

# **The New Highgate Collection**

passing patterns for 2-4 people  
compiled by Aidan Burns



## Introduction

On the 9<sup>th</sup> October 2014 the international juggling community lost a treasured friend and valued contributor. A creator of patterns, a passionate teacher, and a friendly face to sink a beer with (preferably an ale) or pass an evening playing games with, Aidan touched many around him and will be sorely missed. His online resource for club passing is probably the most extensive ever crafted and the passing patterns he created (most notably extensions of the scrambled V) have spread around the world bringing endless hours of frustration and joy in equal parts to hundreds. A veteran of about 140 Juggling conventions across 3 continents and at least 15 countries, Aidan seemed ever present in the juggling scene. Aidan always seemed happiest when teaching someone something new; whether it be lefty-righty passing, rope tricks or how to form a Sudoku. The scores of workshops he has led in fulfilling this passion and the number of people he has coerced into passing over the years really bears testament to the kind of juggler he was and will be remembered for.

Aidan began juggling at the age of 18 but didn't take it that seriously until his early 30's when, coinciding with the exploding of the internet, Aidan started producing a series of low budget and fairly uninspiring 3 ball trick videos. Quickly learning the error of his ways, Aidan put down the balls forever and progressed to club passing, rapidly becoming a core member of the then thriving Jacksons Lane juggling club in Highgate, London. Having attended a few local conventions, EJC 2002 in Bremen opened his eyes to the international juggling scene and Aidan found his home. Having exhausted most of the Madison Juggler passing patterns, Aidan started to work on his own mostly 4-6 person walking patterns and touring them through workshops around the UK and Europe. As his juggling ability improved, and inspired by the patterns being thought up by members of the Pass-Out community, Aidan started working on the theory behind the patterns and working out ways to expand upon what people thought traditional passing should entail. Whilst several feeds and triangles could probably be credited to him, perhaps his largest contribution to the universe of passing patterns would be regarding take-out patterns. Taking the existing scrambled V pattern he worked out the scrambled B, Toast, III and IV and then realising that by combining these patterns 5, 6 and 7 person variations are possible. Today he has identified 26 variations on the initial Scrambled V and the patterns are well known across the globe. Whilst not just known as an innovator, Aidan is also known as a documenter. His online resource 'The Highgate Collection' is the bible of many a club passer and often seen littering the floor of juggling conventions and perhaps the most complete collection of passing patterns in existence (this work). In addition he has contributed to countless articles for Cascade magazine, eJuggle, and various other online resources.

Aidan was diagnosed with Lung Cancer In November 2013. He started up a blog documenting his progress throughout the whole experience <http://eamonblunt.wordpress.com>. Whilst his emotions were up and down as his health fluctuated, his dedication to juggling was unabated. Despite not being able to juggle he still attended Pass-Out, the BJC and the EJC, and even gave workshops at them teaching new patterns he had created via the use of helper jugglers. Throughout his health issues his attitude remained positive and he was still a pleasure to be around and share ideas with.

On a personal level, Aidan was a passionate and insightful man. Never one to shirk from a debate, he was always an interesting character around any table and a great guy to share a beer with or play a game with. A man of many endearing peculiarities he was full of strong convictions (anyone who has ever tried watching a juggling act with him will understand this). Juggling was his life and the place he felt most accepted. From his little notebook full of mad jottings to the bizarre way he perceived patterns (that wasn't quite mathematical based but more like he was telling a story and the bits in between the middle and end just obviously fell into place) he was a unique mind and a great friend or mentor to many around the world, many of whom never even had the chance to meet him. He will be sorely missed.

**Written by James Francis**

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## Two person passing patterns

### **Basic patterns**

In a basic two person, six club passing pattern:

- you stand facing your partner about 10 - 15 feet apart;
- you both start with two clubs in your right hand and one in the left;
- you start by raising the clubs above your head, swinging them down to your side and then throwing the first pass with your right hand. This sequence: 'up, down, pass', is the juggling equivalent of 'ready, steady, go';
- passes from your right hand are thrown to your partner's left hand and vice-versa. These are straight passes (aka tramline passes);
- passes spin one and a half times but are known as singles;
- normal cascade throws are called self throws;
- you pass to an agreed rhythm, for example four count, where every fourth throw is a pass.

In some patterns all the passes are right handed. Other patterns are ambidextrous, with right and left handed passes. This table shows some of the most popular basic rhythms.

<b>rhythm</b>	<b>passing sequence</b>	<b>handedness</b>	<b>other names</b>
four count	pass self self self	right handed	every others
two count	pass self	right handed	everyys, shower
three count	pass self self	ambidextrous	waltzing
one count	pass	ambidextrous	ultimates, thunder shower
pass pass self	pass pass self	ambidextrous	ogilvies, 2/3 count

### ***Passing etiquette***

When passing:

- always keep count. For example chant 'pass, self, self' to yourself when waltzing;
- don't pass if you only have two clubs. This is known as passing the gap or holding through the gap;
- don't look away. Your partner might pass clubs to you, even if you think the pattern is finished!

It's useful to give your partner some feedback about their passes. For example, tell them if you'd like more spin on their passes or shorter or higher passes. Maybe hold your hand up and say: 'I'd like your passes here'. Also encourage them to comment on your passes by asking: 'are my passes all right?'

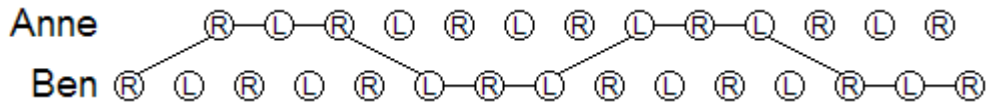
### ***Colour coding patterns***

You can colour code the passing clubs in some passing patterns. This helps with teaching the pattern and it's pretty too. For instance you can juggle three count with four green clubs and two red clubs so that the green clubs are always self throws and the red clubs are always passed. This is because you always pass the same two clubs in three count. You can colour code the passes in pass pass self too. Again you use four green clubs and two red ones, but this time the green clubs are always passed and the red ones are always self throws.



### Five club three count

If you haven't done three count before you might struggle to pass with your left hand or indeed catch passes with your right hand. In that case you should try doing five club three count.



You can tell that this is a five club pattern because there are four hands and there's one line running through the diagram. Ben's first right hand beat has no arrow pointing to it, so he starts with two clubs in his right hand. Causal diagrams assume that every other hand starts holding one club.

Ben's first right hand throw is a pass. It causes Anne's first right hand throw, one and a half beats later. So it's a crossing pass and it's in the air for half a beat longer than a normal pass. This is a floaty single pass. It should be higher than a normal pass, with a bit less spin too. Anne throws two self throws and then a straight floaty right hand pass to Ben. This causes Ben to do two self throws and then a crossing floaty left hand pass to Anne. Ben's pass causes Anne to do two self throws and then a straight floaty left hand pass. This causes Ben to do two self throws and then the whole pattern repeats. The beats with no arrows pointing to them or away from them show the juggler holding a club for that beat. Strictly speaking they should each have an arrow pointing from that beat back to itself, but I think these arrows make the diagrams look ugly, so I leave them out!

### An early double

One nice thing about causal diagrams is that lines that point to throws one, or one and a half beats later show single spin throws, and lines that point to throws two, or two and a half beats later show double spin throws. Let's suppose Ben wants to throw a double pass that lands in Anne's pattern at the usual time. On a causal diagram draw a line that points to the usual beat in Anne's pattern, but starts from two beats before in Ben's pattern.



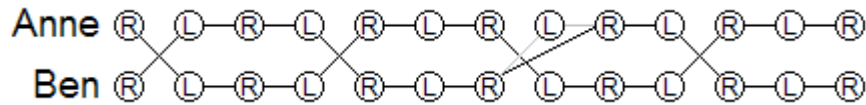
Remember that each beat in a causal diagram has one arrow pointing to it and one arrow pointing away from it. But when you add the line for the double pass to the diagram, there's a left hand beat in Ben's pattern that has two arrows pointing away from it, and one in Anne's pattern that has two arrows pointing to it. We can fix this by removing the two grey lines in the diagram.



So to make a double pass that lands on time, Ben throws: pass self double hold self self, and then continues with the normal three count pattern. Note that the double is a left to left throw, so it's a crossing pass. Anne's pattern is not changed by this trick, apart from having to catch a double pass. This is known as an early double pass. In three count you can throw an early double with either hand.

### A late double

What happens if Ben throws a double pass on the normal pass beat? On a causal diagram draw a line that points away from the usual passing beat in Ben's pattern, but points to a throw two beats later in Anne's pattern.

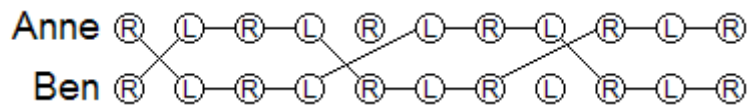


When you add the line for the double pass to the diagram, there's a right hand beat in Ben's pattern that has two arrows pointing away from it, and one in Anne's pattern that has two arrows pointing to it. We can fix this by removing the two grey lines in the diagram.



Note that the double is a right to right throw, so it's a crossing pass. This double changes Anne's pattern. After throwing her right hand pass she has to wait an extra beat to catch Ben's pass and then throws one right hand self before making her next left hand pass. A double thrown on the pass beat is known as a late double pass. In three count you can throw a late double with either hand.

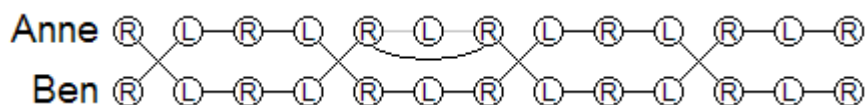
Some people think that in three count you always throw back the club that you receive. If you apply that approach when someone throws a late double pass then you will have a problem! If you are passing three count with someone and you want to throw a late double, but you're not sure that they know how to react, you can throw two late doubles in a row. If they do the right thing, then the trick will work anyway, but here's a diagram that shows how the pattern survives otherwise:



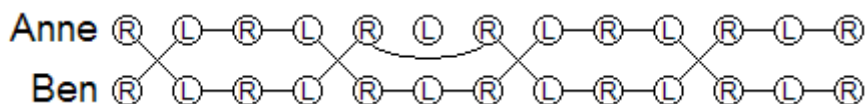
After Ben's first late double, Anne mistakenly does two self throws. Ben kindly throws a second late double, otherwise Anne wouldn't be able to catch his pass. This causes a pause in Ben's pattern, but then the normal three count can continue. Having spotted Anne's reaction to his late doubles, Ben can then tell her how she should respond!

### A self double

On a causal diagram, draw a line pointing from one beat to a throw two beats later in the same juggler's pattern to show a self double throw.



When you add the line for the self double to Anne's pattern, there's a right hand beat in Anne's pattern that has two arrows pointing away from it, and one that has two arrows pointing to it. We can fix this by removing the two grey lines in the diagram.

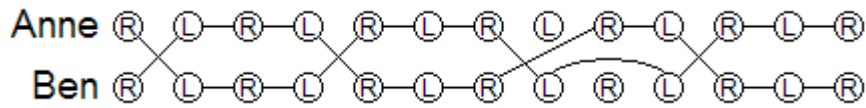


After a left hand pass Anne throws a right hand self double and then has a pause for one beat. She returns to normal three count with a right hand pass. Note that the self double is thrown and caught with the same hand. It's like one throw out of a four club fountain. This throw is often referred to as a heff! In three count you can throw a heff with either hand.

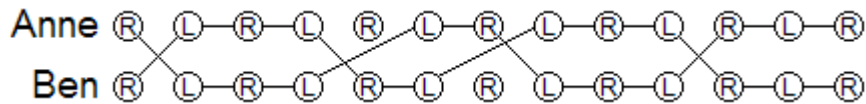
**Combination tricks**

Here are the causal diagrams for a couple of combination tricks. If you've understood everything up to now, you should be able to work them out for yourself!

The first diagram shows Ben throwing a late double followed by a heff (self double).

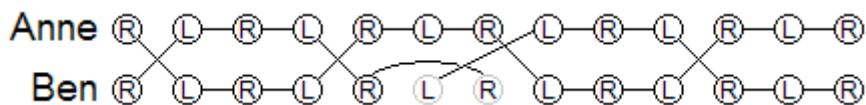


The second diagram shows Ben throwing a late double followed by an early double.

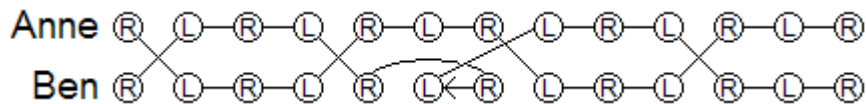


**Four four one**

What happens if Ben wants to combine a heff with an early double?



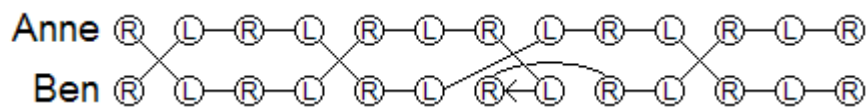
When you add the heff and the early double to the causal diagram, you have to remove the lines for the two single self throws, but there's still a problem. There's one left hand beat in Ben's pattern that has no arrow pointing to it, and one right hand beat that has no arrow pointing from it. We can fix this by drawing an arrow from the right hand beat to the left hand beat!



As this arrow points to the left of the diagram, we have to draw the arrow head. An arrow pointing back one beat represents a zip or a hand-across. So this arrow shows Ben handing a club from his right to his left hand. In order to receive this club in his left hand he has to throw the club that he's already holding in that hand. So the right hand zip causes the left hand pass one beat earlier! Don't worry if you don't understand the last two sentences, all you need to know is that an arrow pointing one beat back is a zip.

This is known as Tarim's 441 in three count. The full combination trick for Ben is: pass heff double zip self self. Anne's pattern is unchanged apart from having to catch a double.

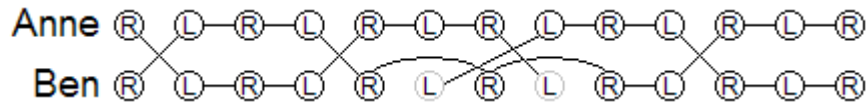
It's also possible to throw an early double followed by a heff to give another 441 trick.



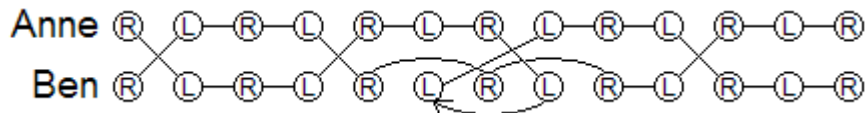
Ben throws: pass self double heff zip self. Once again Anne's pattern is unchanged apart from having to catch a double.

### Four four four zero

What happens if Ben tries to throw a heff before *and* after an early double?



When you add the heffs and the early double to the causal diagram, you have to remove the lines for the three single self throws, but there's still a problem. There's one left hand beat in Ben's pattern that has no arrow pointing to it, and another that has no arrow pointing from it. We can fix this by drawing an arrow from the second left hand beat to the first one!

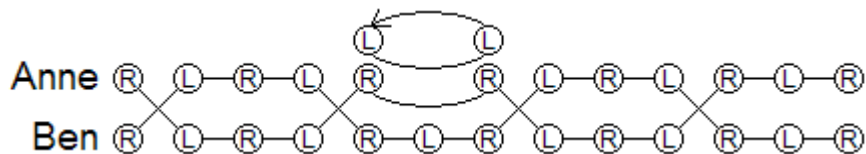


As this arrow points to the left of the diagram, we have to draw the arrow head. An arrow pointing back two beats represents a gap or an empty hand. In reality the fact that Ben threw a left hand pass on one beat causes his left hand to be empty two beats later. In causal diagram logic, the fact that he wanted an empty hand on one beat caused him to throw the pass two beats earlier!

The whole combination trick for Ben is: pass heff double heff gap self. This is known as 4440 in three count. Anne's pattern is unchanged apart from having to catch a double.

### Simultaneous heffs

Earlier I described how to do a self double in three count. This trick is a variation on that. Instead of throwing one self double, throw two of them at the same time, one with each hand.

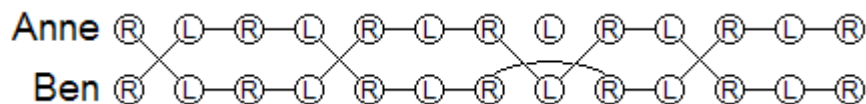


After a left hand pass Anne throws two heffs at the same time. On the next beat her left hand is empty. This is just like the three club trick: 'one up two up'.

I'll be honest, I find it hard to explain how to derive the diagram for this trick! In this case I learned the trick first and then asked: 'I wonder how to draw the causal diagram for that?' However the diagram does explain the trick. Also if you accept that whenever you have a pattern with a hold in it, you can replace that with a heff and a gap, then this opens up many new possibilities!

### A late single

This is an odd trick, which when you throw it for the first time, may cause your partner to drop if they haven't seen it before!

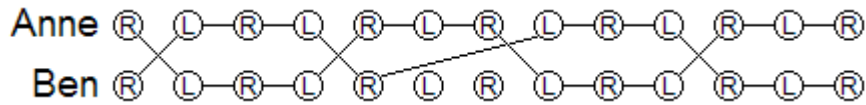


On a normal passing beat Ben throws a heff instead of a pass, but then throws a pass on the next beat. This trick changes Anne's pattern. For Anne it feels similar to receiving a late double, except she doesn't have to catch a double pass. Anne gets a pause in her pattern, and then only throws one self before the next pass.



### **An early triple**

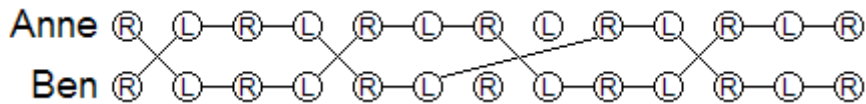
For this trick Ben throws a triple pass that lands in Anne's pattern at the right time.



For Ben the trick is: pass triple hold hold self self. Note that the triple is a right to left throw, so it's a straight pass. Anne's pattern is unchanged, except that she has to try and catch Ben's triple pass!

### **A late triple**

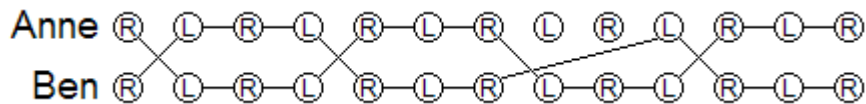
For this trick Ben throws a triple pass one beat later than an early triple.



For Ben the trick is: pass self triple hold self self. Once again the triple is a straight pass. This trick changes Anne's pattern. For Anne it feels similar to receiving a late double, except now she has to try and catch Ben's triple pass. Anne gets a pause in her pattern, and then only throws one self before the next pass.

### **A very late triple**

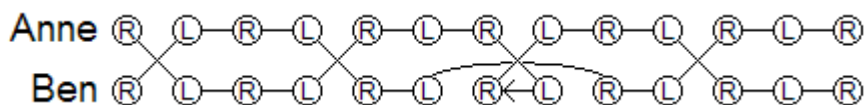
Ben can throw a triple on the pass beat.



Apart from throwing a triple pass, Ben's pattern is unchanged by this trick. Anne just has to wait two beats and then throw her next pass in order to catch the triple. Note that the triple is a straight pass.

### **A self triple**

This is another one of those tricks that may confuse your partner if they haven't seen it before!

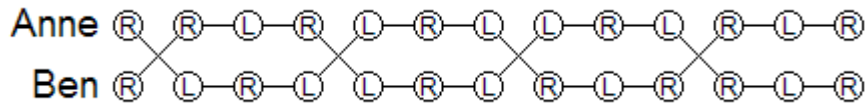


For Ben the trick is: pass self triple-self pass zip self. The triple is a left to right throw so it's a crossing self. Anne's pattern is unchanged by this trick. However this triple is thrown at the same time as an early double pass. So if Anne hasn't seen this trick before she might look up at the triple to see how she can catch it, and then completely miss the single pass that follows!

There are many combination tricks that you could try involving double and triple throws. I won't spoil your fun by spelling them out for you.

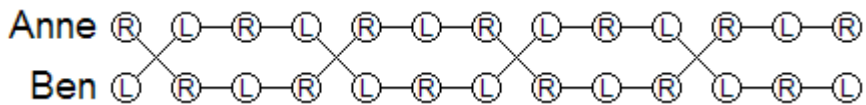
### Jim's three count

Jim's three count is a variation on three count created by Jim Brennan. In Jim's three count one person always throws crossing passes. It's very easy to draw a causal diagram for this pattern, you just take a causal diagram for three count and relabel some of the beats.



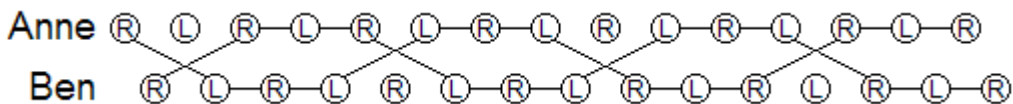
In this diagram all of Anne's passes are right to left or left to right throws, so they're straight passes. However Ben's passes are right to right or left to left throws, so they're crossing passes. Note that after her first pass, Anne's first self is with the same hand. This is a hurry. The self throws after Anne's third pass, and Ben's second and fourth passes are also hurries.

You can create lots of patterns by relabelling the beats on causal diagrams. Here's another three count variation where both jugglers throw crossing passes.



This pattern is a bit collision prone because Anne throws a crossing right hand pass at the same time as Ben throws a crossing left hand pass (and vice-versa). Note also that Ben's first left hand beat has no arrow pointing to it, but an arrow pointing away from it. This shows that he starts with two clubs in his left hand.

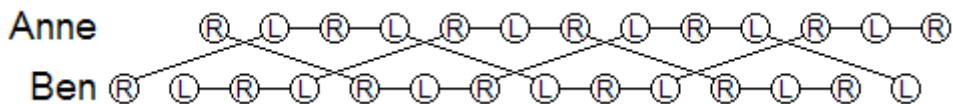
There is another way to draw a causal diagram for Jim's three count.



In this variation Ben starts half a beat after Anne and both jugglers throw floaty single passes. This slows the whole pattern down and also eliminates the hurries. In this pattern it's quite hard to keep half a beat out of phase! One way to maintain the half beat difference is to flip the clubs that are shown as holds in the diagram.

### Seven club three count

You can pass seven clubs on three count with floaty double passes.



In this pattern Ben's passes are right to left or left to right throws, so they're straight passes, whereas Anne's are right to right or left to left, so they're crossing passes. Anne starts one and a half beats after Ben. Basically she waits as long as she can! Apart from that the pattern is three count with floaty double passes.

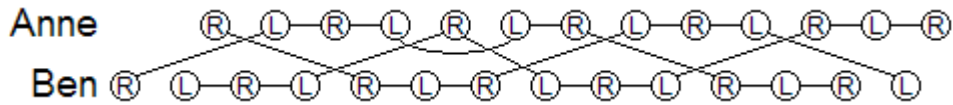
In this diagram Ben's first right and left hand beats have no arrow pointing to them, but an arrow pointing away from them. This shows that he starts with two clubs in each hand. Anne's first right hand beat has no arrow pointing to it, but an arrow pointing away from it, so she starts with two clubs in her right hand. Remember causal diagrams already assume that she's holding a club in her left hand. So Anne and Ben start with seven clubs between them. Note that there are four hands and three lines running through the pattern, which confirms that this is a seven club pattern.

Naturally you can try any three count tricks in this pattern. The easiest is a self double.

You can't throw an early double pass in this pattern, however you can do essentially the same thing, but with a triple pass. As Ben's doubles are straight passes, his triples have to cross, whereas Anne's doubles cross, so her triples have to go straight.

**French three count**

Another easy trick in seven club three count is a late single pass.



On a pass beat Anne throws a heff instead, and then throws a single pass on the next beat. In the seven club pattern this trick doesn't change Ben's pattern. Also note that Anne's single pass is straight, whereas when Ben does this trick he throws crossing single passes.

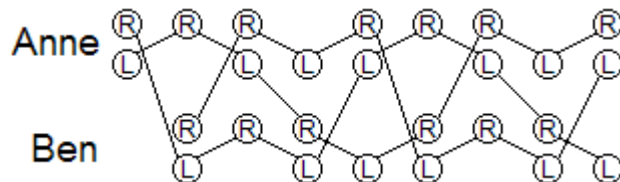
If both jugglers throw late single passes continuously, you get a pattern called French three count.



Anne starts with two clubs in each hand and Ben starts with two clubs in his right hand and one in his left hand. For Anne the pattern is: pass self heff with straight floaty single passes. Ben starts half a beat later and his pattern is: heff pass self with crossing floaty single passes.

**Techno (seven club three count on singles)**

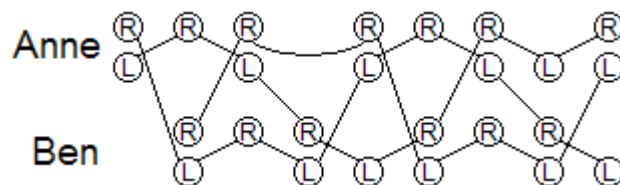
You can pass seven club three count on single passes.



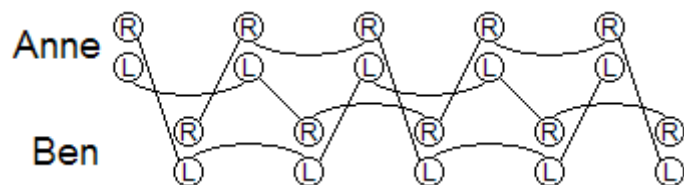
Anne starts with two clubs in each hand and Ben starts with two clubs in his right hand and one in his left hand. For both jugglers the pattern is: right hand pass and a left hand self simultaneously, right hand self, left hand pass and a right hand self simultaneously, left hand self. All Anne's passes are straight. Ben starts one beat after Anne, and all his passes cross.

**Scratch your head**

Naturally you can also try any three count tricks in three count techno. The easiest is a self double. On a passing beat Anne throws a pass and a heff at the same time. Ben's pattern is unchanged.



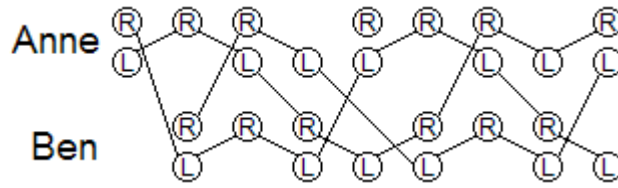
If both jugglers throw self doubles continuously, you get a pattern called scratch your head, which was created by Will Murray.



Anne starts with two clubs in each hand and Ben starts with two clubs in his right hand and one in his left hand. For both jugglers the pattern is: right hand pass and a left hand heff simultaneously, then left hand pass and a right hand heff simultaneously. All Anne's passes are straight. Ben starts one beat after Anne, and all his passes cross.

**Oddz godz**

The next diagram shows Anne throwing an early double in three count techno.



After a left hand pass and a right hand self thrown simultaneously, Anne throws a left hand crossing double pass, and then a left hand self. Ben's pattern is unchanged by this trick, except he has to catch a double pass.

If both jugglers throw early doubles continuously in techno, you get a pattern known as oddz godz.

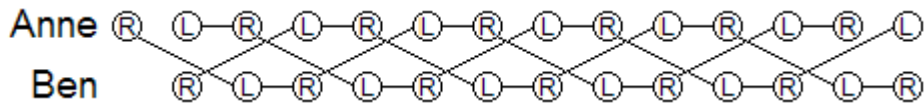


In this pattern Anne's first two throws are right handed. In the diagram, the beats for these throws have no arrow pointing to them, but an arrow pointing away from them. This shows that she starts with two extra clubs in her right hand. So she starts with three clubs in her right hand. Ben's first right hand beat has no arrow pointing to it, but an arrow pointing away from it, so he starts with two clubs in his right hand. Remember causal diagrams assume that both jugglers start with one club in their left hand.

In oddz godz Anne's passes are right to right or left to left throws, so they're crossing passes, whereas Ben's are right to left or left to right, so they're straight passes. Ben starts one beat after Anne. Both jugglers do a two count pattern with double passes and hurried self throws.

If both jugglers throw late doubles continuously in three count techno, you also get oddz godz!

Note that you can relabel the beats in the causal diagram for oddz godz to get seven club two count!



The pattern for both jugglers is: double self. Anne starts with four clubs, two in each hand. Ben starts one beat after Anne, with two clubs in his right hand and one club in his left hand.

## Tricks in one count / Brolly notation

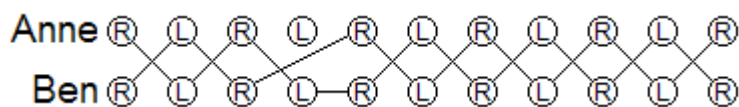
### Justification

Imagine Ben juggling a four club fountain. Anne is standing on his shoulders holding one club in each hand. She drops a club from her right hand into Ben's pattern and steals a club, then she drops a club from her left hand into Ben's pattern and steals a club. For Ben the pattern doesn't change. Now if Anne continuously replaces clubs in Ben's pattern like this, then Anne and Ben are passing six clubs on one count.

Maybe this is what inspired Brendan Brolly to use the siteswap 4 to describe passing six clubs on one count. It seems crazy using the siteswap for a four object pattern to describe a six club pattern, but there is a pay-off! You can describe tricks in six club one count using four object siteswaps. Some people refer to this idea as 'gravity'.

### Double self (53)

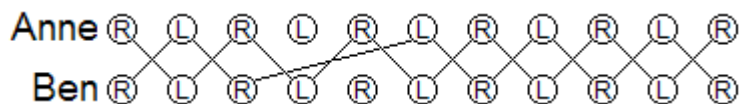
One well known four object siteswap is 53. In Brolly notation, since a 4 is a single spin pass in six club one count, then a 5 is a crossing double pass. Any throw less than a 4 is the same as it would be in a solo siteswap pattern. So the 3 is a normal single spin self throw. So at any time in six club one count, one person can throw a crossing double followed by a self. In order for these tricks to work their partner has to 'hold through the gap' or 'only throw when they have to'.



In the diagram Ben throws a crossing right hand double pass followed by a left hand self. Anne gets a pause in her pattern. As there is no pass to her left hand, she doesn't throw a left hand pass. Note that you can throw the trick with your right or left hand.

### Triple pass hold (642)

Another well known four object siteswap is 642. In Brolly notation for six club one count, the 6 is a straight triple pass and the 2 is a hold.

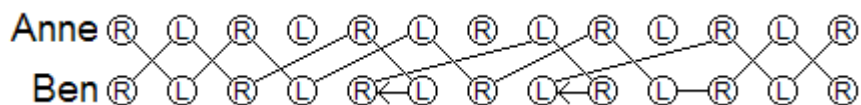


In the diagram Ben throws a straight right hand triple pass followed by a left hand single pass and then a right hand hold. Once again Anne gets a pause in her pattern.

This is actually an awkward pattern for the person receiving the trick. The triple is thrown first, and this is followed by a single pass, but it's the single pass that's caught first!

### Double triple zip (561)

You can throw excited state siteswaps using these ideas as long as you include any entry throws from the ground state, and exit throws back to the ground state. One example is 561. One entry to the excited state for 561 is to throw a 5, and to exit back to ground state you can throw a 3.



In the diagram Ben throws a right crossing double pass (5) to enter the excited state, and then throws 'crossing double, straight triple, zip' (561) twice, before throwing a left hand self (3) to return to the ground state (one count). Note Anne gets several holds in her pattern during this trick.



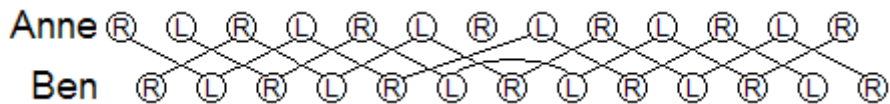
### Seven club one count

Imagine Ben juggling a five club cascade. Anne is standing on his shoulders holding one club in each hand. She drops a club from her left hand into Ben's pattern and steals a club, then she drops a club from her right hand into Ben's pattern and steals a red club. For Ben the pattern doesn't change. Now if Anne continuously replaces clubs in Ben's pattern like this, then Anne and Ben are passing seven clubs on one count.

This is probably what inspired Brendan Brolly to use the siteswap 5 to describe passing seven clubs on one count. Of course it also means you can work out tricks in seven club one count by thinking about five object siteswaps!

### Double heff (64)

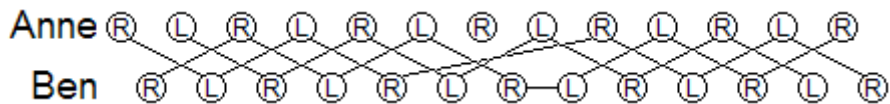
One well known five object siteswap is 64. In Brolly notation, since a 5 is a single spin pass in seven club one count, then a 6 is a double pass. Any throw less than a 5 is the same as it would be in a solo siteswap pattern. So the 4 is a normal double self throw. So at any time in seven club one count, one person can throw a double pass followed by a double self.



In the diagram Ben throws a straight right hand double pass followed by a left hand heff. Anne gets a pause in her pattern. Note that Ben's single passes are crossing, so his double pass is straight. Anne's single passes are straight, so if she does this trick, she throws a crossing double pass.

### Triple pass self (753)

Another well known five object siteswap is 753. In Brolly notation for seven club one count, the 7 is a triple pass, the 5 a single pass and the 3 is a self.

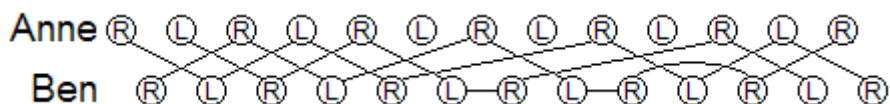


In the diagram Ben throws a crossing triple pass followed by a crossing single pass and a self. Once again Anne gets a pause in her pattern. If Anne does this trick she throws straight triple passes.

This is another awkward pattern for the person receiving the trick. The triple is thrown first, and this is followed by a single pass, but it's the single pass that's caught first!

### Triple self (73)

You can throw excited state siteswaps using these ideas as long as you include any entry throws from the ground state, and exit throws back to the ground state. One example is 73. One entry to the excited state for 73 is to throw a 6, and to exit back to ground state you can throw a 4.



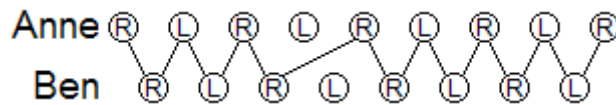
In the diagram Ben throws a left straight double pass (6) to enter the excited state, and then throws 'crossing triple, self' (73) twice, before throwing a right hand heff (4) to return to the ground state (seven club one count). Note Anne gets several holds in her pattern during this trick.

### Five club one count with zaps

I'm not sure exactly when Brendan came up with this notation. We went to the same schools – Brendan was in the year below me – and neither of us were juggling then, so I imagine it was in the 1990s. Back then very few people passed 'zaps', and those that did didn't use the JoePass style of half spin throws that we are used to today. But Brolly notation can easily be extended to cover tricks in five club one count with zaps. You simply use the siteswap 3 to describe five club one count with zaps, then you can work out tricks by thinking about three object siteswaps.

### Double hold (42)

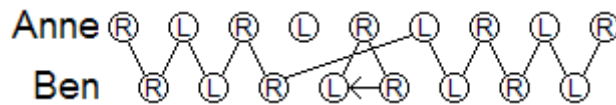
One well known three object siteswap is 42. In Brolly notation, since a 3 is a half spin zap in five club one count, then a 4 is a single pass. Any throw less than a 3 is the same as it would be in a solo siteswap pattern. So the 2 is a hold. So at any time in five club one count, one person can throw a single pass followed by a hold.



In the diagram Ben throws a crossing right hand single pass followed by a left hand hold. Anne gets a hold in her pattern. Note that Ben's zaps are straight, so his single pass is crossing. Anne's zaps are crossing, so if she does this trick, she throws a straight single pass.

### Double zap zip (531)

Another well known five object siteswap is 531. In Brolly notation for five club one count, the 5 is a double pass, the 3 a zap and the 1 is a zip.

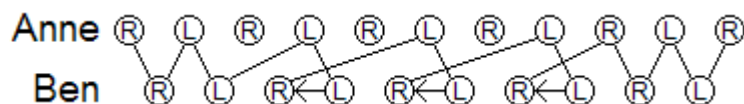


In the diagram Ben throws a straight double pass followed by a zap and a zip. Once again Anne gets a pause in her pattern. If Anne does this trick she throws crossing double passes.

This is another awkward pattern for the person receiving the trick. The double is thrown first, and this is followed by a zap, but it's the zap that's caught first!

### Double zip (51)

You can throw excited state siteswaps using these ideas as long as you include any entry throws from the ground state, and exit throws back to the ground state. One example is 51. One entry to the excited state for 51 is to throw a 4, and to exit back to ground state you can throw 41.



In the diagram Ben throws a left crossing single pass (4) to enter the excited state, and then throws 'straight double, zip' (51) twice, before throwing a right crossing single and a left hand zip (41) to return to the ground state (five club one count). Note Anne gets several holds in her pattern during this trick.

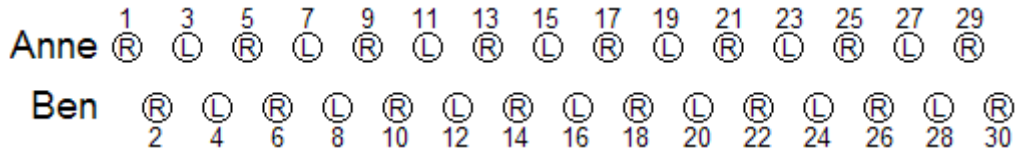
In the rest of this book any reference to siteswaps will be four handed siteswaps or six handed siteswaps.



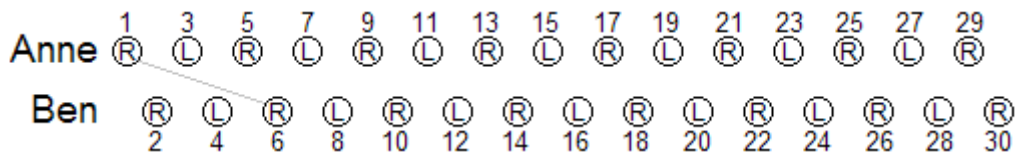
## Four handed siteswaps

### The recipe

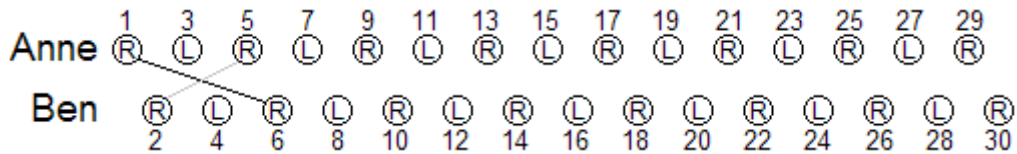
- Take any siteswap. I'm going to choose the six object pattern 9784266.
- Subtract 4 from every number to give a derived siteswap. In my example the derived siteswap is 5340-222. (Despite the negative number, this is still theoretically a siteswap)!
- Number the beats in a causal diagram as follows:



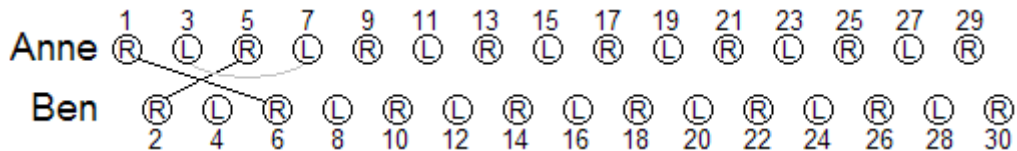
- Now for beat 1, add the first number in the derived siteswap: 5, and you get  $1+5=6$ . So on the diagram draw a line from beat 1 to beat 6:



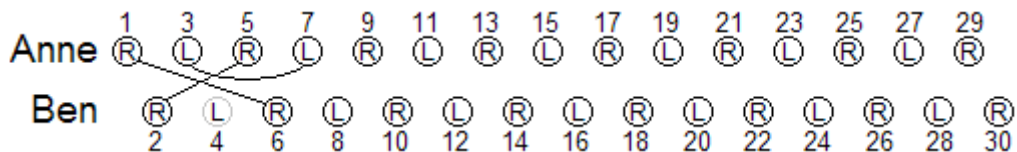
- For beat 2, add the second number in the derived siteswap: 3, and you get  $2+3=5$ . So on the diagram draw a line from beat 2 to beat 5:



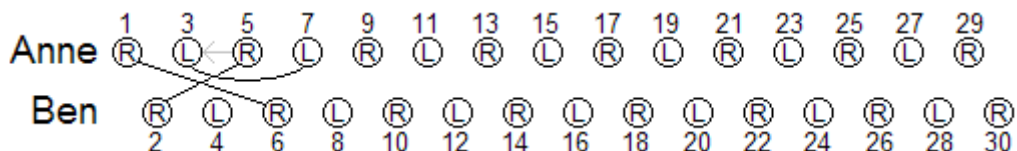
- For beat 3, add the third number in the derived siteswap: 4, and you get  $3+4=7$ . So on the diagram draw a line from beat 3 to beat 7:



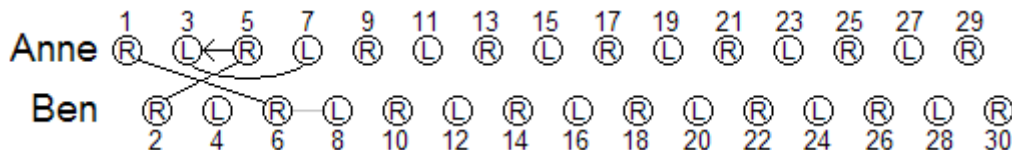
- For beat 4, add the fourth number in the derived siteswap: 0, and you get  $4+0=4$ . So on the diagram draw a line from beat 4 to beat 4 (or leave it out):



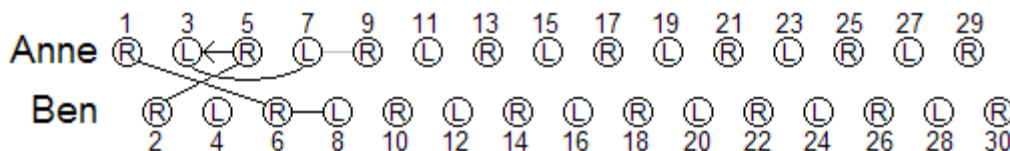
- For beat 5, add the fifth number in the derived siteswap: -2, and you get  $5-2=3$ . So on the diagram draw a line from beat 5 to beat 3:



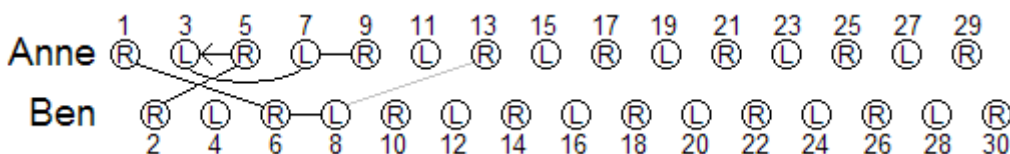
- For beat 6, add the sixth number in the derived siteswap: 2, you get  $6+2=8$ . So on the diagram draw a line from beat 6 to beat 8:



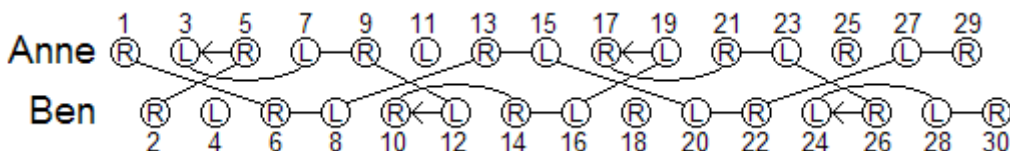
- For beat 7, add the seventh number in the derived siteswap: 2, you get  $7+2=9$ . So on the diagram draw a line from beat 7 to beat 9:



- As there is no eighth number in the derived siteswap, for beat 8, we return to the beginning of the derived siteswap. When you add the first number: 5, you get  $8+5=13$ . So on the diagram draw a line from beat 8 to beat 13:



- If you apply the same procedure for all the remaining beats you end up with the following pattern:



This is a six club pattern, which is good because we started with a six object siteswap!

Both jugglers start with two clubs in their right hand and one club in their left hand. Anne's pattern is: double heff zip self pass hold self. Anne's double passes cross and her single passes are straight. Ben starts slightly after Anne. His pattern is: pass hold self double heff zip self. Ben's double passes are straight and his single passes cross.

The following table shows all the throws in four handed siteswap up to height b (11).

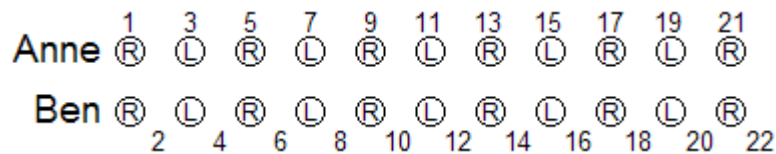
siteswap	Anne's throw	Ben's throw
0	empty hand	empty hand
2	zip	zip
4	hold	hold
5	crossing zap	straight zap
6	self	self
7	straight single pass	crossing single pass
8	heff	heff
9	crossing double pass	straight double pass
a	triple-self	triple-self
b	straight triple pass	crossing triple pass

### ***Why does this recipe work?***

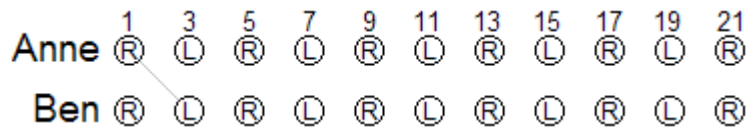
On any given beat, the number in a siteswap tells you how many beats later the same object will be thrown again. In a passing pattern with four hands, where one hand throws on each beat, an object is thrown four beats after it is caught. So when you subtract 4 from each number in a siteswap, the numbers in the derived siteswap tell you how many beats later an object will be caught. The arrows in a causal diagram tell you how many beats later an object will be caught.

### The synchronous recipe

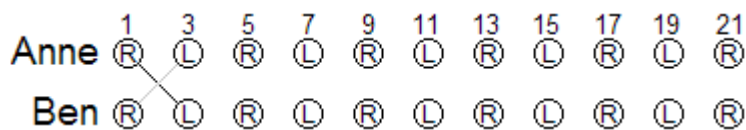
- Take any synchronous siteswap. I'm going to choose  $(6x,6x)(8,6)(8x,8x)(2,8)(6,2)$ , which is a six object pattern.
- Subtract 4 from every number to give a derived siteswap. In my example the derived siteswap is  $(2x,2x)(4,2)(4x,4x)(-2,4)(2,-2)$ .
- The first number in each bracket is Anne's throw, the second number is Ben's throw.
- An x after a number shows a pass.
- Number the beats in a causal diagram as follows:



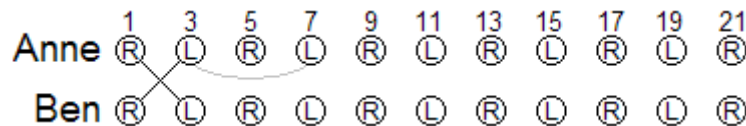
- Note that both jugglers throw at the same time on odd numbered beats and no-one throws on even numbered beats!
- For Anne's throw on beat 1, add the first number in the derived siteswap: 2, you get  $1+2=3$ . The first 2 is followed by an x, so on the digram draw a line from Anne's beat 1 to Ben's beat 3:



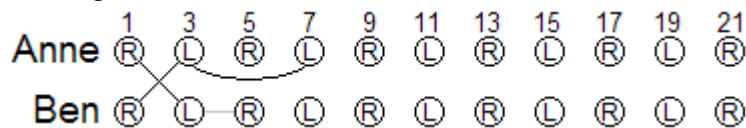
- For Ben's throw on beat 1, add the second number in the derived siteswap: 2, you get  $1+2=3$ . This 2 is followed by an x, so on the digram draw a line from Ben's beat 1 to Anne's beat 3:



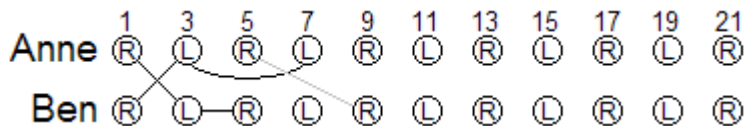
- For Anne's throw on beat 3, add the third number in the derived siteswap: 4, you get  $3+4=7$ . So on the digram draw a line from Anne's beat 3 to her beat 7:



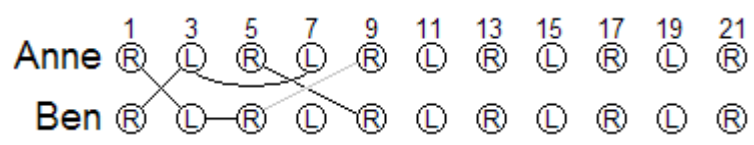
- For Ben's throw on beat 3, add the fourth number in the derived siteswap: 2, you get  $3+2=5$ . So on the digram draw a line from Ben's beat 3 to his beat 5:



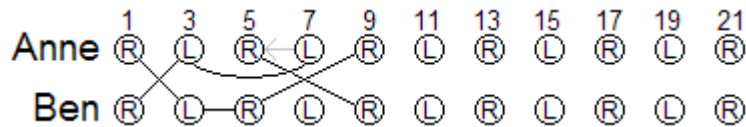
- For Anne's throw on beat 5, add the fifth number in the derived siteswap: 4, you get  $5+4=9$ . This 4 is followed by an x, so on the digram draw a line from Anne's beat 4 to Ben's beat 9:



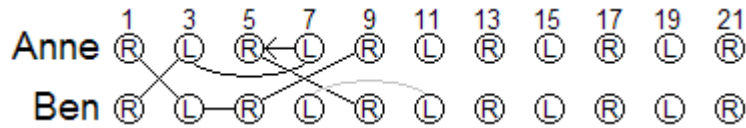
- For Ben's throw on beat 5, add the sixth number in the derived siteswap: 4, you get  $5+4=9$ . This 4 is followed by an x, so on the digram draw a line from Ben's beat 4 to Anne's beat 9:



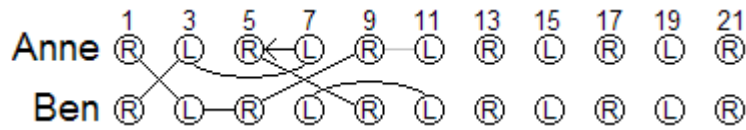
- For Anne's throw on beat 7, add the seventh number in the derived siteswap: -2, you get  $7-2=5$ . So on the digram draw a line from Anne's beat 7 to her beat 5:



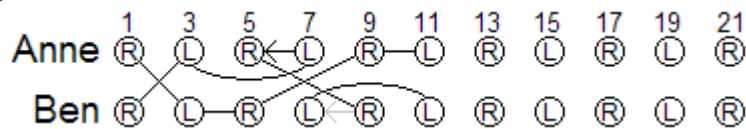
- For Ben's throw on beat 7, add the eighth number in the derived siteswap: 4, you get  $7+4=11$ . So on the digram draw a line from Ben's beat 7 to his beat 11:



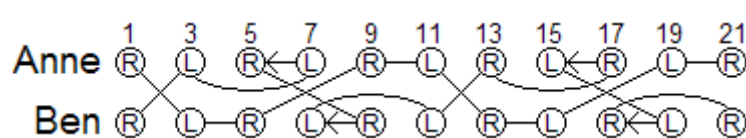
- For Anne's throw on beat 9, add the ninth number in the derived siteswap: 2, you get  $9+2=11$ . So on the digram draw a line from Anne's beat 9 to her beat 11:



- For Ben's throw on beat 9, add the tenth number in the derived siteswap: -2, you get  $9-2=7$ . So on the digram draw a line from Ben's beat 9 to his beat 7:



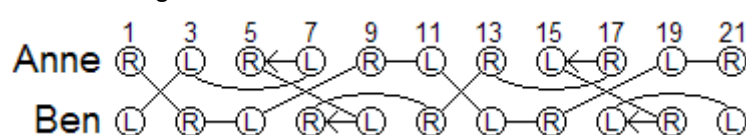
- As there is no eleventh or twelfth number in the derived siteswap, to work out the next throws for both jugglers we return to the beginning of the derived siteswap.
- If you apply the same procedure for all the remaining beats you end up with the following pattern:



Both jugglers start with two clubs in their right hand and one club in their left hand. Anne's pattern is: pass heff double zip self. This pattern is called not why. Ben's pattern is: pass self double heff zip. This pattern is called why not? Both jugglers throw straight single passes and crossing doubles.

