes when used from the correct starting positions, but not when used from other positions. They "will return

¹² Gero Teufert, <http://callers.gero-teufert.de/english/zeros.html>, slightly paraphrased.

the dancers to the same footprints (ignoring rotation of the square) *and* interchange the Head and Side dancers,"¹³ but if "used in the wrong state will have a 'four ladies chain' effect."¹⁴

In his deeply analytical book *The Extemporaneous Caller*, Bill Davis devoted a sizable appendix to a detailed discussion of technical zeroes, but finally dismissed them as choreographic oddities and trouble-makers.

In essence, it all boils down to this: Technical Zeroes are sequences of calls that work as a zero if used correctly, but change relationships if used from an "incorrect" starting position. And since it's not obvious what the "correct" starting position would be, one can get into choreographic trouble if you blithely count on them to always work as zeroes.

Callers that think solely about Formation, Arrangement and Sequence simply don't have the vocabulary to describe these types of modules. But now, with our knowledge of relationships, we do.

¹³ Clark Baker, <http://www.tiac.net/~mabaker/technical-zeros.html>, again slightly paraphrased.

¹⁴ Bill Davis, *The Extemporaneous Caller*, 1991

For simplicity, let's ignore those modules that fail because they use sex-dependent calls like Slide Thru and Star Thru from different arrangements.

The *only* way a module can sometimes be a zero and sometimes not is if it sometimes preserves the relationship station and sometimes doesn't. We have discussed this characteristic several times: It simply means that the module moves two dancers from one group of four to the other, which means that it "works" when the two dancers moved are a man and his appropriate station lady, and fails in all other cases.

In fact, that's exactly the way that we described Inversion Modules in the previous section.

TECHNICAL ZEROS ARE
SIMPLY INVERSION
MODULES CALLED BY A
DIFFERENT NAME!

When we speak of an Inversion Module as "pairing one couple while un-pairing another", we're talking about the effect we get when we use this module from a Corner or Right-Hand Lady Station. When we speak of a Technical Zero "exchanging the heads and sides", we're simply describing the same inversion process in a more general way.

And what about the effects of a Technical Zero when used "incorrectly"? We now can say with confidence that it will switch the relationship station to the one "opposite" the original station.

Which means that these pesky, hit-or-miss technical zeroes can have real value to us when we want to change the station of the dancers.

If we know exactly which dancers are sent to the other group of four, then we can intentionally set up these technical zeroes to preserve the relationship station or (with a simple trade) set them up to change the setup to the "opposing" station.

Let's look at an example: The Plus call "Spin Chain the Gears". It begins from parallel ocean waves, either right-handed or left-handed. The net effect is the same as if one had called "Centers U-Turn Back, Couples Circulate, Centers U-Turn Back."

The call always preserves the formation (it begins and ends in parallel waves), the arrangement (BGGB waves will result in BGGB waves), and the sequence of dancers is unchanged. In fact, each man finishes adjacent to the dancer that he was originally adjacent to. So far, so good.

But if we're looking at the relationship station of each wave, then that station is *only* preserved if the two dancers moving across happen to be a man and his appropriate station lady. On the other hand, if we started in a Partner Station but the ladies were *not* adjacent to their partners, then the call will finish in an Opposite Lady station.

Hmmm. Let's think of a way to use this to our advantage. Suppose we started in the Partner Station, right-handed waves in sequence with each man next to his partner. That means that the call will effectively be a zero -- we'll finish with each man next to his partner still in sequence. We could then call a Scoot Back, Right and Left Grand!

Or we could set it up differently. For the sake of simplicity, start with those same in-sequence right-handed waves with boys on the end next to their partners -- then have the ladies circulate two times. We're now in an opposite lady station, with each man holding onto his opposite lady.

Now have the ladies trade (so that the men *don't* have their station lady) and call Spin Chain the Gears.