Note that both jugglers could pass not why or why not? I chose the combined pattern to distinguish between Anne's and Ben's passes more easily.

There is another way to juggle this pattern as a four handed siteswap. Both jugglers can throw crossing single passes and straight doubles.



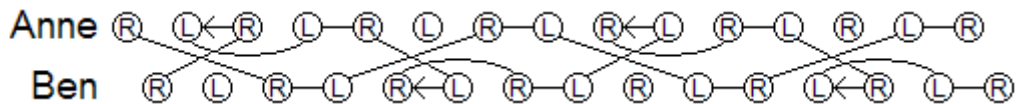
Ben starts with two clubs in his left hand and one in his right hand and his first throw is left handed. This pattern is a bit collision prone, but there are other patterns where it's better if both jugglers throw crossing single passes and straight doubles!

## Prechac notation

Prechac notation is an alternative notation for symmetric passing patterns. Prechac notation shows a passing pattern from one juggler's point of view. It builds naturally on solo siteswap. Any number representing a pass is followed by a 'p'. The following table summarises the most common throws in Prechac notation.

Number	Throw
0	empty hand or gap
1	zip
2	hold
3	single self
4	double self or heff
5	triple self
2p, 2.3p, 2.5p, 2.7p,...etc.	zap
3p, 3.3p, 3.5p, 3.7p,...etc.	single pass
4p, 4.3p, 4.5p, 4.7p,...etc.	double pass
5p, 5.3p, 5.5p, 5.7p,...etc.	triple pass

**Converting symmetric asynchronous four handed siteswap patterns to prechac notation**



- Take any symmetric asynchronous four handed siteswap. I'll choose: 9784266.
- Halve all the numbers. I get: 4.53.542133.
- Rearrange the numbers, taking every other number. I get 4.54133.523.
- Add a 'p' after each '.5'. I get 4.5p4133.5p23. This is the Prechac notation for the pattern!

Now using the table above we can see that the pattern for each juggler is double heff zip self pass hold self. This is Anne's pattern in the above diagram. Ben's pattern is pass hold self double heff zip self. This is the same pattern, but starting half way through the sequence.

**Converting symmetric synchronous four handed siteswap patterns to prechac notation**



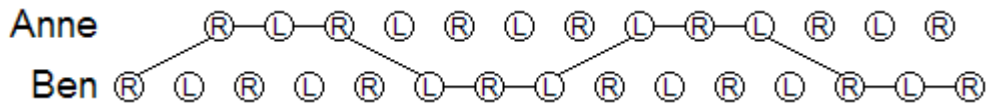
- Take any symmetric synchronous four handed siteswap. I'll choose: (6x,6x)(6,6)(8x,8x)(8,8)(2,2).
- Halve all the numbers. I get: (3x,3x)(3,3)(4x,4x)(4,4)(1,1).
- Take the first number in each bracket. I get: 3x34x41.
- Replace each 'x' with a 'p'. I get 3p34p41. This is the Prechac notation for the pattern!

Now using the table above we can see that the pattern for each juggler is pass self double heff zip. This is Anne and Ben's pattern in the above diagram.



## Five club patterns

### Five club three count



Siteswap: 7446464

Prechac: 3.5p222233

Start for Ben: two clubs in his right hand and one club in his left hand.

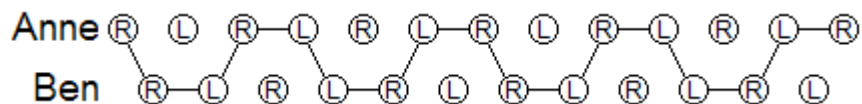
Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: pass hold hold hold self self, with crossing single passes.

Pattern for Anne: self self pass hold hold hold hold, with straight single passes.

Colour coding: one red club that's always passed and four green clubs that are always self throws.

### Zap hold self



Siteswap: 564

Prechac: 2.5p23

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: one club in each hand, half a beat after Anne.

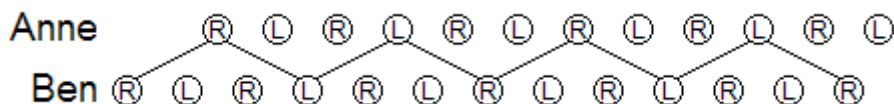
Pattern for Anne: zap hold self, with crossing zaps.

Pattern for Ben: self zap hold, with straight zaps.

Colour coding: Three red clubs for the passes and two green clubs that are always self throws.

Note: a zap is a half spin pass.

### Five club one count



Siteswap: 744

Prechac: 3.5p22

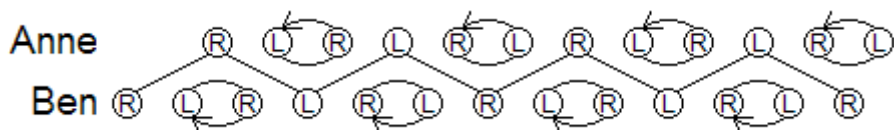
Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: pass hold hold, with crossing single passes.

Pattern for Anne: pass hold hold, with straight single passes.

### Pass self zip



Siteswap: 726

Prechac: 3.5p31

Start for Ben: two clubs in his right hand and one club in his left hand.

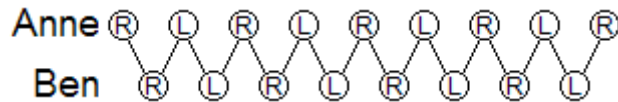
Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: pass self zip, with crossing single passes.

Pattern for Anne: pass self zip, with straight single passes.

Colour coding: Three red clubs for the passes and two green clubs that are always self throws.

**One count with zaps**



Siteswap: 5

Prechac: 2.5p

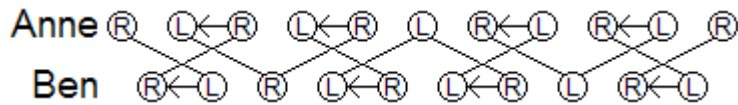
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: zap, with crossing zaps.

Pattern for Ben: zap, with straight zaps.

**Parsnip**



Siteswap: 77722

Prechac: 3.5p3.5p13.5p1

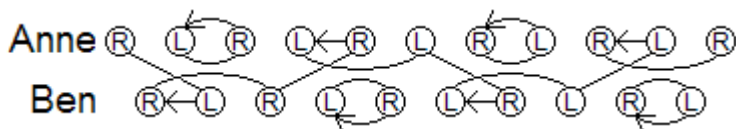
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: pass pass zip pass zip, with straight single passes.

Pattern for Ben: pass zip pass pass zip, with crossing single passes.

**Five club why not?**



Siteswap: 78622

Prechac: 3.5p3141

Start for Anne: two clubs in her right hand and one club in her left hand.

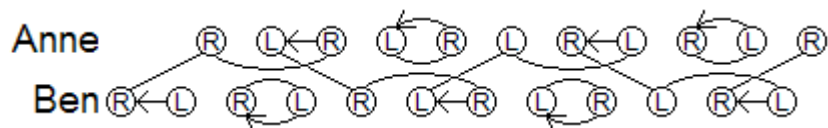
Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: pass self zip heff zip, with straight single passes.

Pattern for Ben: heff zip pass self zip, with crossing single passes.

Colour coding: Three red clubs for the passes and two green clubs for the heffs.

**Five club not why**



Siteswap: 72286

Prechac: 3.5p1314

Start for Ben: two clubs in his left hand and one club in his right hand, but he starts with his right hand.

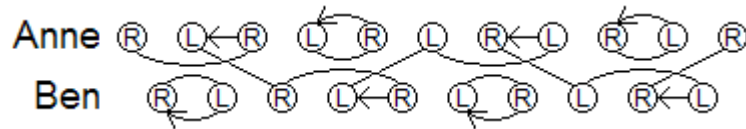
Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: pass zip self zip heff, with crossing single passes.

Pattern for Anne: heff pass zip self zip, with straight single passes.

Colour coding: Three red clubs for the passes and two green clubs for the heffs.

### Five club not why alternative start



Siteswap: 86722

Prechac: 43.5p131

Start for Anne: two clubs in her right hand and one club in her left hand.

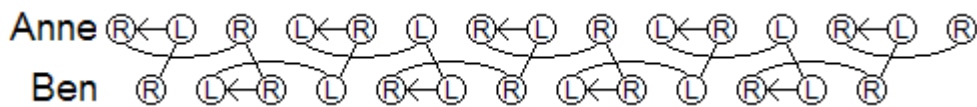
Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: heff pass zip self zip, with straight single passes.

Pattern for Ben: self zip heff pass zip, with crossing single passes.

Colour coding: Three red clubs for the passes and two green clubs for the heffs.

### Heff zip zap



Siteswap: 852

Prechac: 412.5p

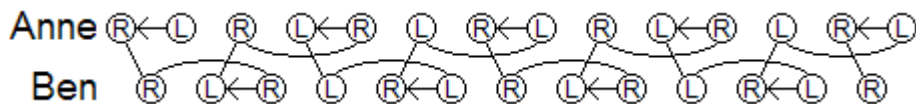
Start for Anne: one club in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: heff zip zap, with crossing zaps.

Pattern for Ben: zap heff zip, with straight zaps.

### Zap zip heff



Siteswap: 582

Prechac: 2.5p14

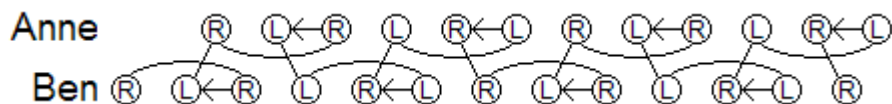
Start for Anne: two clubs in her left hand and one club in her right hand, but she starts with her right hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: zap zip heff, with crossing zaps.

Pattern for Ben: heff zap zip, with straight zaps.

### Zap zip heff alternative start



Siteswap: 825

Prechac: 42.5p1

Start for Ben: two clubs in his right hand and one club in his left hand.

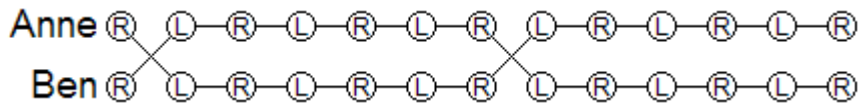
Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: heff zap zip, with straight zaps.

Pattern for Anne: heff zap zip, with crossing zaps.

## Popular right handed six club patterns

### Six count



Siteswap: (6x,6x)(6,6)(6,6)(6,6)(6,6)(6,6)

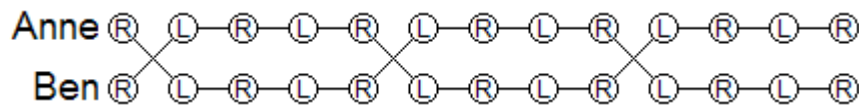
Prechac: 3p33333

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self self self self self, with straight single passes.

Colour coding: two red clubs for the passes and four green clubs that are always self throws.

### Four count



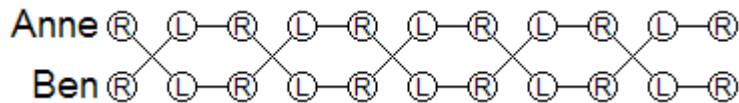
Siteswap: (6x,6x)(6,6)(6,6)(6,6)

Prechac: 3p333

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self self self, with straight single passes.

### Two count



Siteswap: (6x,6x)(6,6)

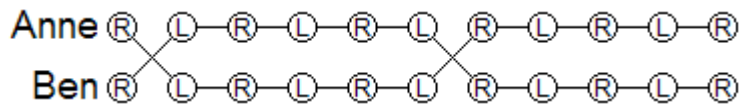
Prechac: 3p3

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self, with straight single passes.

## Popular Ambidextrous six club patterns

### Five count



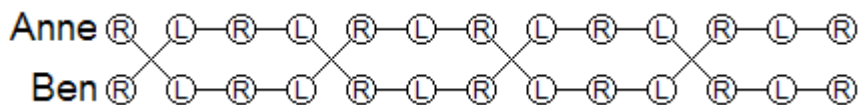
Siteswap: (6x,6x)(6,6)(6,6)(6,6)(6,6)

Prechac: 3p33333

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self self self self self, with straight single passes.

### Three count



Siteswap: (6x,6x)(6,6)(6,6)

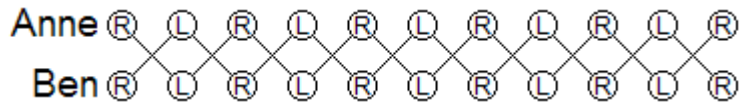
Prechac: 3p33

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self self, with straight single passes.

Colour coding: two red clubs are always passed and four green clubs are always self throws.

**One count**



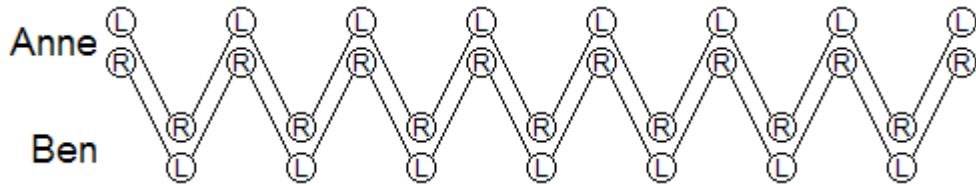
Siteswap: (6x,6x)

Prechac: 3p

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass, with straight single passes.

**Synchronous one count**

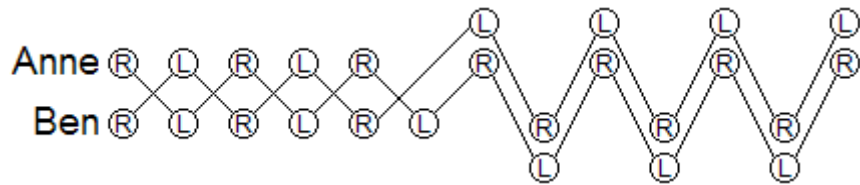


Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, one beat after Anne.

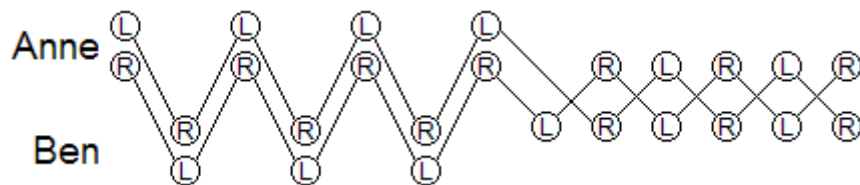
Pattern for both jugglers: two straight single passes at the same time.

**Switch from asynchronous one count to synchronous one count**



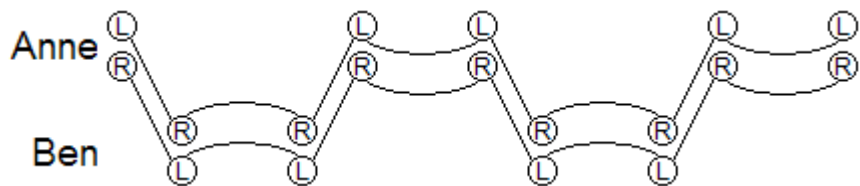
To switch from asynchronous one count to synchronous one count, Ben throws a straight double pass with one hand followed by a straight single pass with the other hand. Ideally these passes should land at the same time!

**Switch from synchronous one count to asynchronous one count**



To switch from synchronous one count to asynchronous one count, Anne throws a straight double pass with one hand and a straight single pass with the other hand at the same time!

**Synchronous one count with heffs**



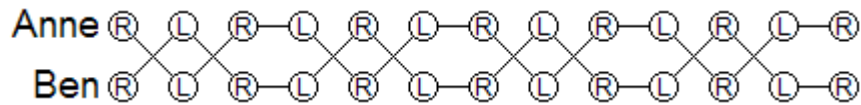
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, one beat after Anne.



Pattern for Anne: two straight single passes at the same time, then two heffs at the same time.  
 Pattern for Ben: two heffs at the same time, then two straight single passes at the same time.  
 Colour coding: two red clubs that are always passed and four green clubs that are always heffs.

**Pass pass self**



Siteswap: (6x,6x)(6x,6x)(6,6)

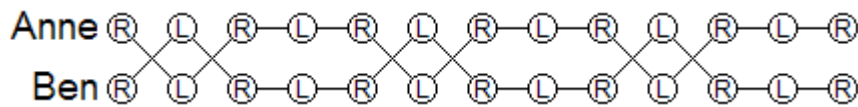
Prechac: 3p3p3

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass pass self, with straight single passes.

Colour coding: four red clubs are always passed and two green clubs are always self throws.

**Chocolate bar**



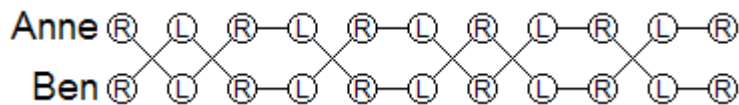
Siteswap: (6x,6x)(6x,6x)(6,6)(6,6)

Prechac: 3p3p33

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass pass self self, with straight single passes.

**Bookends**



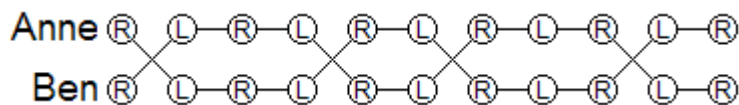
Siteswap: (6x,6x)(6x,6x)(6,6)(6x,6x)(6,6)

Prechac: 3p3p33p3

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass pass self pass self, with straight single passes.

**Inverted bookends**



Siteswap: (6x,6x)(6,6)(6,6)(6x,6x)(6,6)

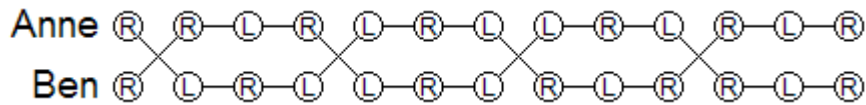
Prechac: 3p333p3

Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self self pass self, with straight single passes.

## Jim's patterns

### Jim's three count (synch version)



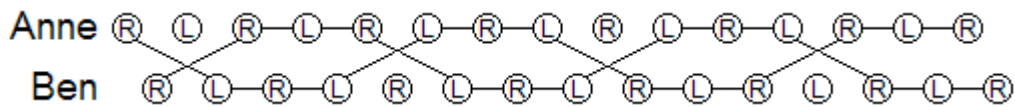
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass hurried self self pass self self, with straight passes.

Pattern for Ben: pass self self pass hurried self self, with crossing passes.

Colour coding: two red clubs are always passed and four green clubs are always self throws.

### Jim's three count (asynch version)



Siteswap: 7746666

Prechac: 3.5p2333.5p33

Start for Anne: two clubs in her right hand and one club in her left hand.

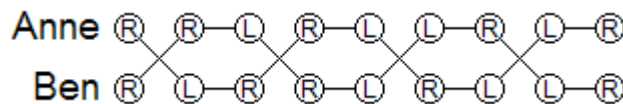
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass hold self self pass self self, with straight passes.

Pattern for Ben: pass self self pass hold self self, with crossing passes.

Colour coding: two red clubs are always passed and four green clubs are always self throws.

### Jim's two count (synch version)



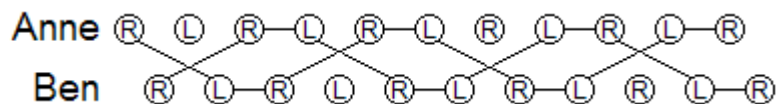
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass hurried self pass self, with straight passes.

Pattern for Ben: pass self pass hurried self, with crossing passes.

Colour coding: three green clubs which are always thrown as passes by Anne, but are passes and self throws for Ben, and three red clubs which are always thrown as passes by Ben, but are passes and self throw for Anne.

### Jim's two count (asynch version)



Siteswap: 77466

Prechac: 3.5p233.5p3

Start for Anne: two clubs in her right hand and one club in her left hand.

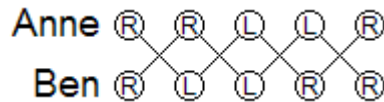
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass hold self pass self, with straight passes.

Pattern for Ben: pass self pass hold self, with crossing passes.

Colour coding: three green clubs which are always thrown as passes by Anne, but are passes and self throws for Ben, and three red clubs which are always thrown as passes by Ben, but are passes and self throw for Anne.

**Jim's one count (synch version)**

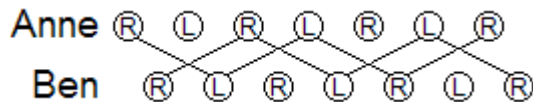


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass hurried pass, with straight passes.

Pattern for Ben: hurried pass pass, with crossing passes.

**Jim's one count (asynch version)**



Siteswap: 774

Prechac: 3.5p23.5p

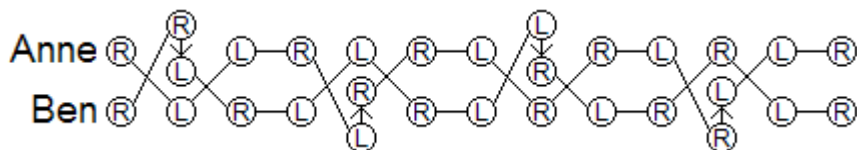
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass hold pass, with straight passes.

Pattern for Ben: pass pass hold, with crossing passes.

**Mild madness (synch version)**



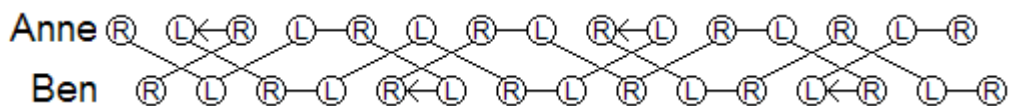
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass pass zip self pass pass self, with straight passes.

Pattern for Ben: pass pass self pass pass zip self, with crossing passes.

Colour coding: four red clubs are always passed and two green clubs are always self throws.

**Mild madness (asynch version)**



Siteswap: 7777266

Prechac: 3.5p3.5p133.5p3.5p3

Start for Anne: two clubs in her right hand and one club in her left hand.

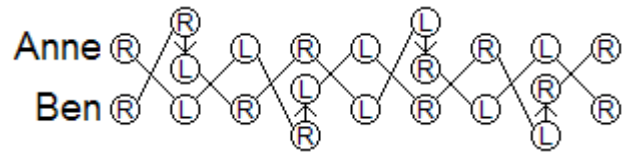
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass zip self pass pass self, with straight passes.

Pattern for Ben: pass pass self pass pass zip self, with crossing passes.

Colour coding: four red clubs are always passed and two green clubs are always self throws.

**Martin's one count (synch version)**

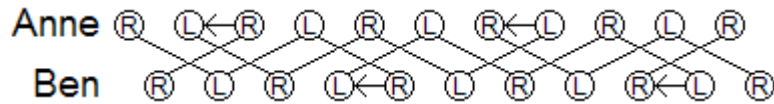


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass pass zip pass pass, with straight passes.

Pattern for Ben: pass pass pass pass zip, with crossing passes.

**Martin's one count (asynch version)**



Siteswap: 77772

Prehac: 3.5p3.5p13.5p3.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

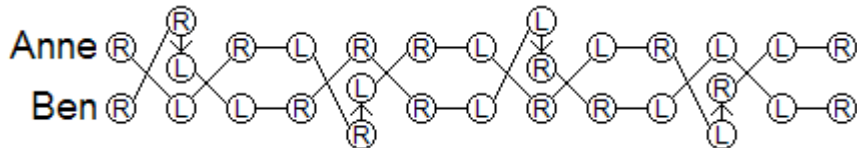
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass zip pass pass, with straight passes.

Pattern for Ben: pass pass pass pass zip, with crossing passes.

**Spotlight patterns**

**Spotlight**

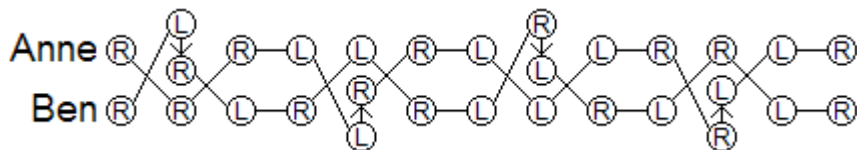


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass crossing pass zip hurried self pass crossing pass hurried self.

Pattern for Ben: crossing pass pass hurried self crossing pass pass zip hurried self.

**Reverse spotlight**

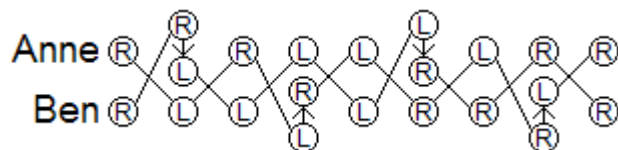


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass hurried pass zip self crossing pass hurried pass self.

Pattern for Ben: pass hurried crossing pass self pass hurried crossing pass zip self.

**One count spotlight**

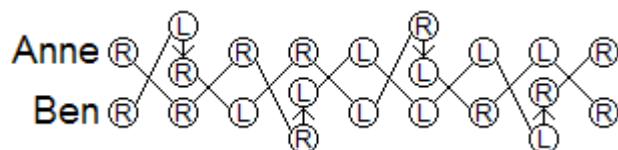


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: hurried pass crossing pass zip hurried pass crossing pass.

Pattern for Ben: hurried crossing pass hurried crossing pass pass zip.

**One count reverse spotlight**

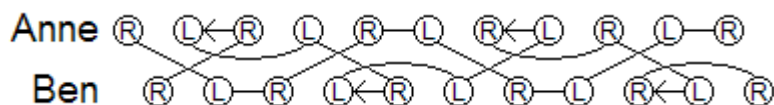


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass hurried pass zip crossing pass hurried pass.  
Pattern for Ben: pass hurried crossing pass hurried crossing pass zip.

## Period five patterns

### Why not?



Siteswap: 77862

Prechac: 3.5p413.5p3

Start for Anne: two clubs in her right hand and one club in her left hand.

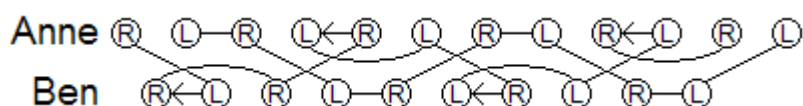
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass heff zip pass self, with straight passes.

Pattern for Ben: pass self pass heff zip, with crossing passes.

Colour coding: three red clubs for the heffs and three green clubs for the zips and self throws.

### Why not? alternative start



Siteswap: 78627

Prechac: 3.5p33.5p41

Start for Anne: two clubs in each hand.

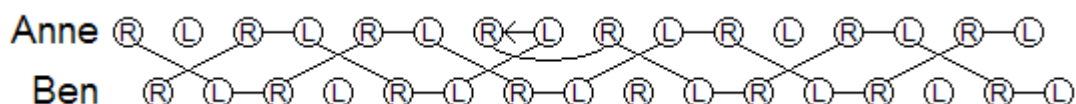
Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: pass self pass heff zip, with straight passes.

Pattern for Ben: heff zip pass self pass, with crossing passes.

Colour coding: three red clubs for the heffs and three green clubs for the zips and self throws.

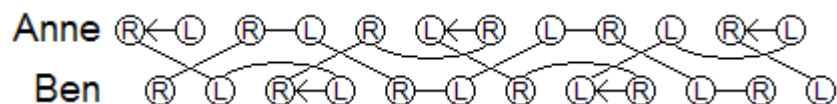
### Practice for why not?



You can practice why not? by throwing it as a trick in Jim's two count. In the diagram Anne and Ben are passing Jim's two count, then Anne throws 'pass heff zip pass self' instead of 'pass hold self pass self'. She then returns to Jim's two count.

Five club why not? is also a good practice pattern for why not?

### Not why



Siteswap: 77286

Prechac: 3.5p133.5p4

Start for Anne: two clubs in her left hand and one club in her right hand, but her first throw is right handed.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

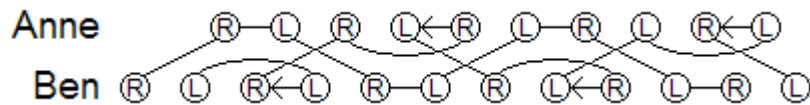
Pattern for Anne: pass zip self pass heff, with straight passes.

Pattern for Ben: pass heff pass zip self, with crossing passes.



Colour coding: three red clubs for the hefts and three green clubs for the zips and self throws.

**Not why alternative start**



Siteswap: 72867

Prechac: 3.5p43.5p13

Start for Ben: two clubs in each hand.

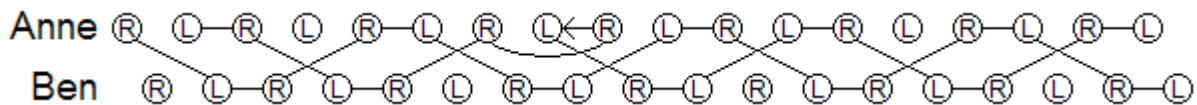
Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: pass heff pass zip self, with crossing passes.

Pattern for Anne: self pass heff pass zip, with straight passes.

Colour coding: three red clubs for the heffs and three green clubs for the zips and self throws.

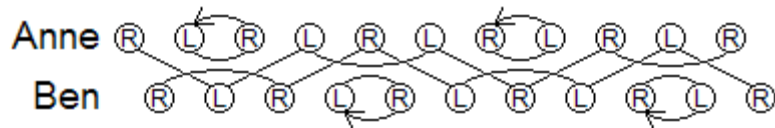
**Practice for not why**



You can practice not why by throwing it as a trick in Jim's two count. In the diagram Anne and Ben are passing Jim's two count, then Anne throws 'pass heff pass zip self' instead of 'pass self pass hold self'. She then returns to Jim's two count.

Five club not why is also a good practice pattern for not why.

**Maybe**



Siteswap: 78672

Prechac: 3.5p3143.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

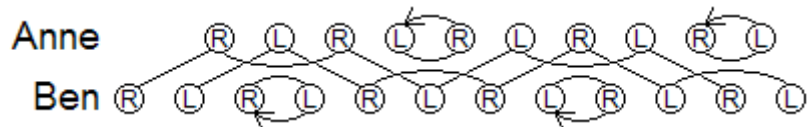
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self zip heff pass, with straight passes.

Pattern for Ben: heff pass pass self zip, with crossing passes.

Colour coding: two red clubs that are thrown as heffs and zips, two blue clubs that are always thrown as passes by Anne, but are passes and self throws for Ben, and two green clubs that are always thrown as passes by Ben, but are passes and self throws for Anne.

**Maybe alternative start**



Siteswap: 72786

Prechac: 3.5p3.5p314

Start for Ben: two clubs in each hand.

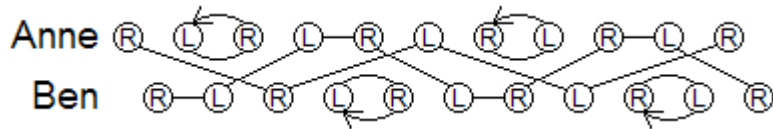
Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: pass pass self zip heff, with crossing passes.

Pattern for Anne: heff pass pass self zip, with straight passes.

Colour coding: two red clubs that are thrown as heffs and zips, two blue clubs that are always thrown as passes by Anne, but are passes and self throws for Ben, and two green clubs that are always thrown as passes by Ben, but are passes and self throws for Anne.

**Not likely**



Siteswap: 96672

Prechac: 4.5p3133.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

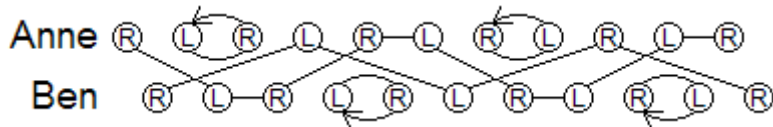
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self zip self single, with straight singles and crossing doubles.

Pattern for Ben: self single double self zip, with crossing singles and straight doubles.

Colour coding: three red clubs, which Anne always throws as doubles and three green clubs, which Ben always throws as doubles.

**Maybe not**



Siteswap: 79662

Prechac: 3.5p314.5p3

Start for Anne: two clubs in her right hand and one club in her left hand.

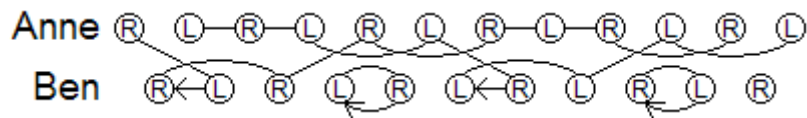
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single self zip double self, with straight singles and crossing doubles.

Pattern for Ben: double self single self zip, with crossing singles and straight doubles.

Colour coding: three red clubs, which Anne always throws as doubles and three green clubs, which Ben always throws as doubles.

**Five count popcorn vs five club why not?**



Siteswap: 7862678682

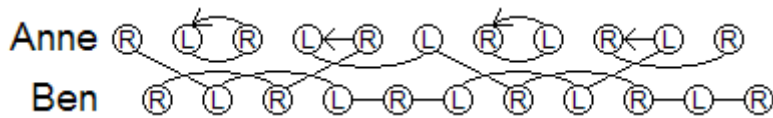
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: pass self self heff heff, with straight passes.

Pattern for Ben: heff zip pass self zip, with crossing passes.

**Five club why not? vs five count popcorn**



Siteswap: 7868278626

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self zip heff zip, with straight passes.

Pattern for Ben: heff heff pass self self, with crossing passes.



### ***Funky bookends vs parsnip***



Siteswap: 7772677782

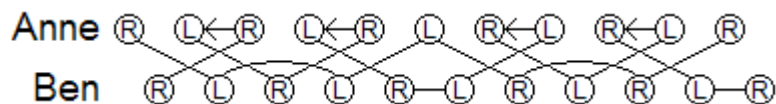
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: pass pass self pass heff, with straight passes.

Pattern for Ben: pass zip pass pass zip, with crossing passes.

### ***Parsnip vs funky bookends***



Siteswap: 7778277726

Start for Anne: two clubs in her right hand and one club in her left hand.

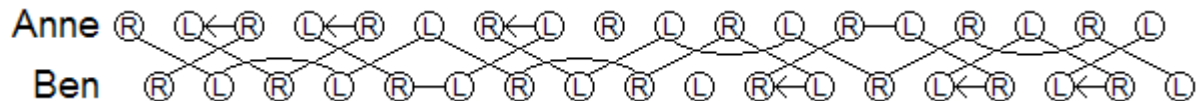
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass zip pass zip, with straight passes.

Pattern for Ben: pass heff pass pass self, with crossing passes.

### ***Programming in parsnip vs funky bookends***

Anne starts passing parsnip and Ben starts passing funky bookends. Then Anne steals the funky bookends pattern and Ben reacts by passing parsnip. At some point after Anne has stolen the funky bookends pattern, Ben can steal the pattern back!



Starting pattern for Anne: pass pass zip pass zip.

Starting pattern for Ben: pass heff pass pass self.

Transition programming pattern for Anne: pass pass zip hold heff.

Transition reaction pattern for Ben: pass heff pass pass hold.

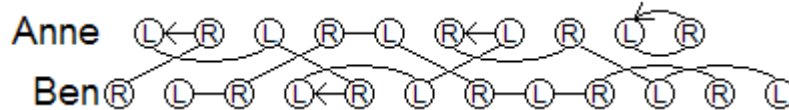
Final programming pattern for Anne: pass pass self pass heff.

Final reaction pattern for Ben: pass zip pass pass zip.

## Hijacking in period five patterns

### *Hijacking in why not?*

Anne and Ben are passing why not? Ben decides he wants to do five count popcorn, so he hijacks the pattern, and Anne is left passing five club why not?



Starting pattern for Ben: pass self pass heff zip.

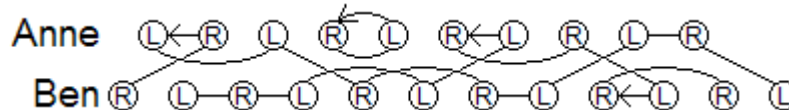
Starting pattern for Anne: heff zip pass self pass.

Hijack pattern for Ben: pass self self heff heff.

Reaction pattern for Anne: heff zip pass self zip.

If you are in Anne's position, the first couple of times you try this, you may find yourself standing holding two clubs when you should be doing self zip!

Now Ben is passing five count popcorn and Anne is passing five club why not? Ben gets tired and decides to switch back to passing why not?



Starting pattern for Ben: pass self self heff heff.

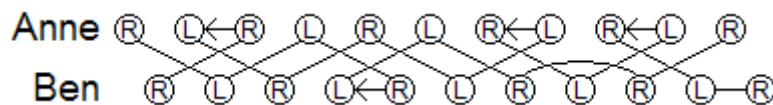
Starting pattern for Anne: heff zip pass self zip.

Hijack pattern for Ben: pass self pass heff zip.

Reaction pattern for Anne: heff zip pass self pass.

### *Hijacking in Martin's one count #1*

Anne and Ben are passing Martin's one count. Ben decides he wants to do funky bookends, so he hijacks the pattern, and Anne is left passing parsnip.



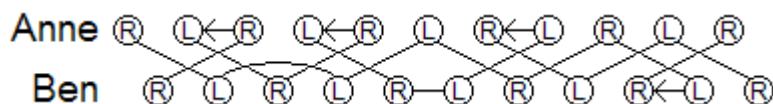
Starting pattern for Anne: pass pass zip pass pass.

Starting pattern for Ben: pass pass pass pass zip.

Hijack pattern for Ben: pass heff pass pass self.

Reaction pattern for Anne: pass pass zip pass zip.

Now Ben is passing funky bookends and Anne is passing parsnip. Ben gets tired and decides to switch back to passing Martin's one count.



Starting pattern for Anne: pass pass zip pass zip.

Starting pattern for Ben: pass heff pass pass self.

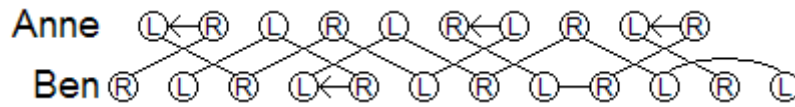
Hijack pattern for Ben: pass pass pass pass zip.

Reaction pattern for Anne: pass pass zip pass pass.



**Hijacking in Martin's one count #2**

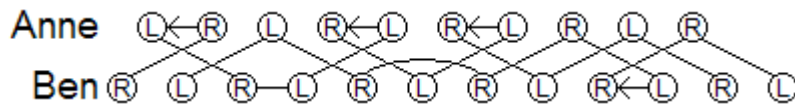
Anne and Ben are passing Martin's one count. Ben decides he wants to do funky bookends, so he hijacks the pattern, and Anne is left passing parsnip.



Starting pattern for Ben: pass pass pass pass zip.  
 Starting pattern for Anne: pass zip pass pass pass.

Hijack pattern for Ben: pass pass self pass heff.  
 Reaction pattern for Anne: pass zip pass pass zip.

Now Ben is passing funky bookends and Anne is passing parsnip. Ben gets tired and decides to switch back to passing Martin's one count.

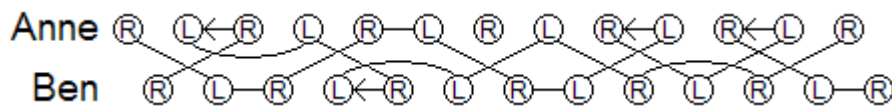


Starting pattern for Ben: pass pass self pass heff.  
 Starting pattern for Anne: pass zip pass pass zip.

Hijack pattern for Ben: pass pass pass pass zip.  
 Reaction pattern for Anne: pass zip pass pass pass.

**'Lo-jacking' in why not?**

Anne and Ben are passing why not? Anne decides she wants to do parsnip, so she lo-jacks the pattern, and Ben is forced to pass funky bookends!

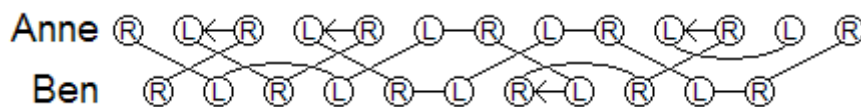


Starting pattern for Anne: pass heff zip pass self.  
 Starting pattern for Ben: pass self pass heff zip.

Transition throws for Anne: pass hold.  
 Transition throws for Ben: pass self.

Hijack pattern for Anne: pass pass zip pass zip.  
 Reaction pattern for Ben: pass heff pass pass self.

Now Anne is passing parsnip and Ben is passing funky bookends. Anne gets tired and decides to switch back to passing why not?



Starting pattern for Anne: pass pass zip pass zip.  
 Starting pattern for Ben: pass heff pass pass self.

Transition throw for Anne: self.

Transition throw for Ben: pass.

Hijack pattern for Anne: pass self pass heff zip.

Reaction pattern for Ben: heff zip pass self pass.

### **How to work out hijacks in period five patterns**

There are some simple rules for working out possible hijacks in period five patterns.

1. You can throw a club to a hand that is expecting to receive a zip. Let's call this the hijack club.
2. If someone throws a hijack club to you, then you have a club that you wanted to zip but now can't. You should throw this 'problem' club to the hand that threw the hijack club.
3. If there is a club 'missing' from your pattern, you should zip to avoid a gap.

Also you may need to add transition throws to lo-jack a pattern.

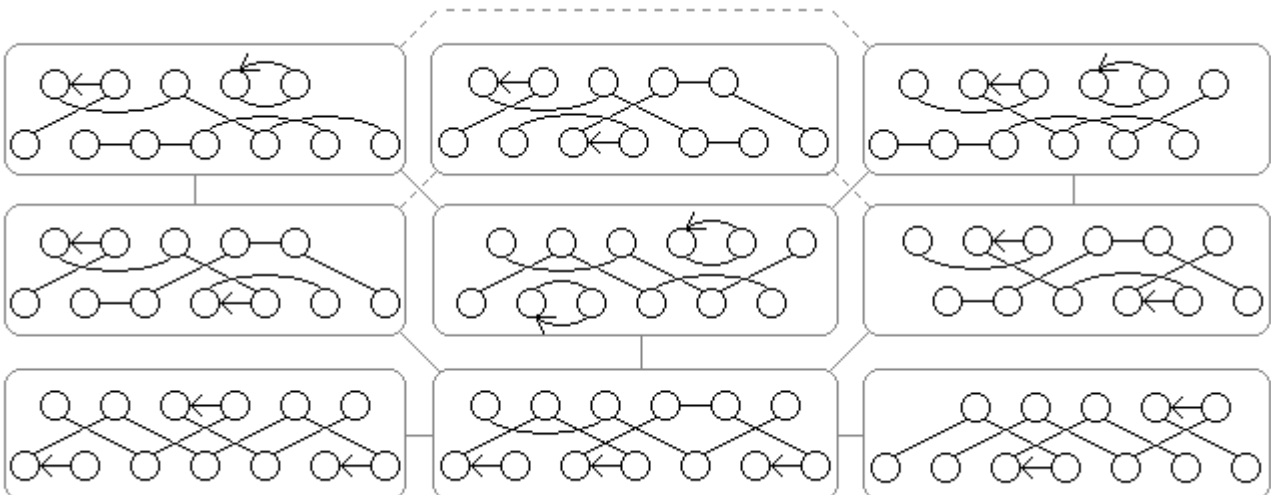
Use these rules to work out some hijacks on paper and then try to apply them in practice.

### **Anything goes!**

If you're passing why not? you could potentially hijack the pattern so that you end up passing five count popcorn against five club why not? or you could lo-jack the pattern so that you end up passing parsnip against funky bookends. Similarly, if you're passing parsnip against funky bookends, you could switch to Martin's one count, or to why not? However there is a problem!

Suppose you're juggling why not? You decide to lo-jack the pattern and pass parsnip. At virtually the same time your partner decides to hijack the pattern and pass five count popcorn. Your partner will throw a self to the same hand that you've passed to! There's not enough time to react to the pass. There's a similar problem with the possible transitions from passing funky bookends against parsnip.

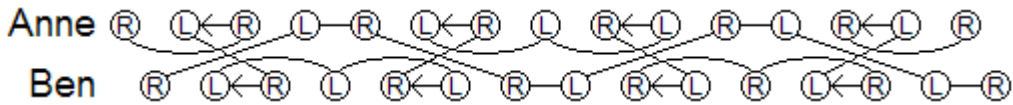
Fortunately there's a simple solution: Pass with one special club that's a different colour from all the others. You can only hijack (or lo-jack) the pattern when you are juggling the special club!



This diagram shows the hijacks that Ben can do between some of the well known period five patterns. The solid lines show where he can hijack between patterns. The dotted lines show where you can transition between patterns without affecting your partner's pattern. In two of these examples it's Anne that changes her pattern.

## Period seven patterns

**8978226**



Siteswap: 8978226

Prechac: 43.5p134.5p41

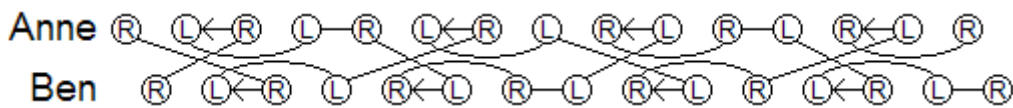
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: heff single zip self double heff zip, with straight singles and crossing doubles.

Pattern for Ben: double heff zip heff single zip self, with crossing singles and straight doubles.

**9788226**



Siteswap: 9788226

Prechac: 4.5p4133.5p41

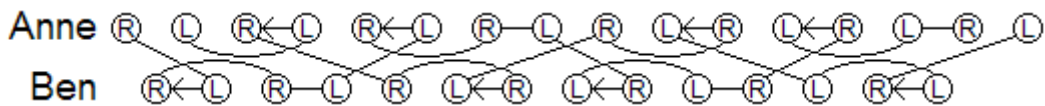
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double heff zip self single heff zip, with straight singles and crossing doubles.

Pattern for Ben: single heff zip double heff zip self, with crossing singles and straight doubles.

**7882962**



Siteswap: 7882962

Prechac: 3.5p44.5p1413

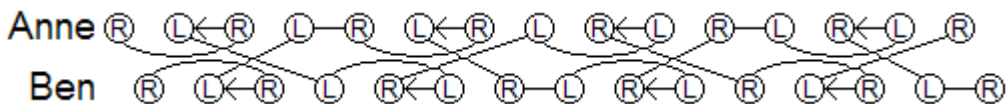
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: single heff double zip heff zip self, with straight singles and crossing doubles.

Pattern for Ben: heff zip self single heff double zip, with crossing singles and straight doubles.

**8897226**



Siteswap: 8897226

Prechac: 44.5p1343.5p1

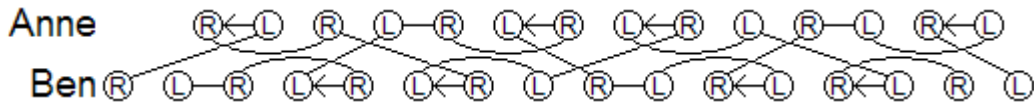
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: heff double zip self heff single zip, with straight singles and crossing doubles.

Pattern for Ben: heff single zip heff double zip self, with crossing singles and straight doubles.

**9268827**



Siteswap: 9268827

Prechac: 4.5p343.5p141

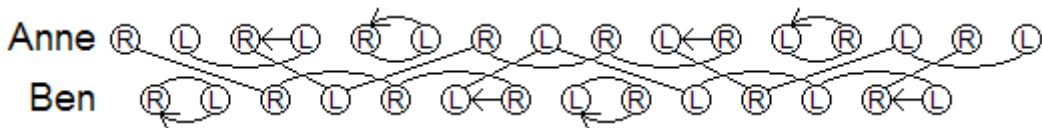
Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: double self heff single zip heff zip, with crossing singles and straight doubles.

Pattern for Anne: heff zip double self heff single zip, with straight singles and crossing doubles.

**9682782**



Siteswap: 9682782

Prechac: 4.5p43.5p1314

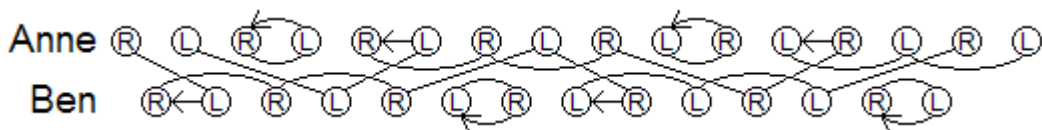
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: double heff single zip self zip heff, with straight singles and crossing doubles.

Pattern for Ben: self zip heff double heff single zip, with crossing singles and straight doubles.

**7892682**



Siteswap: 7892682

Prechac: 3.5p4.5p31414

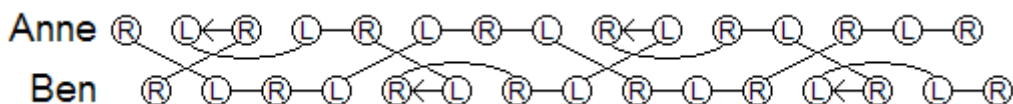
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: single double self zip heff zip heff, with straight singles and crossing doubles.

Pattern for Ben: heff zip heff single double self zip, with crossing singles and straight doubles.

***Jim's three count why not? variation***



Siteswap: 7786266

Prechac: 3.5p4133.5p33

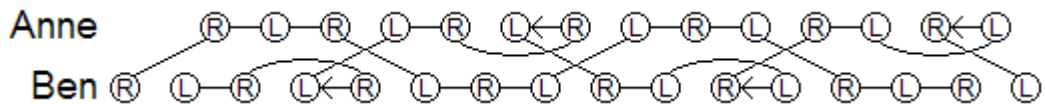
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass heff zip self pass self self, with straight passes.

Pattern for Ben: pass self self pass heff zip self, with crossing passes.

**Jim's three count not why variation**



Siteswap: 7266867

Prechac: 3.5p343.5p133

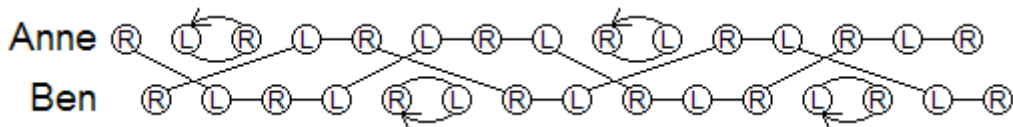
Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand one and a half beats after Ben.

Pattern for Ben: pass self heff pass zip self self, with crossing passes.

Pattern for Anne: self self pass self heff pass zip, with straight passes.

**Jim's three count maybe not variation**



Siteswap: 7966266

Prechac: 3.5p3134.5p33

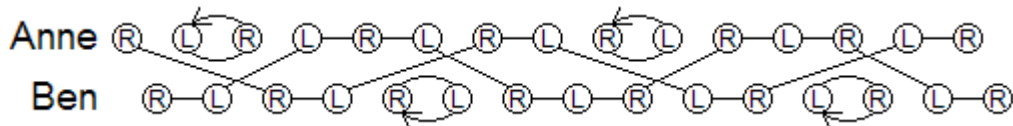
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single self zip self double self self, with straight singles and crossing doubles.

Pattern for Ben: double self self single self zip self, with crossing singles and straight doubles.

**9667266**



Siteswap: 9667266

Prechac: 4.5p31333.5p3

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self zip self self single self, with straight singles and crossing doubles.

Pattern for Ben: self single self double self zip self, with crossing singles and straight doubles.

**Other six club patterns**

**972**



Siteswap: 972

Prechac: 4.5p13.5p

Start for Anne: two clubs in her left hand and one club in her right hand, but her first throw is right handed.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double zip single, with straight singles and crossing doubles.

Pattern for Ben: single double zip, with crossing singles and straight doubles.

**972 Alternative start**



Siteswap: 729

Prechac: 3.5p4.5p1

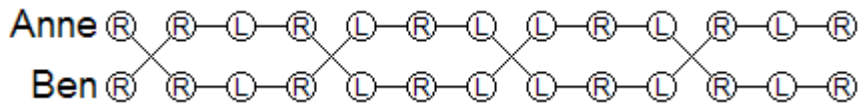
Start for Ben: three clubs in his right hand and one club in his left hand.

Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: single double zip, with crossing singles and straight doubles.

Pattern for Anne: single double zip, with straight singles and crossing doubles.

**Jim's style three count**

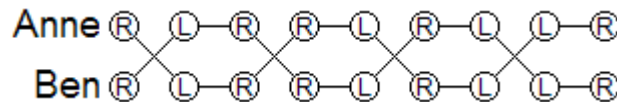


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried self self pass self self.

Colour coding: two red clubs are always passed and four green clubs are always self throws.

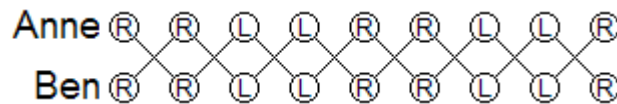
**Jim's style two count**



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self crossing pass hurried self.

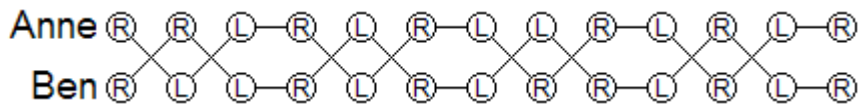
**Jim's style one count**



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried pass.

**Jim's style pass pass self**

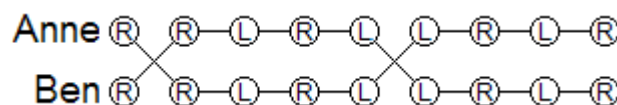


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass hurried pass self pass pass self.

Pattern for Ben: crossing pass crossing pass hurried self pass pass self.

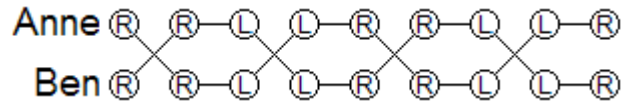
**Four count with crossing passes**



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried self self self.

### ***Two count with crossing passes***

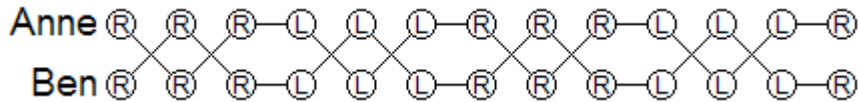


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried self.

Colour coding: four red clubs are always passes and two green clubs are always self throws.

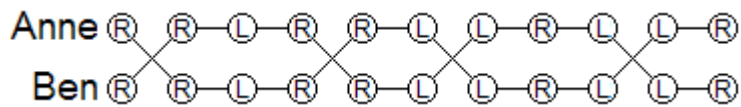
### ***Pass pass self with crossing passes***



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried crossing pass hurried self.

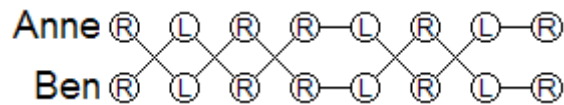
### ***Inverted bookends with crossing passes***



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried self self crossing pass hurried self.

### ***The bitch***

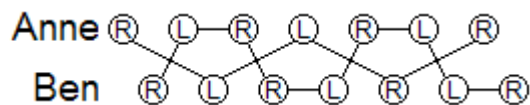


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass pass crossing pass hurried self.

## **Patterns with zaps**

### ***Pass self zap***



Siteswap: 756

Prechac: 3.5p32.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

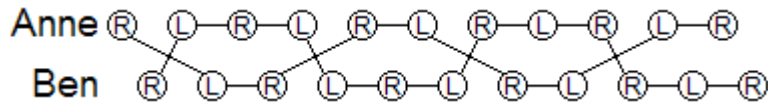
Pattern for Anne: pass self zap, with straight passes and crossing zaps.

Pattern for Ben: zap pass self, with crossing passes and straight zaps.

Note: this pattern has the nice property that each pair of hands throws the same club back an forth.



**75666**



Siteswap: 75666

Prechac: 3.5p332.5p3

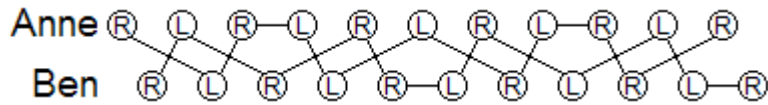
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self self zap self, with straight passes and crossing zaps.

Pattern for Ben: zap self pass self self, with crossing passes and straight zaps.

**75756**



Siteswap: 75756

Prechac: 3.5p3.5p32.5p2.5p

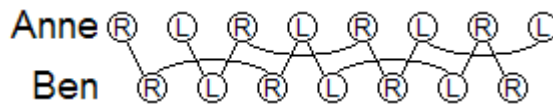
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass self zap zap, with straight passes and crossing zaps.

Pattern for Ben: zap zap pass pass self, with crossing passes and straight zaps.

**Zap zap heff**



Siteswap: 585

Prechac: 2.5p2.5p4

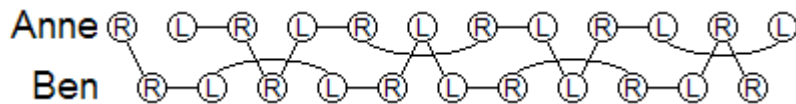
Start for Anne: two clubs each hand.

Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: zap zap heff, with crossing zaps.

Pattern for Ben: heff zap zap, with straight zaps.

**56685**



Siteswap: 56685

Prechac: 2.5p32.5p34

Start for Anne: two clubs each hand.

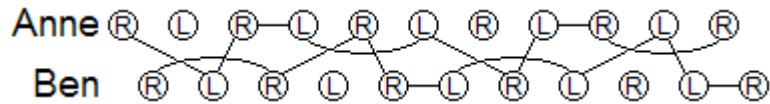
Start for Ben: one club in each hand, half a beat after Anne.

Pattern for Anne: zap self zap self heff, with crossing zaps.

Pattern for Ben: self heff zap self zap, with straight zaps.

Colour coding: two red clubs for the zaps and four green clubs for the self throws and heffs.

**78456**



Siteswap: 78456

Prechac: 3.5p2342.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

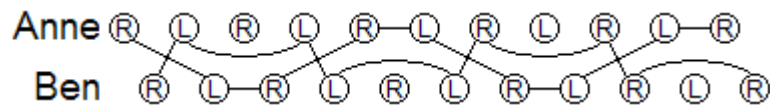
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass hold self heff zap, with straight passes and crossing zaps.

Pattern for Ben: heff zap pass hold self, with crossing passes and straight zaps.

Colour coding: one red club for the zaps and five green clubs.

**75864**



Siteswap: 75864

Prechac: 3.5p422.5p3

Start for Anne: two clubs in her right hand and one club in her left hand.

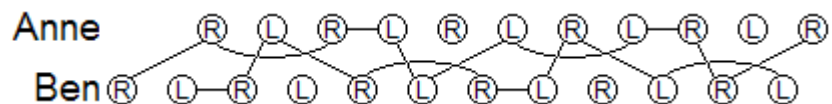
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass heff hold zap self, with straight passes and crossing zaps.

Pattern for Ben: zap self pass heff hold, with crossing passes and straight zaps.

Colour coding: one red club for the zaps, two green clubs for the self throws and three blue clubs for the heffs and passes.

**74685**



Siteswap: 74685

Prechac: 3.5p32.5p24

Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

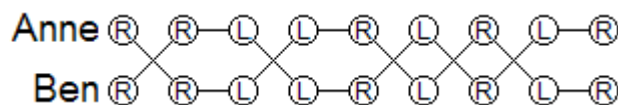
Pattern for Ben: pass self zap hold heff, with crossing passes and straight zaps.

Pattern for Anne: heff pass self zap hold, with straight passes and crossing zaps.

Colour coding: one red club for the zaps and five green clubs.

## Passing games

### A sailor went to sea



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: crossing pass hurried self crossing pass hurried self pass pass pass self.

As you pass you sing the following song:

A sai - lor went to sea, sea, sea to  
crossing pass hurried self crossing pass hurried self pass pass pass self

see what he could see, see, see but  
crossing pass hurried self crossing pass hurried self pass pass pass self

all that he could see, see, see was the  
crossing pass hurried self crossing pass hurried self pass pass pass self

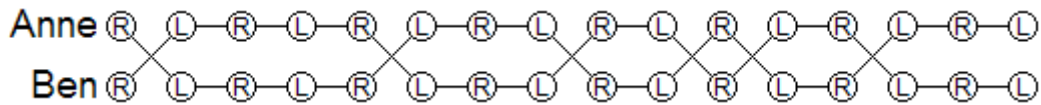
bot - tom of the deep blue sea, sea, sea!  
crossing pass hurried self crossing pass hurried self pass pass pass self

This pattern is based on a hand clapping game.

1. A right hand crossing pass corresponds to clapping your right hand with your partner's right hand.
2. A left hand crossing pass corresponds to clapping your left hand with your partner's right hand.
3. A pass corresponds with clapping both your hands with both your partner's hands.
4. A self corresponds to clapping your own hands together!

### Countdown

Both jugglers pass four count, three count, two count, one count, two count, three count and then the pattern repeats starting with the other hand.



Siteswap: (6x,6x)(6,6)(6,6)(6,6)(6x,6x)(6,6)(6,6)(6x,6x)(6,6)(6x,6x)(6x,6x)(6,6)(6x,6x)(6,6)(6,6)

Prechac: 3p3333p333p33p33p33

Start for both jugglers: two clubs in the right hand and one club in the left hand.

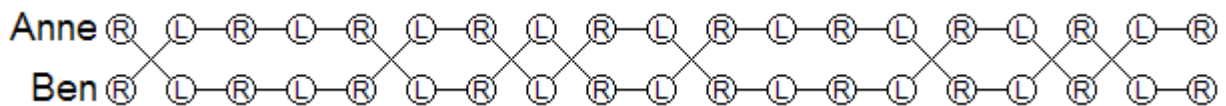
Pattern for both jugglers: pass self self self pass self self pass self pass pass self pass self self.

Colour coding: two blue clubs that are always the four count and one count passes, two green clubs that are always the two count passes and two red clubs that are always self throws.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

### Geometric countdown

Both jugglers pass four count, two count, one count, two count and then the pattern repeats starting with the other hand.



Siteswap: (6x,6x)(6,6)(6,6)(6,6)(6x,6x)(6,6)(6x,6x)(6x,6x)(6,6)

Prechac: 3p3333p33p3p3

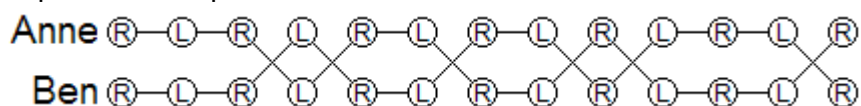
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: pass self self self pass self pass pass self.

Colour coding: two blue clubs that are always the four count and one count passes, two green clubs that are always the two count passes and two red clubs that are always self throws.

### Fizz buzz

This is a passing version of the counting game fizz buzz. In that game you count but say fizz for multiples of three, buzz for multiples of four and fizz buzz for multiples of three and four. In the passing game you pass on multiples of three or four.



Siteswap: (6,6)(6,6)(6x,6x)(6x,6x)(6,6)(6x,6x)(6,6)(6x,6x)(6x,6x)(6,6)(6,6)(6x,6x)

Prechac: 333p3p33p33p333p

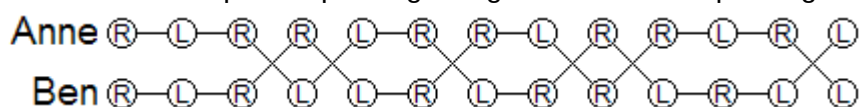
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: self self pass pass self pass self pass pass self self pass.

Note: you can throw crossing passes for multiples of three *and* four, then the pattern repeats starting with the other hand and is twice as long.

### Jim's fizz buzz (synchronous version)

This pattern is fizz buzz with one person passing straight and the other passing crossed.



Start for both jugglers: two clubs in the right hand and one club in the left hand.

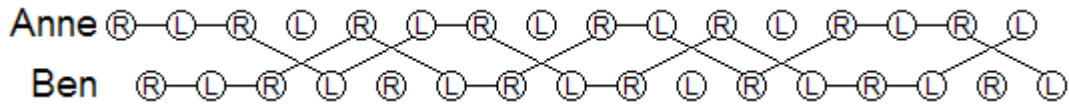
Pattern for Anne: self self pass hurried pass self pass hurried self pass pass hurried self self pass, with straight passes.

Pattern for Ben: hurried self self pass pass hurried self pass self pass hurried pass self self pass, with crossing passes.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

### **Jim's fizz buzz (asynchronous version)**

This pattern is fizz buzz with one person passing straight and the other passing crossed.



Siteswap: 666677477466774667747746666774

Start for Anne: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in the right hand and one club in the left hand half a beat after Anne.

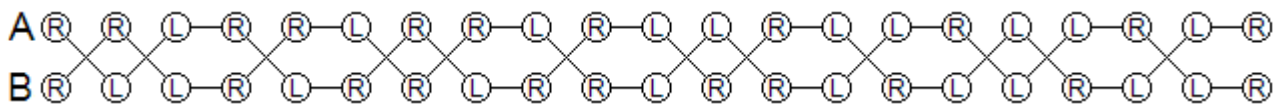
Pattern for Anne: self self pass hold pass self pass hold self pass pass hold self self pass, with straight passes.

Pattern for Ben: self self pass pass hold self pass self pass hold pass self self pass hold, with crossing passes.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

### **Jim's Bookends aka brainstorm (synchronous version)**

This is bookends with one person passing straight and the other passing crossed.



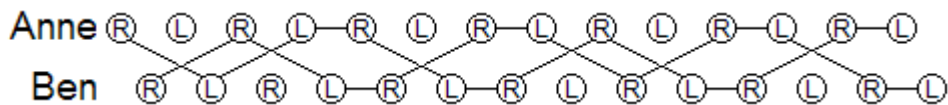
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass hurried pass self pass hurried self pass pass hurried self pass self, with straight passes.

Pattern for Ben: pass pass hurried self pass self pass hurried pass self pass hurried self, with crossing passes.

### **Jim's bookends aka brainstorm (asynchronous version)**

This is bookends with one person passing straight and the other passing crossed.



Siteswap: 7747746677466

Prechac: 3.5p 23.5p33.5p233.5p3.5p233.5p3

Start for Anne: two clubs in the right hand and one club in the left hand.

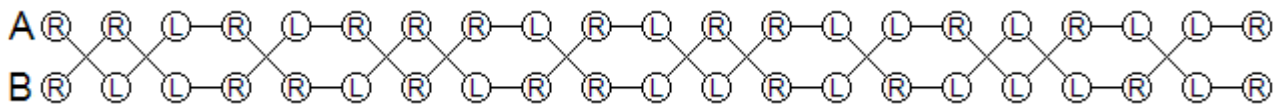
Start for Ben: two clubs in the right hand and one club in the left hand half a beat after Anne.

Pattern for Anne: pass hold pass self pass hold self pass pass hold self pass self, with straight passes.

Pattern for Ben: pass pass hold self pass self pass hold pass self pass hold self, with crossing passes.

### **Jim's bookends variation**

This is a variation of Jim's bookends where each juggler alternates between two straight passes and two crossing passes or vice-versa.



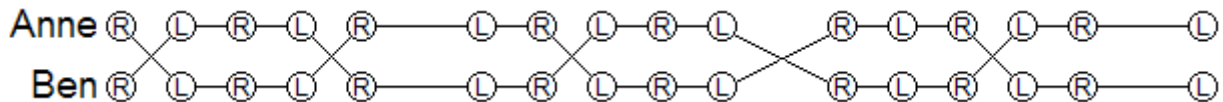
Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass hurried pass self crossing pass self crossing pass hurried pass hurried self pass self crossing pass hurried crossing pass hurried self pass hurried self pass crossing pass self crossing pass hurried self.

Pattern for Ben: crossing pass crossing pass hurried self pass hurried self pass crossing pass self crossing pass hurried self pass hurried pass self crossing pass self crossing pass hurried pass hurried self pass self.

### Three count from hell

This pattern is a three count where every fifth throw is a double.



Start for both jugglers: two clubs in the right hand and one club in the left hand.

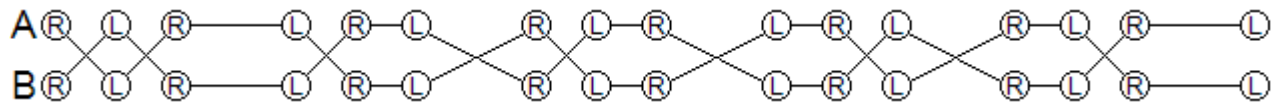
Pattern for both jugglers: single self self single double-self self single self self double self self single self double-self, with straight doubles and crossing double-self throws.

Colour coding: two red clubs are always passes and four green clubs are always self throws

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

### Bookends from hell

This pattern is a bookends pattern where every third throw is a double.



Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for both jugglers: single single double-self single self double single self double self single double self single double-self, with straight doubles and crossing double-self throws.

Colour coding: two red clubs that are always doubles and double-self throws and four green clubs.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

### Alternating two count

Anne and Ben start passing two count with right hand passes. On the first pass Anne calls out a number, say three. After the third pass they switch to left hand two count and Ben calls out a number, say two. After two more passes they switch back to right hand two count and Anne calls out a number. Here's part of a sample game between Anne and Ben:

### Random Jim's three count

In this game you pass on three count and you decide whether to make straight or crossed passes every time you pass. So on any pass both jugglers might pass with the same hand or they might both pass with different hands. Also both jugglers might pass straight, both might pass crossed or one passes straight and the other crossed. There is the potential for collisions, but you can reduce this by passing towards the outside of the pattern.

This game becomes much more interesting if you allow double and triple passes. These passes can also be straight or crossed.

## Spelling game

In this game you think of words and then spell them out as you juggle. For every consonant in the word you pass and for every vowel you throw a self. So if the word is 'juggling' you throw pass self pass pass pass self pass pass. You could have a base pattern such as three count, then between each word you pass two rounds of three count while you choose the next word.

## Colour coded pattern 1

One juggler starts with three green clubs and the other starts with three red clubs. You pass on four count and if the club you're passing is green you throw a straight pass whereas if it's red you throw a crossing pass. You can also try this pattern on two count or experiment with other rhythms.

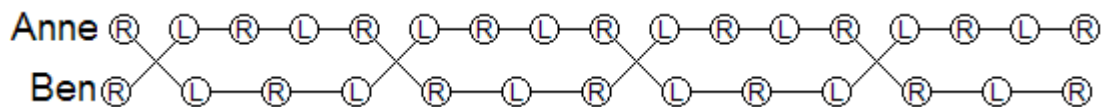
## Colour coded pattern 2

You need two green clubs, two blue clubs and a red and an orange club. The orange club is a special club. Whoever has the orange club is the leader. If the leader passes a blue club then you pass on four count. If they pass a green club you pass on three count. If they pass a red or orange club you pass on two count. Sometimes the pattern gets stuck, for instance if both the green clubs are being passed every time. You can change this by throwing a double pass.

## Slow fast patterns

In the patterns in this section each juggler passes on a different rhythm. To make this work Anne juggles faster than Ben and some of the passes are crossing passes.

### Four count vs three count

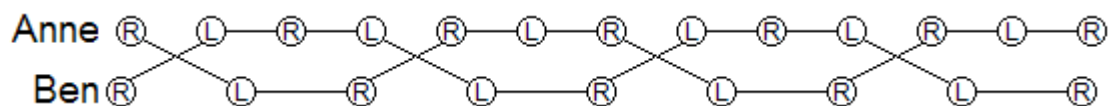


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass self self self crossing pass self self self.

Pattern for Ben: pass self self crossing pass self self.

### Three count vs two count

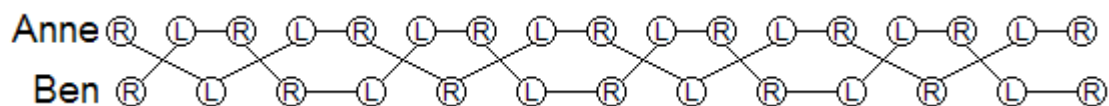


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass self self crossing pass self self.

Pattern for Ben: pass self crossing pass self.

### Two count vs pass pass self

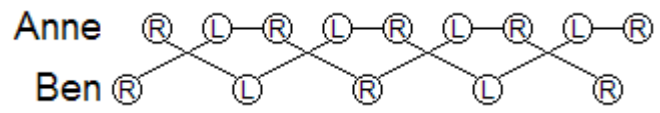


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass self crossing pass self crossing pass self pass self.

Pattern for Ben: pass crossing pass self crossing pass pass self.

### Two count vs one count

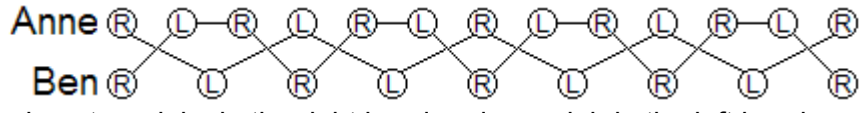


Start for both jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pass self crossing pass self.

Pattern for Ben: pass crossing pass.

***Pass pass self vs one count***



Start for both jugglers: two clubs in the right hand and one club in the left hand.

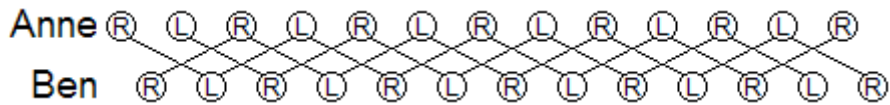
Pattern for Anne: pass self crossing pass crossing pass self pass.

Pattern for Ben: pass crossing pass crossing pass pass.



## Seven club patterns

### **Seven club one count on singles**



Siteswap: 7

Prechac: 3.5p

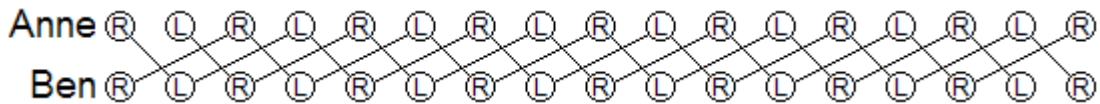
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass, with straight single passes.

Pattern for Ben: pass, with crossing single passes.

### **Seven club one count singles vs doubles (straight singles)**



Siteswap: (6x,8x)

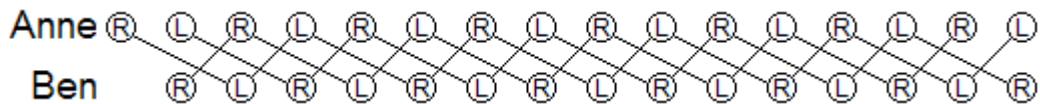
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: pass, with straight single passes.

Pattern for Ben: pass, with crossing double passes.

### **Seven club one count singles vs doubles (crossing singles)**



Siteswap: (8x,6x)

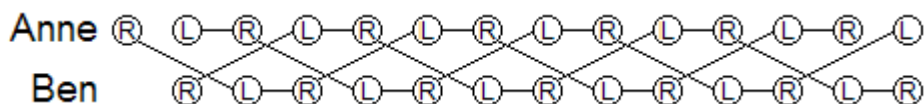
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: pass, with straight double passes.

Pattern for Ben: pass, with crossing single passes.

### **Seven club two count on doubles**



Siteswap: (8x,6)(6,8x)

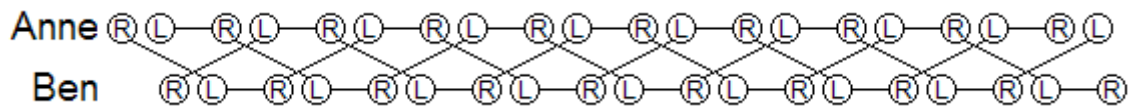
Prechac: 4p3

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for both jugglers: double self, with straight double passes.

### **Seven club two count on singles**

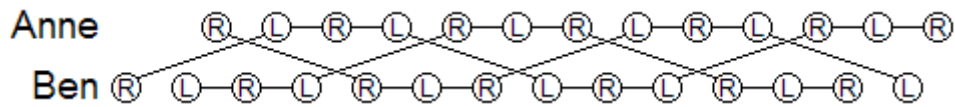


Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for both jugglers: pass self, with straight passes.

**Seven club three count on doubles**



Siteswap: 966

Prechac: 4.5p33

Start for Ben: two clubs in each hand.

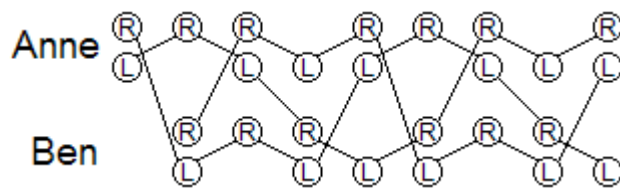
Start for Anne: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

Pattern for Ben: double self self, with straight double passes.

Pattern for Anne: double self self, with crossing double passes.

Colour coding: three red clubs are always passed and four green clubs are always self throws.

**Seven club three count on singles (techno)**



Start for Anne: two clubs in each hand.

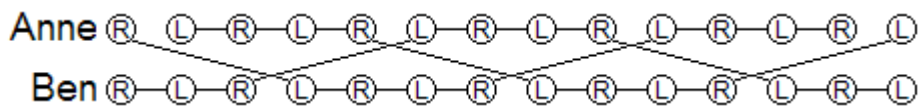
Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: right hand pass and left hand self at the same time, then right hand self, then left hand pass and right hand self at the same time, then left hand self, with straight passes.

Pattern for Ben: right hand pass and left hand self at the same time, then right hand self, then left hand pass and right hand self at the same time, then left hand self, with crossing passes.

Colour coding: three red clubs are always passed and four green clubs are always self throws.

**Seven club four count (triple self)**



Siteswap: (ax,6)(6,6)(6,ax)(6,6)

Prechac: 5p333

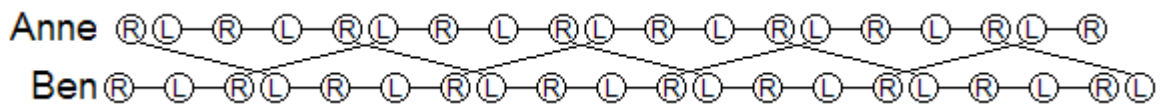
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: triple self self self, with straight triple passes.

Pattern for Ben: self self triple self, with straight triple passes.

**Seven club four count on doubles**



Start for Anne: two clubs in each hand.

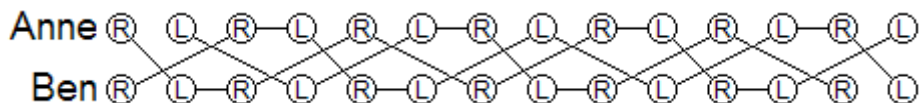
Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: double self self self, with straight double passes.

Pattern for Ben: self self double self, with straight double passes.

## Seven club pass pass self

### ***(6x,8x)(8x,6)(6,8x) with straight singles and crossing doubles***



Siteswap: (6x,8x)(8x,6)(6,8x)

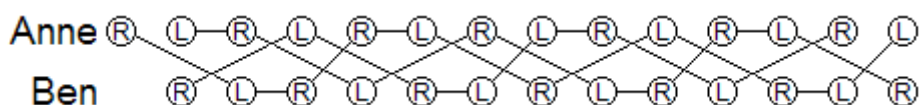
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: single double self, with straight singles and crossing doubles.

Pattern for Ben: double self double, with crossing doubles.

### ***(8x,6x)(6,8x)(8x,6) with crossing singles and straight doubles***



Siteswap: (8x,6x)(6,8x)(8x,6)

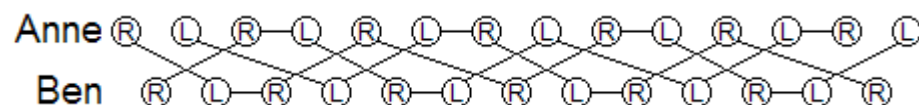
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double self double, with straight doubles.

Pattern for Ben: double self single, with straight doubles and crossing singles.

### ***779667 with crossing doubles***



Siteswap: 779667

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single double self, with straight singles and crossing doubles.

Pattern for Ben: pass self pass, with crossing passes.

### ***777966 with straight doubles***



Siteswap: 777966

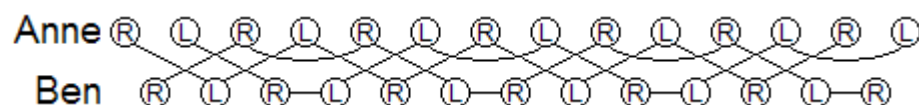
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass self, with straight passes.

Pattern for Ben: single double self, with crossing singles and straight doubles.

### ***777786***



Siteswap: 777786

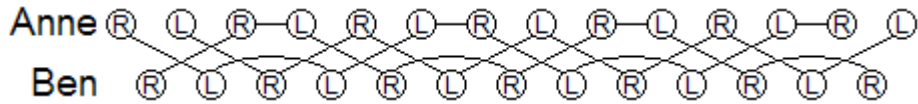
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass heff, with straight passes.

Pattern for Ben: pass pass self, with crossing passes.

### **777867**



Siteswap: 777867

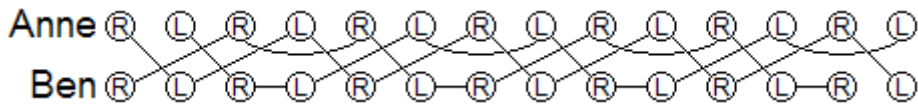
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass self, with straight passes.

Pattern for Ben: pass heff pass, with crossing passes.

### **(6x,8x)(6x,8x)(8,6) with straight singles and crossing doubles**



Siteswap: (6x,8x)(6x,8x)(8,6)

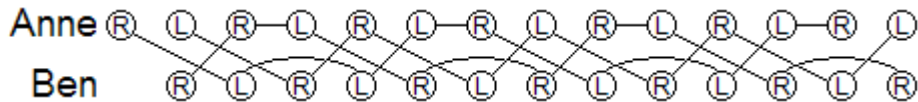
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: pass pass heff, with straight passes.

Pattern for Ben: double double self, with crossing doubles.

### **(8x,6x)(8x,6x)(6,8) with crossing singles and straight doubles**



Siteswap: (8x,6x)(8x,6x)(6,8)

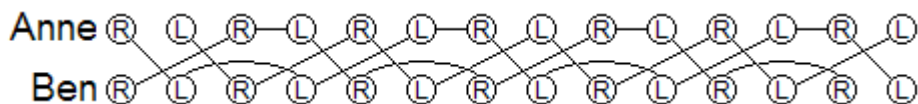
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double double self, with straight doubles.

Pattern for Ben: pass heff pass, with crossing passes.

### **(6x,8x)(6x,8)(6,8x) with straight singles and crossing doubles**



Siteswap: (6x,8x)(6x,8)(6,8x)

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: pass pass self, with straight passes.

Pattern for Ben: double heff double, with crossing doubles.

### **(8x,6x)(8,6x)(8x,6) with crossing singles and straight doubles**



Siteswap: (8x,6x)(8,6x)(8x,6)

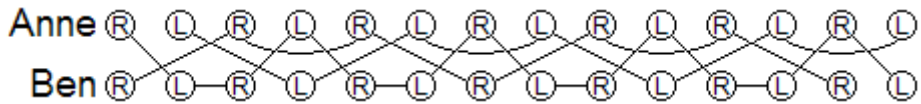
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double heff double, with straight doubles.

Pattern for Ben: pass self pass, with crossing passes.

***(6x,8x)(8x,6)(8,6x) with straight singles and crossing doubles***



Siteswap: (6x,8x)(8x,6)(8,6x)

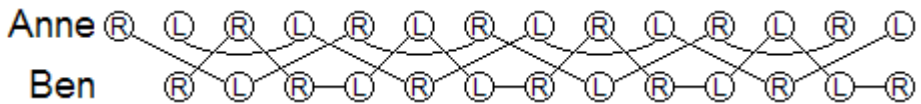
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: single double heff, with straight singles and crossing doubles.

Pattern for Ben: double self single, with straight singles and crossing doubles.

***(8x,6)(8,6x)(6x,8x) with crossing singles and straight doubles***



Siteswap: (8x,6)(8,6x)(6x,8x)

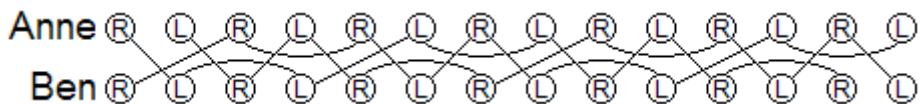
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double heff single, with crossing singles and straight doubles.

Pattern for Ben: single double self, with crossing singles and straight doubles.

***(6x,8x)(6x,8)(8,6x) with straight singles and crossing doubles***



Siteswap: (6x,8x)(6x,8)(8,6x)

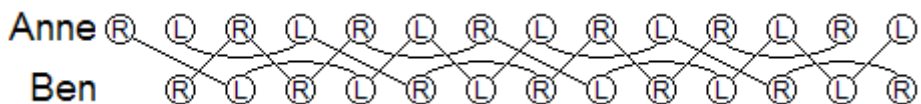
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: pass pass heff, with straight passes.

Pattern for Ben: double heff single, with straight singles and crossing doubles.

***(8x,6x)(8,6x)(6x,8) with crossing singles and straight doubles***



Siteswap: (8x,6x)(8,6x)(6x,8)

Start for Anne: two clubs in each hand.

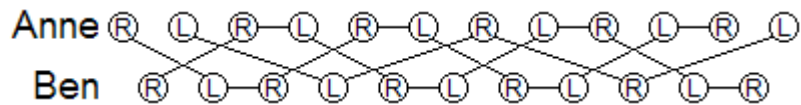
Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double heff single with crossing singles and straight doubles.

Pattern for Ben: pass heff pass with crossing passes.

## Seven club bookends

77966



Siteswap: 77966

Prechac: 3.5p4.5p33.5p3

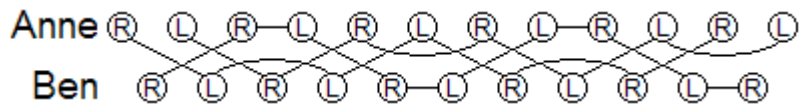
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single double self single self, with straight singles and crossing doubles.

Pattern for Ben: single self single double self, with crossing singles and straight doubles.

### Funky bookends



Siteswap: 77786

Prechac: 3.5p3.5p33.5p4

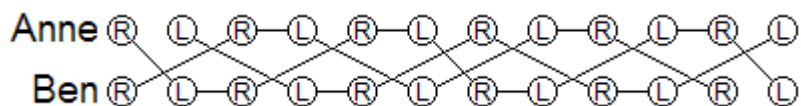
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass self pass heff, with straight passes.

Pattern for Ben: pass heff pass pass self, with crossing passes.

### Seven club synchronous bookends pattern with straight singles and crossing doubles



Siteswap: (6x,8x)(8x,6)(6,8x)(8x,6)(6,8x)

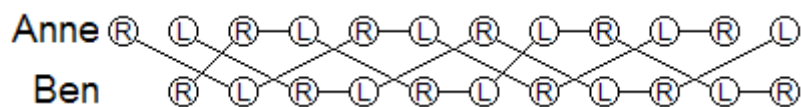
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: single double self double self, with straight singles and crossing doubles.

Pattern for Ben: double self double self double, with crossing doubles.

### Seven club synchronous bookends pattern with crossing singles and straight doubles



Siteswap: (8x,6)(8x,6x)(6,8x)(8x,6)(6,8x)

Start for Anne: two clubs in each hand.

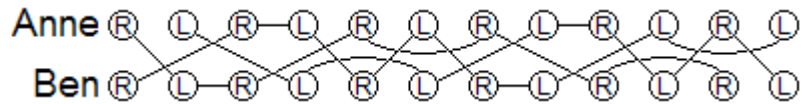
Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double double self double self, with straight doubles.

Pattern for Ben: single double self double self, with crossing singles and straight doubles.



**Seven club synchronous bookends pattern with heffs**



Siteswap: (6x,8x)(8x,6)(6,8x)(6x,8)(8,6x)

Start for Anne: two clubs in each hand.

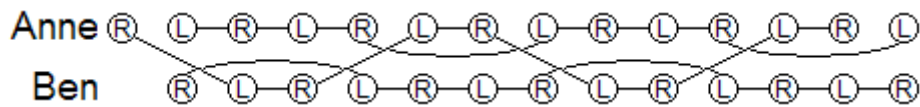
Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: single double self single heff, with straight singles and crossing doubles.

Pattern for Ben: double self double heff single, with straight singles and crossing doubles.

**Popcorn patterns**

**Classic six count popcorn**



Siteswap: (8x,6)(6,a)(6,6)(6,8x)(a,6)(6,6)

Prechac: 4p33353

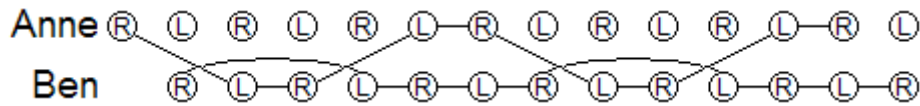
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double self self self triple-self self, with straight doubles.

Pattern for Ben: triple-self self double self self self, with straight doubles.

**Six club practice pattern for six count popcorn**



Siteswap: (8x,6)(4,a)(4,6)(4,8x)(4,6)(6,6)

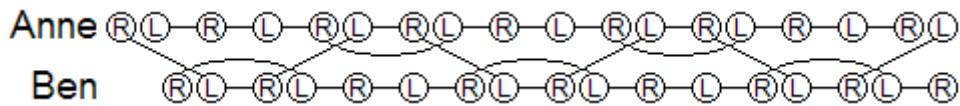
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double hold hold hold hold self, with straight doubles.

Pattern for Ben: triple-self self double self self self, with straight doubles.

**Six count popcorn (techno) with single passes and crossing doubles**



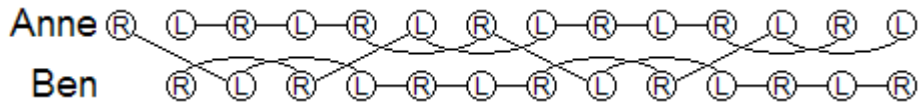
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: pass self self self crossing double-self self, with straight passes.

Pattern for Ben: crossing double-self self pass self self self, with straight passes.

**Six count popcorn with heffs**



Siteswap: (8x,6)(6,8)(6,8)(6,8x)(8,6)(8,6)

Prechac: 4p33344

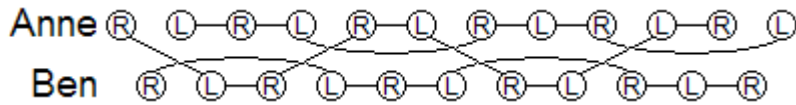
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double self self self heff heff, with straight doubles.

Pattern for Ben: heff heff double self self self, with straight doubles.

**Five count popcorn**



Siteswap: 7a666

Prechac: 3.5p3353

Start for Anne: two clubs in each hand.

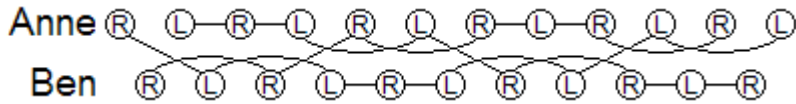
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self self triple-self self, with straight passes.

Pattern for Ben: triple-self self pass self self, with crossing passes.

Colour coding: two red clubs which are both always thrown as a triple-self and five green clubs.

**Five count popcorn with heffs**



Siteswap: 78686

Prechac: 3.5p3344

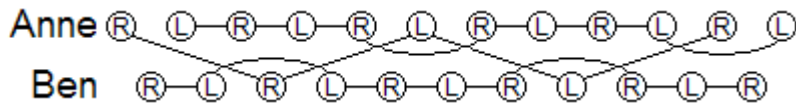
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self self heff heff, with straight passes.

Pattern for Ben: heff heff pass self self, with crossing passes.

**Five count popcorn with double passes and heffs**



Siteswap: 96686

Prechac: 4.5p3334

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self self self heff, with crossing doubles.

Pattern for Ben: self heff double self self, with straight doubles.

Colour coding: use three red clubs and four green clubs so that the passes are always red clubs.

### Four count popcorn



Siteswap: (6x,a)(6,6)(a,6x)(6,6)

Prechac: 3p353

Start for Anne: two clubs in each hand.

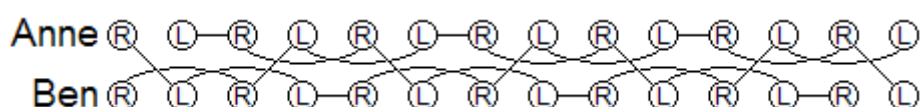
Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: pass self triple-self self, with straight passes.

Pattern for Ben: triple-self self pass self, with straight passes.

Colour coding: use three red clubs and four green clubs so that each pass is a red club and each triple-self is a green club.

### Four count popcorn with heffs



Siteswap: (6x,8)(6,8)(8,6x)(8,6)

Prechac: 3p344

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Pattern for Anne: pass self heff heff, with straight passes.

Pattern for Ben: heff heff pass self, with straight passes.

Colour coding: use three red clubs and four green clubs so that each pass is a red club and each heff is a green club.

### French three count



Siteswap: 786

Prechac: 3.5p34

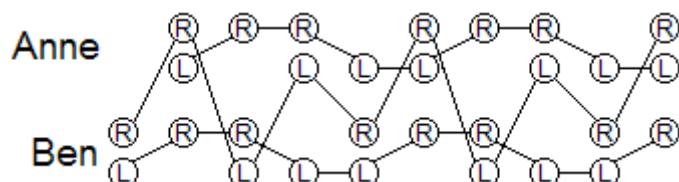
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self heff, with straight passes.

Pattern for Ben: heff pass self, with crossing passes.

### French three count techno #1



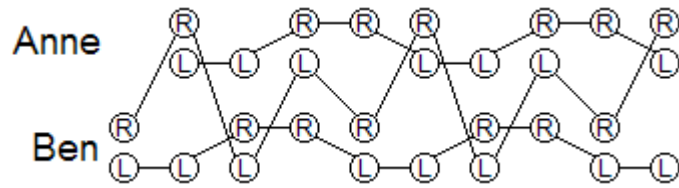
Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, one beat after Ben.

Pattern for Ben: right hand pass and left hand self at the same time, then right hand straight single self, then left hand pass and right hand self at the same time, then left hand straight single self, with crossing passes.

Pattern for Anne: right hand pass and left hand self at the same time, then right hand straight single self, then left hand pass and right hand self at the same time, then left hand straight single self, with straight passes.

**French three count techno #2**



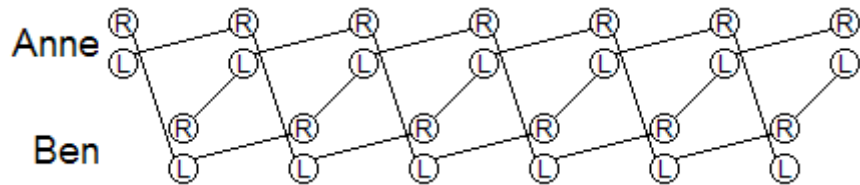
Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, one beat after Ben.

Pattern for Ben: right hand pass and left hand straight single self at the same time, then left hand self, then left hand pass and right hand straight single self at the same time, then right hand self, with crossing passes.

Pattern for Anne: right hand pass and left hand straight single self at the same time, then left hand self, then left hand pass and right hand straight single self at the same time, then right hand self, with straight passes.

**The dark side of two count**

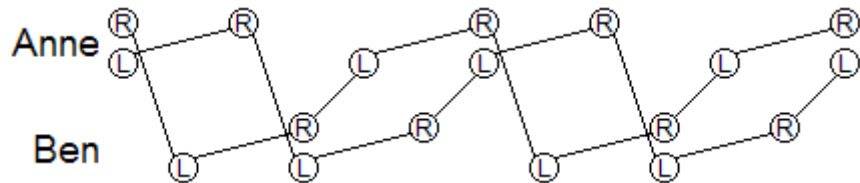


Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for both jugglers: straight right hand pass and left hand crossing double-self at the same time.

**Six club practice pattern for the dark side of two count**



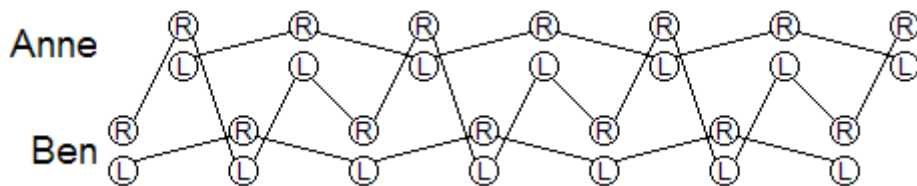
Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, one beat after Anne.

Pattern for Anne: right hand pass and left hand double-self at the same time, then right hand pass, then left hand double-self, with straight passes and crossing double-self throws.

Pattern for Ben: left hand double-self, then right hand pass and left hand double-self at the same time, then right hand pass, with straight passes and crossing double-self throws.

**Ambidextrous variation of the dark side of two count**

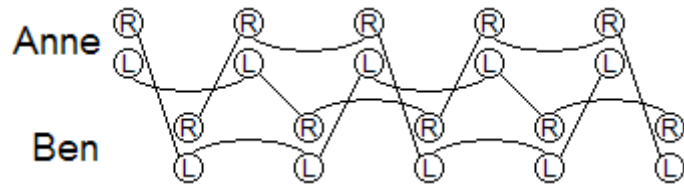


Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, one beat after Ben.

Pattern for Ben: right hand pass and left hand double-self at the same time, then left hand pass and right hand double-self at the same time, with crossing passes and crossing double-self throws.  
Pattern for Anne: right hand pass and left hand double-self at the same time, then left hand pass and right hand double-self at the same time, with straight passes and crossing double-self throws.

**Scratch your head**



Start for Anne: two clubs in each hand.

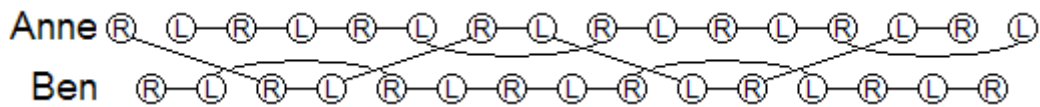
Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: right hand pass and left hand heff at the same time, then left hand pass and right hand heff at the same time, with straight passes.

Pattern for Ben: right hand pass and left hand heff at the same time, then left hand pass and right hand heff at the same time, with crossing passes.

Colour coding: three red clubs that are always passed and four green clubs that are always heffs.

**Seven count popcorn with double passes**



Siteswap: 966a666

Prechac: 4.5p333353

Start for Anne: two clubs in each hand.