When we finish, we'll be in ocean waves again -- but they'll be in the Partner Station. Since the men started with "not" their station lady in hand, they'll

finish with "not" their station lady in hand -- which means that all we need is a Ladies Trade to put all the partners together. We would probably want one more "trade by the right" so that the men were facing counter-clockwise before calling Right and Left Grand, but we're good to go for a resolve!

Sounds like another useful get-out, doesn't it? Let's see... Suppose we start with dancers in the Opposite Lady Station, station lady in hand, facing lines in sequence.

1. Ladies Chain

Men no longer have their station lady. This will cause the station to change when we want it to.

2. Pass the Ocean

The men are out of sequence, and

still don't have their station lady. We'll fix the men's sequence in a little bit.

3. Spin Chain the Gears

Men are still out of sequence, but we've switched to the Partner station. We still don't have our station lady in hand, which means she's the *other* lady in the wave.

4. Swing Thru

Men now in sequence as the centers of the wave, holding their partner by the right hand.

5. Right and Left Grand!

With our knowledge of relationships and the ways that calls affect those stations, we were easily able to take a troublesome Technical Zero (Spin Chain the Gears) and incorporate it into the heart of a nifty get-out.

Appendix 4: One Answer for the Get-Out Exercise

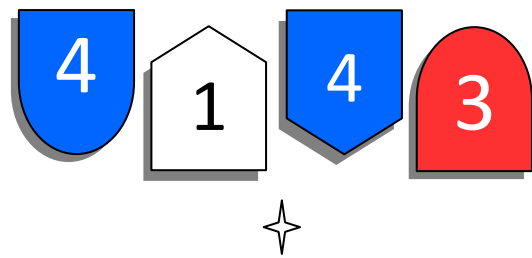
At the end of the Chapter 16 (Writing Your Own Get-Outs) we offered a challenge: Write your own get-out that uses Spin Chain and Exchange the Gears to rotate the station, along with All 8 Circulate in such a way that the station changes.

The exercise sounds tedious, with lots of experimentation and running calls forward and backwards to painfully figure out the starting position. Let's give it a shot.

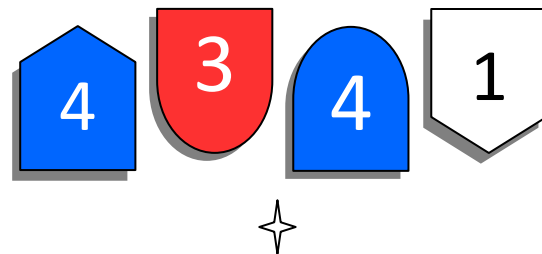
First question: What do we want the last call of the get-out to be? Let's go with a Left Allemande. That means we'll need to end up in a Corner Station with men (sort-of) facing their corners, with left hands available. Let's also keep things simple, if we can, using standard right-hand BGGW waves for the Spin Chain and Exchange the Gears and the All 8 Circulate.

Since we're clearly able to use the Plus list for this exercise, let's also use a Trade the Wave to switch a right-handed wave to left-handed to set up the Left Allemande.

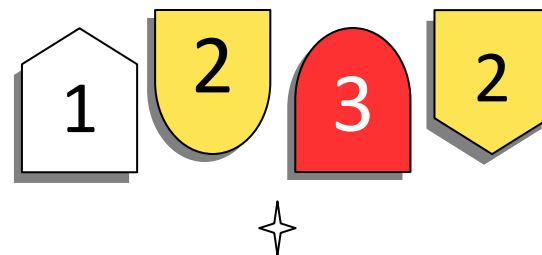
Let's show some electronic checkers. In these diagrams, men have the pointed ends and the star represents the center of the square. We want to end like this:



To get there with a Trade the Wave, we have to start from here:



So far, so good. Now let's put an All 8 Circulate in front of this. We know that Man 1 would have come from the spot where Man 4 is right now, and we know that Lady 3 would have flipped over from where Lady 4 is currently. Let's put those two in place, and fill in the other two spots with the diagonal opposites of the two dancers we'll be bringing into this wave.