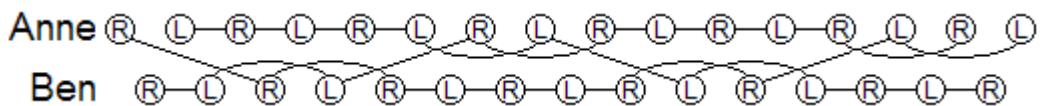
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self self self self triple-self self, with crossing doubles.

Pattern for Ben: self triple-self self double self self self, with straight doubles.

Colour coding: use three red clubs and four green clubs so that each pass is a red club and each triple-self is a green club.

**Seven count popcorn with double passes and heffs**



Siteswap: 9668686

Prechac: 4.5p333344

Start for Anne: two clubs in each hand.

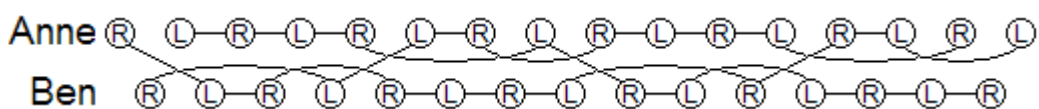
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self self self self heff heff, with crossing doubles.

Pattern for Ben: self heff heff double self self self, with straight doubles.

Colour coding: use three red clubs and four green clubs so that each pass is a red club and each heff is a green club.

**Seven count popcorn with single passes and 534**



Siteswap: 7a66686

Prechac: 3.5p333534

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

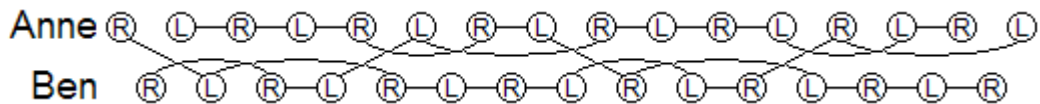
Pattern for Anne: pass self self self triple-self self heff, with straight passes.

Pattern for Ben: triple-self self heff pass self self self, with crossing passes.

Colour coding: use one red club two blue clubs and four green clubs so that the red club is always passed, each heff is a blue club and each triple-self is a green club.



**Seven count popcorn with single passes and 453**



Siteswap: 786a666

Prechac: 3.5p333453

Start for Anne: two clubs in each hand.

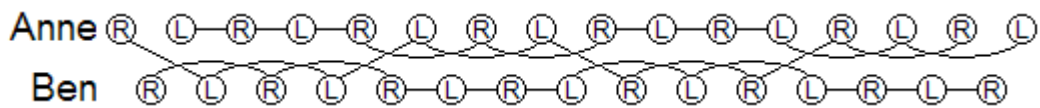
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self self self heff triple-self self, with straight passes.

Pattern for Ben: heff triple-self self pass self self self, with crossing passes.

Colour coding: use one red club two blue clubs and four green clubs so that the red club is always passed, each heff is a blue club and each triple-self is a green club.

**Seven count popcorn with single passes and heffs**



Siteswap: 7868686

Prechac: 3.5p333444

Start for Anne: two clubs in each hand.

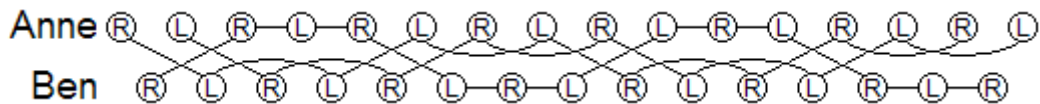
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass self self self heff heff heff, with straight passes.

Pattern for Ben: heff heff heff pass self self self, with crossing passes.

Colour coding: use one red club that's always passed and six green clubs.

**7778686**



Siteswap: 7778686

Prechac: 3.5p3.5p333.5p44

Start for Anne: two clubs in each hand.

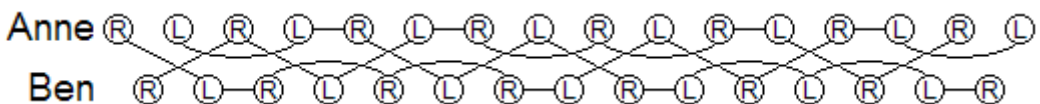
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass pass self self pass heff heff, with straight passes.

Pattern for Ben: pass heff heff pass pass self self, with crossing passes.

Colour coding: use three red clubs that are always passed and four green clubs so that each self and heff is a green club.

**7786786**



Siteswap: 7786786

Prechac: 3.5p43.5p33.5p34

Start for Anne: two clubs in each hand.

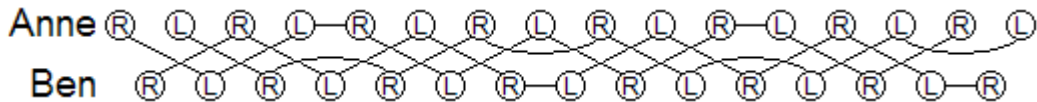
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass heff pass self pass self heff, with straight passes.

Pattern for Ben: pass self heff pass heff pass self, with crossing passes.

Colour coding: use three red clubs that are always passed and four green clubs so that each self and heff is a green club.

## 777786



Siteswap: 777786

Prechac: 3.5p3.5p3.5p33.5p3.5p4

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

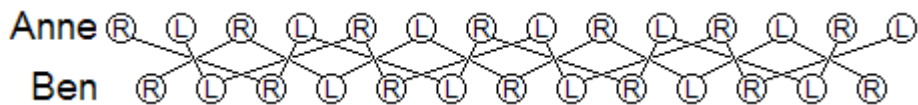
Pattern for Anne: pass pass pass self pass pass heff, with straight passes.

Pattern for Ben: pass pass heff pass pass pass self, with crossing passes.

Colour coding: use five red clubs that are always passed and two green clubs.

## Seven club patterns with zaps

### *The holy grail aka Willy Wonka's<sup>1</sup> one count*



Siteswap: 975

Prechac: 4.5p2.5p3.5p

Start for Anne: two clubs in each hand.

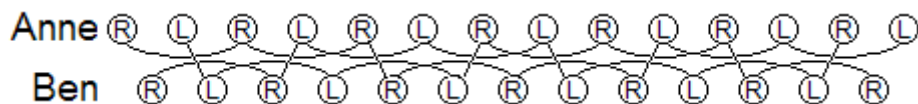
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: crossing double crossing zap straight single.

Pattern for Ben: crossing single straight double straight zap.

Colour coding: three red clubs are always double passes and four green clubs for the zaps and passes.

### *Heff zap heff*



Siteswap: 885

Prechac: 42.5p4

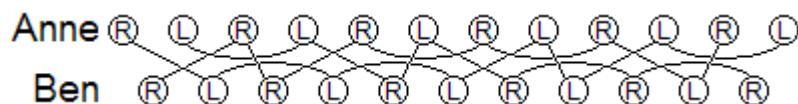
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: heff crossing zap heff.

Pattern for Ben: heff heff straight zap.

### *Seven club bookends with zaps*



Siteswap: 77885

Prechac: 3.5p42.5p3.5p4

Start for Anne: two clubs in each hand.

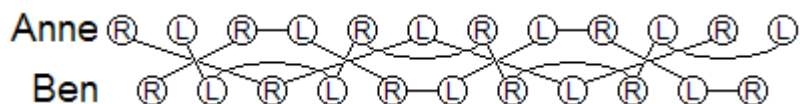
<sup>1</sup> Apologies to Will and Rhonda

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: pass heff zap pass heff, with straight passes and crossing zaps.

Pattern for Ben: pass heff pass heff zap, with crossing passes and straight zaps.

### 97586



Siteswap: 97586

Prechac: 4.5p2.5p33.5p4

Start for Anne: two clubs in each hand.

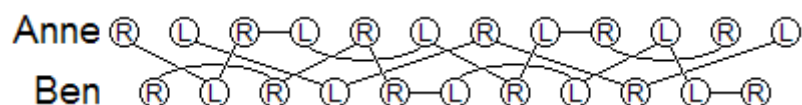
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double zap self single heff, with straight singles and crossing zaps and doubles.

Pattern for Ben: single heff double zap self, with crossing singles and straight zaps and doubles.

Colour coding: one red club for the zaps, three green clubs for the doubles and self throws and three blue clubs for the heffs and single passes.

### 78956



Siteswap: 78956

Prechac: 3.5p4.5p342.5p

Start for Anne: two clubs in each hand.

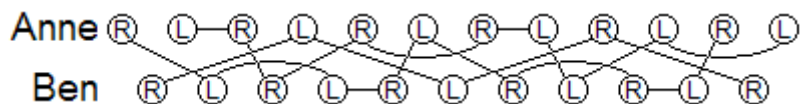
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single double self heff zap, with straight singles and crossing zaps and doubles.

Pattern for Ben: heff zap single double self, with crossing singles and straight zaps and doubles.

Colour coding: one red club for the zaps and six green clubs.

### 79685



Siteswap: 79685

Prechac: 3.5p32.5p4.5p4

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single self zap double heff, with straight singles and crossing zaps and doubles.

Pattern for Ben: double heff single self zap, with crossing singles and straight zaps and doubles.

Colour coding: one red club for the zaps, three green clubs for the doubles and self throws and three blue clubs for the heffs and single passes.

## Other seven club patterns

### Oddz godz



Start for Anne: three clubs in her right hand and one club in her left hand.

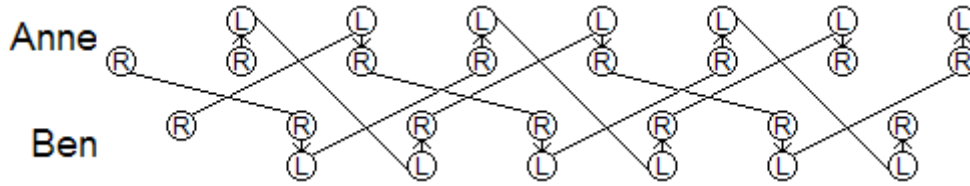
Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: crossing double hurried self.

Pattern for Ben: straight double hurried self.

Colour coding: five red clubs are always passed and two green clubs are always self throws.

**Oddz godz synchronous version**



Start for Anne: three clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

First throw for Anne: crossing double.

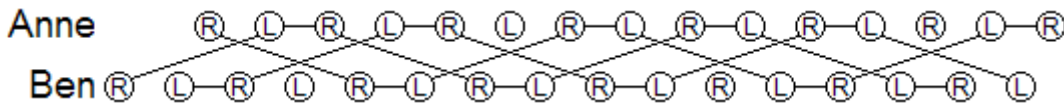
First throw for Ben: straight double

Pattern for Anne: crossing double zip.

Pattern for Ben: straight double zip.

Colour coding: five red clubs are always passed and two green clubs are always self throws.

**Seven club Jim's two count**



Siteswap: 9669964

Prechac: 4.5p34.5p234.5p3

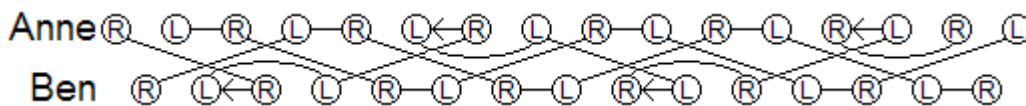
Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

Pattern for Ben: double self double hold self double self, with straight doubles.

Pattern for Anne: double self double self double hold self, with crossing doubles.

**Seven club why not? style pattern**



Siteswap: 9968926

Prechac: 4.5p34.5p34.5p41

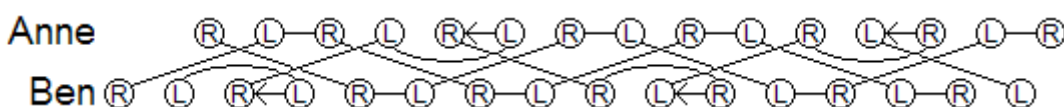
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self double self double heff zip, with crossing doubles.

Pattern for Ben: double heff zip double self double self, with straight doubles.

**Seven club not why style pattern**



Siteswap: 9689962

Prechac: 4.5p44.5p134.5p3

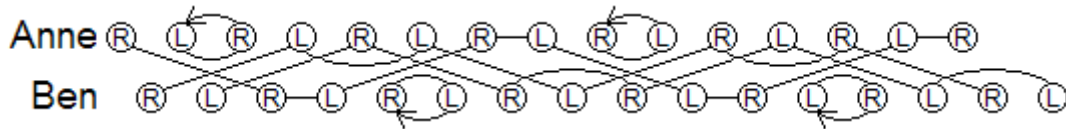
Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

Pattern for Ben: double heff double zip self double self, with straight doubles.

Pattern for Anne: double self double heff double zip self, with crossing doubles.

**Seven club maybe style pattern #1**



Siteswap: 9969268

Prechac: 4.5p3144.5p4.5p3

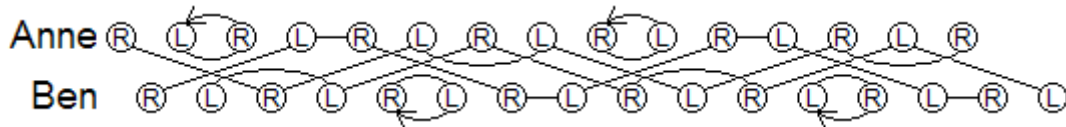
Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in each hand, half a beat after Anne.

Pattern for Anne: double self zip heff double double self, with crossing doubles.

Pattern for Ben: double double self double self zip heff, with straight doubles.

**Seven club maybe style pattern #2**



Siteswap: 9968296

Prechac: 4.5p3134.5p44.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

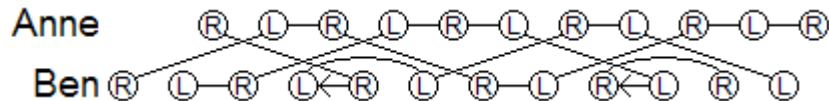
Start for Ben: two clubs in each hand, half a beat after Anne.

Pattern for Anne: double self zip self double heff double, with crossing doubles.

Pattern for Ben: double heff double double self zip self, with straight doubles.

**Why rei?**

In this pattern Ben passes why not? with double passes and Anne passes inverted bookends with double passes.



Siteswap: 9669968926

Start for Ben: two clubs in each hand.

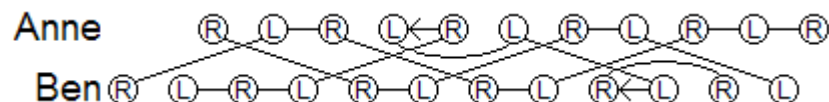
Start for Anne: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

Pattern for Ben: double self double heff zip, with straight doubles.

Pattern for Anne: double self double self self, with crossing doubles.

**Programming in why rei?**

Ben starts passing inverted bookends and Anne starts passing Why not? Then Ben steals the why not? pattern and Anne reacts by passing inverted bookends. At some point after Ben has stolen the why not? pattern, Anne can steal the pattern back!



Starting pattern for Ben: double self self double self.

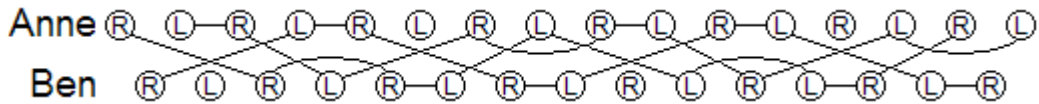
Starting pattern for Anne: double self double heff zip.

Programming pattern for Ben: double self double heff zip.



Reaction pattern for Anne: double self double self self.

### Seven club Jim's two count variation #1



Siteswap: 9964786

Prechac: 4.5p33.5p34.5p24

Start for Anne: two clubs in each hand.

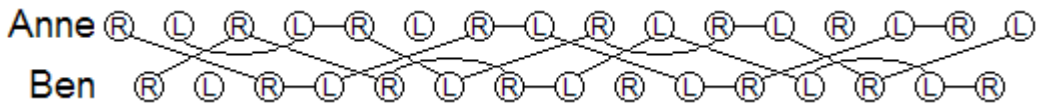
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self single self double hold heff, with straight singles and crossing doubles.

Pattern for Ben: double hold heff double self single self, with crossing singles and straight doubles.

Colour coding: use one red club, two green clubs and four blue clubs so that the red club is always passed, the heffs are always green clubs and the double passes are always blue clubs.

### Seven club Jim's two count variation #2



Siteswap: 9784966

Prechac: 4.5p44.5p33.5p23

Start for Anne: two clubs in each hand.

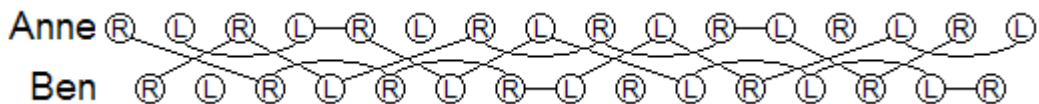
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double heff double self single hold self, with straight singles and crossing doubles.

Pattern for Ben: single hold self double heff double self, with crossing singles and straight doubles.

Colour coding: one red club that's always a single pass, three blue clubs that are double passes and heffs and three green clubs that are double passes and self throws.

### Seven club Jim's two count variation #3



Siteswap: 9784786

Prechac: 4.5p43.5p33.5p24

Start for Anne: two clubs in each hand.

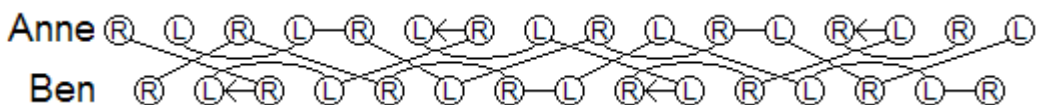
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double heff single self single hold heff, with straight singles and crossing doubles.

Pattern for Ben: single hold heff double heff single self, with crossing singles and straight doubles.

Colour coding: two red clubs that are always single passes, two blue clubs that are never passed and three green clubs.

### Seven club why not? variation



Siteswap: 9788926

Prechac: 4.5p44.5p33.5p41

Start for Anne: two clubs in each hand.

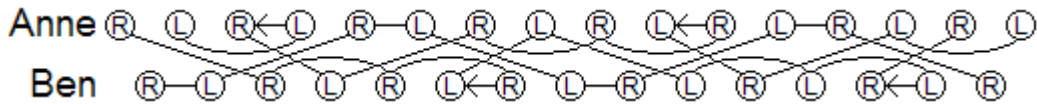
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double heff double self single heff zip, with straight singles and crossing doubles.

Pattern for Ben: single heff zip double heff double self, with crossing singles and straight doubles.

Colour coding: one red club that's always a single pass and six green clubs.

### **Seven club not why variation #1**



Siteswap: 9689782

Prechac: 4.5p43.5p134.5p4

Start for Anne: two clubs in each hand.

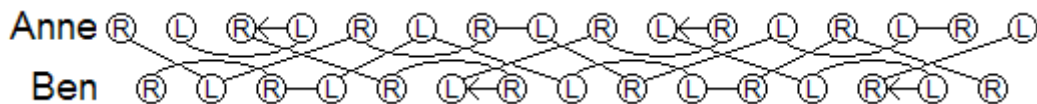
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double heff single zip self double heff, with straight singles and crossing doubles.

Pattern for Ben: self double heff double heff single zip, with crossing singles and straight doubles.

Colour coding: one red club that's always a single pass and six green clubs.

### **Seven club not why variation #2**



Siteswap: 7889962

Prechac: 3.5p44.5p144.5p3

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single heff double zip heff double self, with straight singles and crossing doubles.

Pattern for Ben: heff double self single heff double zip, with crossing singles and straight doubles.

Colour coding: one red club that's always a single pass and six green clubs.

### **Seven club not why variation #3**



Siteswap: 7889782

Prechac: 3.5p43.5p144.5p4

Start for Anne: two clubs in each hand.

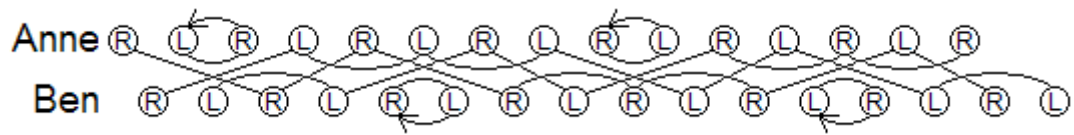
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: single heff single zip heff double heff, with straight singles and crossing doubles.

Pattern for Ben: heff double heff single heff single zip, with crossing singles and straight doubles.

Colour coding: two red clubs that are always single passes and five green clubs.

### **Seven club maybe variation**



Siteswap: 9968278

Prechac: 4.5p3144.5p43.5p

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in each hand, half a beat after Anne.

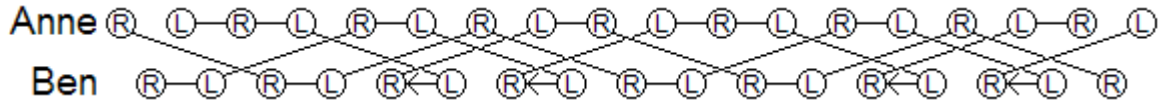
Pattern for Anne: double self zip heff double heff single, with straight singles and crossing doubles.

Pattern for Ben: double heff single double self zip heff, with crossing singles and straight doubles.

Colour coding: one red club that's always a single pass and six green clubs.

### **Copenhagen countdown**

Anne juggles three count, then two count, then one count, then two count with double passes and then the pattern repeats. Ben juggles two count, then one count, then two count then three count with double passes and then the pattern repeats. In Ben's pattern two of the self throws are replaced by zips.



Siteswap: 9669669969929962

Start for Anne: two clubs in each hand.

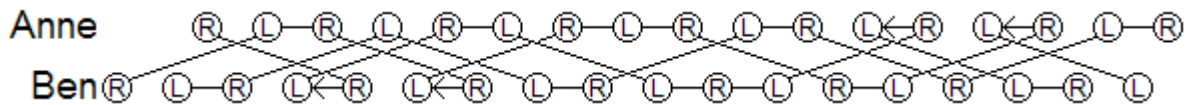
Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self self double self double double self, with crossing doubles.

Pattern for Ben: self double self double double zip double zip, with straight doubles.

### **Programming in the Copenhagen countdown**

Ben starts passing the countdown pattern with zips and Anne starts passing the normal countdown pattern. Then Ben steals the normal countdown pattern and Anne reacts by passing the countdown pattern with zips. At some point after Ben has stolen the normal countdown pattern, Anne can steal the pattern back!



Initial pattern for Ben: double self double double zip double zip self.

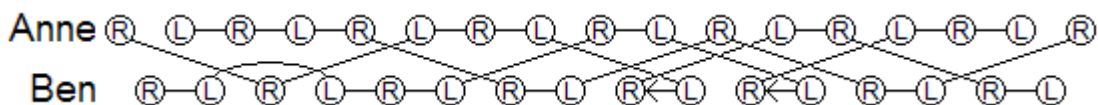
Initial pattern for Anne: double self double double self double self self.

Programming pattern for Ben: double self self double self double double self.

Reaction pattern for Anne: double self double double zip double zip self.

### **Oslo countdown**

Anne juggles four count, then three count, then two count, then one count, then two count, then three count with double passes and then the pattern repeats. Ben juggles three count, then two count, then one count, then two count then three count, then four count with double passes and then the pattern repeats. In Ben's pattern one of the self throws is replaced by a heff and two of the self throws are replaced by zips.



Siteswap: 9668696696696699629962966966

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self self self double self self double self double double self double self self, with crossing doubles.

Pattern for Ben: self heff double self self double self double double zip double zip self double self, with straight doubles.

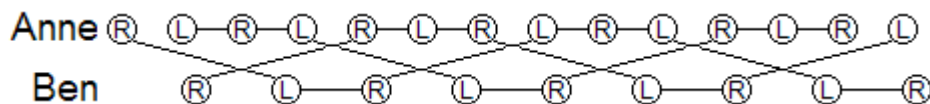
Notes: the pattern repeats with the other hand. The diagram only shows half the pattern.

You can use programming to steal the normal countdown pattern. It's just like the programming in the Copenhagen countdown!

## Seven club slow fast patterns

In the patterns in this section each juggler passes on a different rhythm. To make this work Anne juggles faster than Ben and some of the passes are crossing passes.

### Seven club three count vs two count



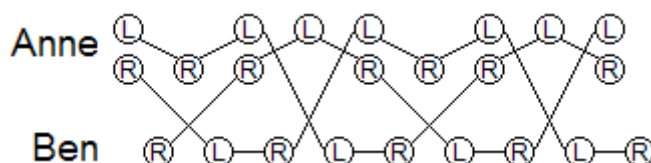
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double self self crossing double self self.

Pattern for Ben: crossing double self double self.

### Techno vs two count



Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: right hand pass and left hand self at the same time, then right hand self, then left hand crossing pass and right hand self at the same time, then left hand self.

Pattern for Ben: crossing pass self pass self.

### Seven club pass pass self vs two count



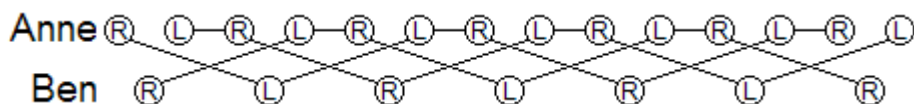
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one beat after Anne.

Pattern for Anne: double self double self crossing double self crossing double self.

Pattern for Ben: double self single crossing double self crossing single.

### Seven club two count vs one count



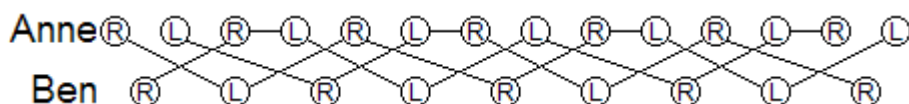
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double self crossing double self.

Pattern for Ben: double crossing double.

### Seven club pass pass self vs one count



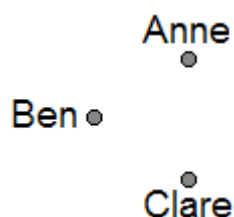
Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat after Anne.

Pattern for Anne: double double self crossing double crossing double self.

Pattern for Ben: crossing pass double pass crossing double.

## Three person patterns



For most three person passing patterns the jugglers stand in a triangle as shown above. A club thrown from Anne to Ben, or Ben to Clare, or Clare to Anne will travel anticlockwise around the triangle. I have incorporated this picture into the causal diagrams for the three person patterns.

### ***Ins and outs***

Inside passes are right hand passes to the person on your left, or left hand passes to the person on your right. Outside passes are right hand passes to the person on your right, or left hand passes to the person on your left.

### ***The natural and magic set of clubs***

The natural set of clubs is a set of nine clubs for colour coding many three person patterns. The set contains three clubs of each of three different colours. In our examples there will be three red clubs, three blue clubs and three green clubs.

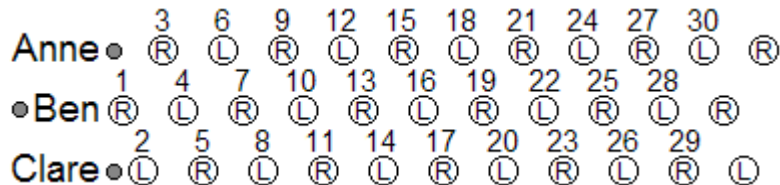
The magic set of clubs is another set of nine clubs for colour coding many three person patterns. Take the natural set of clubs and replace one club of each colour with a white club. In our examples there will be three white clubs, two red clubs, two blue clubs and two green clubs.



## Six handed siteswaps

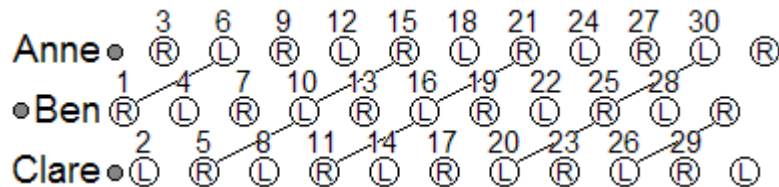
### The recipe for anticlockwise siteswaps

- Take any siteswap. I'm going to choose the nine object pattern b9aab939abb6a69. (In siteswap 'a' stands for 10 and 'b' stands for 11).
- Subtract 6 from every number to give a derived siteswap. In my example the derived siteswap is 534453-334450403. (Despite the negative numbers, this is still a siteswap)!
- Number the beats in a causal diagram as follows:

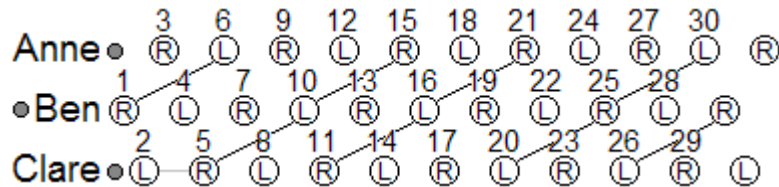


Note that the beats are numbered anticlockwise around the triangle of jugglers.

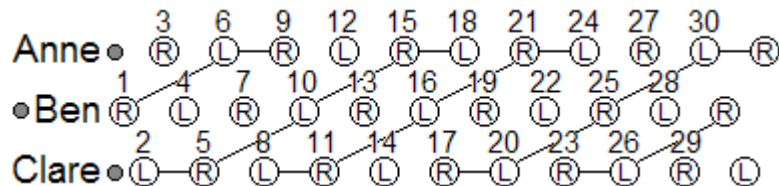
- Now for the first beat, 1, add the first number in the derived siteswap, 5, and you get  $1+5=6$ . So on the diagram draw a line from beat 1 to beat 6:
- Note that 5 is the derived siteswap on beats 5, 10, and 11. So we can draw a similar line starting at each of these beats. Also the pattern repeats, so we can draw a similar line from beats 16, 20, 25, and 26:



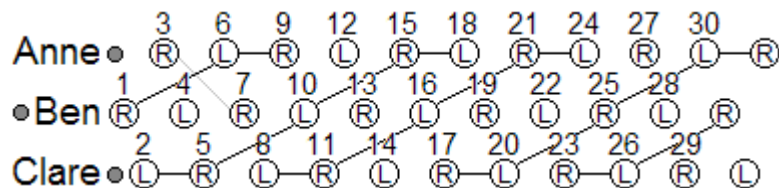
- For the second beat, 2, add the second number in the derived siteswap, 3, and you get  $2+3=5$ . So on the diagram draw a line from beat 2 to beat 5:



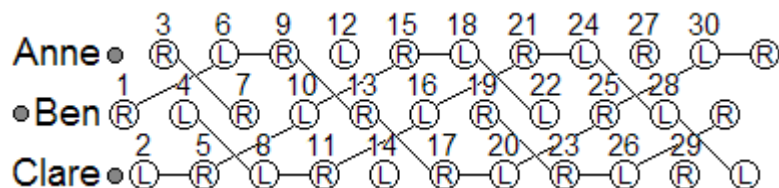
- Note that 3 is the derived siteswap on beats 6, 8, and 15. So we can draw a similar line starting at each of these beats. Also the pattern repeats, so we can draw a similar line from beats 17, 21, 23, and 30:



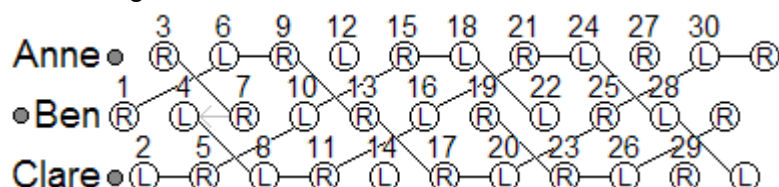
- For the third beat, 3, add the third number in the derived siteswap, 4, and you get  $3+4=7$ . So on the diagram draw a line from beat 3 to beat 7:



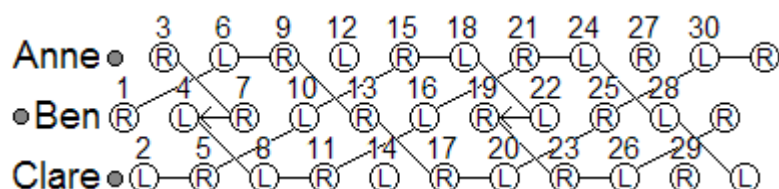
- Note that 4 is the derived siteswap on beats 4, 9, and 13. So we can draw a similar line starting at each of these beats. Also the pattern repeats, so we can draw a similar line from beats 18, 19, 24, and 28:



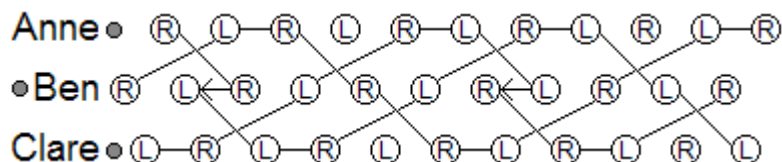
- For the seventh beat, 7, add the seventh number in the derived siteswap, -3, and you get  $7-3=4$ . So on the diagram draw a line from beat 7 to beat 4:



- Also the pattern repeats, so we can draw a similar line from beat 22:

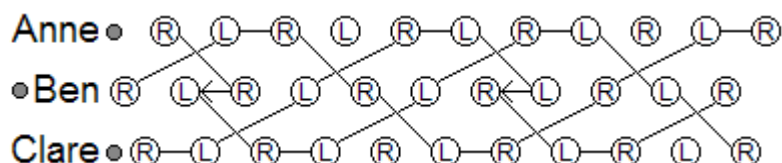


- For the twelfth beat, 12, add the twelfth number in the derived siteswap, 0, and you get  $12+0=12$ . So on the diagram draw a line from beat 12 to beat 12 (or leave it out).
- Note that 0 is the derived siteswap on beat 14. So we could draw a similar line starting at that beat. Also the pattern repeats, so we could draw a similar line from beats 27, and 29.
- The result is the following pattern:



Ben feeds on Martin's one count. His pattern is Anne Clare zip Anne Clare. Ben throws straight passes to Anne and crossing passes to Clare. Clare and Anne pass to Ben on Jim's two count. Clare starts left handed, a third of a beat after Ben. Her pattern is self pass self pass hold with straight passes to Ben. Anne starts two thirds of a beat after Ben. Her pattern is pass self pass hold self with crossing passes to Ben.

If we relabel the beats in Clare's pattern then all Ben's passes are straight and Anne and Clare throw crossing passes to Ben:

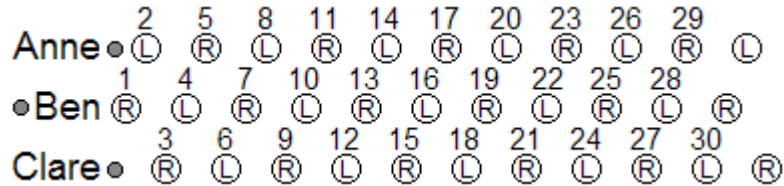


This pattern is Martin's one count feeding Jim's two count. The anticlockwise siteswap for this feed is: b9aab939abb6a69.

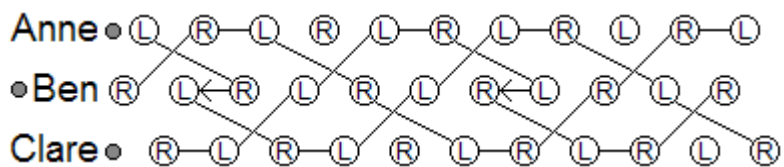
**The recipe for clockwise siteswaps**

The recipe for clockwise six handed siteswaps is essentially the same as for anticlockwise six handed siteswaps. The difference is that the causal diagram is flipped upside down. As a result the beats are numbered clockwise around the triangle of jugglers.

- Take any siteswap. I'm going to choose the nine object pattern ab9b9a3b9a6ab96.
- Subtract 6 from every number to give a derived siteswap. In my example the derived siteswap is 453534-353404530. (Despite the negative numbers, this is still a siteswap)!
- Number the beats in a causal diagram as follows:

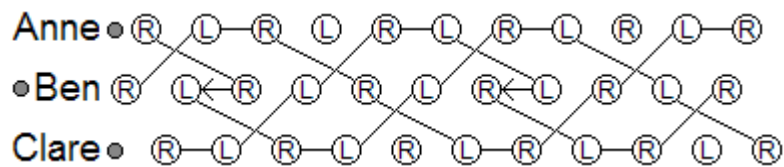


- Use the derived siteswap to complete the causal diagram:



Ben feeds on Martin's one count. His pattern is Anne Clare zip Anne Clare. Ben throws crossing passes to Anne and straight passes to Clare. Clare and Anne pass to Ben on Jim's two count. Anne starts left handed, a third of a beat after Ben. Her pattern is pass self pass hold self with crossing passes to Ben. Clare starts two thirds of a beat after Ben. Her pattern is self pass self pass hold with straight passes to Ben.

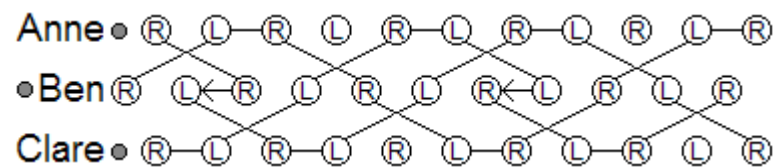
If we relabel the beats in Anne's pattern then all Ben's passes are straight and Anne and Clare throw crossing passes to Ben:



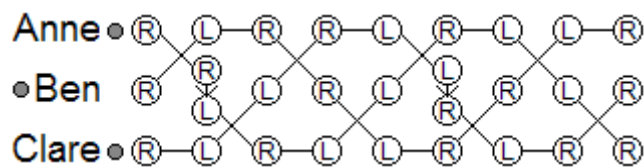
This pattern is Martin's one count feeding Jim's two count. The clockwise siteswap for this feed is: ab9b9a3b9a6ab96.

With six handed siteswap there are two different ways to describe Martin's one count feeding Jim's two count. The anticlockwise siteswap is: b9aab939abb6a69 and the clockwise siteswap is: ab9b9a3b9a6ab96. What people actually do when they juggle this feed lies somewhere in between.

One possibility is for Anne and Clare to start half a beat after Ben:



The alternative is for all three jugglers to start at the same time:



In this case everyone gets hurried throws instead of holds.

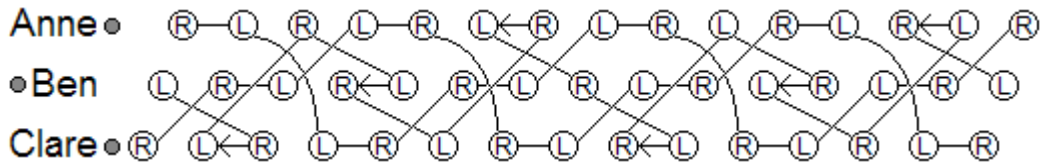
The following table shows all the throws in six handed siteswap up to height h (17).

siteswap	Anticlockwise patterns	clockwise patterns
0	empty hand	empty hand
3	zip	zip
6	hold	hold
7	straight zap to the right	straight zap to the left
8	crossing zap to the left	crossing zap to the right
9	self	self
a	crossing single pass to the right	crossing single pass to the left
b	straight single pass to the left	straight single pass to the right
c	heff	heff
d	straight double pass to the right	straight double pass to the left
e	crossing double pass to the left	crossing double pass to the right
f	triple-self	triple-self
g	crossing triple pass to the right	crossing triple pass to the left
h	straight triple pass to the left	straight triple pass to the right

**Why do these recipes work?**

On any given beat, the number in a siteswap tells you how many beats later the same object will be thrown again. In a passing pattern with six hands, where one hand throws on each beat, an object is thrown six beats after it is caught. So when you subtract 6 from each number in a siteswap, the numbers in the derived siteswap tell you how many beats later an object will be caught in a six handed pattern. This is what the arrows in a causal diagram tell you.

**Converting symmetric six handed siteswap patterns to prechac notation**



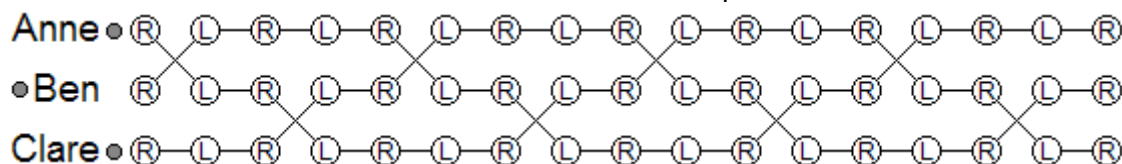
- Take any symmetric six handed siteswap. I'll choose the clockwise siteswap: ab9b9a3.
- Divide all the numbers by 3. I get: 3.33.733.733.31.
- Rearrange the numbers, taking every third number. I get 3.33.7133.33.73.
- Add a 'p' after each '.3' and each '.7'. I get 3.3p3.7p133.3p3.7p3. This is the Prechac notation for the pattern!

So the pattern for each juggler is crossing pass to the left, straight pass to the right, zip, self, crossing pass to the left, straight pass to the right, self.

## Three person feeds

### *Two count feed*

Ben passes to Anne and Clare on two count. Anne and Clare pass to Ben on four count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

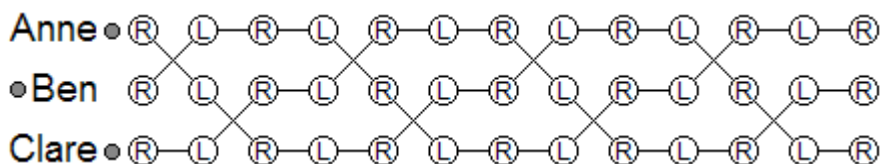
Pattern for Anne: Ben self self self.

Pattern for Ben: Anne self Clare self.

Pattern for Clare: self self Ben self.

### *Pass pass self feed*

Ben passes to Anne and Clare. His pattern is pass pass self. Anne and Clare pass to Ben on three count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self.

Pattern for Ben: Anne Clare self.

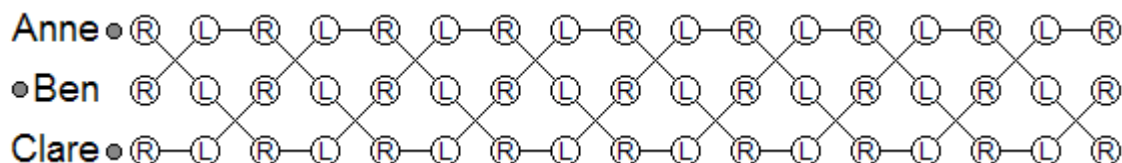
Pattern for Clare: self Ben self.

Colour coding: with the magic set of clubs, Anne and Ben pass red clubs, Ben and Clare pass blue clubs, Anne has green clubs for her self throws and Ben and Clare have white clubs for theirs.

Note: another way of thinking about Ben's pattern is: inside inside self outside outside self.

### *Gorilla feed*

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben on two count. Clare passes left handed.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self.

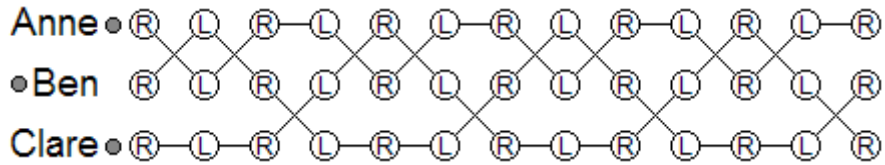
Pattern for Ben: Anne Clare.

Pattern for Clare: self Ben.

Note: all Ben's passes are inside passes. You could also try feeding on outside passes.

**One count feeding pass pass self and three count**

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben. Anne's pattern is pass pass self. Clare passes three count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self.

Pattern for Ben: Anne Anne Clare.

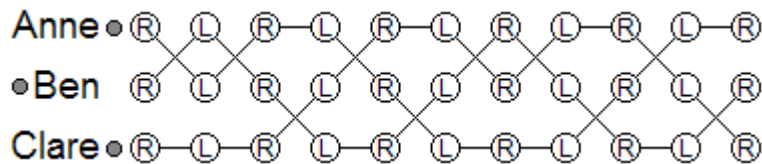
Pattern for Clare: self self Ben.

Colour coding: with the natural set of clubs, Anne and Ben pass red and blue clubs and Ben and Clare pass green clubs. If you use the magic set of clubs, the white clubs are always self throws.

Note: another way of thinking about Ben's pattern is: inside outside outside outside inside inside.

**One count feeding bookends and inverted bookends**

Ben passes to Anne and Clare on one count. Anne passes to Ben on bookends. Clare passes to Ben on inverted bookends.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

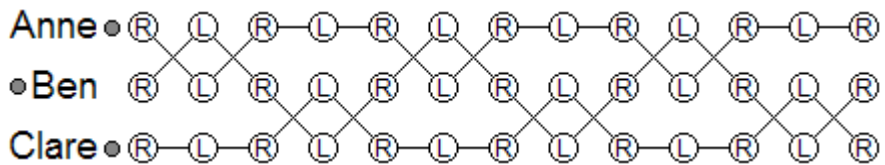
Pattern for Anne: Ben Ben self Ben self.

Pattern for Ben: Anne Anne Clare Anne Clare.

Pattern for Clare: self self Ben self Ben.

**Suburban terror feed**

Ben passes to Anne and Clare on one count. Anne and Clare pass chocolate bar to Ben.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

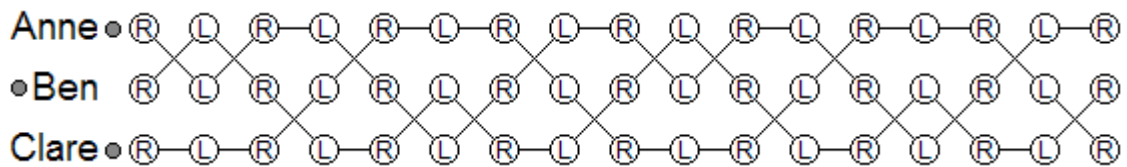
Pattern for Anne: Ben Ben self self.

Pattern for Ben: Anne Anne Clare Clare.

Pattern for Clare: self self Ben Ben.

**One count feeding countdown**

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben on a countdown from three count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

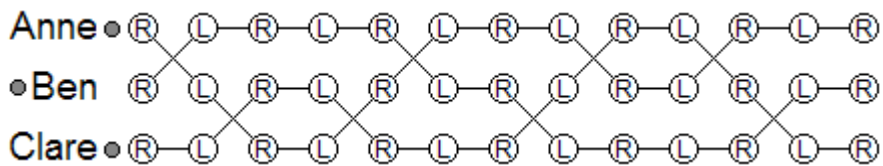
Pattern for Anne: Ben Ben self Ben self self Ben self.

Pattern for Ben: Anne Anne Clare Anne Clare Clare Anne Clare.

Pattern for Clare: self self Ben self Ben Ben self Ben.

### **Civil war feed**

Ben passes to Anne and Clare. His pattern is pass pass self. Anne and Clare pass to Ben on a countdown from four count to two count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Ben self self Ben self Ben self self.

Pattern for Ben: Anne Clare self Clare Anne self Clare Anne self Anne Clare self.

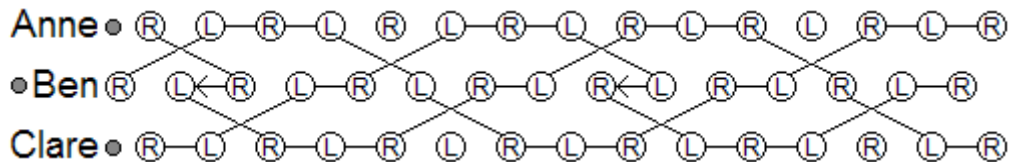
Pattern for Clare: self Ben self Ben self self Ben self self self Ben self.

Colour coding: with the magic set of clubs, Ben passes red clubs with Anne, blue clubs with Clare, green clubs with both Anne and Clare and the white clubs are always self throws.

Note: another way of thinking about Ben's pattern is: inside inside self inside inside self outside outside self outside outside self.

### **Martin's mildness / Martin's madness**

Ben passes mild madness to Anne and Clare. Anne and Clare pass to Ben on Jim's three count.



Anticlockwise siteswap: b9aab939999abb6a69999

Clockwise siteswap: ab9b9a39999b9a6ab96999

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip self Anne Clare self, with straight passes.

Pattern for Anne: Ben self self Ben hold self self, with crossing passes.

Pattern for Clare: self Ben self self Ben hold self self, with crossing passes.

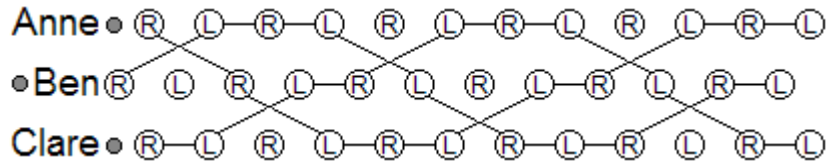
Colour coding: with the magic set of clubs, Anne and Ben pass red clubs, Ben and Clare pass blue clubs, Anne has green clubs for her self throws and Ben and Clare have white clubs for theirs.

Notes: another way of thinking about Ben's pattern is: inside inside zip self inside inside self outside outside zip self outside outside self.

The pattern in the diagram is Martin's mildness. If you relabel all the beats in Ben's pattern, he starts left handed and throws crossing passes, whereas Anne and Clare throw straight passes. This pattern is known as Martin's madness.

**Martin's neurosis / Martin's psychosis**

Ben passes to Anne and Clare. His pattern is pass pass self with some hurries. Anne and Clare pass to Ben on a three count with some hurries.



Anticlockwise siteswap: b9a6b9a6999ab96ab969999abb6a69999

Clockwise siteswap: ab969ab969b9a69b9a69999b9a6ab96999

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne hold Clare self Anne Clare hold self Anne Clare self, with straight passes.

Pattern for Anne: Ben self self Ben hold self self Ben hold self self, with crossing passes.

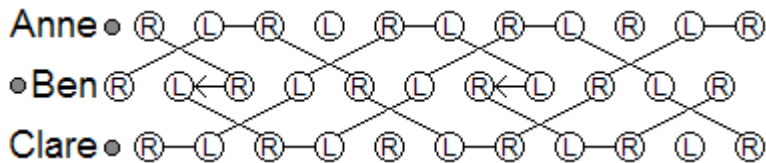
Pattern for Clare: self Ben hold self self Ben self self Ben hold self, with crossing passes.

Colour coding: five red clubs for the passes and four green clubs for the self throws.

Notes: the pattern in the diagram is Martin's neurosis. If you relabel all the beats in Ben's pattern, he starts left handed and throws crossing passes and Anne and Clare throw straight passes. This pattern is known as Martin's psychosis. The pattern repeats with the other hand. The diagram only shows half the pattern.

**Martin's one count feeding Jim's two count**

Ben passes to Anne and Clare on Martin's one count. Anne and Clare pass Jim's two count to Ben.



Anticlockwise siteswap: b9aab939abb6a69

Clockwise siteswap: ab9b9a3b9a6ab96

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip Anne Clare self, with straight passes.

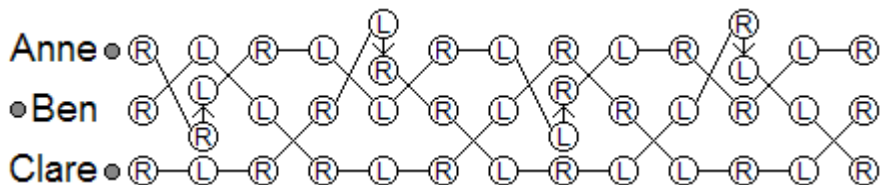
Pattern for Anne: Ben self Ben hold self, with crossing passes.

Pattern for Clare: self Ben self Ben hold self, with crossing passes.

Note: another way of thinking about Ben's pattern is: inside inside zip outside outside outside outside zip inside inside.

**Scattered sunshine**

Ben passes to Anne and Clare on a one count with a zip every seventh throw. Anne passes to Ben on mild madness. Clare passes to Ben on Jim's three count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self Ben Ben zip self, with crossing passes.



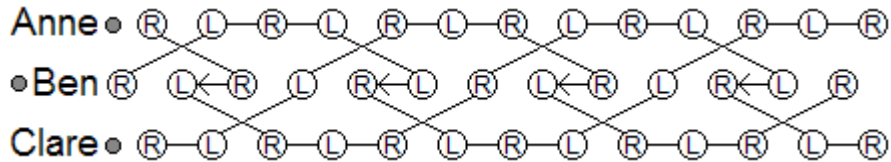
Pattern for Ben: Anne Anne zip Clare Anne Anne Clare, with straight passes.

Pattern for Clare: self self Ben hurried self self Ben, alternating crossing and straight passes.

Colour coding: with the natural set of clubs, Anne and Ben pass red and blue clubs and Ben and Clare pass green clubs. If you use the magic set of clubs, the white clubs are always self throws.

**Pass pass zip feeding three count**

Ben passes to Anne and Clare. His pattern is pass pass zip. Anne and Clare pass three count to Ben.



Anticlockwise siteswap: b9aab9399

Clockwise siteswap: ab9b9a399

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip, with straight passes.

Pattern for Anne: Ben self self, with crossing passes.

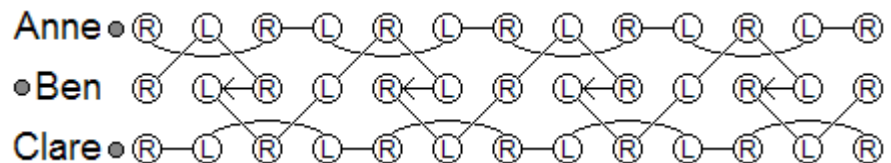
Pattern for Clare: self Ben self, with crossing passes.

Colour coding: five red clubs for the passes and Anne and Clare have two green clubs each for their self throws.

Note: another way of thinking about Ben's pattern is: inside inside zip outside outside zip.

**Pass pass zip feeding French three count**

Ben passes to Anne and Clare. His pattern is pass pass zip. Anne and Clare pass French three count to Ben.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Ben: Anne Clare zip, with straight passes.

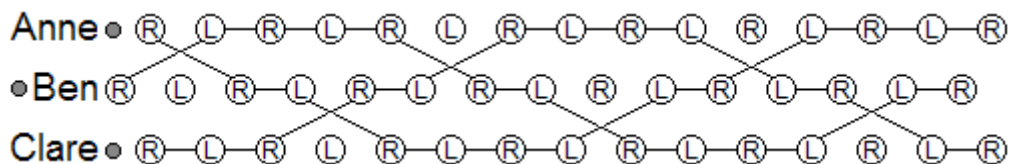
Pattern for Anne: heff Ben self, with straight passes.

Pattern for Clare: self heff Ben, with straight passes.

Note: another way of thinking about Ben's pattern is: inside inside zip outside outside zip.

**Jim's two count feed (Rachel's feed)**

Ben passes to Anne and Clare on two count with hurries. Anne and Clare pass to Ben on four count with hurries.



Anticlockwise siteswap: b9a6999b9a6999ab96999ab96999ab969b9a69999

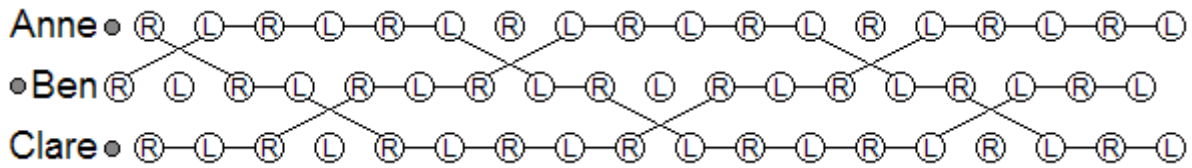
Clockwise siteswap: ab969999ab969b9a69999b9a6999b9a6999ab96999

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
Pattern for Ben: Anne hold self Clare self Anne self Clare hold self Anne self Clare self, with straight passes.  
Pattern for Anne: Ben self self self Ben hold self self self Ben hold self self self, with crossing passes.  
Pattern for Clare: self self Ben hold self self self Ben self self self Ben hold self, with crossing passes.

**Jim's inverted bookends feed**

Ben passes to Anne and Clare on inverted bookends with hurries. Anne and Clare pass to Ben on five count with hurries.



Anticlockwise siteswap: b9a6999b9a6999999ab96999ab9699999999ab969b9a69999999

Clockwise siteswap: ab9699999ab9699999b9a699999b9a69999999b9a69999ab969999999

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne hold self Clare self self Anne self Clare hold self self Anne self Clare self self, with straight passes.

Pattern for Anne: Ben self self self self Ben hold self self self self Ben hold self self self self, with crossing passes.

Pattern for Clare: self self self Ben hold self self self self Ben self self self self Ben hold self, with crossing passes.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Three person period five feeds**

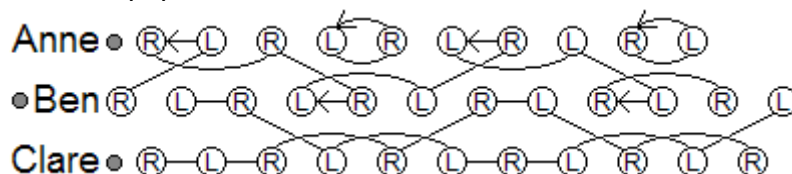
This section contains three person feeds where everyone's pattern is a period five four handed siteswap. In all these patterns if everyone starts right handed then Ben throws straight passes and Anne and Clare throw crossing passes. If Ben starts left handed then he throws crossing passes and Anne and Clare throw straight passes.

This list of feeds is not exhaustive as many period five patterns are interchangeable: Wherever you have why not? you could juggle Jim's two count, not why or not likely; instead of maybe you could juggle maybe not; funky bookends can be replaced with 77966 and there are three versions of five count popcorn.

You can also remove a club from some feeds if you replace five count popcorn with five club why not? or you replace funky bookends with parsnip. Alternatively you can add a club to some feeds if you replace five club why not? with five count popcorn, or you replace parsnip with funky bookends.

**Why not? feeding five club why not? and five count popcorn**

Ben passes to Anne and Clare on why not? Anne passes to Ben on five club why not? Clare passes to Ben on five count popcorn.



Anticlockwise siteswap: b9c993acacc93b3

Clockwise siteswap: ac9939bbcc9c33a

Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.

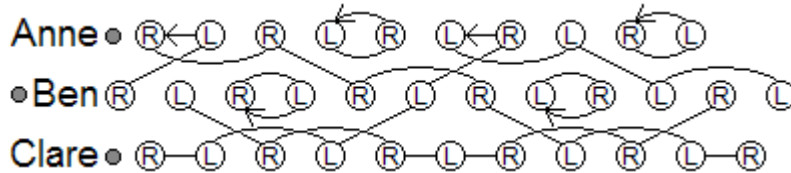
Pattern for Ben: Anne self Clare heff zip, with straight passes.

Pattern for Anne: heff zip Ben self zip, with crossing passes.

Pattern for Clare: self self heff heff Ben, with crossing passes.

**Maybe feeding five club why not? and five count popcorn**

Ben passes to Anne and Clare on maybe. Anne passes to Ben on five club why not? Clare passes to Ben on five count popcorn.



Anticlockwise siteswap: b9cac39ca3b9c93

Clockwise siteswap: ac9b3c9bc39ac39

Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.

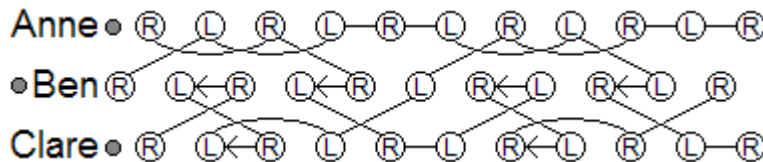
Pattern for Ben: Anne Clare self zip heff, with straight passes.

Pattern for Anne: heff zip Ben self zip, with crossing passes.

Pattern for Clare: self heff heff Ben self, with crossing passes.

**Parsnip feeding five count popcorn and why not?**

Ben passes to Anne and Clare on parsnip. Anne passes to Ben on five count popcorn. Clare passes to Ben on why not?



Anticlockwise siteswap: bbcacc33aab9399

Clockwise siteswap: acabcc3b3b9a399

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

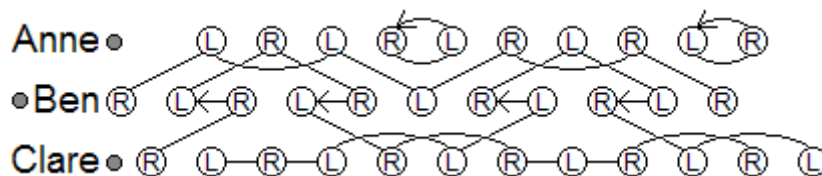
Pattern for Ben: Anne Clare zip Clare zip, with straight passes.

Pattern for Anne: heff heff Ben self self, with crossing passes.

Pattern for Clare: Ben heff zip Ben self, with crossing passes.

**Parsnip feeding maybe and five count popcorn**

Ben passes to Anne and Clare on parsnip. Anne passes to Ben on maybe. Clare passes to Ben on five count popcorn.



Anticlockwise siteswap: bb3b9c39aaca3c9

Clockwise siteswap: a3aac93b9bbc39c

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Clare: two clubs in each hand, half a beat later.

Start for Anne: one club in each hand, one and a half beats after Ben.

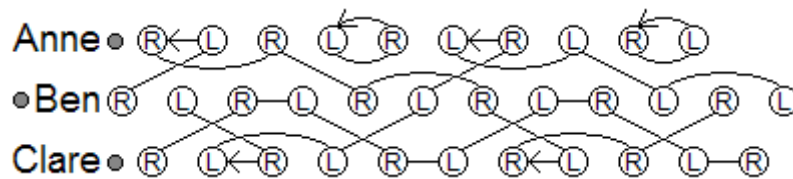
Pattern for Ben: Anne Anne zip Clare zip, with straight passes.

Pattern for Anne: heff Ben Ben self zip, with crossing passes.

Pattern for Clare: Ben self self heff heff, with crossing passes.

**Funky bookends feeding five club why not? and why not?**

Ben passes to Anne and Clare on funky bookends. Anne passes to Ben on five club why not? Clare passes to Ben on why not?



Anticlockwise siteswap: bbcac393aab9c93

Clockwise siteswap: acab3c9b3b9ac39

Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.

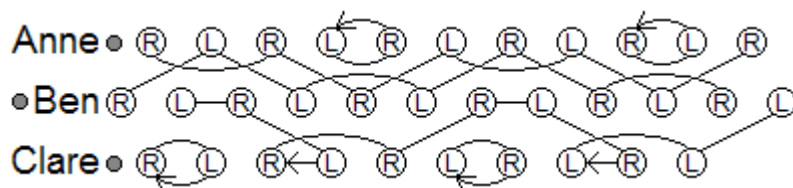
Pattern for Ben: Anne Clare self Clare heff, with straight passes.

Pattern for Anne: heff zip Ben self zip, with crossing passes.

Pattern for Clare: Ben heff zip Ben self, with crossing passes.

**Funky bookends feeding maybe and five club why not?**

Ben passes to Anne and Clare on funky bookends. Anne passes to Ben on maybe. Clare passes to Ben on five club why not?



Anticlockwise siteswap: b9c93aacac39bb3

Clockwise siteswap: ac99b3bbcc93a3a

Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat after Ben.

Start for Clare: one club in each hand, half a beat after Ben.

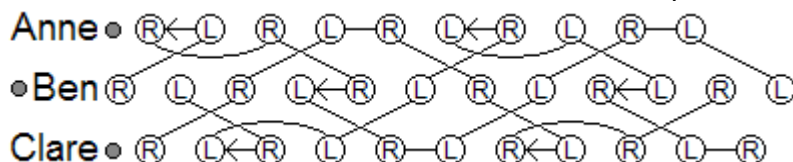
Pattern for Ben: Anne self Clare heff Anne, with straight passes.

Pattern for Anne: heff Ben Ben self zip, with crossing passes.

Pattern for Clare: self zip heff zip Ben, with crossing passes.

**Martin's one count feeding why not?**

Ben passes to Anne and Clare on Martin's one count. Anne and Clare pass to Ben on why not?



Anticlockwise siteswap: bbcac3b3aab939a

Clockwise siteswap: acab3cab3b9a3b9

Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.

Pattern for Ben: Anne Clare Anne Clare zip, with straight passes.

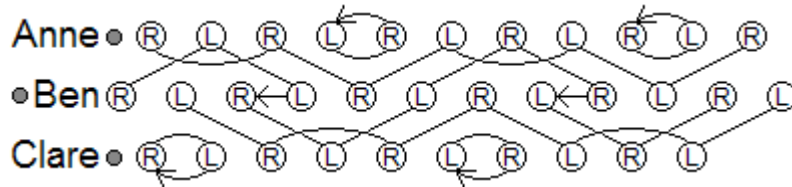
Pattern for Anne: heff zip Ben self Ben, with crossing passes.

Pattern for Clare: Ben heff zip Ben self, with crossing passes.

Note: another way of thinking about Ben's pattern is: inside inside inside inside zip outside outside outside outside zip.

**Martin's one count feeding maybe**

Ben passes to Anne and Clare on Martin's one count. Anne and Clare pass to Ben on maybe.



Anticlockwise siteswap: b9ca3aaca3b9bb3

Clockwise siteswap: ac9bb3bbc39aa3a

Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat after Ben.

Start for Clare: one club in each hand, half a beat after Ben.

Pattern for Ben: Anne Clare Clare zip Anne, with straight passes.

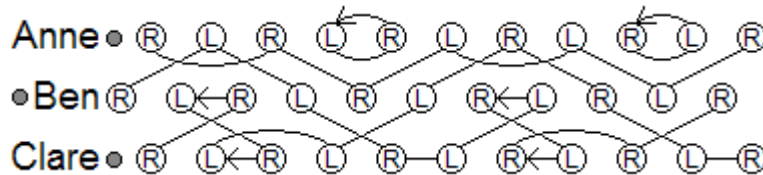
Pattern for Anne: heff Ben Ben self zip, with crossing passes.

Pattern for Clare: self zip heff Ben Ben, with crossing passes.

Note: another way of thinking about Ben's pattern is: inside inside outside zip outside inside inside outside zip outside.

**Martin's one count feeding maybe and why not?**

Ben passes to Anne and Clare on Martin's one count. Anne passes to Ben on maybe. Clare pass to Ben on why not?



Anticlockwise siteswap: bbcaca33aab9b93

Clockwise siteswap: acabbc3b3b9aa39

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip Clare Anne, with straight passes.

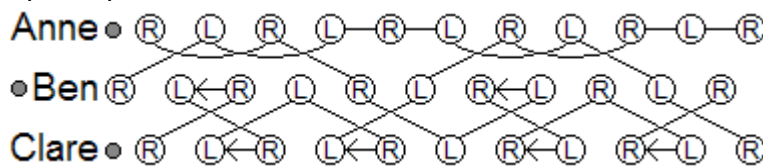
Pattern for Anne: heff Ben Ben self zip, with crossing passes.

Pattern for Clare: Ben heff zip Ben self, with crossing passes.

Note: another way of thinking about Ben's pattern is: inside inside zip inside inside outside outside zip outside outside.

**Martin's one count feeding five count popcorn and parsnip**

Ben passes to Anne and Clare on Martin's one count. Anne passes to Ben on five count popcorn. Clare pass to Ben on parsnip.



Anticlockwise siteswap: bbcabc33aab9a39

Clockwise siteswap: acabca3b3b9ab93

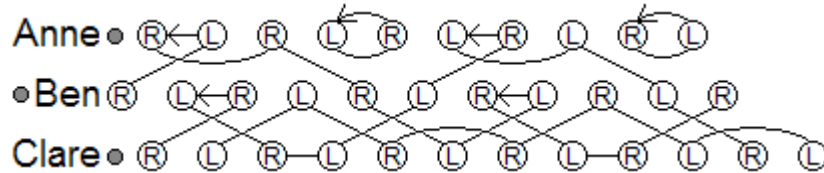
Start for Ben: two clubs in his right hand and one club in his left hand.



Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Anne Clare zip Clare Clare, with straight passes.  
 Pattern for Anne: heff heff Ben self self, with crossing passes.  
 Pattern for Clare: Ben Ben zip Ben zip, with crossing passes.

**Martin's one count feeding five club why not? and funky bookends**

Ben passes to Anne and Clare on Martin's one count. Anne passes to Ben on five club why not?  
 Clare pass to Ben on funky bookends.



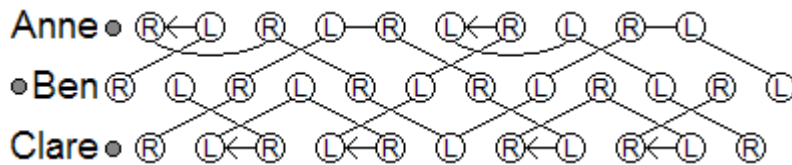
Anticlockwise siteswap: bbcab339aab9ac3

Clockwise siteswap: acab3a3b9b9ab3c

Start for Ben: two clubs in his right hand and one club in his left hand.  
 Start for Anne: one club in each hand, half a beat after Ben.  
 Start for Clare: two clubs in each hand, half a beat after Ben.  
 Pattern for Ben: Anne Clare zip Clare Clare, with straight passes.  
 Pattern for Anne: heff zip Ben self zip, with crossing passes.  
 Pattern for Clare: Ben Ben self Ben heff, with crossing passes.

**One count feeding why not? and parsnip**

Ben passes to Anne and Clare on one count. Anne passes to Ben on why not? Clare passes to Ben on parsnip.



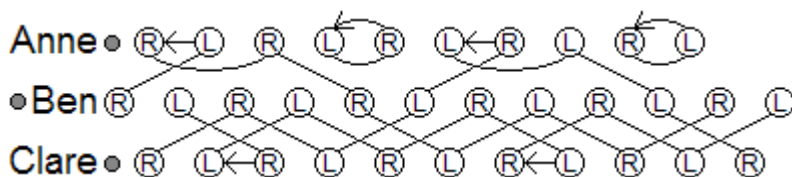
Anticlockwise siteswap: bbcab3b3aab9a3a

Clockwise siteswap: acab3aab3b9abb3

Start for Ben: two clubs in each hand.  
 Start for Anne: one club in each hand, half a beat after Ben.  
 Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.  
 Pattern for Ben: Anne Clare Anne Clare Clare, with straight passes.  
 Pattern for Anne: heff zip Ben self Ben, with crossing passes.  
 Pattern for Clare: Ben Ben zip Ben zip, with crossing passes.

**One count feeding five club why not? and Martin's one count**

Ben passes to Anne and Clare on one count. Anne passes to Ben on five club why not? Clare passes to Ben on Martin's one count.



Anticlockwise siteswap: bbcab3a3aab9ab3

Clockwise siteswap: acab3abb3b9ab3a

Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.

Pattern for Ben: Anne Clare Clare Clare Clare, with straight passes.

Pattern for Anne: heff zip Ben self zip, with crossing passes.

Pattern for Clare: Ben Ben zip Ben Ben, with crossing passes.

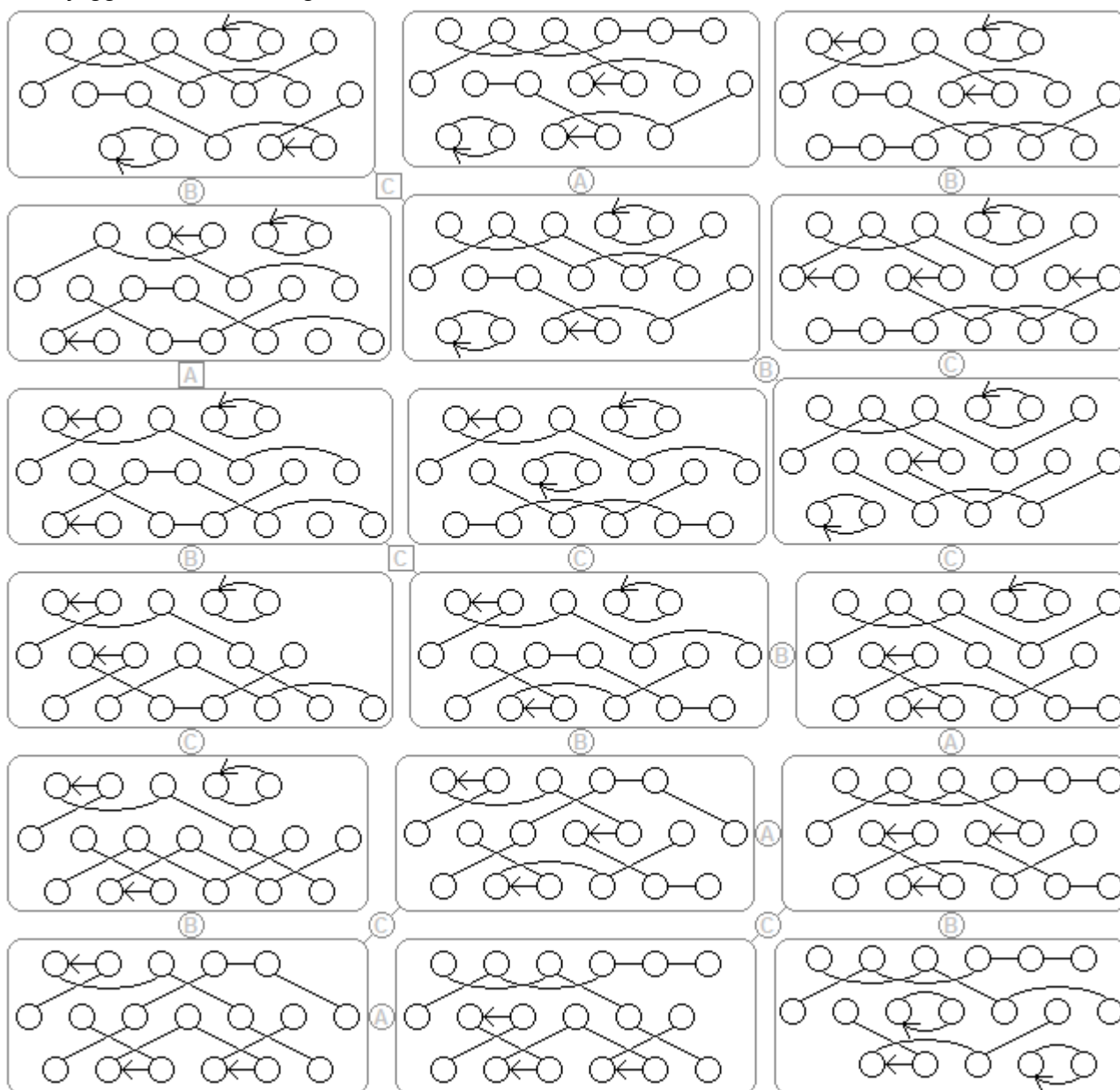
## Hijacking in period five feeds

You can switch between different period five feeds using the rules for hijacking in period five patterns:

1. You can throw a club to a hand that is expecting to receive a zip. Let's call this the hijack club.
2. If someone throws a hijack club to you, then you have a club that you wanted to zip but now can't. You should throw this 'problem' club to the hand that threw the hijack club.
3. If there is a club 'missing' from your pattern, you should zip to avoid a gap.

Also you may need to add transition throws to lo-jack a pattern.

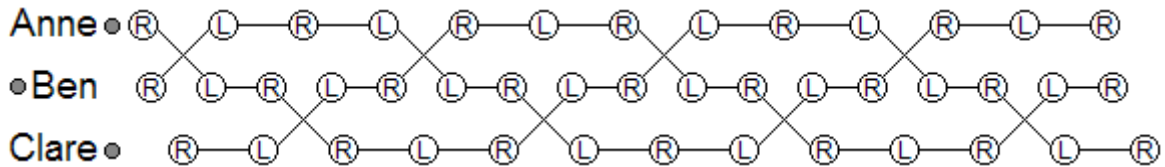
The following diagram shows some possible hijacks between period five feeds. The letters between the feeds show who does the hijacking to switch between the patterns: 'A' for Anne; 'B' for Ben and 'C' for Clare. The three transitions with the letter in a square are not hijacks. In these cases one juggler switches between a not why and a why not? (or vice-versa). The patterns for the other jugglers do not change.



## Three person slow fast feeds

### **Two count feeding three count**

Ben passes to Anne and Clare on two count. Anne and Clare pass to Ben on three count. Ben juggles faster than Anne and Clare.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat later.

Pattern for Anne: Ben self self, alternating straight and crossing passes.

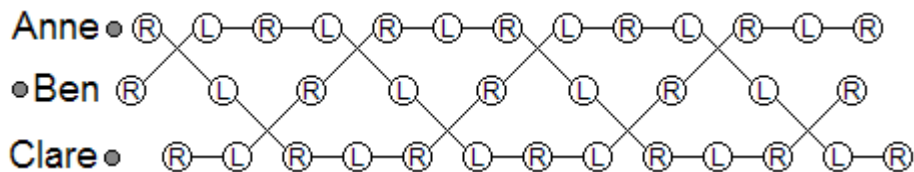
Pattern for Ben: straight pass to Anne, self, crossing pass to Clare, self, crossing pass to Anne, self, straight pass to Clare, self.

Pattern for Clare: self Ben self, alternating crossing and straight passes.

Colour coding: five red clubs for the passes and Anne and Clare have two green clubs each for their self throws.

### **One count feeding three count**

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben on three count. Ben juggles slower than Anne and Clare.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat later.

Pattern for Anne: Ben self self, alternating straight and crossing passes.

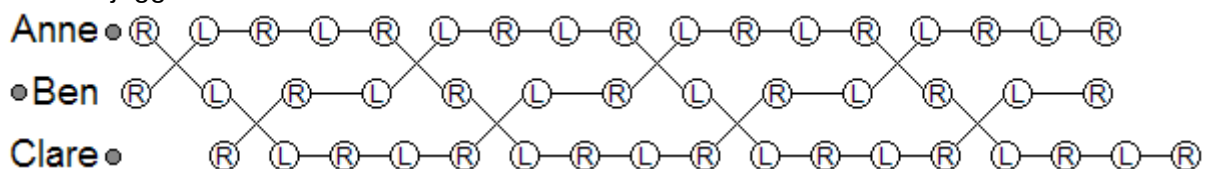
Pattern for Ben: straight pass to Anne, straight pass to Clare, crossing pass to Anne, crossing pass to Clare.

Pattern for Clare: self Ben self, alternating straight and crossing passes.

Colour coding: five red clubs for the passes and Anne and Clare have two green clubs each for their self throws.

### **Pass pass self feeding four count**

Ben passes to Anne and Clare. His pattern is pass pass self. Anne and Clare pass to Ben on four count. Ben juggles slower than Anne and Clare.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Clare: two clubs in her right hand and one club in her left hand, one beat later.

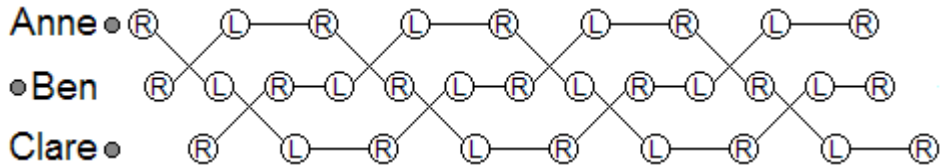
Pattern for Anne: Ben self self self, alternating straight and crossing passes.

Pattern for Ben: straight pass to Anne, crossing pass to Clare, self, crossing pass to Anne, straight pass to Clare, self.

Pattern for Clare: Ben self self self, alternating crossing and straight passes.

**Pass pass self feeding two count**

Ben passes to Anne and Clare. His pattern is pass pass self. Anne and Clare pass to Ben on two count. Ben juggles faster than Anne and Clare.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat later.

Pattern for Anne: Ben self, alternating straight and crossing passes.

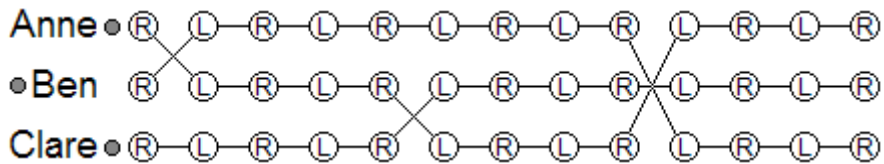
Pattern for Ben: straight pass to Anne, crossing pass to Clare, self, crossing pass to Anne, straight pass to Clare, self.

Pattern for Clare: Ben self, alternating crossing and straight passes.

**Three person feasts**

**Three person four count feast**

Everyone passes on four count, passing to everyone else including themselves.



Prechac: 3p3333p333333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self self self Clare self self self.

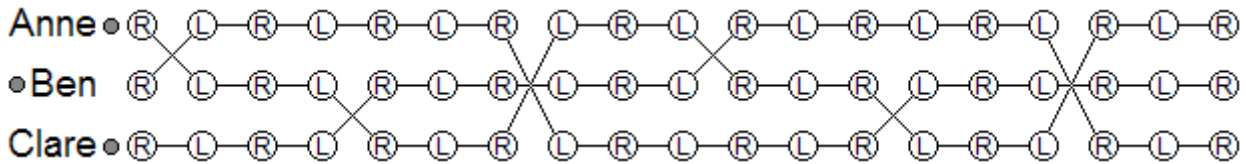
Pattern for Ben: Anne self self self Clare self self self self self self self.

Pattern for Clare: self self self Ben self self self Anne self self self.

Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Anne and Clare pass blue clubs. If you use the magic set of clubs, the white clubs are always self throws.

**Three person three count feast**

Everyone passes on three count, passing to everyone else including themselves.



Prechac: 3p333p33333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self Clare self self.

Pattern for Ben: Anne self self Clare self self self self self.

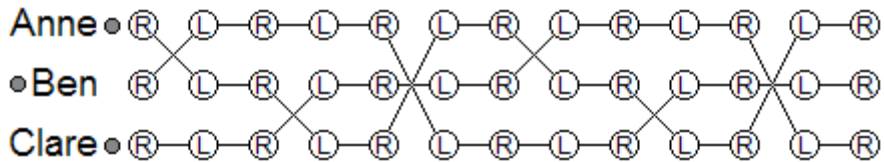
Pattern for Clare: self self self Ben self self Anne self self.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

Colour coding for all the patterns on this page: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Anne and Clare pass blue clubs. If you use the magic set of clubs, the white clubs are always self throws.

**Three person two count feast**

Everyone passes on three count, passing to everyone else including themselves.



Prechac: 3p33p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Clare self.

Pattern for Ben: Anne self Clare self self self.

Pattern for Clare: self self Ben self Anne self.

**Three person one count feast**

Everyone passes on one count, passing to everyone else including themselves.



Prechac: 3p3p3

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Clare.

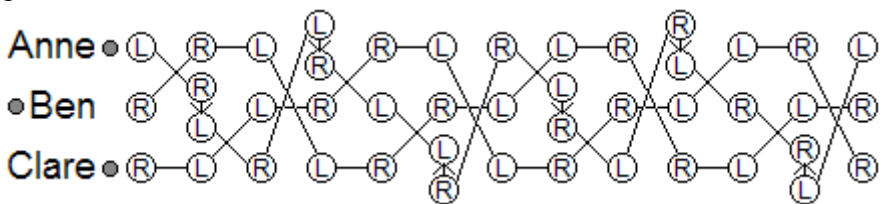
Pattern for Ben: Anne Clare self.

Pattern for Clare: self Ben Anne.

Note: in this pattern everyone feeds pass pass self but out of phase.

**Mild madness triangle**

Everyone feeds mild madness but out of phase, throwing crossing passes to the left and straight passes to the right.



Clockwise siteswap: ab9b9a3

Prechac: 3.3p3.7p133.3p3.7p3

Start for Anne: two clubs in her left hand and one club in her right hand. She starts left handed.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Clare Ben zip self Clare.

Pattern for Ben: Anne Clare zip self Anne Clare self.

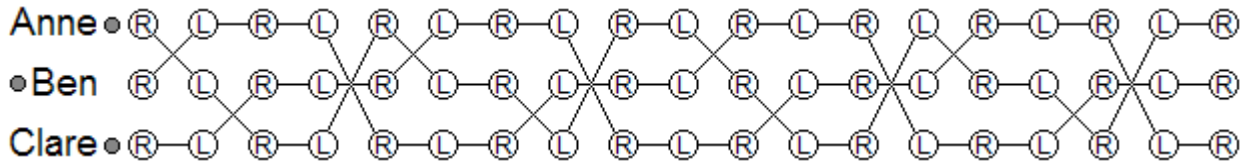
Pattern for Clare: self Ben Anne self Ben Anne zip.

Note: if you relabel the beats in Anne's pattern, she starts right handed, throwing crossing passes to the right and straight passes to the left, Ben feeds Martin's mildness and Clare feeds Martin's madness.

Colour coding for all the patterns on this page: with the magic set of clubs, the red clubs are always passed, the blue clubs are left hand passes and right hand self throws, the green clubs are right hand passes and left hand self throws and the white clubs are always self throws.

**Three person pass pass self feast (JED's nightmare)**

Everyone juggles pass pass self, passing to everyone else including themselves.



Prechac: 3p3p333p33p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

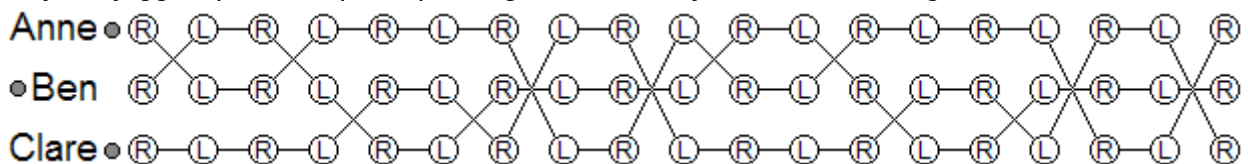
Pattern for Anne: Ben self self Clare Ben self self Clare self.

Pattern for Ben: Anne Clare self self Anne self Clare self self.

Pattern for Clare: self Ben self Anne self self Ben Anne self.

**Three person pass self pass feast (anti quasar)**

Everyone juggles pass self pass, passing twice to everyone else including themselves.



Prechac: 3p33p33p33p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

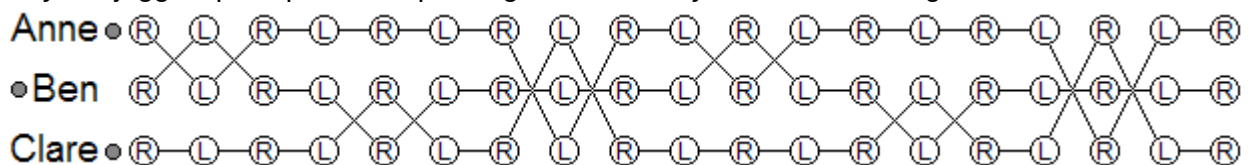
Pattern for Anne: Ben self Ben self self self Clare self Clare.

Pattern for Ben: Anne self Anne Clare self Clare self self self.

Pattern for Clare: self self self Ben self Ben Anne self Anne.

**Three person pass pass self feast (double three count)**

Everyone juggles pass pass self, passing twice to everyone else including themselves.



Prechac: 3p3p33p33p3333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self self self self Clare Clare self.

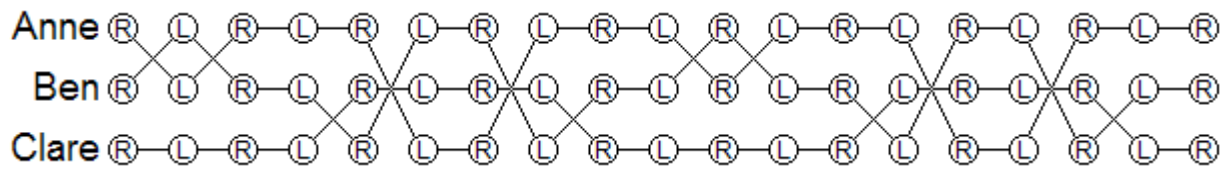
Pattern for Ben: Anne Anne self Clare Clare self self self self.

Pattern for Clare: self self self Ben Ben self Anne Anne self.

**Trinity**

Anne's pattern is JED's nightmare, Ben's is anti quasar and Clare's pattern is double three count.





Start for all three jugglers: two clubs in the right hand and one club in the left hand.

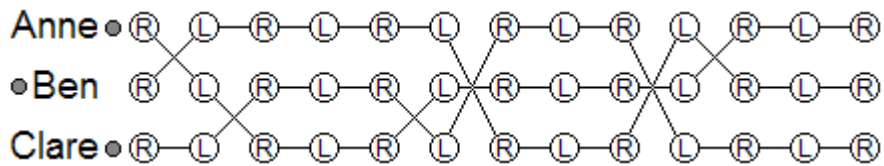
Pattern for Anne: Ben Ben self self Clare self Clare self self.

Pattern for Ben: Anne Anne self Clare self self self self.

Pattern for Clare: self self self Ben Anne self Anne Ben self.

**Three person chocolate bar feast #1**

Everyone juggles chocolate bar, passing to everyone else including themselves.



Prechac: 3p3p3333p333p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

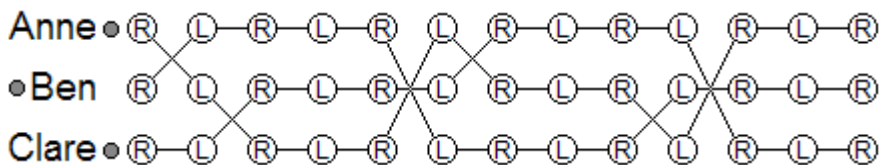
Pattern for Anne: Ben self self self Clare Ben self self self Clare self self.

Pattern for Ben: Anne Clare self self self Anne self self Clare self self self.

Pattern for Clare: self Ben self self Anne self self self Ben Anne self self.

**Three person chocolate bar feast #2**

Everyone juggles chocolate bar, passing twice to everyone else including themselves.



Prechac: 3p3p333p33333p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self Clare self self Clare Ben self self.

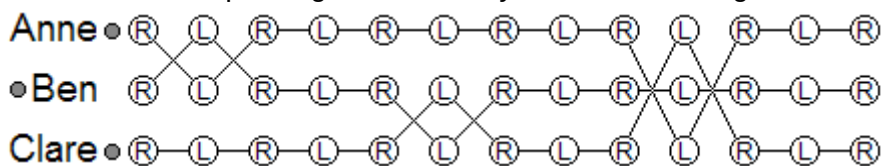
Pattern for Ben: Anne Clare self self Clare self self self self Anne self self.

Pattern for Clare: self Ben self self Ben Anne self self Anne self self self.

Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Anne and Clare pass blue clubs. If you use the magic set of clubs, the white clubs are always self throws.

**Three person chocolate bar feast #3**

Everyone juggles chocolate bar, passing twice to everyone else including themselves.



Prechac: 3p3p333p3p333333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

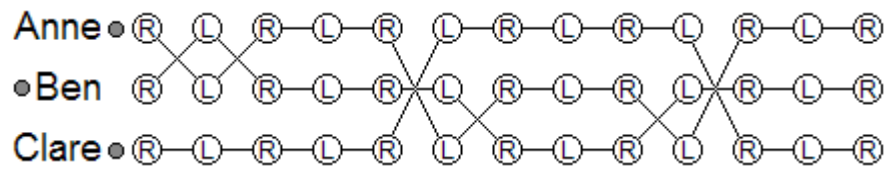
Pattern for Anne: Ben Ben self self self self self self Clare Clare self self.

Pattern for Ben: Anne Anne self self Clare Clare self self self self self self.

Pattern for Clare: self self self self Ben Ben self self Anne Anne self self.

**Trifle**

Anne's pattern is feast #2, Ben's pattern is feast #1 and Clare's pattern is feast #3.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

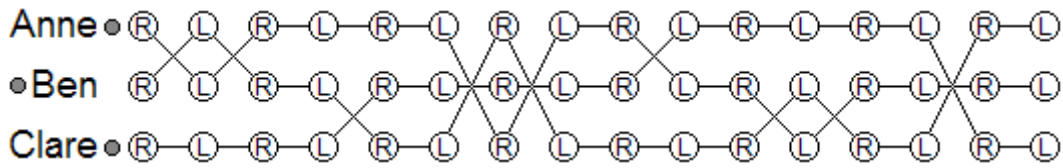
Pattern for Anne: Ben Ben self self Clare self self self self Clare self self.

Pattern for Ben: Anne Anne self self self Clare self self Clare self self self.

Pattern for Clare: self self self self Anne Ben self self Ben Anne self self.

**Three person bookends feast #1**

Everyone passes bookends, passing to everyone else including themselves, alternating two passes to one person and one pass to the next person.



Prechac: 3p3p33p33333p33p3p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self self self Clare Clare self Ben self self self Clare self.

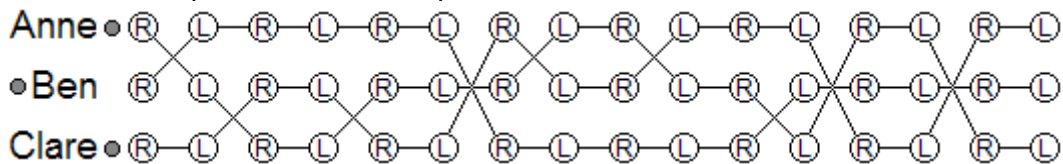
Pattern for Ben: Anne Anne self Clare self self self self Anne self Clare Clare self self self.

Pattern for Clare: self self self Ben self Anne Anne self self self Ben Ben self Anne self.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Three person bookends feast #2**

Everyone passes bookends, passing to everyone else including themselves, alternating one pass to one person and two passes to the next person.



Prechac: 3p3p33p333p33p33p3333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self Clare Ben self Ben self self Clare self self self.

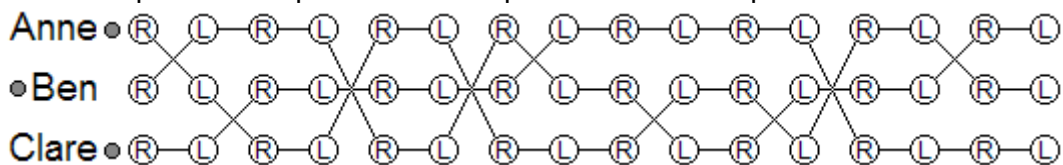
Pattern for Ben: Anne Clare self Clare self self Anne self Anne self Clare self self self self.

Pattern for Clare: self Ben self Ben self Anne self self self self Ben Anne self Anne self.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Three person bookends feast #3**

Everyone passes bookends, passing to everyone else including themselves. After the first pass they alternate one pass to one person and two passes to the next person.



Prechac: 3p3p33333p33p33p333p3

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self Clare self Clare Ben self self self self Clare self Ben self.

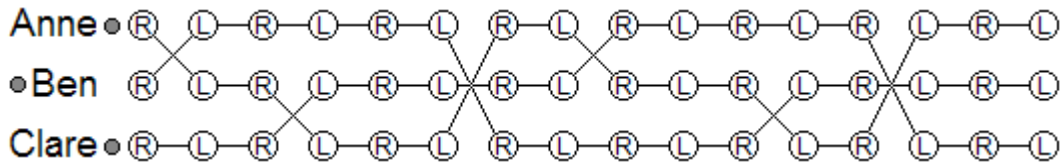
Pattern for Ben: Anne Clare self self self self Anne self Clare self Clare self self Anne self.

Pattern for Clare: self Ben self Anne self Anne self self Ben self Ben Anne self self self.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Three person inverted bookends feast #1**

Everyone passes inverted bookends, passing to everyone else including themselves.



Prechac: 3p33p33333p333p3333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self Clare self Ben self self self self Clare self self.

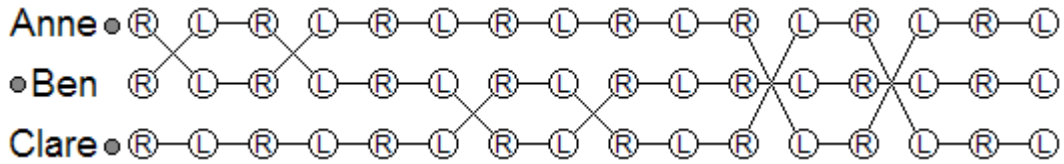
Pattern for Ben: Anne self Clare self self self self Anne self self Clare self self self self.

Pattern for Clare: self self Ben self self Anne self self self self Ben self Anne self self.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Three person inverted bookends feast #2**

Everyone passes inverted bookends, passing twice to everyone else including themselves.



Prechac: 3p33p333p33p3333333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Ben self self self self self self Clare self Clare self self.

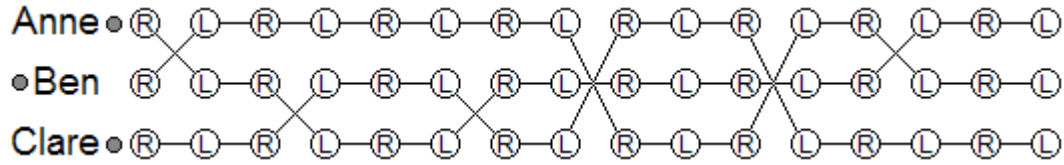
Pattern for Ben: Anne self Anne self self Clare self Clare self self self self self self self.

Pattern for Clare: self self self self self Ben self Ben self self Anne self Anne self self.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Three person inverted bookends feast #3**

Everyone passes inverted bookends, passing twice to everyone else including themselves.



Prechac: 3p33p333p3333333p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self self Clare self self Clare self Ben self self.

Pattern for Ben: Anne self Clare self self Clare self self self self self self Anne self self.

Pattern for Clare: self self Ben self self Ben self Anne self self Anne self self self self.

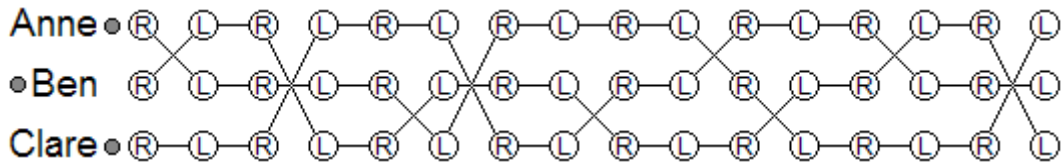
Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Trilogy**

Anne's pattern is feast #1, Ben's pattern is feast #2 and Clare's pattern is feast #3.



This is a selfless countdown feast. Everyone juggles a countdown from four count out of phase. Every pass is an exchange and you alternate who you pass to except when you're passing on three count.



Prechac: 3p3333p333p33p3p33p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Clare self self Clare self self self Ben self self Ben self Clare.

Pattern for Ben: Anne self self self Clare self self Clare self Anne Clare self Anne self self.

Pattern for Clare: self self Anne self Ben Anne self Ben self self Ben self self self Anne.

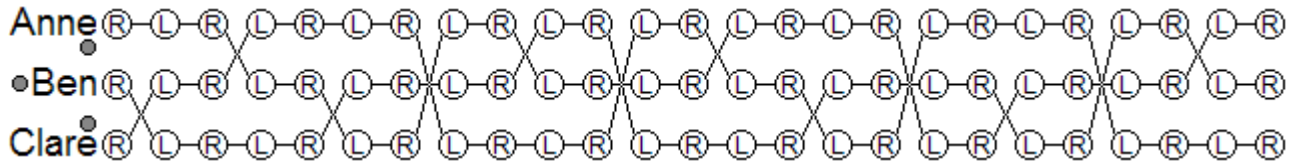
Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Anne and Clare pass blue clubs. If you use the magic set of clubs, the white clubs are always self throws.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

## Pulsar patterns

### *Pulsar*

This is a type of revolving two count feed. Each juggler makes two passes as a two count feeder and then the person on their right becomes the next feeder. The first feeder passes to their right and then to their left. The next feeder passes to their left and then to their right. The pattern continues like this, each new feeder passes in the opposite way to the previous feeder.



Prechac: 3p33p33p3333p3333p33p3333p3333p3

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

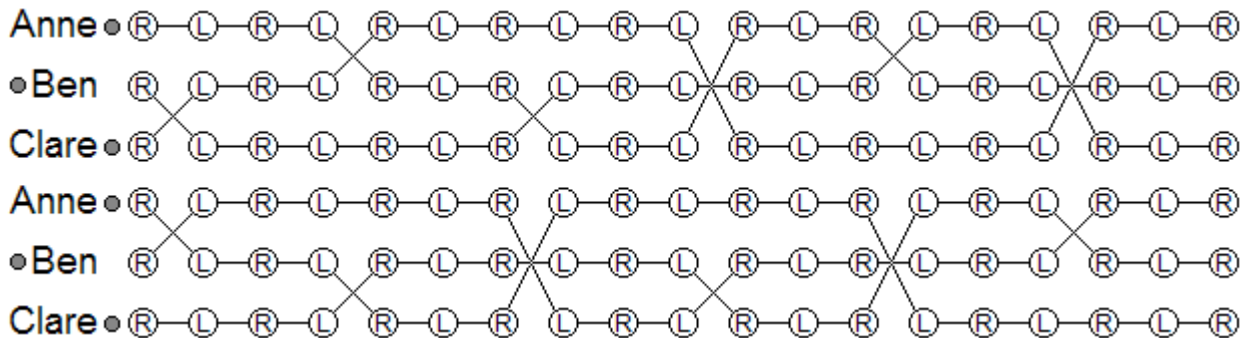
Pattern for Anne: self self Ben self self self Clare self Ben self Clare self Ben self self self Clare self self self Clare self Ben self.