(So at this point, our get-out ends with All 8 Circulate, Trade the Wave,

Allemande Left. Let's keep building it up.)

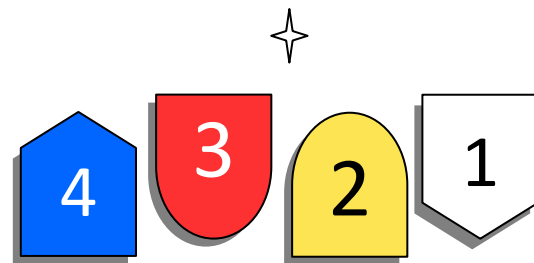
We're ready to put a Spin Chain and Exchange the Gears in front of this sequence. What do we know about that call? Well, we know that it sends one dancer from one group of four to the other... In fact, it's the end dancer facing in that is going to go across. Where does that man end up? He would be the second person in the gear that's being exchanged (right behind the lady that's leading the charge across the way, and he's going to end up on the far end of the wave facing in.

With our ending wave, the man on the end facing in (Man 2) is the man that comes across from the other wave, and everyone else will have stayed with the group. That means we have to start with M2 *not* in this wave... and we can only replace him with his diagonal opposite, Man 4. (We can't put Man 3 into this group, because that would mean that men 1 and 3 were in the same group of four, and that's not allowed.) We also know that Man 4 has to start on the end of the wave facing in, so that he can be exchanged with Man 2 during the call.

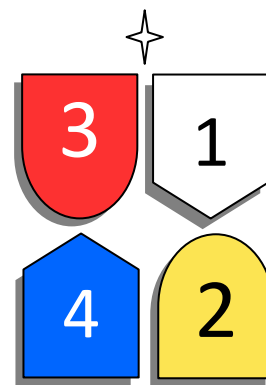
So who's going to be in our original wave? Looks like it's Man 1, Lady 2, Lady 3 and Man 4. No matches there --

must be the Opposite Lady Station. They're going to start in a right-hand BGGB ocean wave, with Man 4 looking into the square (so Man 1 must be on the other end facing out). The lady that leads the way across the set ends up facing out (so we see that Lady 3 is our leader). She needs to begin the call in the center of the wave facing out.

Putting that all together, it looks like this:



or:



Well, imagine that. It's an Eight Chain Thru position in the Opposite Lady Station, with each man having his station lady as a partner. Everyone is in sequence.

Could we set this up somehow? Sure, it shouldn't be hard. We're most

comfortable in recognizing the Opposite Lady Station from facing lines, and we want to turn those facing lines into an Eight Chain Thru formation. How about this: From Opposite Lady lines in sequence, Pass the Ocean, Recycle.

OK, then, here's our final get-out. From our most common Opposite Lady formation (facing lines, in sequence, partners matched on the diagonal):

Pass the Ocean, Recycle
Spin Chain and Exchange the Gears
All 8 Circulate, Trade the Wave
Allemande Left, Right and Left Grand!

Yes, we did have to reverse engineer a few calls. But we never had to diagram the entire square; we never had to run calls forward and backwards, and we never had to guess at the starting formation.

Furthermore, even though it starts from a station that's difficult for most sight callers to find, we can use our

knowledge of stations and relationships to easily set up the starting formation.

From the dancer's point of view, this get-out is anything but trivial. They move geographically across the square and back in two different ways; they dance first with opposite ladies, then with right-hand ladies, and only see their corner for an instant before heading off to the final rendezvous.

And how did we come up with this particular choice of calls to try? We simply picked one call that exchanged two dancers (All 8 Circulate) and one call that exchanged just one dancer (Spin Chain and Exchange the Gears) from the list of calls in Appendix 2.

The combination of those station changes are what provide the interest and surprise in the get-out.

Try it yourself! Pick a station changer or two, and work it up into a get-out of your own.