Pattern for Ben: Clare self Anne self Clare self self self Anne self self self Anne self Clare self self self Clare self self self Anne self.

Pattern for Clare: Ben self self self Ben self Anne self self self Anne self self self Ben self Anne self Ben self Anne self self self.

### *Ambidextrous pulsar (three count feed)*

This is a pulsar where the feeder passes three count.



Prechac: 3p333p333p33333p33333p333p33333p33333p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: self self self Ben self self self self self Clare self self Ben self self Clare self self Ben self self self self Clare self self self self Clare self self Ben self self.

Pattern for Ben: Clare self self Anne self self Clare self self self self self Anne self self self self self Anne self self Clare self self self self Clare self self self self self Anne self self.

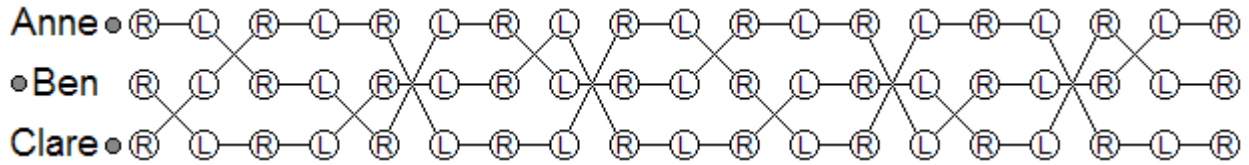
Pattern for Clare: Ben self self self self self Ben self self Anne self self self self self Anne self self self self self Ben self self Anne self self Ben self self Anne self self self self self.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.



**Ambidextrous pulsar (pass pass self feed)**

This is a pulsar where the feeder passes pass pass self.



Prechac: 3p3p33p333p333p3p333p333p3

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: self Ben self self Clare self Ben Clare self Ben self self Clare self self Clare Ben self.

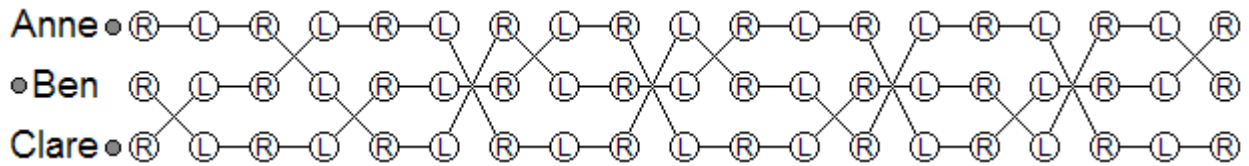
Pattern for Ben: Clare Anne self Clare self self Anne self self Anne Clare self self Clare self self Anne self.

Pattern for Clare: Ben self self Ben Anne self self Anne self self Ben self Anne Ben self Anne self self.

Colour coding: with the magic set of clubs, Anne and Ben pass red and blue clubs, Ben and Clare pass red and green clubs, Clare and Anne pass blue and green clubs and everyone has a white club that's always a self.

**Ambidextrous pulsar (pass self pass feed)**

This is a pulsar where the feeder passes pass self pass.



Prechac: 3p33p3p333p333p33p333p333p

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: self self Ben self self Clare Ben self Clare Ben self self Clare self self Clare self Ben.

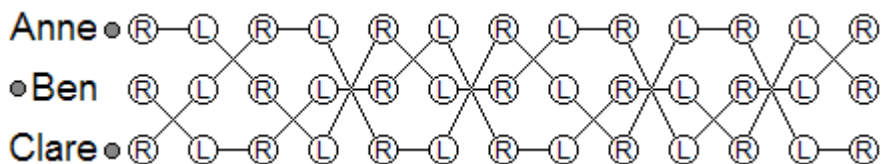
Pattern for Ben: Clare self Anne Clare self self Anne self self Anne self Clare self self Clare self self Anne.

Pattern for Clare: Ben self self Ben self Anne self self Anne self self Ben Anne self Ben Anne self self.

Colour coding: with the magic set of clubs, Anne and Ben pass red and blue clubs, Ben and Clare pass red and green clubs, Clare and Anne pass blue and green clubs and everyone has a white club that's always a self.

**Ambidextrous pulsar (one count feed)**

This is a pulsar where the feeder passes one count.



Prechac: 3p3p3p33p33p3p33p33p

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: self Ben self Clare Ben Clare Ben self Clare self Clare Ben.

Pattern for Ben: Clare Anne Clare self Anne self Anne Clare self Clare self Anne.

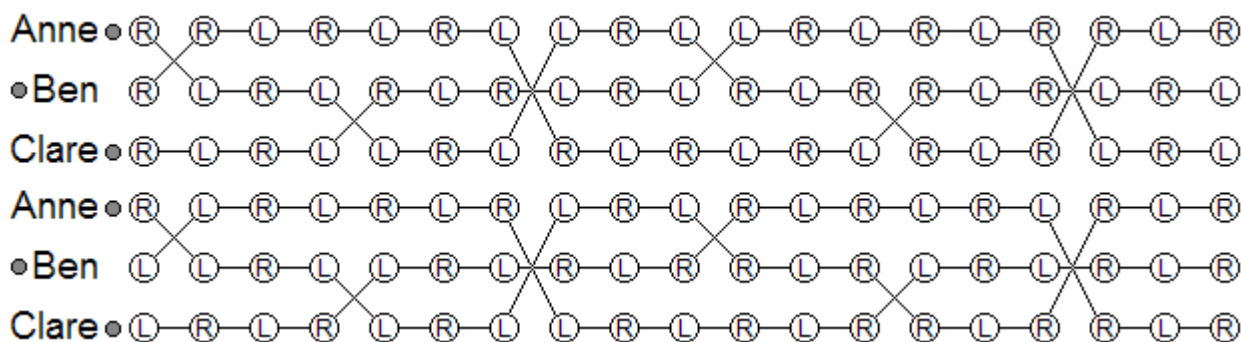
Pattern for Clare: Ben self Ben Anne self Anne self Ben Anne Ben Anne self.

## Three person Jim's feasts (and lunch boxes)

These patterns are feasts with one juggler throwing straight passes, one juggler throwing crossing passes and one juggler throwing straight passes to one person and crossing passes to the other.

Relabel the beats in Clare's pattern in each feast, to get an associated lunch box pattern. In these patterns each juggler throws straight passes to their right and crossing passes to their left or vice-versa.

### Jim's three count feast #1



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

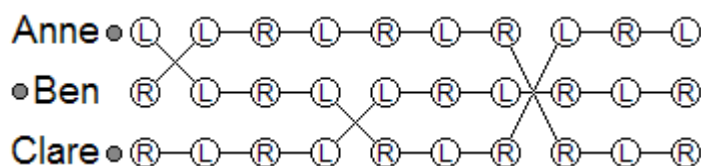
Pattern for Anne: Ben hurried self self self self self Clare hurried self self Ben hurried self self self self Clare hurried self self Ben self self self self Clare self self Ben self self self self Clare self self, with straight passes.

Pattern for Ben: Anne self self Clare self self self self Anne self self Clare hurried self self self self self Anne hurried self self Clare self self self self, with crossing passes.

Pattern for Clare: self self self Ben hurried self self Anne self self self self Ben self self Anne self self self self Ben self self Anne hurried self self self self Ben hurried self self Anne hurried self self, with crossing passes to Anne and straight passes to Ben.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

### Jim's three count feast #2



Anticlockwise siteswap: ab96999999

Prechac: 3.7p333.3p233333

Start for Anne: two clubs in her left hand and one club in her right hand. She starts left handed.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben hurried self self self self Clare self self, with crossing passes.

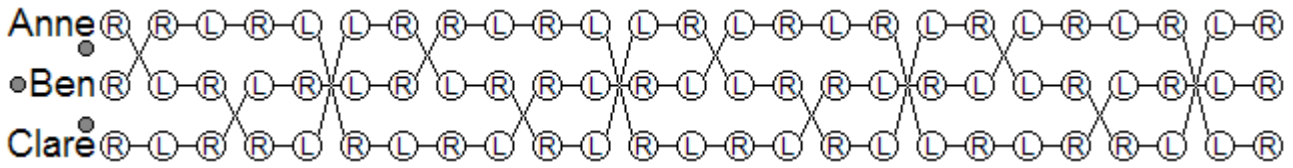
Pattern for Ben: Anne self self Clare hurried self self self self, with straight passes.

Pattern for Clare: self self self Ben self self Anne hurried self self, with straight passes to Anne and crossing passes to Ben.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

Note: you get an alternative Jim's three count feast with the anticlockwise siteswap: b9a6999999. In this variation each juggler always passes with the same hand.

### Jim's two count feast #1



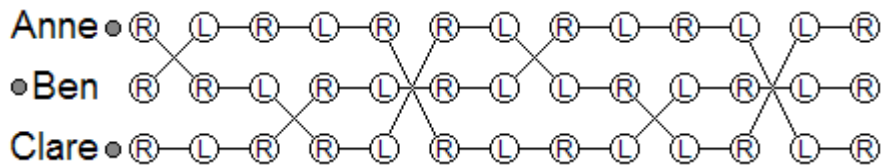
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben hurried self self self Clare hurried self Ben hurried self self self Clare hurried self Ben self self self Clare self Ben self self self Clare self, with straight passes.

Pattern for Ben: Anne self Clare self self self Anne self Clare hurried self self self Anne hurried self Clare hurried self self self Anne hurried self Clare self self self, with crossing passes.

Pattern for Clare: self self Ben hurried self Anne self self self Ben self Anne self self self Ben self Anne hurried self self self Ben hurried self Anne hurried self, with crossing passes to Anne and straight passes to Ben.

### Jim's two count feast #2



Anticlockwise siteswap: b9a6999

Prechac: 3.7p233.3p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Clare hurried self, with crossing passes.

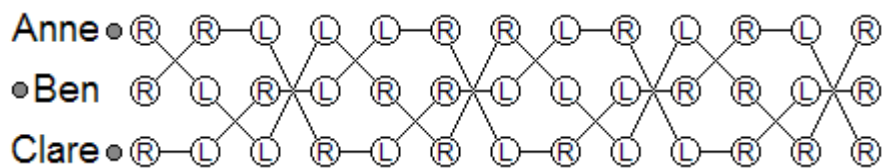
Pattern for Ben: Anne hurried self Clare self self self, with straight passes.

Pattern for Clare: self self Ben hurried self Anne self, with straight passes to Anne and crossing passes to Ben.

Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Clare and Anne pass blue clubs.

Note: you get an alternative Jim's two count feast with the anticlockwise siteswap: ab96999.

### Jim's one count feast #1



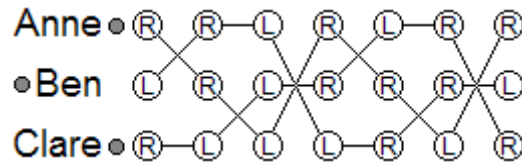
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Clare hurried pass to Ben hurried self Clare hurried pass to Ben self Clare Ben self Clare, with straight passes.

Pattern for Ben: Anne Clare self Anne Clare hurried self Anne hurried pass to Clare hurried self Anne hurried pass to Clare self, with crossing passes.

Pattern for Clare: hurried self Ben hurried pass to Anne self Ben Anne self Ben Anne hurried self Ben hurried pass to Anne, with crossing passes to Anne and straight passes to Ben.

**Jim's one count feast #2**



Anticlockwise siteswap: ab96

Prechac: 3.7p3.3p23

Start for Anne: two clubs in her left hand and one club in her right hand. She starts left handed.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

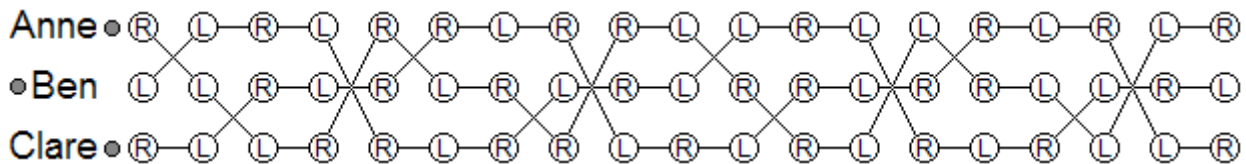
Pattern for Anne: Ben hurried self Clare, with crossing passes.

Pattern for Ben: Anne Clare hurried self, with straight passes.

Pattern for Clare: hurried self Ben Anne, with straight passes to Anne and crossing passes to Ben.

Note: you get an alternative Jim's one count feast with the anticlockwise siteswap: b9a6. In this variation each juggler always passes with the same hand.

**Jim's pass pass self feast #1**



Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his left hand and one club in his right hand. He starts left handed.

Start for Clare: two clubs in her right hand and one club in her left hand.

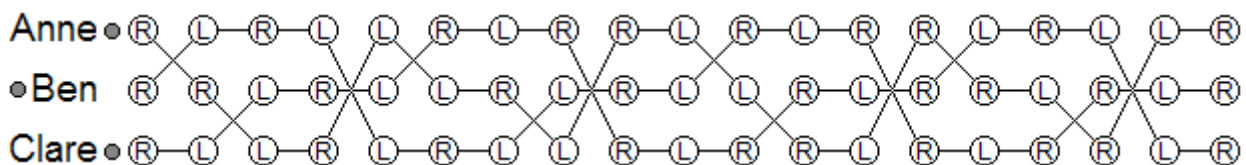
Pattern for Anne: Ben self self Clare Ben hurried self self Clare hurried self Ben hurried self self Clare hurried pass to Ben self self Clare self, with straight passes.

Pattern for Ben: Anne hurried pass to Clare self self Anne self Clare self self Anne Clare hurried self self Anne hurried self Clare hurried self self, with crossing passes.

Pattern for Clare: self Ben hurried self Anne hurried self self Ben hurried pass to Anne self self Ben self Anne self self Ben hurried pass to Anne self, with crossing passes to Anne and straight passes to Ben.

Colour coding: with the magic set of clubs, the red clubs are always passed, the blue clubs are left hand passes and right hand self throws, the green clubs are right hand passes and left hand self throws and the white clubs are always self throws.

**Jim's pass pass self feast #2**



Anticlockwise siteswap: b9a6b9a6999

Prechac: 3.7p23.3p333.7p233.3p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self Clare hurried pass to Ben self self Clare hurried self, with crossing passes.

Pattern for Ben: Anne hurried pass to Clare self self Anne hurried self Clare self self, with straight passes.

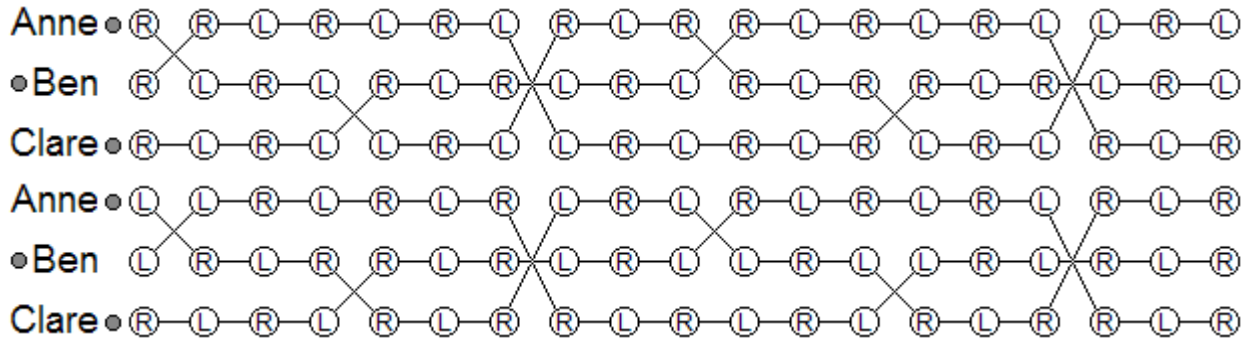
Pattern for Clare: self Ben hurried self Anne self self Ben hurried pass to Anne self, with straight passes to Anne and crossing passes to Ben.

Note: you get an alternative Jim's pass pass self feast with the anticlockwise siteswap: ab96ab96999.

## Three person Rick's picnics

Three person Rick's picnics are feasts, where one juggler starts with a crossing pass and the other two start with a straight pass, or vice-versa. Every time you pass to yourself you switch from crossing passes to straight passes or vice-versa.

### Three person three count Rick's picnic #1



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

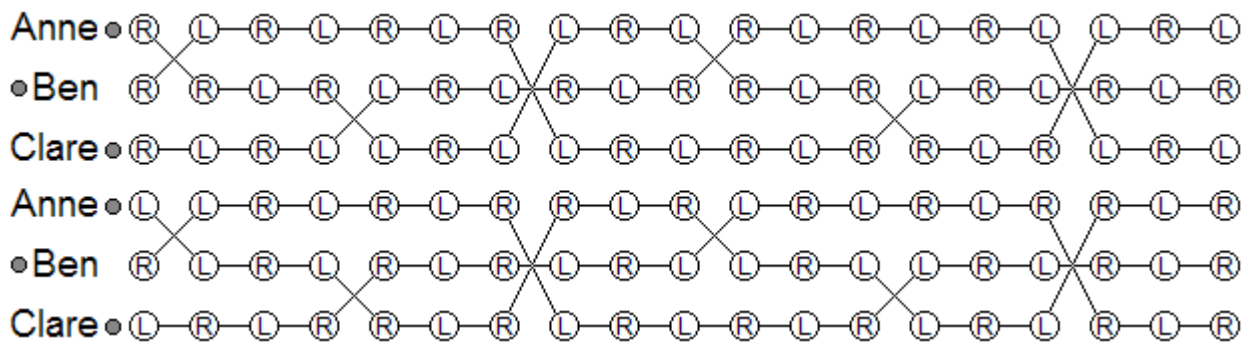
Pattern for Anne: Ben hurried self self self self self crossing pass to Clare self self crossing pass to Ben hurried self self self self self Clare hurried self self Ben hurried self self self self self crossing pass to Clare self self crossing pass to Ben self self self self self Clare self self.

Pattern for Ben: crossing pass to Anne self self crossing pass to Clare self self self self self Anne self self Clare hurried self self self self self crossing pass to Anne self self crossing pass to Clare hurried self self self self self Anne hurried self self Clare hurried self self self self self.

Pattern for Clare: self self self Ben hurried self self Anne hurried self self self self self crossing pass to Ben self self crossing pass to Anne self self self self self Ben self self Anne hurried self self self self self crossing pass to Ben self self crossing pass to Anne hurried self self self.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

### Three person three count Rick's picnic #2



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self self self self self Clare self self Ben self self self self self crossing pass to Clare hurried self self crossing pass to Ben hurried self self self self self Clare hurried self self Ben self self self self self crossing pass to Clare hurried self self.

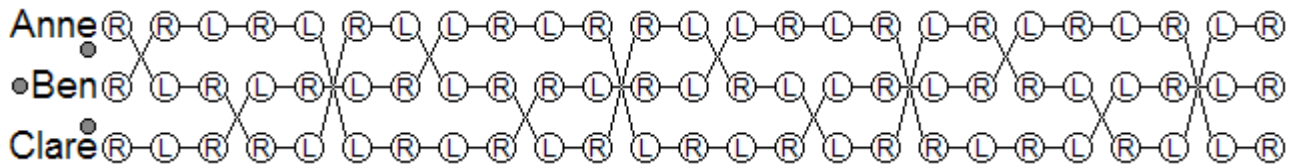
Pattern for Ben: Anne hurried self self Clare self self self self self crossing pass to Anne hurried self self crossing pass to Clare self self self self self Anne self self Clare self self self self self crossing pass to Anne hurried self self crossing pass to Clare hurried self self self self self.

Pattern for Clare: self self self crossing pass to Ben hurried self self crossing pass to Anne hurried self self self self self Ben hurried self self Anne self self self self self crossing pass to Ben hurried self self crossing pass to Anne self self self self self Ben self self Anne self self self.



Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

**Three person two count Rick's picnic #1**



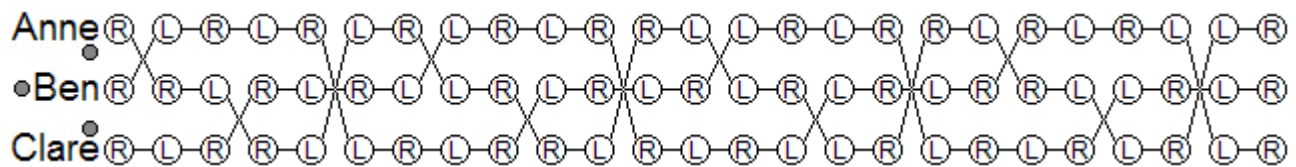
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben hurried self self self crossing pass to Clare self crossing pass to Ben hurried self self self Clare hurried self Ben hurried self self self crossing pass to Clare self crossing pass to Ben self self self Clare self.

Pattern for Ben: crossing pass to Anne self crossing pass to Clare self self self Anne self Clare hurried self self self crossing pass to Anne self crossing pass to Clare hurried self self self Anne hurried self Clare hurried self self self.

Pattern for Clare: self self Ben hurried self Anne hurried self self self crossing pass to Ben self crossing pass to Anne self self self Ben self Anne hurried self self self crossing pass to Ben self crossing pass to Anne hurried self.

**Three person two count Rick's picnic #2**



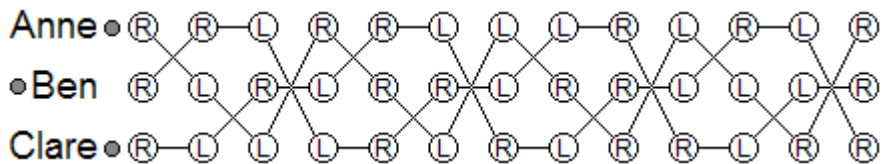
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self self self Clare self Ben self self self crossing pass to Clare hurried self crossing pass to Ben hurried self self self Clare hurried self Ben self self self crossing pass to Clare hurried self.

Pattern for Ben: Anne hurried self Clare self self self crossing pass to Anne hurried self crossing pass to Clare self self self Anne self Clare self self self crossing pass to Anne hurried self crossing pass to Clare hurried self self self.

Pattern for Clare: self self crossing pass to Ben hurried self crossing pass to Anne hurried self self self Ben hurried self Anne self self self crossing pass to Ben hurried self crossing pass to Anne hurried self self self Ben self Anne hurried self.

**Three person one count Rick's picnic #1**



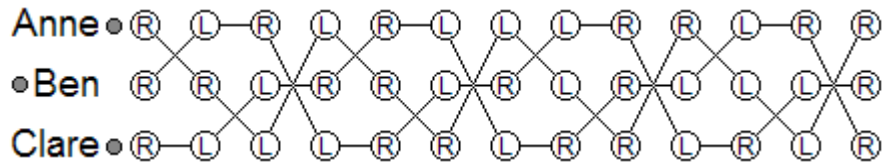
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben hurried self crossing pass to Clare crossing pass to Ben hurried self Clare hurried pass to Ben hurried self crossing pass to Clare crossing pass to Ben self Clare.

Pattern for Ben: crossing pass to Anne crossing pass to Clare self Anne Clare hurried self crossing pass to Anne crossing pass to Clare hurried self Anne hurried pass to Clare hurried self.

Pattern for Clare: hurried self Ben hurried pass to Anne hurried self crossing pass to Ben crossing pass to Anne self Ben Anne hurried self crossing pass to Ben crossing pass to Anne.

**Three person one count Rick's picnic #2**



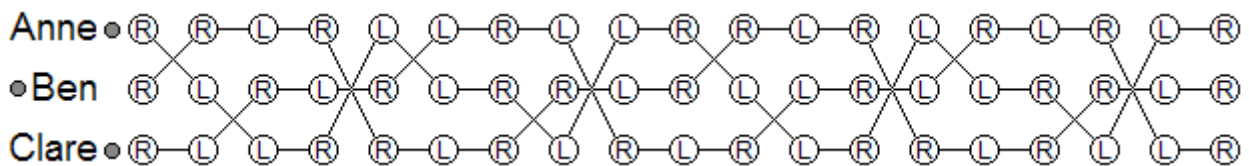
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: hurried crossing pass to Ben self Clare Ben self crossing pass to Clare hurried crossing pass to pass to Ben hurried self Clare hurried pass to Ben self crossing pass to Clare.

Pattern for Ben: Anne hurried pass to Clare self crossing pass to Anne hurried crossing pass to Clare self Anne Clare self crossing pass to Anne hurried crossing pass to Clare hurried self.

Pattern for Clare: self crossing pass to Ben hurried crossing pass to Anne hurried self Ben hurried pass to Anne self crossing pass to Ben hurried crossing pass to Anne self Ben Anne.

**Three person pass pass self Rick's picnic #1**



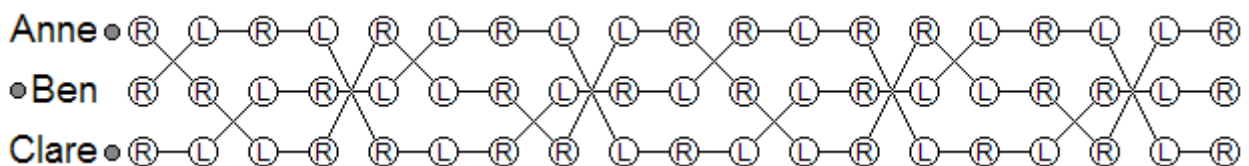
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben hurried self self crossing pass to Clare crossing pass to Ben hurried self self Clare hurried self Ben hurried self self crossing pass to Clare crossing pass to Ben self self Clare self.

Pattern for Ben: crossing pass to Anne crossing pass to Clare self self Anne self Clare hurried self self crossing pass to Anne crossing pass to Clare hurried self self Anne hurried self Clare hurried self self.

Pattern for Clare: self Ben hurried self Anne hurried self self crossing pass to Ben crossing pass to Anne self self Ben self Anne hurried self self crossing pass to Ben crossing pass to Anne hurried self.

**Three person pass pass self Rick's picnic #2**



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self self Clare Ben self self crossing pass to Clare hurried self crossing pass to Ben hurried self self Clare hurried pass to Ben self self crossing pass to Clare hurried self.

Pattern for Ben: Anne hurried pass to Clare self self crossing pass to Anne hurried self crossing pass to Clare self self Anne Clare self self crossing pass to Anne hurried self crossing pass to Clare hurried self self.

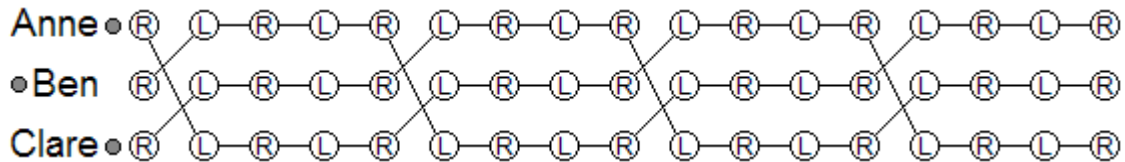
Pattern for Clare: self crossing pass to Ben hurried self crossing pass to Anne hurried self self Ben hurried pass to Anne self self crossing pass to Ben hurried self crossing pass to Anne self self Ben Anne self.

# Triangles

In this section, any pattern where all the passes are inside passes can be juggled with outside passes (or vice-versa). Also they can be juggled on inside *and* outside passes!

## Four count triangle on ins

Everyone passes four count to the person on their left.



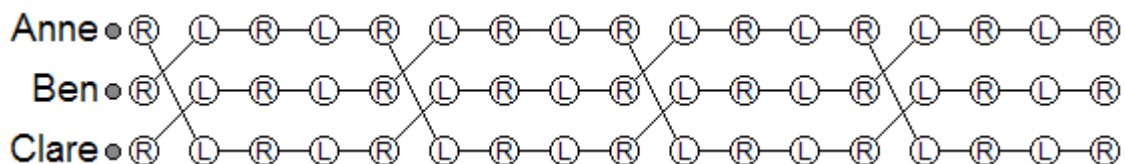
Prechac: 3p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: inside self self self.

## Three person four count drop-back line

For this pattern the jugglers stand in a line. Anne and Ben face Clare, and Clare faces Anne and Ben. Everyone passes on four count. Anne passes to Clare, Clare passes to Ben and Ben throws his passes over his head to Anne. These passes are known as drop-backs.



Prechac: 3p333

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare self self self.

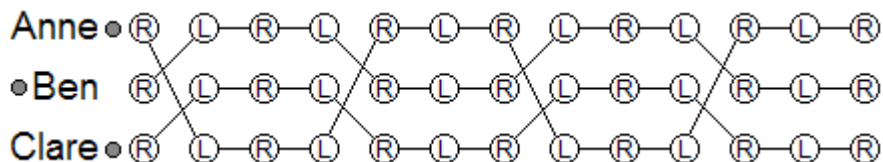
Pattern for Ben: drop-back to Anne self self self.

Pattern for Clare: Ben self self self.

Notes: the causal diagram is the same as the four count triangle on ins. You can make drop-back lines from other triangle patterns.

## Three count triangle on ins

Everyone passes three count, throwing their right hand passes to the person on their left and their left hand passes to the person on their right.



Prechac: 3p33

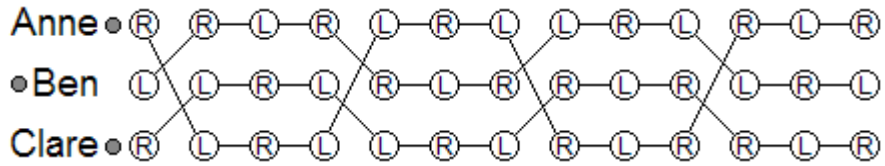
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: inside self self.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

### Jim's three count triangle on ins and outs

Everyone passes Jim's three count throwing straight passes to the person on their left and crossing passes to the person on their right.



Anticlockwise siteswap: bbb33999999aaa3999999

Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in his left hand and one club in his right hand. He starts left handed.

Pattern for Anne: Clare hurried self self Ben self self, with straight passes to Clare and crossing passes to Ben.

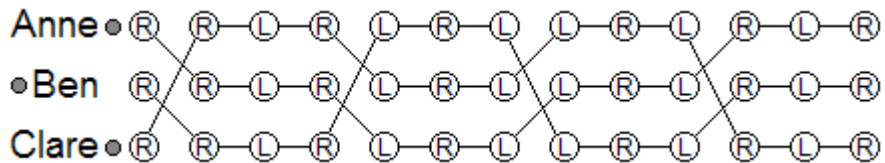
Pattern for Ben: Anne self self Clare self self, with straight passes to Anne and crossing passes to Clare.

Pattern for Clare: Ben self self Anne hurried self self, with straight passes to Ben and crossing passes to Anne.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

### Jim's style three count triangle on outs

Everyone passes Jim's style three count, throwing their right hand passes to the person on their right and their left hand passes to the person on their left.



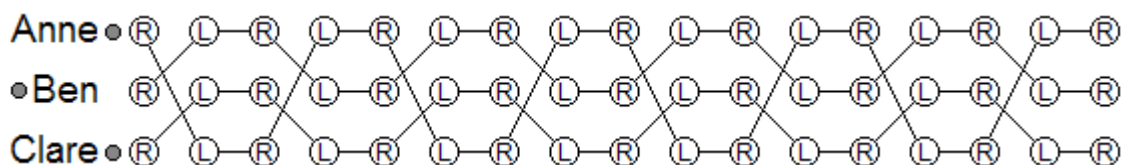
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: crossing outside hurried self self outside self self.

Colour coding: with the magic set of clubs, the white clubs are passing clubs, Anne has red clubs for self throws, Ben has blue clubs for self throws and Clare has green clubs for self throws.

### Two count triangle on ins and outs

Everyone passes two count, alternating their passes to their left and their right.



Prechac: 3p3

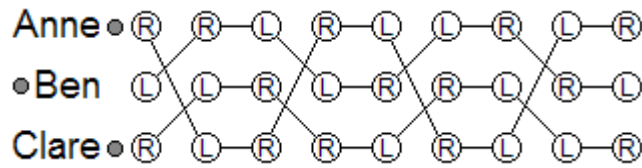
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: inside self outside self.

Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Clare and Anne pass blue clubs.

**Jim's two count triangle on ins and outs**

Everyone passes Jim's two count throwing straight passes to the person on their left and crossing passes to the person on their right.



Anticlockwise siteswap: bbb33999aaa3999

Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in his left hand and one club in his right hand. He starts left handed.

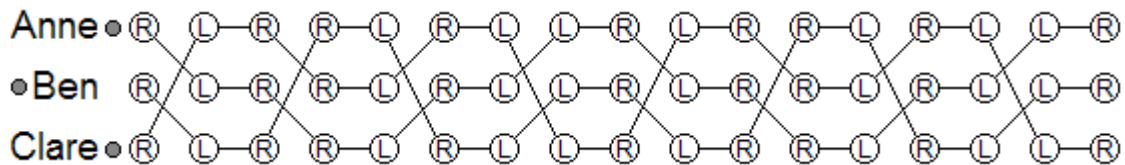
Pattern for Anne: Clare hurried self Ben self, with straight passes to Clare and crossing passes to Ben.

Pattern for Ben: Anne hurried self Clare self, with straight passes to Anne and crossing passes to Clare.

Pattern for Clare: Ben self Anne hurried self, with straight passes to Ben and crossing passes to Anne.

**Jim's style two count triangle on outs**

Everyone passes Jim's style two count, throwing their right hand passes to the person on their right and their left hand passes to the person on their left.



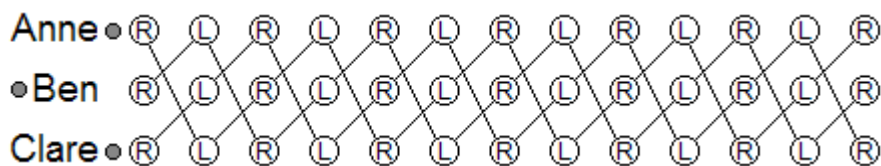
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: outside self crossing outside hurried self.

Colour coding: with the natural set of clubs, the red clubs are always thrown as straight passes, the right hand crossing passes are always green clubs and the left hand crossing passes are always blue clubs.

**One count triangle on ins and outs**

Everyone passes one count to the person on their left.



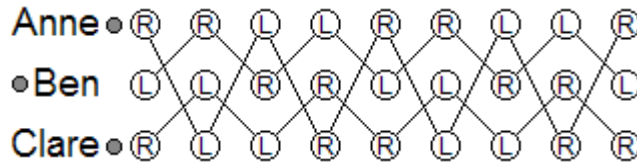
Prechac:3p

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: inside outside.

**Jim's one count triangle on ins and outs**

Everyone passes Jim's one count throwing straight passes to the person on their left and crossing passes to the person on their right.



Anticlockwise siteswap: bbb33aaa3

Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in his left hand and one club in his right hand. He starts left handed.

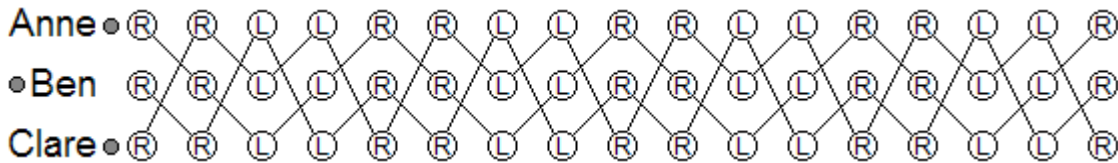
Pattern for Anne: Clare hurried pass to Ben, with straight passes to Clare and crossing passes to Ben.

Pattern for Ben: Anne hurried pass to Clare, with straight passes to Anne and crossing passes to Clare.

Pattern for Clare: hurried pass to Ben Anne, with straight passes to Ben and crossing passes to Anne.

**Jim's style one count triangle on outs**

Everyone passes Jim's style two count, throwing their right hand passes to the person on their right and their left hand passes to the person on their left.

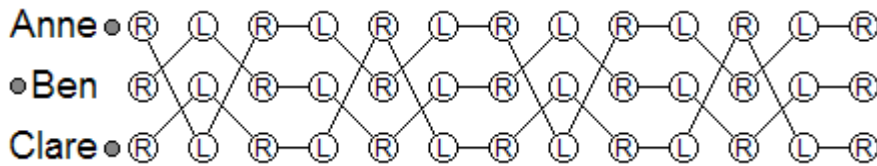


Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: crossing outside hurried outside.

**Pass pass self triangle**

Everyone does a pass pass self feed.



Prechac: 3p3p3

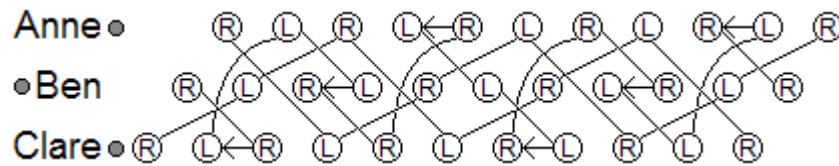
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for all three jugglers: inside inside self outside outside self.

Colour coding: with the natural set of clubs, passes to the left are always blue clubs, passes to the right are always green clubs and self throws are always red clubs.

**Martin's one count triangle**

Everyone does a Martin's one count feed.



Anticlockwise siteswap: aabb3

Prechac: 3.7p3.3p3.7p3.3p1

Start for Clare: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his right hand and one club in his left hand, two thirds of a beat after Clare.

Start for Anne: two clubs in her right hand and one club in her left hand, two thirds of a beat after Ben.

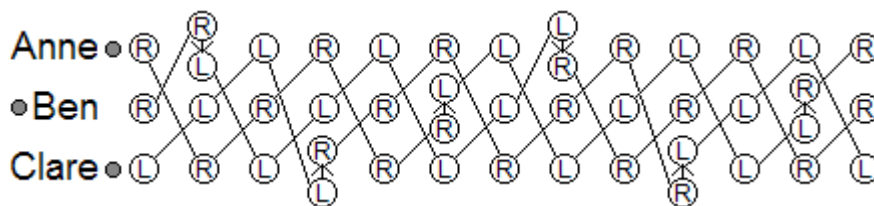
Pattern for Clare: Ben Anne zip Ben Anne, with straight passes to Ben and crossing passes to Anne.

Pattern for Ben: Clare Anne Clare zip Anne, with straight passes to Anne and crossing passes to Clare.

Pattern for Anne: Clare Ben Clare Ben zip, with straight passes to Clare and crossing passes to Ben.

Colour coding: Use four green clubs, which are always crossing passes to the person on the right, and five red clubs, so that the straight passes to the person on the left are always red clubs.

**Martin's style one count triangle**



Clockwise siteswap: aaaaaa3

Prechac: 3.3p3.3p3.3p3.3p3.3p1

Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Clare: two clubs in her left hand and one club in her right hand. She starts left handed.

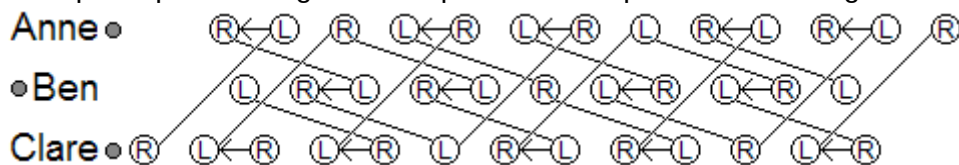
Pattern for Anne: Clare Clare zip Clare Clare Clare Clare, with crossing passes.

Pattern for Ben: Anne Anne Anne Anne Anne Anne zip, with crossing passes.

Pattern for Clare: Ben Ben Ben Ben zip Ben Ben, with crossing passes.

### **Parsnip triangle**

Everyone passes parsnip with straight double passes to the person on their right.



Anticlockwise siteswap: d33dd

Prechac: 4.3p4.3p14.3p1

Start for Clare: three clubs in her right hand and one club in her left hand.

Start for Anne: one club in each hand, one and a third beats after Clare.

Start for Ben: two clubs in his left hand and one club in his right hand, one and two thirds beats after Clare. Ben starts left handed.

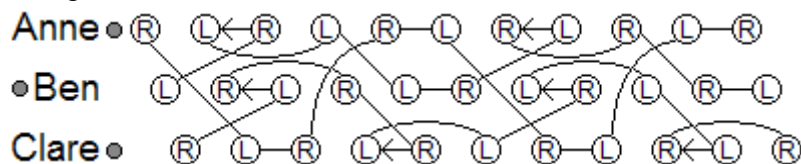
Pattern for Clare: double double zip double zip, with straight double passes to Anne.

Pattern for Anne: double zip double double zip, with straight double passes to Ben.

Pattern for Ben: double double zip double zip, with straight double passes to Clare.

### **Why not? triangle**

Everyone passes why not? throwing straight passes to the person on their left and crossing passes to the person on their right.



Anticlockwise siteswap: bbbcc933aaac993

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in his left hand and one club in his right hand, a third of a beat after Anne. Ben starts left handed.

Start for Clare: two clubs in her right hand and one club in her left hand, two thirds of a beat after Anne.

Pattern for Anne: Clare heff zip Ben self, with straight passes to Clare and crossing passes to Ben.

Pattern for Ben: Anne heff zip Clare self, with straight passes to Anne and crossing passes to Clare.

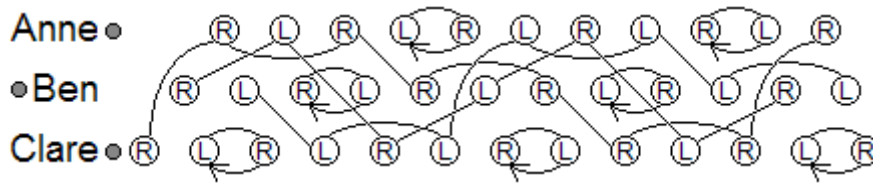
Pattern for Clare: Ben self Anne heff zip, with straight passes to Ben and crossing passes to Anne.

Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Clare and Anne pass blue clubs.



### Maybe triangle

Everyone passes maybe throwing straight passes to the person on their left and crossing passes to the person on their right.



Anticlockwise siteswap: a3b9c

Prechac: 3.3p3143.7p

Start for Clare: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in each hand, two thirds of a beat after Clare.

Start for Anne: one club in each hand, one and a third beats after Clare.

Pattern for Clare: Anne self zip heff Ben Anne self zip heff Ben, with crossing passes to Anne and straight passes to Ben.

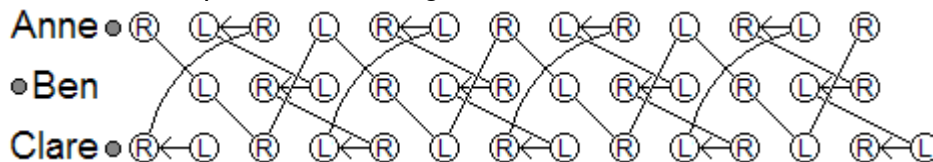
Pattern for Ben: Anne Clare self zip heff Anne Clare self zip heff, with straight passes to Anne and crossing passes to Clare.

Pattern for Anne: heff Clare Ben self zip heff i Clare Ben self zip, with straight passes to Clare and crossing passes to Ben.

Colour coding: with the magic set of clubs, the red clubs are always crossing passes, the blue clubs are straight left hand passes and right hand self throws, the green clubs are straight right hand passes and left hand self throws and the white clubs are never passed.

### 972 triangle (eight clubs)

Everyone passes 972 to the person on their right.



Prechac: 3p4p1

Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Clare: two clubs in her left hand and one club in her right hand. Clare's first throw is right handed.

Start for Ben: one club in each hand, one beat after Anne and Clare. Ben's first throw is left handed.

Pattern for Anne: single double zip, with straight singles and crossing doubles to Ben.

Pattern for Clare: double zip single, with straight singles and crossing doubles to Anne.

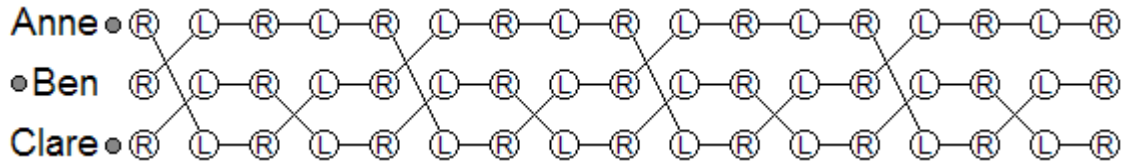
Pattern for Ben: single double zip, with straight singles and crossing doubles to Clare.

Colour coding: four red clubs that are always double passes and four green clubs that are always single passes or zips.

## Mixed count triangles

### **Two count, two count, four count triangle**

Anne passes to Clare on four count, Ben passes to Anne and Clare on two count and Clare passes to Ben on two count.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

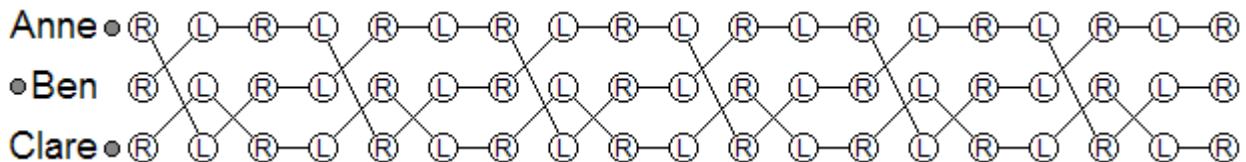
Pattern for Anne: Clare self self self.

Pattern for Ben: Anne self Clare self.

Pattern for Clare: Ben self Ben self.

### **Pass pass self, pass pass self, three count triangle (Tarim's triangle)**

Anne passes three count to Clare, Ben passes pass pass self to Anne and Clare and Clare passes pass pass self to Ben.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare self self.

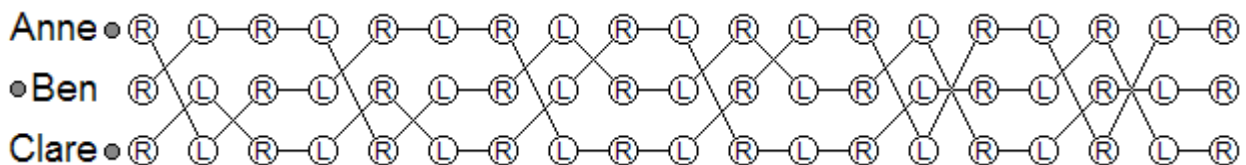
Pattern for Ben: Anne Clare self.

Pattern for Clare: Ben Ben self.

Colour coding: with the magic set of clubs the white clubs are always passed, Ben and Clare pass red clubs and have blue clubs for self throws and Anne has green clubs for self throws.

### **Extended Tarim's triangle**

This is a variation of Tarim's triangle where the pattern moves clockwise round the triangle every six beats. There are similar variations for all the patterns in this section.



Prechac: 3p333p333p33p33p33p33p33p33p33

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare self self Clare self self Clare Ben self Clare Ben self Clare Clare self Clare Clare self.

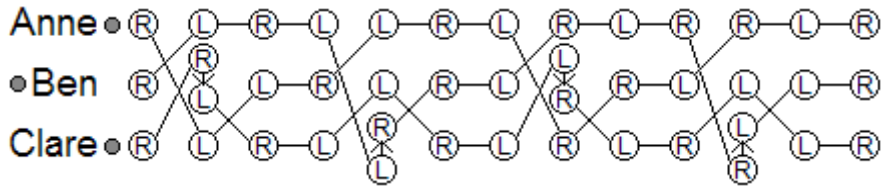
Pattern for Ben: Anne Clare self Anne Clare self Anne Anne self Anne Anne self Anne self self Anne self self.

Pattern for Clare: Ben Ben self Ben Ben self Ben self self Ben self self Ben Anne self Ben Anne self.

Colour coding: with the natural set of clubs the red clubs are always passed, the two jugglers doing pass pass self pass blue clubs and everyone has a green clubs that's always a self throw.

**Mild madness, mild madness, Jim's three count triangle**

Anne passes Jim's three count to Clare, alternating straight and crossing passes. Ben passes Martin's mildness to Anne and Clare. Clare passes mild madness to Ben, with crossing passes.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare self self crossing pass to Clare hurried self self.

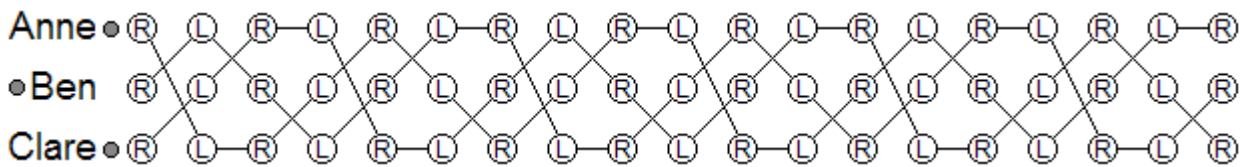
Pattern for Ben: Anne Clare zip self Anne Clare self, with straight passes.

Pattern for Clare: Ben Ben self Ben Ben zip self, with crossing passes.

Colour coding: with the magic set of clubs the white clubs are always passed, Ben and Clare pass red clubs and have blue clubs for self throws and Anne has green clubs for self throws.

**Pass pass self, pass pass self, one count triangle**

Anne passes pass pass self to Clare and Ben, Ben passes one count to Anne and Clare and Clare passes pass pass self to Ben.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare Ben self.

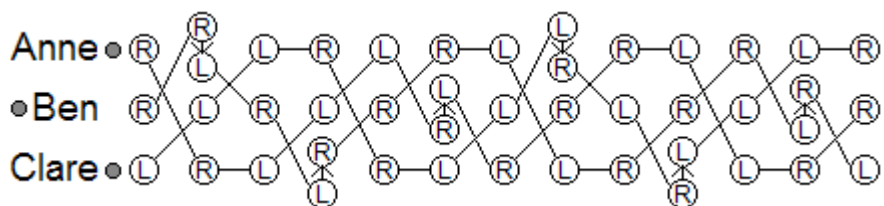
Pattern for Ben: Anne Anne Clare.

Pattern for Clare: Ben self Ben.

Colour coding: with the magic set of clubs the white clubs are always passed, Ben and Clare pass red clubs, Ben and Anne pass blue clubs and Anne and Clare have green clubs that are always self throws.

**Mild madness, mild madness, Jim's style one count triangle**

Anne passes mild madness to Clare and Ben, Ben passes Jim's style one count to Anne and Clare and Clare passes mild madness to Ben.



Clockwise siteswap: aaab9a3ab9aaa3ab9b9a3

Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Clare: two clubs in the left hand and one club in the right hand. Clare starts left handed.

Pattern for Anne: Clare Ben zip self Clare Ben self, with crossing passes to Clare and straight passes to Ben.

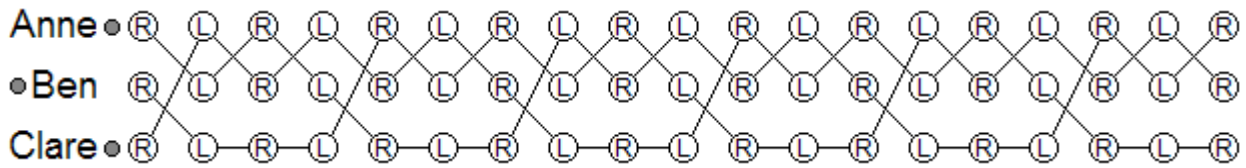
Pattern for Ben: Anne Anne Clare Anne Anne Clare zip, with crossing passes to Anne and straight passes to Clare.

Pattern for Clare: Ben self Ben Ben zip self Ben, with crossing passes.

Colour coding: with the magic set of clubs the white clubs are always passed, Ben and Clare pass red clubs, Ben and Anne pass blue clubs and Anne and Clare have green clubs that are always self throws.

**One count, one count, three count triangle**

Anne passes one count to Ben, Ben passes one count to Anne and Clare and Clare passes three count to Anne.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

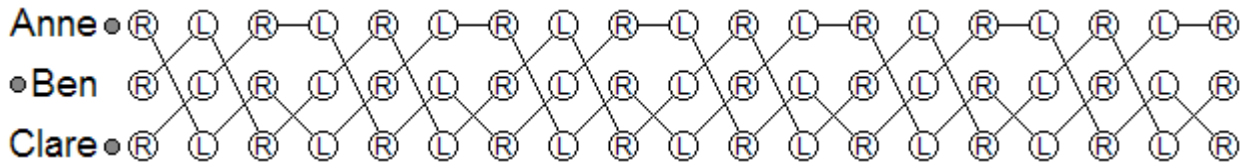
Pattern for Anne: Ben Ben Ben.

Pattern for Ben: Clare Anne Anne.

Pattern for Clare: Anne self self.

**One count, one count, pass pass self triangle**

Anne passes pass pass self to Clare, Ben passes one count to Anne and Clare and Clare passes one count to Ben.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

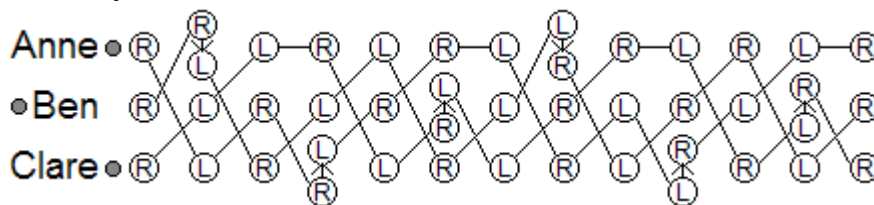
Pattern for Anne: Clare Clare self.

Pattern for Ben: Anne Anne Clare.

Pattern for Clare: Ben Ben Ben.

**Martin's style one count, Martin's style one count, mild madness triangle**

Anne passes mild madness to Clare, Ben passes Martin's style one count to Anne and Clare and Clare passes Martin's style one count to Ben.



Clockwise siteswap: aaaaaa3ab9aaa3aaab9a3

Start for all three jugglers: two clubs in the right hand and one club in the left hand.

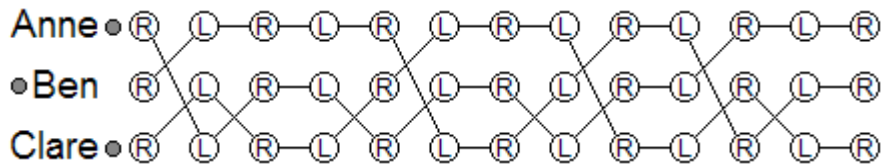
Pattern for Anne: Clare Clare zip self Clare Clare self, with straight passes.

Pattern for Ben: Anne Anne Clare Anne Anne Clare zip, with crossing passes.

Pattern for Clare: Ben Ben Ben Ben zip Ben Ben, with straight passes.

**Pass pass self, pass pass self, countdown triangle**

Anne passes to Clare on a countdown from four count to two count. Ben passes pass pass self to Anne and Clare. Clare passes pass pass self to Ben.



Start for all three jugglers: two clubs in the right hand and one club in the left hand.

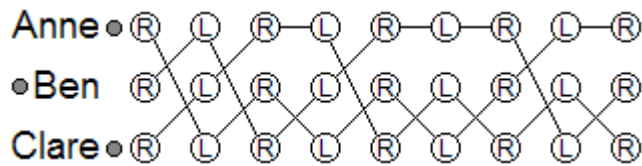
Pattern for Anne: Clare self self self Clare self self Clare self Clare self self.

Pattern for Ben: Anne Clare self Clare Anne self Clare Anne self Anne Clare self.

Pattern for Clare: Ben Ben self Ben Ben self Ben Ben self Ben Ben self.

### One count, one count, countdown triangle

Anne passes to Clare on a countdown from three count. Ben passes one count to Anne and Clare. Clare passes one count to Ben.



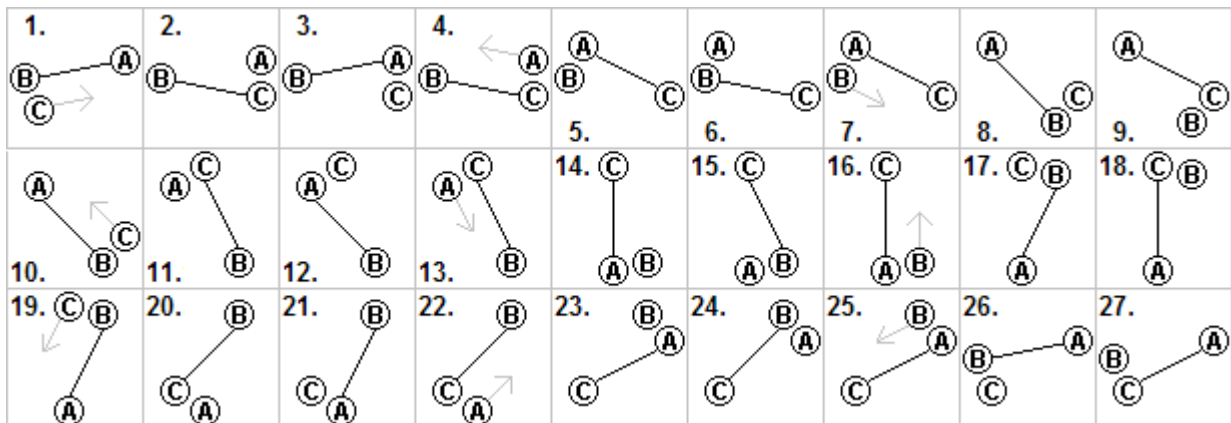
Start for all three jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare Clare self Clare self self Clare self.

Pattern for Ben: Anne Anne Clare Anne Clare Clare Anne Clare.

Pattern for Clare: Ben Ben Ben Ben Ben Ben Ben Ben.

## Three person runarounds



The diagram shows the passes and movement for an anticlockwise three person runaround. At the start Ben is feeding Anne and Clare. After Ben's third pass as the feeder, Anne walks across the pattern and Clare starts feeding Ben and Anne. After Clare's third pass as the feeder, Ben walks across the pattern and Anne starts feeding Clare and Ben. After Anne's third pass as the feeder, Clare walks across the pattern and Ben starts feeding Anne and Clare. This is essentially the same as the start of the pattern. Every time someone walks they move anticlockwise around the pattern, hence the name anticlockwise runaround.

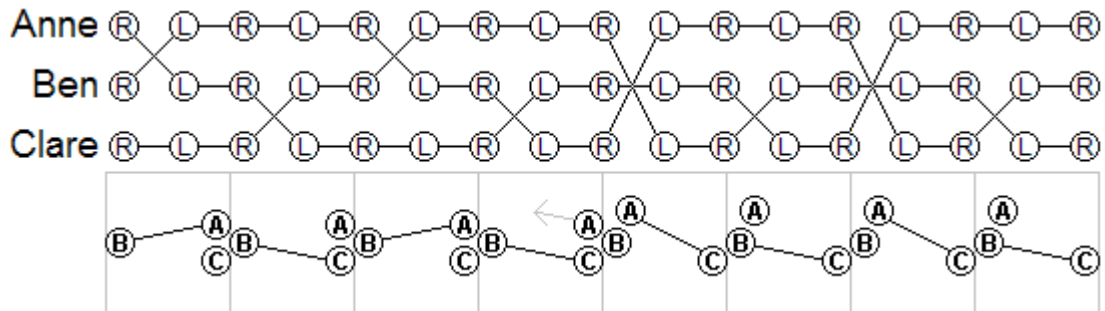
Usually you have three beats to walk across the pattern, so you can juggle four count as you walk and turn. Alternatively you can catch the incoming club, stop juggling as you walk across the pattern and start juggling with a pass three beats later. If you are colour coding the passing clubs in the pattern, you should juggle as you walk across the pattern, otherwise you might mess up the colour coding!

In this example someone walks after a set number of passes from the feeder, however in general you can walk across the pattern after any pass.



**Anticlockwise two count runaround**

At the start Ben feeds Anne and Clare on two count, while Anne and Clare pass four count to Ben. Anne walks across the pattern after a pass to Ben and then Clare feeds Anne and Ben on two count, while Anne and Ben pass four count to Clare.



Starting pattern for Anne: Ben self self self.

Starting pattern for Ben: Anne self Clare self.

Starting pattern for Clare: self self Ben self.

After Anne walks:

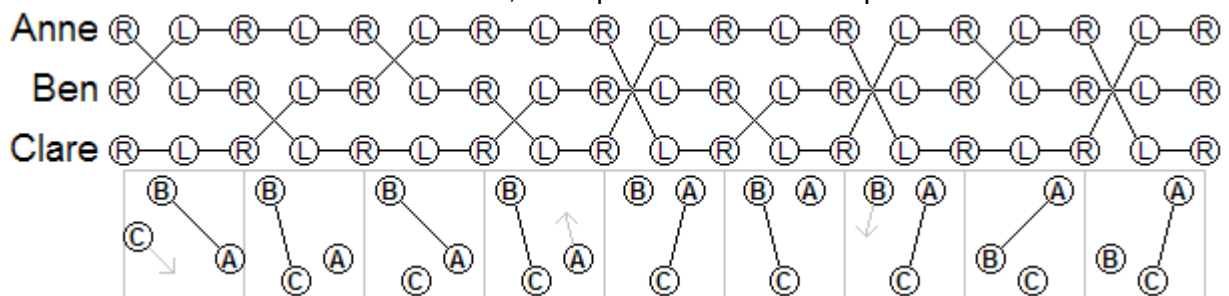
Pattern for Anne: Clare self self self.

Pattern for Ben: self self Clare self.

Pattern for Clare: Anne self Ben self.

**Traffic lights pattern**

In this anticlockwise two count runaround, each person makes three passes as the feeder.



Starting pattern for Anne: Ben self self self Ben self.

Starting pattern for Ben: Anne self Clare self Anne self.

Starting pattern for Clare: self self Ben self self self.

After Anne walks:

Pattern for Anne: self self Clare self self self.

Pattern for Ben: Clare self self self Clare self.

Pattern for Clare: Ben self Anne self Ben self.

After Ben walks:

Pattern for Anne: Clare self Ben self Clare self.

Pattern for Ben: self self Anne self self self.

Pattern for Clare: Anne self self self Anne self.

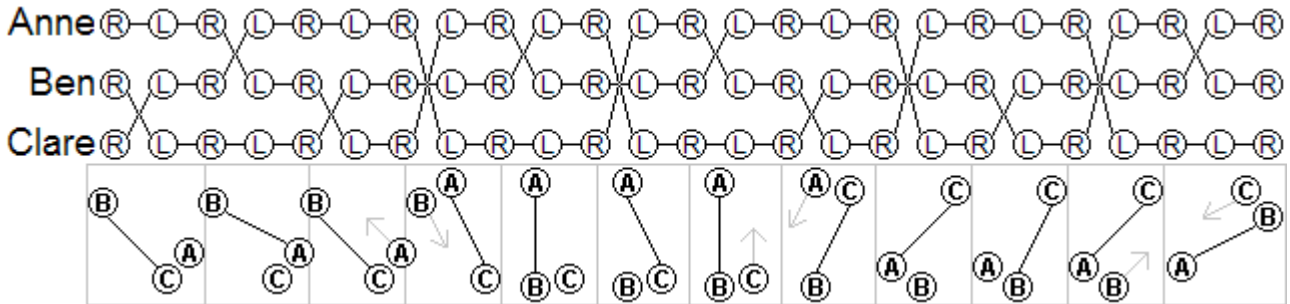
After Clare walks the pattern repeats from the start.





**Anticlockwise pulsar runaround**

This is an anticlockwise two count runaround pattern where each person makes two passes as the feeder. It's based on the pulsar.



Starting pattern for Anne: self self Ben self.

Starting pattern for Ben: Clare self Anne self.

Starting pattern for Clare: Ben self self self.

After Anne walks:

Pattern for Anne: self self.

Pattern for Ben: Clare self.

Pattern for Clare: Ben self.

After Ben walks:

Pattern for Anne: Clare self Ben self Clare self.

Pattern for Ben: self self Anne self self self.

Pattern for Clare: Anne self self self Anne self.

After Clare walks:

Pattern for Anne: Ben self.

Pattern for Ben: Anne self.

Pattern for Clare: self self.

After Anne walks:

Pattern for Anne: self self Clare self self self.

Pattern for Ben: Clare self self self Clare self.

Pattern for Clare: Ben self Anne self Ben self:

After Ben walks:

Pattern for Anne: Clare self.

Pattern fro Ben self self.

Pattern for Clare: Anne self.

After Clare walks:

Pattern for Anne: Ben self.

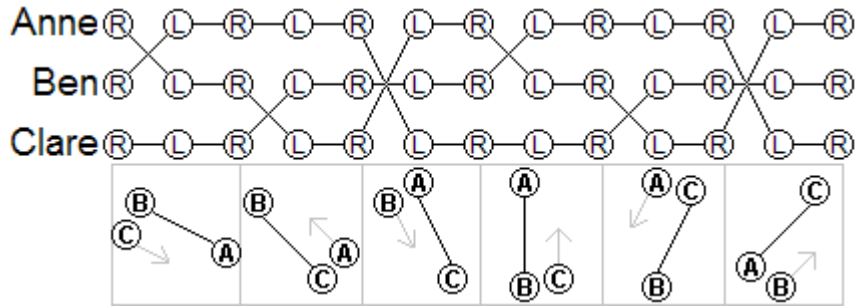
Pattern for Ben: Anne self.

Pattern for Clare: self self.

Then the pattern repeats from the start.

**Two count feast runaround**

This is an anticlockwise two count runaround pattern where each person makes one pass as the feeder. It's based on a two count feast.



Starting pattern for Anne: Ben self.  
 Starting pattern for Ben: Anne self.  
 Starting pattern for Clare: self self.

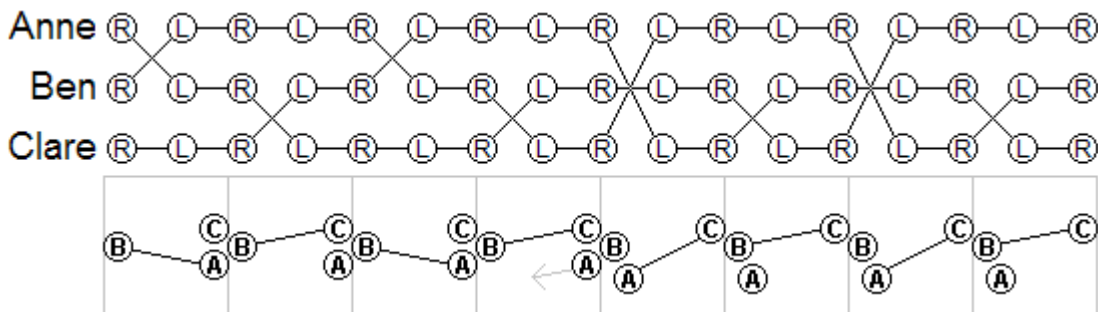
After Anne walks:  
 Pattern for Anne: self self.  
 Pattern for Ben: Clare self.  
 Pattern for Clare: Ben self.

After Ben walks:  
 Pattern for Anne: Clare self.  
 Pattern for Ben: self self.  
 Pattern for Clare: Anne self.

After Clare walks the pattern repeats from the start.

**Clockwise two count runaround**

At the start Ben feeds Anne and Clare on two count, while Anne and Clare pass four count to Ben. Anne walks across the pattern after a pass to Ben and then Clare feeds Anne and Ben on two count, while Anne and Ben pass four count to Clare.



Starting pattern for Anne: Ben self self self.  
 Starting pattern for Ben: Anne self Clare self.  
 Starting pattern for Clare: self self Ben self.

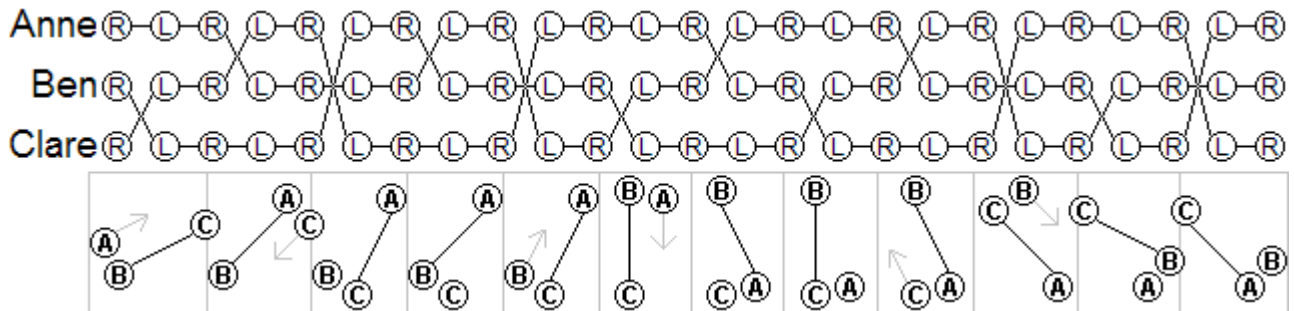
After Anne walks:  
 Pattern for Anne: Clare self self self.  
 Pattern for Ben: self self Clare self.

Pattern for Clare: Anne self Ben self.

Note: this is essentially the same as the anticlockwise two count runaround.

**Clockwise pulsar runaround**

This is a clockwise two count runaround pattern where each person makes two passes as the feeder. It's based on the pulsar, but it's not exactly the same!



Starting pattern for Anne: self self.

Starting pattern for Ben: Clare self.

Starting pattern for Clare: Ben self.

After Clare walks:

Pattern for Anne: Ben self Clare self Ben self.

Pattern for Ben: Anne self self self Anne self.

Pattern for Clare: self self Anne self self self.

After Ben walks:

Pattern for Anne: Clare self.

Pattern for Ben: self self.

Pattern for Clare: Anne self.

After Anne walks:

Pattern for Anne: self self Ben self self self.

Pattern for Ben: Clare self Anne self Clare self.

Pattern for Clare: Ben self self self Ben self.

After Clare walks:

Pattern for Anne: Ben self.

Pattern for Ben: Anne self.

Pattern for Clare: self self.

After Ben walks:

Pattern for Anne: Clare self self self Clare self.

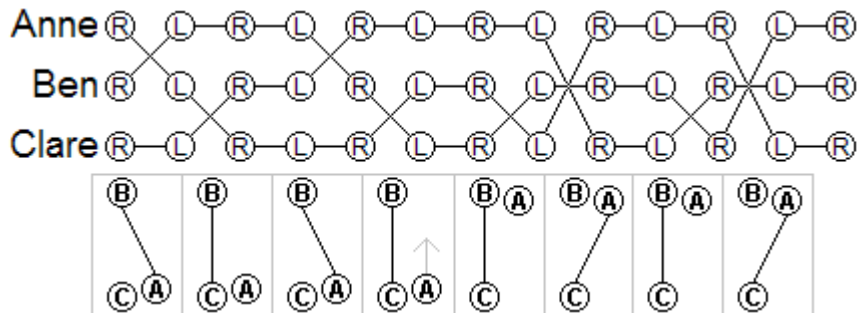
Pattern for Ben: self self Clare self self self.

Pattern for Clare: Anne self Ben self Anne self.

The pattern then repeats from the start, but Anne walks as Ben passes with Clare.

**Anticlockwise pass pass self runaround**

At the start Ben feeds Anne and Clare on pass pass self, while Anne and Clare pass three count to Ben. Anne walks across the pattern after a pass to Ben and then Clare feeds Anne and Ben on pass pass self, while Anne and Ben pass three count to Clare.



Starting pattern for Anne: Ben self self.

Starting pattern for Ben: Anne Clare self.

Starting pattern for Clare: self Ben self.

After Anne walks:

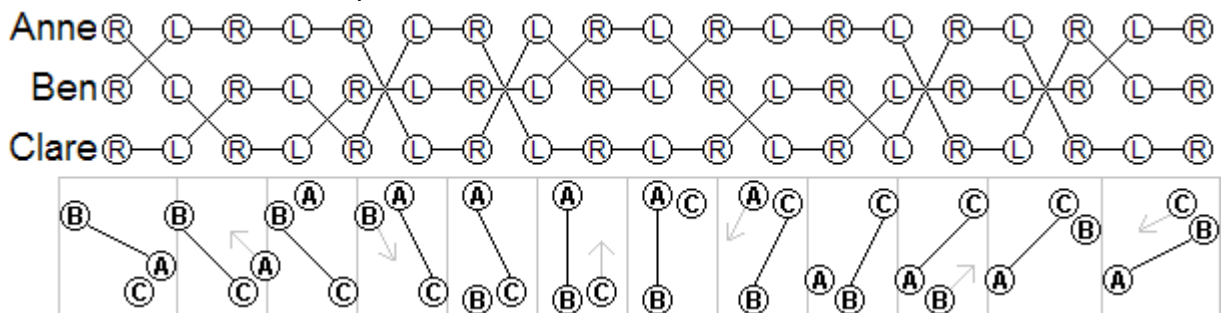
Pattern for Anne: self Clare self.

Pattern for Ben: Clare self self.

Pattern for Clare: Ben Anne self.

**Anti quasar runaround**

This is an anticlockwise pass pass self runaround where each person makes two passes as the feeder. It's based on the anti quasar.



Starting pattern for Anne: Ben self self.

Starting pattern for Ben: Anne Clare self.

Starting pattern for Clare: self Ben self.

After Anne walks:

Pattern for Anne: self Clare self.

Pattern for Ben: Clare self self.

Pattern for Clare: Ben Anne self.

After Ben walks:

Pattern for Anne: Clare Ben self.

Pattern for Ben: self Anne self.

Pattern for Clare: Anne self self.

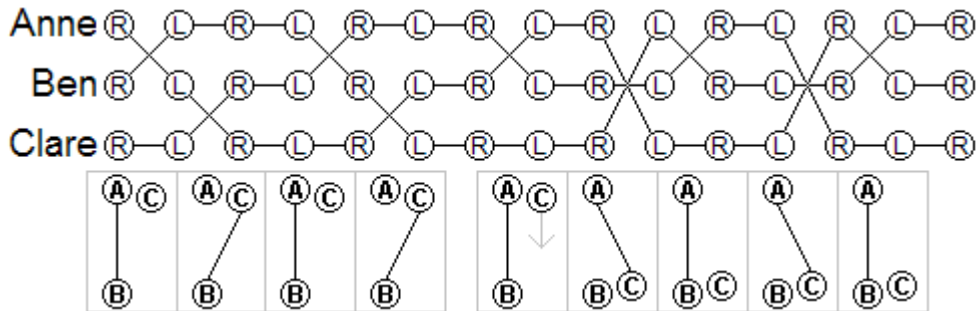
After Clare walks the pattern repeats from the start with the left hand!



Colour coding for both the patterns on this page: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Anne and Clare pass blue clubs. If you use the magic set of clubs, the white clubs are always self throws.

**Clockwise pass pass self runaround**

At the start Ben feeds Anne and Clare on pass pass self, while Anne and Clare pass three count to Ben. Clare walks across the pattern after a pass to Ben and then Anne feeds Ben and Clare on pass pass self, while Ben and Clare pass three count to Anne.



Starting pattern for Anne: Ben self self.

Starting pattern for Ben: Anne Clare self.

Starting pattern for Clare: self Ben self.

After Clare walks:

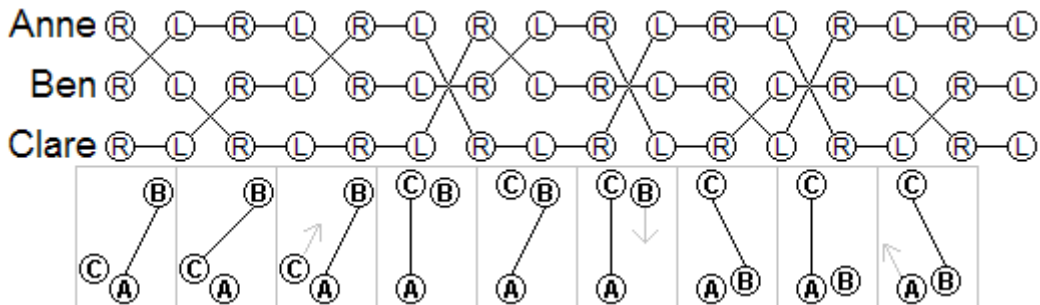
Pattern for Anne: Ben self Clare.

Pattern for Ben: Anne self self.

Pattern for Clare: self self Anne.

**Quasar runaround**

This is a clockwise pass pass self runaround where each person makes three passes as the feeder. It's based on the quasar.



Starting pattern for Anne: Ben self self Ben self.

Starting pattern for Ben: Anne Clare self Anne self.

Starting pattern for Clare: self Ben self self self.

After Clare walks:

Pattern for Anne: Clare Ben self Clare self.

Pattern for Ben: self Anne self self self.

Pattern for Clare: Anne self self Anne self.

After Ben walks:

Pattern for Anne: self Clare self self self.

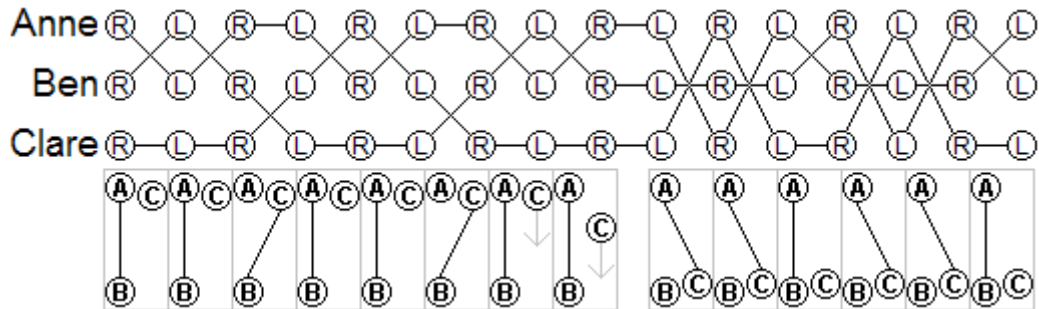
Pattern for Ben: Clare self self Clare self.

Pattern for Clare: Ben Anne self Ben self.

After Anne walks the pattern repeats from the start with the left hand!

**Clockwise one count runaround**

At the start Ben feeds Anne and Clare on one count, Anne passes pass pass self to Ben and Clare passes three count to Ben. Clare walks across the pattern after a pass to Ben and then Anne feeds Ben and Clare on one count, Ben passes three count to Anne and Clare passes pass pass self to Anne.



Starting pattern for Anne: Ben Ben self.

Starting pattern for Ben: Anne Anne Clare.

Starting pattern for Clare: self self Ben.

As Clare walks:

Pattern for Anne: Ben Ben self.

Pattern for Ben : Anne Anne self.

Pattern for Clare: self self self.

After Clare walks:

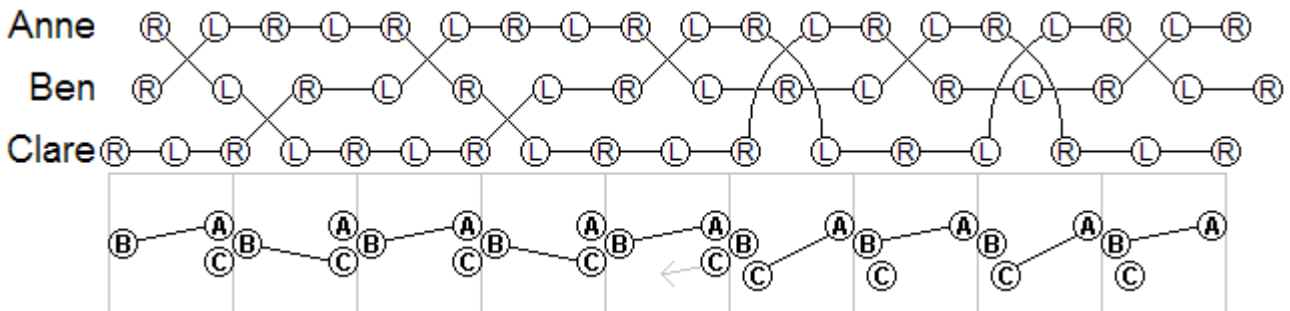
Pattern for Anne: Clare Clare Ben.

Pattern for Ben: self self Anne.

Pattern for Clare: Anne Anne self.

**Rotating confusion**

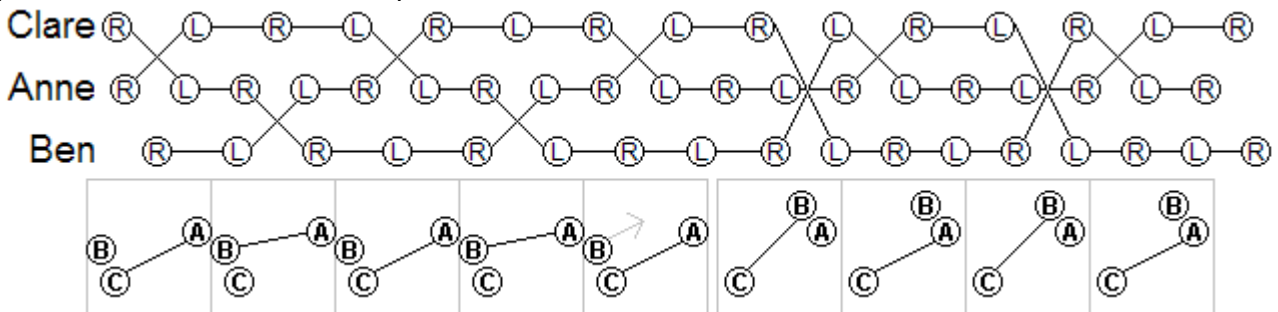
This is a clockwise runaround between two slow fast feeds. At the start Ben feeds pass pass self to Anne and Clare, while Anne and Clare pass four count to Ben. Clare walks across the pattern after a pass to Ben and then Anne feeds Ben and Clare on two count, while Ben and Clare pass to Anne on three count.



Starting pattern for Anne: Ben self self self crossing pass to Ben self self self.  
 Starting pattern for Ben: Anne crossing pass to Clare self crossing pass to Anne Clare self.  
 Starting pattern for Clare: self self crossing pass to Ben self self self Ben self.

After Clare walks:  
 Pattern for Anne: Ben self crossing pass to Clare self crossing pass to Ben self Clare self.  
 Pattern for Ben: Anne self self crossing pass to Anne self self.  
 Pattern for Clare: self self Anne self self crossing pass to Anne.

Now Anne feeds Ben and Clare on two count, while Ben and Clare pass to Anne on three count. Ben walks across the pattern after a pass to Anne and then Clare feeds Anne and Ben on pass pass self, while Anne and Ben pass to Clare on four count.

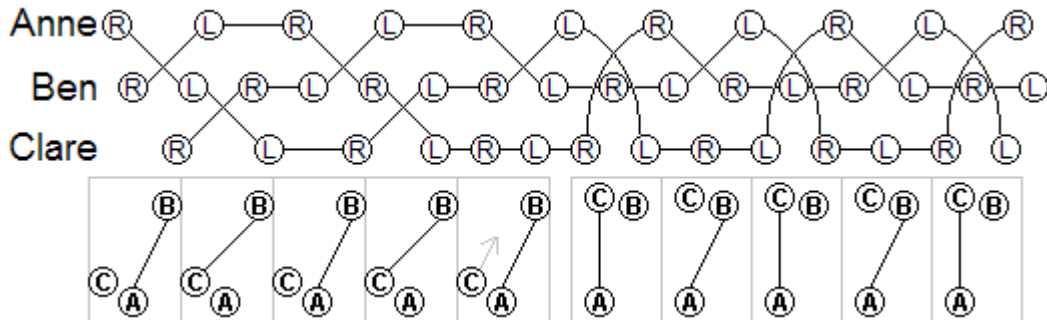


Starting pattern for Anne: Clare self crossing pass to Ben self crossing pass to Clare self Ben self.  
 Starting pattern for Ben: self crossing pass to Anne self self Anne self.  
 Starting pattern for Clare: Anne self self crossing pass to Anne self self.

After Ben walks:  
 Pattern for Anne: Clare self self self crossing pass to Clare self self self.  
 Pattern for Ben: self self Clare self self self crossing pass to Clare self.  
 Pattern for Clare: Anne self Ben crossing pass to Anne self crossing pass to Ben.

### **Confusing rotation**

This is a clockwise runaround between two slow fast feeds. At the start Ben feeds pass pass self to Anne and Clare, while Anne and Clare pass two count to Ben. Clare walks across the pattern after a pass to Ben and then Anne feeds Ben and Clare on one count, while Ben and Clare pass to Anne on three count.



Starting pattern for Anne: Ben self crossing pass to Ben self.

Starting pattern for Ben: Anne crossing pass to Clare self crossing pass to Anne Clare self.

Starting pattern for Clare: crossing pass to Ben self Ben self.

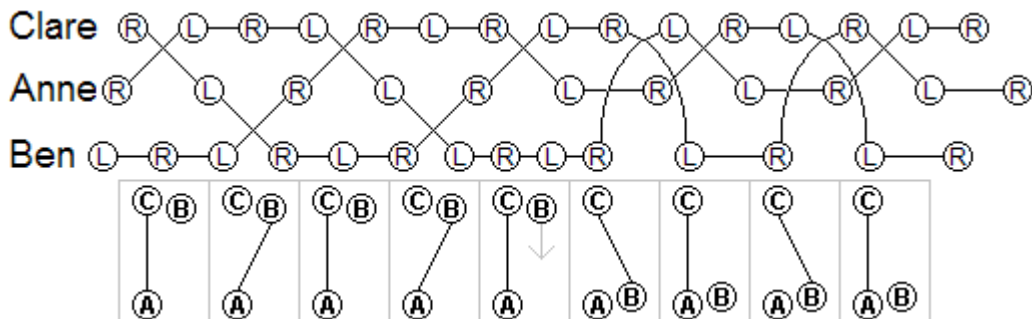
After Clare walks:

Pattern for Anne: Ben crossing pass to Clare crossing pass to Ben Clare.

Pattern for Ben: Anne self self crossing pass to Anne self self.

Pattern for Clare: self self crossing pass to Anne self self Anne.

Now Anne feeds Ben and Clare on one count, while Ben and Clare pass to Anne on three count. Ben walks across the pattern after a pass to Anne and then Clare feeds Anne and Ben on pass pass self, while Anne and Ben pass to Clare on two count.



Starting pattern for Anne: Clare Ben crossing pass to Clare crossing pass to Ben.

Starting pattern for Ben: self self Anne self self crossing pass to Anne.

Starting pattern for Clare: Anne self self crossing pass to Anne self self.

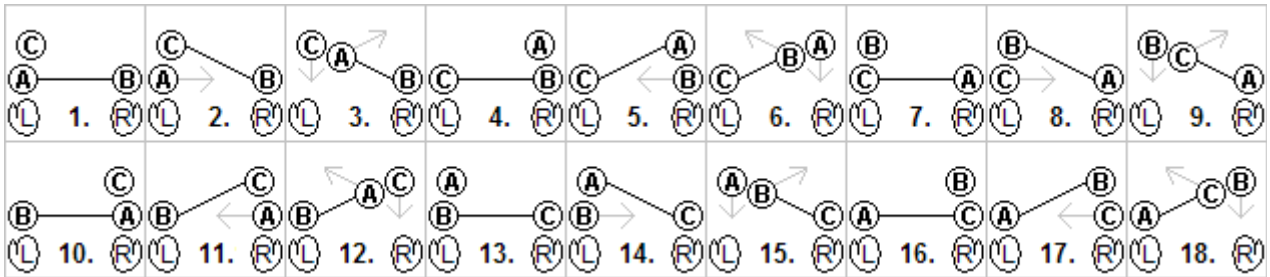
After Ben walks:

Pattern for Anne: Clare self crossing pass to Clare self.

Pattern for Ben: self Clare self crossing pass to Clare.

Pattern for Clare: Anne self Ben crossing pass to Anne self crossing pass to Ben.

## Bruno's nightmare



The diagram shows the passes and movement for Bruno's nightmare. The three jugglers walk in a figure of eight pattern, like the three balls in a giant juggling pattern. When you are in one of the giant's hands you are a feeder and once you have finished feeding you get 'thrown' by the giant and you walk to the other hand.

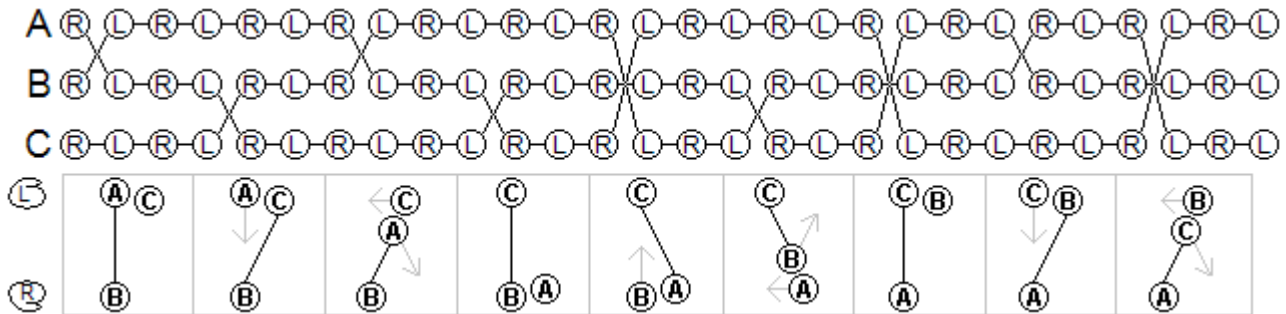
At the start of the pattern Ben is the feeder in the giant's right hand, Anne is about to be 'thrown' by the giant's left hand and Clare is 'in the air' 'falling into' the giant's left hand. Ben starts with a pass to Anne and then he passes with Clare. After this pass Anne walks forward and in front of Clare, then Ben passes to Anne. Now Clare walks to her right as she 'falls into' the giant's left hand. Also Anne walks across the pattern to stand next to Ben. Anne turns clockwise as she walks so that she ends up facing Clare. Now Clare is the new feeder, in the giant's left hand.

Clare starts her feed with a pass to Ben and then she passes with Anne. After this pass Ben walks forward and in front of Anne, then Clare passes to Ben. Now Anne walks to her left as she 'falls into' the giant's right hand. Also Ben walks across the pattern to stand next to Clare. Ben turns anticlockwise as he walks so that he ends up facing Anne. Now Anne is the new feeder, in the giant's right hand. This is just like the start of the pattern, except now Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role. The diagram shows the whole pattern.



**Ambidextrous Bruno's nightmare (three count feeder)**

In this pattern the feeder passes on three count and the walkers pass to the feeder on six count. The feeder starts in the giant's right hand hand!



Starting pattern for Anne: Ben self self self self self.

Starting pattern for Ben: Anne self self Clare self self.

Starting pattern for Clare: self self self Ben self self.

After Anne walks forward and in front of Clare:

Pattern for Anne: Ben self self.

Pattern for Ben: Anne self self.

Pattern for Clare: self self self.

After Clare walks to her right and Anne walks next to Ben, turning clockwise to face Clare:

Pattern for Anne: self self self Clare self self.

Pattern for Ben: Clare self self self self self.

Pattern for Clare: Ben self self Anne self self.

After Ben walks forward and in front of Anne:

Pattern for Anne: self self self.

Pattern for Ben: Clare self self.

Pattern for Clare: Ben self self.

After Anne walks to her left and Ben walks next to Clare, turning anticlockwise to face Anne:

Pattern for Anne: Clare self self Ben self self.

Pattern for Ben: self self self Anne self self.

Pattern for Clare: Anne self self self self self.

This is just like the start of the pattern, except now Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role.

Colour coding: use three red clubs and six green clubs so that the passes are always red clubs and the green clubs are always self throws.

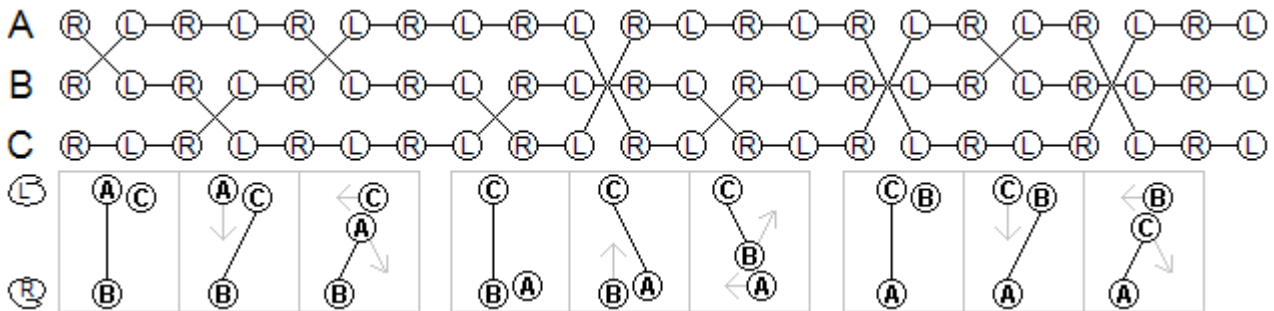






**Staffan's seven beat Bruno's nightmare**

In this seven beat Bruno's nightmare, the feeder's pattern is pass self pass self pass self self (two count, two count, three count). The pattern for the walkers is pass self self self pass self self self self pass self self self (four count, five count, five count). The feeder starts in the giant's right hand hand!



Starting pattern for Anne: Ben self self self.  
 Starting pattern for Ben: Anne self Clare self.  
 Starting pattern for Clare: self self Ben self.

After Anne walks forward and in front of Clare:  
 Pattern for Anne: Ben self self.  
 Pattern for Ben: Anne self self.  
 Pattern for Clare: self self self.

After Clare walks to her right and Anne walks next to Ben, turning clockwise to face Clare:  
 Pattern for Anne: self self Clare self.  
 Pattern for Ben: Clare self self self.  
 Pattern for Clare: Ben self Anne self.

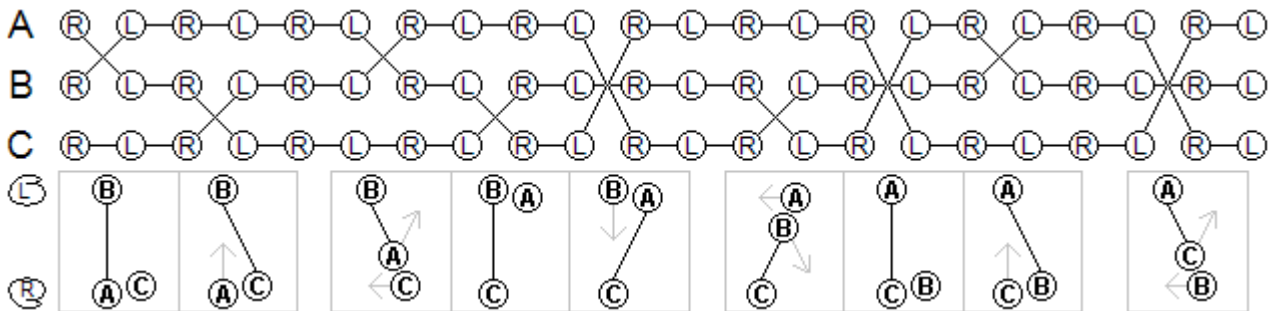
After Ben walks forward and in front of Anne:  
 Pattern for Anne: self self self.  
 Pattern for Ben: Clare self self.  
 Pattern for Clare: Ben self self.

After Anne walks to her left and Ben walks next to Clare, turning anticlockwise to face Anne:  
 Pattern for Anne: Clare self Ben self.  
 Pattern for Ben: self self Anne self.  
 Pattern for Clare: Anne self self self.

This is just like the start of the pattern, except now Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role.

**Seven beat Bruno's nightmare #2**

In this seven beat Bruno's nightmare, the feeder's pattern is pass self pass self self pass self (two count, three count, two count). The pattern for the walkers is pass self self self self pass self self self pass self self self self (five count, four count, five count). The feeder starts in the giant's right left hand!



Starting pattern for Anne: Ben self self self self.

Starting pattern for Ben: Anne self Clare self self.

Starting pattern for Clare: self self Ben self self.

After Anne walks forward and in front of Clare:

Pattern for Anne: Ben self.

Pattern for Ben: Anne self.

Pattern for Clare: self self.

After Clare walks to her left and Anne walks next to Ben, turning anticlockwise to face Clare:

Pattern for Anne: self self Clare self self.

Pattern for Ben: Clare self self self self.

Pattern for Clare: Ben self Anne self self.

After Ben walks forward and in front of Anne:

Pattern for Anne: self self.

Pattern for Ben: Clare self.

Pattern for Clare: Ben self.

After Anne walks to her right and Ben walks next to Clare, turning clockwise to face Anne:

Pattern for Anne: Clare self Ben self self.

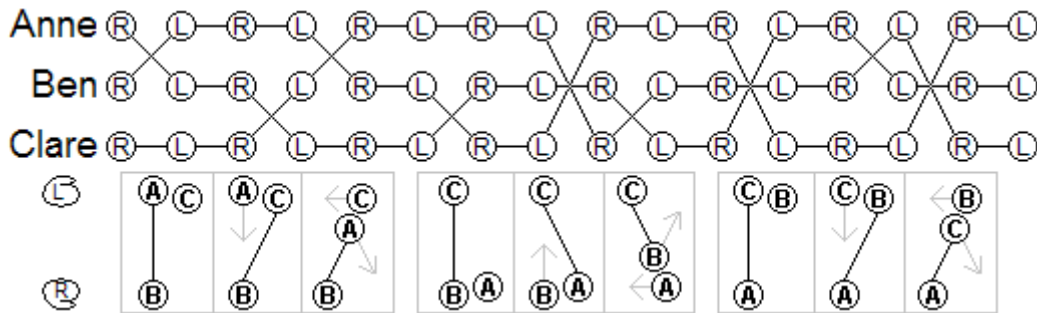
Pattern for Ben: self self Anne self self.

Pattern for Clare: Anne self self self self.

This is just like the start of the pattern, except now Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role.

**Staffan's five beat Bruno's nightmare**

In this five beat Bruno's nightmare, the feeder's pattern is pass self pass pass self (two count, one count, two count). The pattern for the walkers is pass self self pass self self self pass self self (three count, four count, three count). The feeder starts in the giant's right left hand!



Starting pattern for Anne: Ben self self.

Starting pattern for Ben: Anne self Clare.

Starting pattern for Clare: self self Ben.

After Anne walks forward and in front of Clare:

Pattern for Anne: Ben self.

Pattern for Ben: Anne self.

Pattern for Clare: self self.

After Clare walks to her right and Anne walks next to Ben, turning clockwise to face Clare:

Pattern for Anne: self self Clare.

Pattern for Ben: Clare self self.

Pattern for Clare: Ben self Anne.

After Ben walks forward and in front of Anne:

Pattern for Anne: self self.

Pattern for Ben: Clare self.

Pattern for Clare: Ben self.

After Anne walks to her left and Ben walks next to Clare, turning anticlockwise to face Anne:

Pattern for Anne: Clare self Ben.

Pattern for Ben: self self Anne.

Pattern for Clare: Anne self self.

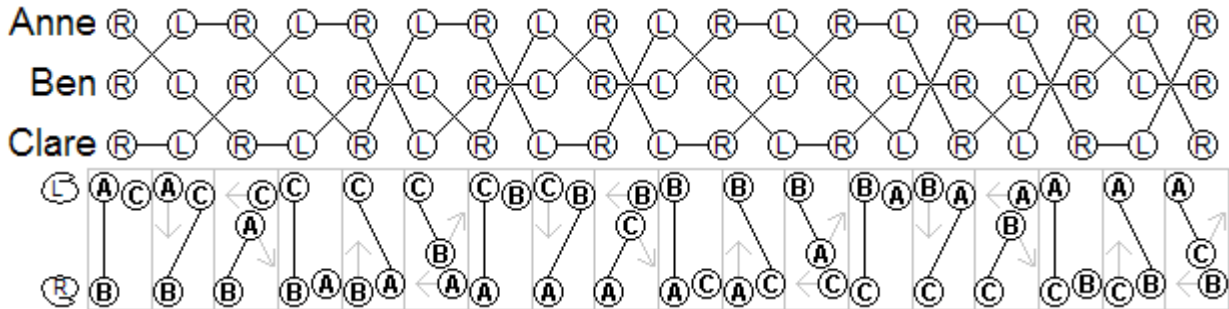
This is just like the start of the pattern, except now Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role.

Colour coding: with the natural set of clubs, Anne and Ben pass red clubs, Ben and Clare pass green clubs and Anne and Clare pass blue clubs. If you use the magic set of clubs, the white clubs are always self throws.

Note: this five beat Bruno's nightmare is based on the quasar!

**Very fast three beat Bruno's nightmare**

In this pattern the feeder passes on one count and the walkers pass to the feeder on two count. The feeder starts in the giant's right hand hand!



Starting pattern for Anne: Ben self.

Starting pattern for Ben: Anne Clare.

Starting pattern for Clare: self Ben.

After Anne walks forward and in front of Clare:

Pattern for Anne: Ben.

Pattern for Ben: Anne.

Pattern for Clare: self.

After Clare walks to her right and Anne walks next to Ben, turning clockwise to face Clare:

Pattern for Anne: self Clare.

Pattern for Ben: Clare self.

Pattern for Clare: Ben Anne.

After Ben walks forward and in front of Anne:

Pattern for Anne: self.

Pattern for Ben: Clare.

Pattern for Clare: Ben.

After Anne walks to her left and Ben walks next to Clare, turning anticlockwise to face Anne:

Pattern for Anne: Clare Ben.

Pattern for Ben: self Anne.

Pattern for Clare: Anne self.

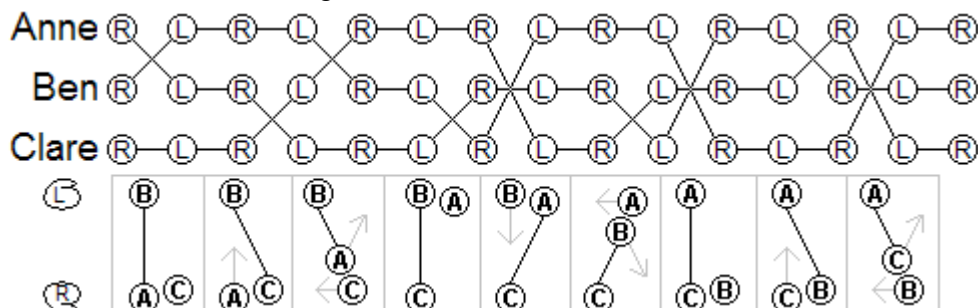
This is just like the start of the pattern, except now Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role.

Note: the diagram shows the whole pattern!



### **Ambidextrous Bruno's nightmare (walkers on three count)**

In this ambidextrous Bruno's nightmare, the feeder's pattern is different for each of the giant's hands. When you're feeding in the giant's left hand the pattern is pass self pass pass self (two count, one count, two count), but when you're feeding in the giant's right hand the pattern is pass pass self pass (one count, two count, one count). The walkers pass to the feeder on three count. The feeder can start in either of the giant's hands!



Starting pattern for Anne: Ben self self.

Starting pattern for Ben: Anne self Clare.

Starting pattern for Clare: self self Ben.

After Anne walks forward and in front of Clare:

Pattern for Anne: Ben self.

Pattern for Ben: Anne self.

Pattern for Clare: self self.

After Clare walks to her left and Anne walks next to Ben, turning anticlockwise to face Clare:

Pattern for Anne: self Clare self.

Pattern for Ben: Clare self self.

Pattern for Clare: Ben Anne self.

After Ben walks forward and in front of Anne:

Pattern for Anne: self.

Pattern for Ben: Clare.

Pattern for Clare: Ben.

After Anne walks to her right and Ben walks next to Clare, turning clockwise to face Anne:

Pattern for Anne: Clare self Ben.

Pattern for Ben: self self Anne.

Pattern for Clare: Anne self self.

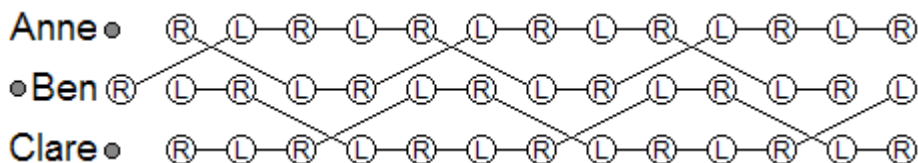
This is just like the start of the pattern, except now the first throw is left handed. Also Anne has taken on Ben's role, Ben has taken on Clare's role and Clare has taken on Anne's role.



## Ten club feeds

### **Ten club two count feed on doubles**

Ben passes to Anne and Clare on two count with straight double passes. Anne and Clare pass to Ben on four count with straight double passes.



Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, one beat later.

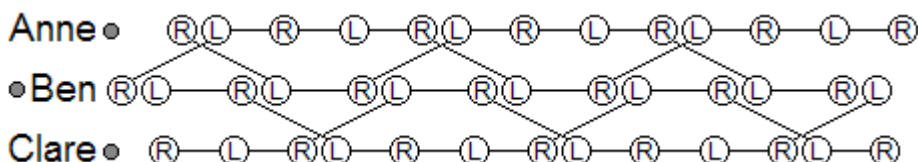
Pattern for Ben: Anne self Clare self, with straight double passes.

Pattern for Anne: Ben self self self, with straight double passes.

Pattern for Clare: self self Ben self, with straight double passes.

### **Ten club two count feed on singles**

Ben passes to Anne and Clare on two count with straight single passes. Anne and Clare pass to Ben on four count with straight single passes.



Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

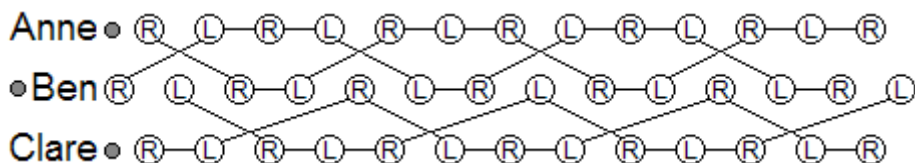
Pattern for Ben: Anne self Clare self, with straight single passes.

Pattern for Anne: Ben self self self, with straight single passes.

Pattern for Clare: self self Ben self, with straight single passes.

### **Asynchronous ten club pass pass self feed (feeder throws single passes)**

Ben passes to Anne and Clare on pass pass self with straight single passes. Anne passes to Ben on three count with crossing single passes. Clare passes to Ben on three count with straight double passes.



Anticlockwise siteswap: b9aae9999

Clockwise siteswap: ab9b9d999

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare self, with straight single passes.

Pattern for Anne: Ben self self, with crossing single passes.

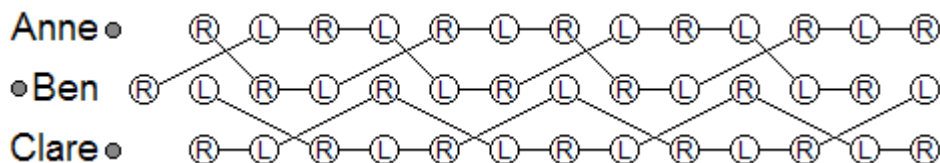
Pattern for Clare: self Ben self, with straight double passes.

Colour coding: use five red clubs and five green clubs so that the passes are always red clubs and the green clubs are always self throws.

Colour coding for all the patterns on this page: use five red clubs and five green clubs so that the passes are always red clubs and the green clubs are always self throws.

**Synchronous ten club pass pass self feed (feeder throws double passes)**

Ben passes to Anne and Clare on pass pass self with straight double passes. Anne passes to Ben on three count with crossing single passes. Clare passes to Ben on three count with straight double passes.



Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, one beat later.

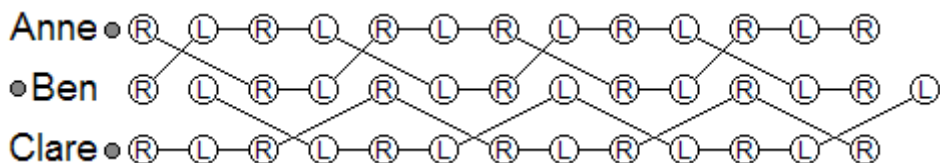
Pattern for Ben: Anne Clare self, with straight double passes.

Pattern for Anne: Ben self self, with crossing single passes.

Pattern for Clare: self Ben self, with straight double passes.

**Synchronous ten club pass pass self feed (feeder throws single double self)**

Ben passes to Anne and Clare on pass pass self. He throws straight single passes to Anne and crossing double passes to Clare. Anne and Clare passes to Ben on three count with crossing double passes.



Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

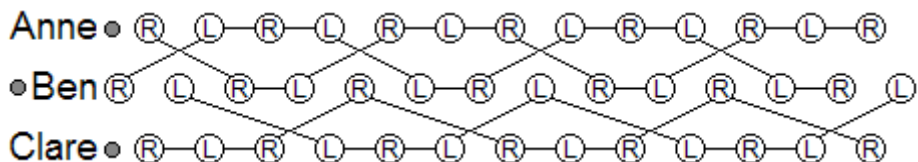
Pattern for Ben: Anne double to Clare self, with straight singles and crossing doubles.

Pattern for Anne: Ben self self, with crossing double passes.

Pattern for Clare: self self Ben, with crossing double passes.

**Asynchronous ten club pass pass self feed (feeder throws single double self)**

Ben passes to Anne and Clare on pass pass self. He throws straight single passes to Anne and crossing double passes to Clare. Anne and Clare passes to Ben on three count with crossing single passes.



Anticlockwise siteswap: b9ad999b9

Clockwise siteswap: ab9e9999a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

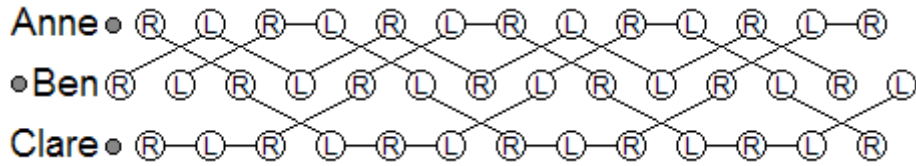
Pattern for Ben: Anne double to Clare self, with straight singles and crossing doubles.

Pattern for Anne: Ben self self, with crossing single passes.

Pattern for Clare: self self Ben, with crossing single passes.

**Ten club one count feeding pass pass self and three count**

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben. Anne's pattern is pass pass self with crossing passes. Clare passes three count with crossing passes.



Anticlockwise siteswap: b9ab9aab9

Clockwise siteswap: ab9ab9b9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

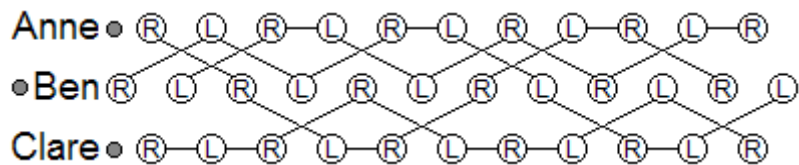
Pattern for Ben: Anne Anne Clare, with straight single passes.

Pattern for Anne: Ben Ben self, with crossing single passes.

Pattern for Clare: self self Ben, with crossing single passes.

**Ten club one count feeding bookends and inverted bookends**

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben. Anne's pattern is bookends with crossing passes. Clare passes inverted bookends with crossing passes.



Anticlockwise siteswap: b9ab9aab9b9aab9

Clockwise siteswap: ab9ab9b9aab9b9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

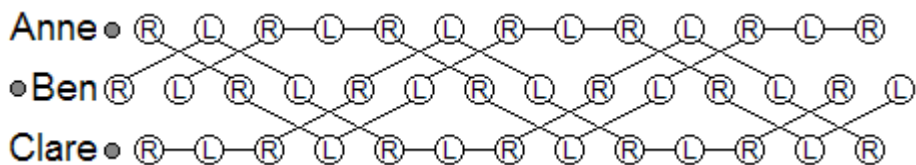
Pattern for Ben: Anne Anne Clare Anne Clare, with straight single passes.

Pattern for Anne: Ben Ben self Ben self, with crossing single passes.

Pattern for Clare: self self Ben self Ben, with crossing single passes.

**Ten club suburban terror feed**

Ben passes to Anne and Clare on one count. Anne and Clare pass chocolate bar to Ben, with crossing passes.



Anticlockwise siteswap: b9ab9aab9ab9

Clockwise siteswap: ab9ab9b9ab9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Anne Clare Clare, with straight single passes.

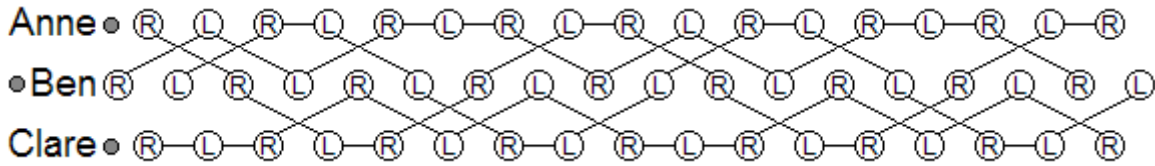
Pattern for Anne: Ben Ben self self, with crossing single passes.

Pattern for Clare: self self Ben Ben, with crossing single passes.

Colour coding: use five red clubs and five green clubs so that Ben passes red clubs with Anne and green clubs with Clare.

**Ten club one count feeding countdown**

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben on a countdown from three count, with crossing passes.



Anticlockwise siteswap: b9ab9aab9b9aab9ab9b9aab9

Clockwise siteswap: ab9ab9b9aab9b9ab9aab9b9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

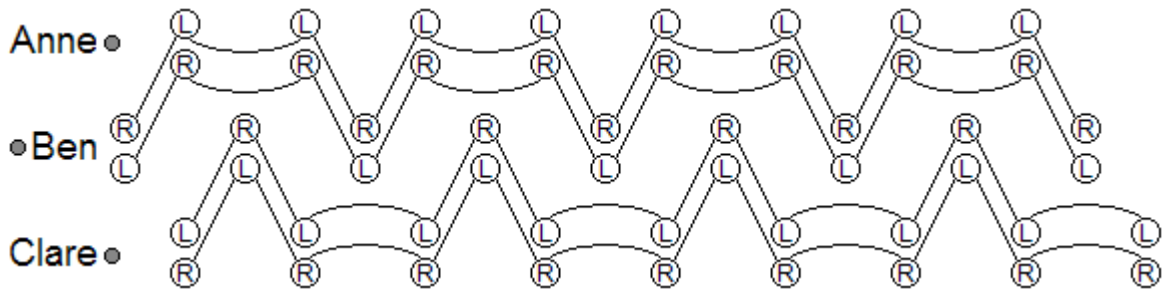
Pattern for Ben: Anne Anne Clare Anne Clare Clare Anne Clare, with straight single passes.

Pattern for Anne: Ben Ben self Ben self self Ben self, with crossing single passes.

Pattern for Clare: self self Ben self Ben Ben self Ben, with crossing single passes.

**Synchronous ten club one count feed**

Ben passes to Anne and Clare on synchronous one count. Anne and Clare pass to Ben on synchronous one count with heffs.



Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, one beat after Ben.

Start for Clare: two clubs in each hand, one beat after Ben.

Pattern for Ben: two straight single passes to Anne at the same time, then two straight single passes to Clare at the same time.

Pattern for Anne: two heffs at the same time, then two straight single passes to Ben at the same time.

Pattern for Clare: two straight single passes to Ben at the same time, then two heffs at the same time.

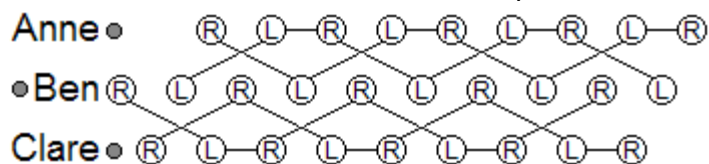
Colour coding: six red clubs are always passes and four green clubs are always heffs.

## Ten club gorilla feeds

In a ten club gorilla feed, Ben feeds on one count. He passes five clubs with Anne and five clubs with Clare. So you can colour code the patterns so that he passes red clubs with Anne and green clubs with Clare. Also, because he has two independent patterns he can alternate his passes to Anne and Clare, or he can pass to both of them at the same time.

### Ten club gorilla

Ben passes to Anne and Clare on one count. Anne and Clare pass to Ben on two count.



Anticlockwise siteswap: ab9b9a

Clockwise siteswap: b9aab9

Start for Ben: two clubs in each hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben.

Start for Anne: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

Pattern for Ben: Clare crossing pass to Anne.

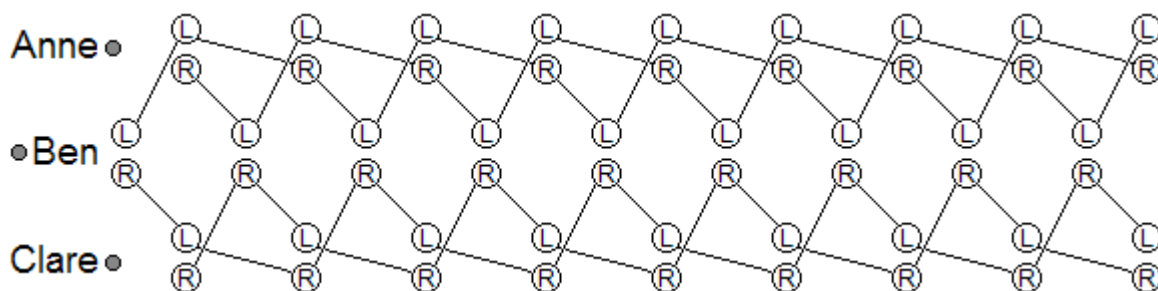
Pattern for Clare: Ben self, with crossing single passes.

Pattern for Anne: Ben self, with straight single passes.

Colour coding: use five red clubs and five green clubs so that Ben passes red clubs with Anne and green clubs with Clare.

### Dark gorilla

Ben passes synchronous one count to Anne and Clare. Anne and Clare pass the dark side of two count to Ben.



Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, one beat later.

Pattern for Ben: left hand crossing pass to Anne and right hand straight pass to Clare at the same time.

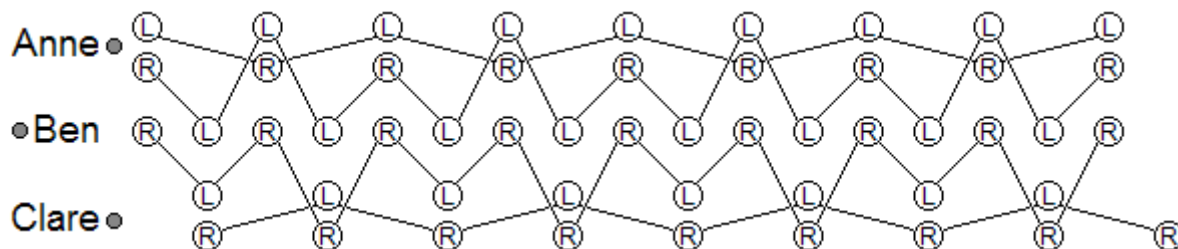
Pattern for Anne: right hand straight single pass to Ben and left hand crossing double-self at the same time.

Pattern for Clare: right hand crossing single pass to Ben and left hand crossing double-self at the same time.

Colour coding: use five red clubs and five green clubs so that Ben passes red clubs with Anne and green clubs with Clare.

### ***Ambidextrous dark gorilla***

Ben passes one count to Anne and Clare. Anne and Clare pass the ambidextrous variation of the dark side of two count to Ben.



Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Clare: two clubs in her right hand and one club in her left hand, one beat later.

Pattern for Anne: right hand straight single pass to Ben and left hand crossing double-self at the same time, then right hand crossing double-self and left hand crossing single pass at the same time.

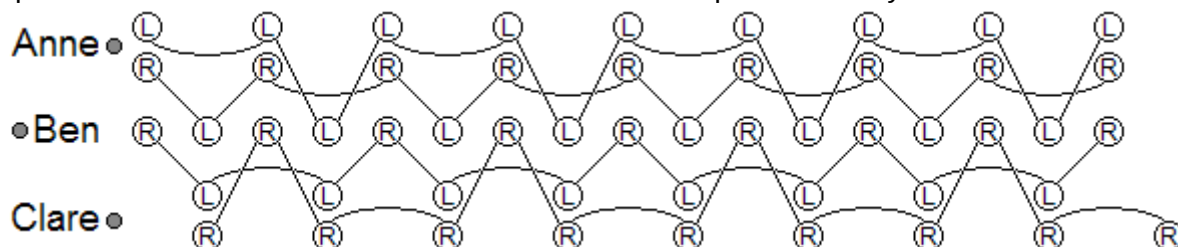
Pattern for Ben: Clare crossing pass to Anne crossing pass to Clare Anne.

Pattern for Clare: left hand straight single pass to Ben and right hand crossing double-self at the same time, then left hand crossing double-self and right hand crossing single pass at the same time.

Colour coding: use five red clubs and five green clubs so that Ben passes red clubs with Anne and green clubs with Clare.

### ***Itchy gorilla***

Ben passes one count to Anne and Clare. Anne and Clare pass scratch you head to Ben.



Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Clare: two clubs in her right hand and one club in her left hand, one beat later.

Pattern for Anne: right hand straight single pass to Ben and left hand heff at the same time, then right hand heff and left hand crossing single pass at the same time.

Pattern for Ben: Clare Anne crossing pass to Clare crossing pass to Anne.

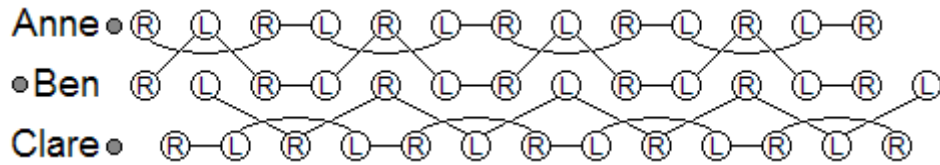
Pattern for Clare: right hand crossing single pass to Ben and left hand heff at the same time, then right hand heff and left hand straight single pass at the same time.

Colour coding: use three red clubs, three green clubs and four blue clubs, so that Ben passes red clubs with Anne, green clubs with Clare and Anne and Clare each have two blue clubs that are always heffs.

## More ten club feeds

### ***Pass pass self feeding French three count***

Ben passes to Anne and Clare on pass pass self. Anne and Clare pass French three count to Ben.



Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in each hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat later.

Pattern for Anne: heff Ben self, with straight single passes.

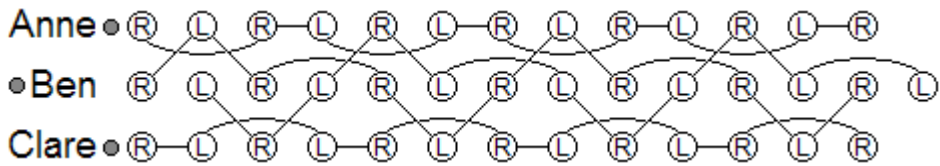
Pattern for Ben: Anne Clare self, with straight single passes.

Pattern for Clare: self heff Ben, with crossing single passes.

Colour coding: seven red clubs and three green clubs, so that the passes are always red clubs and the green clubs are always self throws.

### ***Pass pass heff feeding French three count***

Ben passes to Anne and Clare on pass pass heff. Anne and Clare pass French three count to Ben.



Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in each hand.

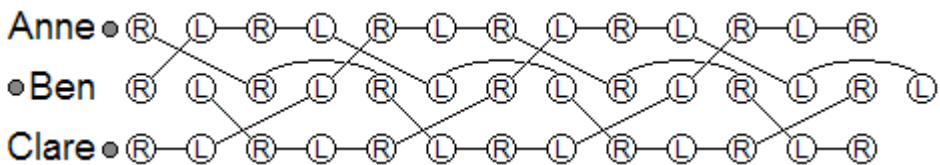
Pattern for Anne: heff Ben self.

Pattern for Ben: Anne Clare heff.

Pattern for Clare: self heff Ben.

### ***Synchronous pass pass heff feeding three count (aka Ross's feed)***

Ben passes to Anne and Clare on pass pass heff. Anne and Clare pass three count to Ben, with double passes.



Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in each hand.

Pattern for Anne: Ben self self, with crossing double passes.

Pattern for Ben: Anne Clare heff, with straight single passes.

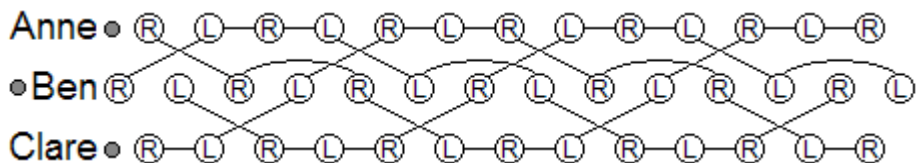
Pattern for Clare: self Ben self, with crossing double passes.

Colour coding: six red clubs and four green clubs, so that the passes are always red clubs and the green clubs are always self throws.



### **Asynchronous pass pass heff feeding three count**

Ben passes to Anne and Clare on pass pass heff. Anne and Clare pass three count to Ben, with crossing single passes.



Anticlockwise siteswap: b9aab9c99

Clockwise siteswap: ab9b9ac99

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare heff, with straight single passes.

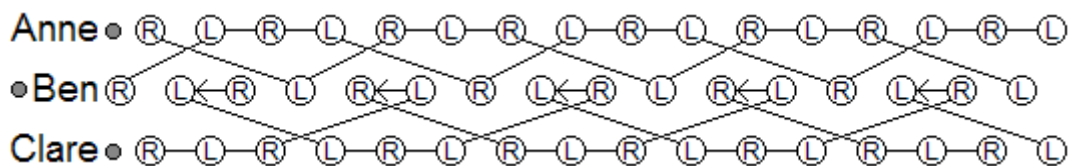
Pattern for Anne: Ben self self, with crossing single passes.

Pattern for Clare: self Ben self, with crossing single passes.

Colour coding: six red clubs and four green clubs, so that the passes are always red clubs and the green clubs are always self throws.

### **972 feeding three count**

Ben passes 972 to Anne and Clare. Anne and Clare pass to Ben on three count with double passes.



Anticlockwise siteswap: b9dd993e9

Clockwise siteswap: ae9e9939d

Start for Ben: three clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip, with straight singles to Anne and crossing doubles to Clare.

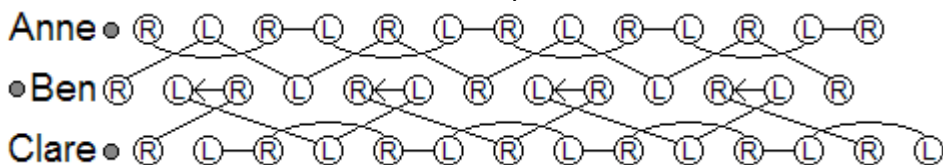
Pattern for Anne: Ben self self, with straight double passes.

Pattern for Clare: self self Ben, with straight double passes.

Colour coding: six red clubs and four green clubs, so that the passes are always red clubs and the green clubs are always self throws.

### **972 feeding French three count**

Ben passes 972 to Anne and Clare. Anne and Clare pass to Ben on French three count.



Anticlockwise siteswap: bbcd9a3c9

Clockwise siteswap: acaeb939c

Start for Ben: two clubs in his right hand and one club in his left hand, half a beat later.

Start for Anne : two clubs in the right hand and one club in the left hand, half a beat later.

Start for Clare: two clubs in each hand, half a beat after Ben.

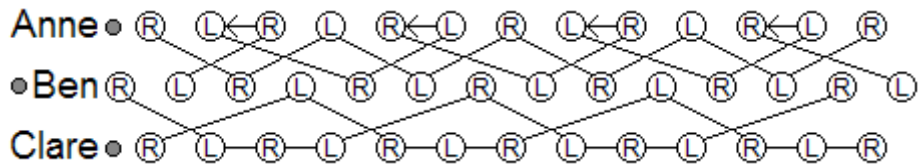
Pattern for Ben: Anne Clare zip, with straight singles to Anne and crossing doubles to Clare.

Pattern for Anne: heff Ben self, with crossing single passes.

Pattern for Clare: Ben self heff, with crossing single passes.

### One count feeding 972 and three count

Ben passes to Anne and Clare on one count. Anne passes to Ben on 972. Clare passes to Ben on three count with straight double passes.



Anticlockwise siteswap: aeab9db93

Clockwise siteswap: bbdae9a39

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

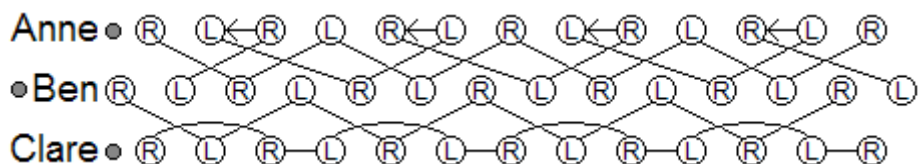
Pattern for Ben: Clare Anne Anne, with straight single passes.

Pattern for Anne: crossing single to Ben straight double to Ben zip.

Pattern for Clare: Ben self self, with straight double passes.

### One count feeding 972 and French three count

Ben passes to Anne and Clare on one count. Anne passes to Ben on 972. Clare passes to Ben on French three count.



Anticlockwise siteswap: acabbdb93

Clockwise siteswap: bbcaaaa39

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

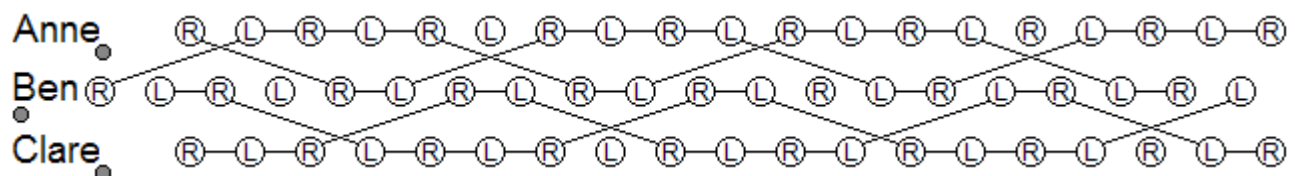
Pattern for Ben: Clare Anne Anne, with straight single passes.

Pattern for Anne: crossing single to Ben straight double to Ben zip.

Pattern for Clare: heff Ben self, with crossing single passes.

### Ten club Jim's two count feed (aka Rachel's feed)

Ben passes to Anne and Clare on a Jim's two count pattern. Anne and Clare pass to Ben on Jim's four count.



Anticlockwise siteswap: e9999dd996e9999e9d996de9969

Clockwise siteswap: d999e9e9969d999de9969e9d996

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, one and a half beats later.

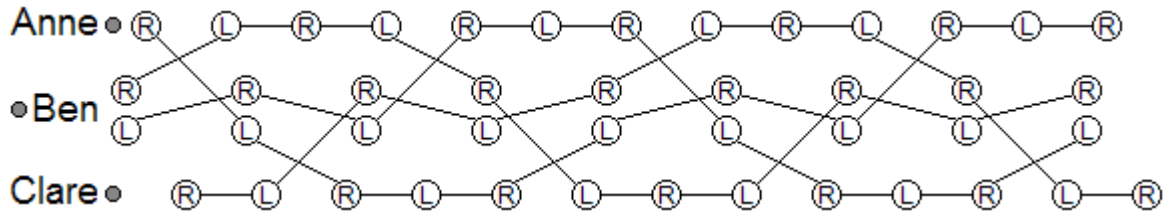
Pattern for Ben: Anne self Clare hold self Anne self Clare self, with straight double passes.

Pattern for Anne: Ben self self self Ben hold self self self, with crossing double passes.

Pattern for Clare: self self Ben self self self Ben hold self, with crossing double passes.

### **Synchronous two count slow fast feed**

Ben passes to Anne and Clare on an ambidextrous synchronous two count. Anne and Clare pass to Ben on three count.



Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: right hand pass to Anne and left hand self at the same time, then left hand pass to Clare and right hand self at the same time, then left hand pass to Anne and right hand self at the same time, then right hand pass to Clare and left hand self at the same time, with straight single passes.

Pattern for Anne: Ben self self, with straight single passes.

Pattern for Clare: self Ben self, with straight single passes.

Colour coding: six red clubs and four green clubs, so that the passes are always red clubs and the green clubs are always self throws.

## **Ten club period five feeds**

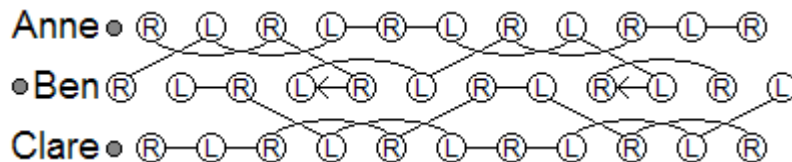
This section contains three person feeds where everyone's pattern is a period five four handed siteswap. In all these patterns if everyone starts right handed then Ben throws straight passes and Anne and Clare throw crossing passes. If Ben starts left handed then he throws crossing passes and Anne and Clare throw straight passes.

This list of feeds is not exhaustive as many period five patterns are interchangeable: Wherever you have why not? you could juggle Jim's two count, not why or not likely; instead of maybe you could juggle maybe not; funky bookends can be replaced with 77966 and there are three versions of five count popcorn.

You can also remove a club from some feeds if you replace five count popcorn with five club why not? or you replace funky bookends with parsnip. Alternatively you can add a club to some feeds if you replace five club why not? with five count popcorn, or you replace parsnip with funky bookends.

### **Why not? feeding five count popcorn**

Ben passes to Anne and Clare on why not? Anne and Clare pass five count popcorn to Ben.



Anticlockwise siteswap: b9c99cacacc93b9

Clockwise siteswap: ac99c9bbcc9c39a

Start for Ben: two clubs in each hand.

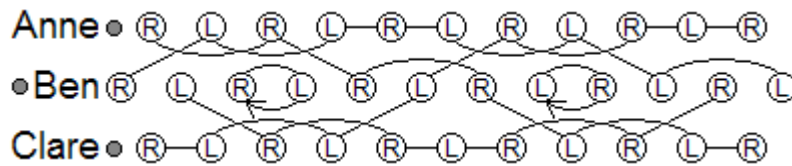
Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne self Clare heff zip, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.  
Pattern for Clare: self self heff heff Ben, with crossing single passes.

**Maybe feeding five count popcorn**

Ben passes to Anne and Clare on maybe. Anne and Clare pass five count popcorn to Ben.



Anticlockwise siteswap: b9cacc9ca3b9c99

Clockwise siteswap: ac9bcc9bc39ac99

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

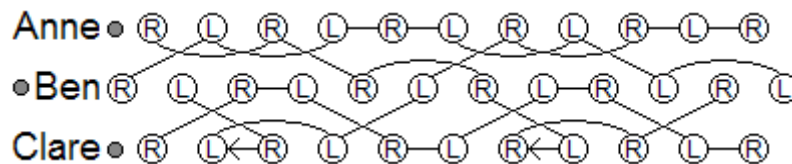
Pattern for Ben: Anne Clare self zip heff, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: self heff heff Ben self, with crossing single passes.

**Funky bookends feeding five count popcorn and why not?**

Ben passes to Anne and Clare on funky bookends. Anne passes to Ben on five count popcorn. Clare passes to Ben on why not?



Anticlockwise siteswap: bbcacc93aab9c99

Clockwise siteswap: acabcc9b3b9ac9

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

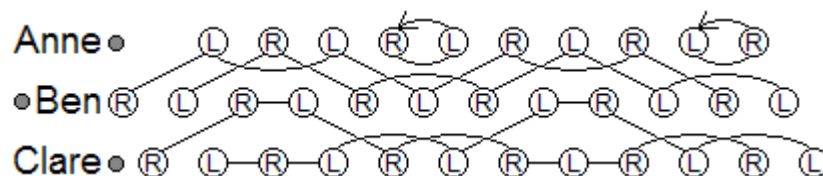
Pattern for Ben: Anne Clare self Clare heff, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: Ben heff zip Ben self, with crossing single passes.

**Funky bookends feeding maybe and five count popcorn**

Ben passes to Anne and Clare on funky bookends. Anne passes to Ben on maybe. Clare passes to Ben on five count popcorn.



Anticlockwise siteswap: bb3b9c99aacacc9

Clockwise siteswap: a3aac99b9bbcc9c

Start for Ben: two clubs in each hand.

Start for Clare: two clubs in each hand, half a beat after Ben.

Start for Anne: one club in each hand, one and a half beats after Ben. Anne starts with her left hand.

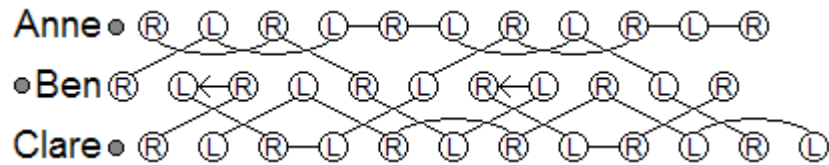
Pattern for Ben: Anne Anne self Clare heff, with straight single passes.

Pattern for Clare: Ben self self heff heff, with crossing single passes.

Pattern for Anne: heff Ben Ben self zip, with crossing single passes.

**Martin's one count feeding five count popcorn and funky bookends**

Ben passes to Anne and Clare on Martin's one count. Anne passes to Ben on five count popcorn. Clare passes to Ben on funky bookends.



Anticlockwise siteswap: bbcabc39aabac9

Clockwise siteswap: acabca3b9b9ab9c

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat after Ben.

Start for Clare: two clubs in each hand, half a beat after Ben.

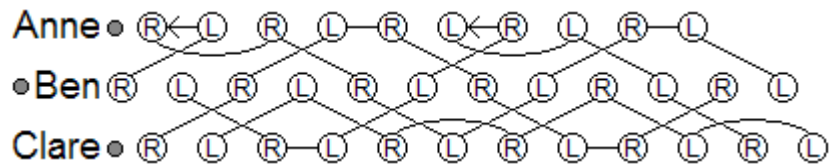
Pattern for Ben: Anne Clare zip Clare Clare, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: Ben Ben self Ben heff, with crossing single passes.

**One count feeding why not? and funky bookends**

Ben passes to Anne and Clare on one count. Anne passes to Ben on why not? Clare passes to Ben on funky bookends.



Anticlockwise siteswap: bbcab3b9aab9aca

Clockwise siteswap: acab3aab9b9abbc

Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat after Ben.

Start for Clare: two clubs in each hand, half a beat after Ben.

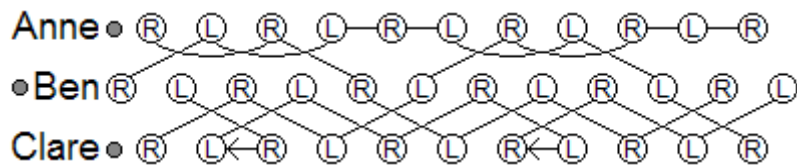
Pattern for Ben: Anne Clare Anne Clare Clare, with straight single passes.

Pattern for Anne: heff zip Ben self Ben, with crossing single passes.

Pattern for Clare: Ben Ben self Ben heff, with crossing single passes.

**One count feeding five count popcorn and Martin's one count**

Ben passes to Anne and Clare on one count. Anne passes to Ben on five count popcorn. Clare passes to Ben on Martin's one count.



Anticlockwise siteswap: bbcabca3aab9ab9

Clockwise siteswap: acabcabb3b9ab9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare Clare Clare Clare, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: Ben Ben zip Ben Ben, with crossing single passes.



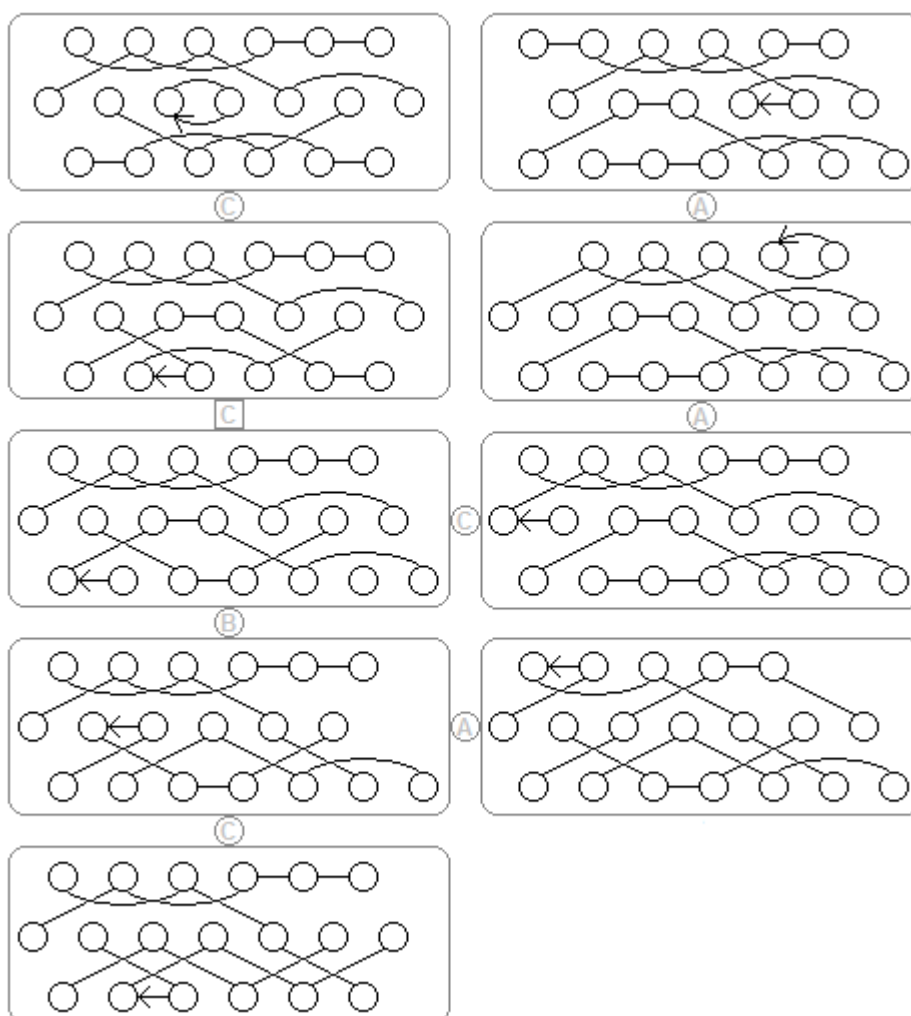
## Hijacking in ten club period five feeds

You can switch between different ten club period five feeds using the rules for hijacking in period five patterns:

1. You can throw a club to a hand that is expecting to receive a zip. Let's call this the hijack club.
2. If someone throws a hijack club to you, then you have a club that you wanted to zip but now can't. You should throw this 'problem' club to the hand that threw the hijack club.
3. If there is a club 'missing' from your pattern, you should zip to avoid a gap.

Also you may need to add transition throws to lo-jack a pattern.

The following diagram shows some possible hijacks between ten club period five feeds. The letters between the feeds show who does the hijacking to switch between the patterns: 'A' for Anne; 'B' for Ben and 'C' for Clare. The transition with the letter in a square is not a hijack. In this cases Clare switches between a not why and a why not? (or vice-versa). The patterns for the other jugglers do not change.

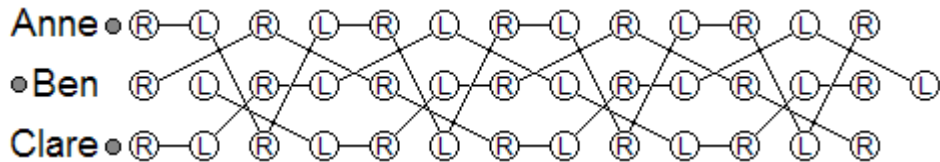


## Ten club one count feasts

In a one count feast everyone feeds on pass pass self.

Colour coding for this page: seven red passing clubs and three green clubs for the self throws.

### Ten club one count feast #1



Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in each hand.

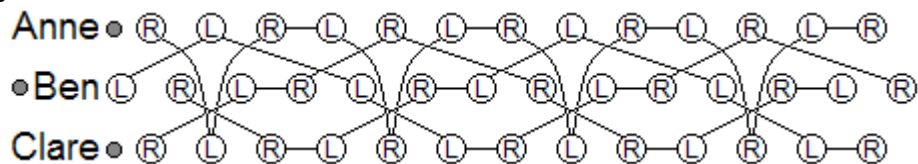
Pattern for Anne: self Clare Ben, with straight single passes to Clare and crossing doubles to Ben.

Pattern for Ben: Anne Clare self, with crossing double passes.

Pattern for Clare: self Ben Anne, with straight single passes.

### Ten club one count feast #2

This is an asynchronous version of ten club one count feast #1.



Start for Ben: two clubs in each hand. Ben's first throw is left handed.

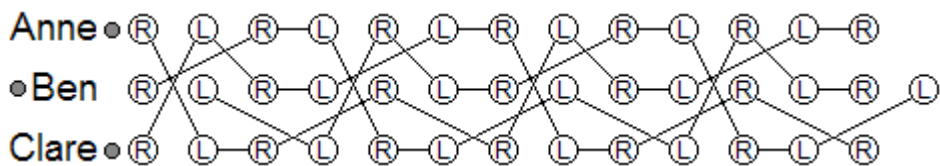
Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare self, with crossing single passes.

Pattern for Anne: Clare Ben self, with straight single passes to Clare and crossing doubles to Ben.

Pattern for Clare: Ben Anne self, with straight single passes.

### Ten club one count feast #3



Start for Anne and Clare: two clubs in the right hand and one club in the left hand.

Start for Ben: two clubs in each hand.

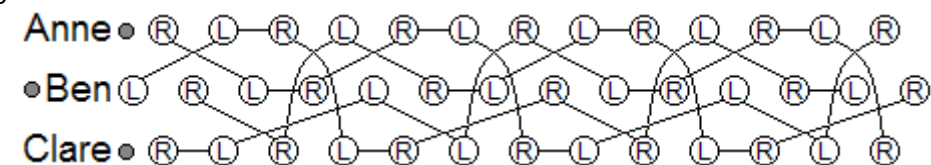
Pattern for Anne: Clare Ben self, with straight single passes.

Pattern for Ben: Anne Clare self, with crossing doubles.

Pattern for Clare: Anne self Ben, with straight single passes to Anne and crossing doubles to Ben.

### Ten club one count feast #4

This is an asynchronous version of ten club one count feast #3.



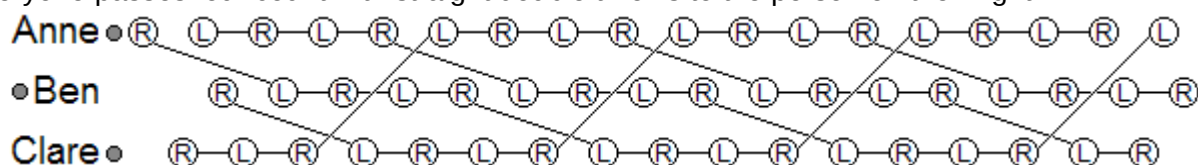
Start for Ben: two clubs in each hand. Ben's first throw is left handed.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
Pattern for Ben: Anne Clare self, with crossing single passes.  
Pattern for Anne: Ben self Clare, with straight single passes.  
Pattern for Clare: self Ben Anne, with straight single passes to Anne and crossing doubles to Ben.

## Ten club triangles

### Ten club four count triangle

Everyone passes four count with straight double throws to the person on their right.



Anticlockwise siteswap: d999

Prechac: 4.3p333

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, one and a third beats after Anne.

Start for Clare: two clubs in her right hand and one club in her left hand, two thirds of a beat after Anne.

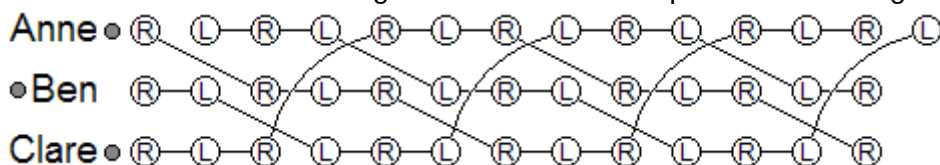
Pattern for Anne: Ben self self self, with straight double passes.

Pattern for Ben: Clare self self self, with straight double passes.

Pattern for Clare: self self Anne self, with straight double passes.

### Ten club three count triangle

Everyone passes three count with crossing double throws to the person on their right.



Prechac: 4p33

Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self, with crossing double passes.

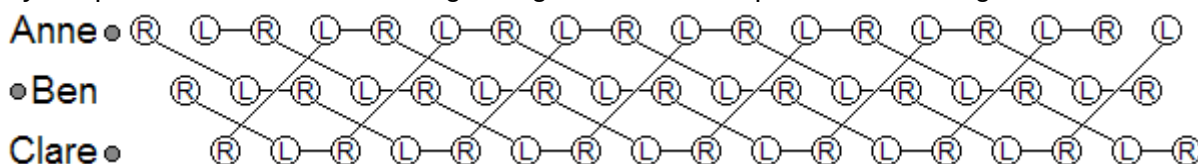
Pattern for Ben: self Clare self, with crossing double passes.

Pattern for Clare: self self Anne, with crossing double passes.

Colour coding: four red clubs for the passes and six green clubs that are always self throws.

### Ten club two count triangle

Everyone passes two count with straight single throws to the person on their right.



Clockwise siteswap: b9

Prechac: 3.7p3

Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand, two thirds of a beat after Anne.

Start for Clare: two clubs in her right hand and one club in her left hand, one and a third beats after Anne.

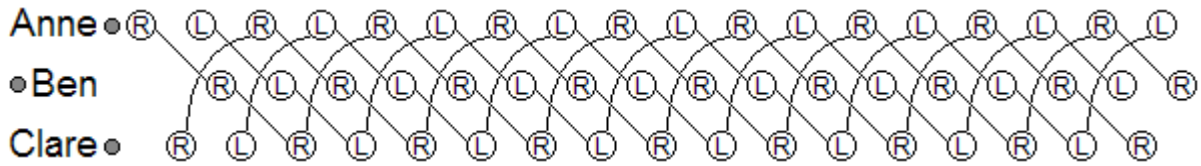
Pattern for Anne: Ben self, with straight single passes.

Pattern for Ben: Clare self, with straight single passes.

Pattern for Clare: Anne self, with straight single passes.

**Ten club one count triangle**

Everyone passes one count with crossing single throws to the person on their right.



Anticlockwise siteswap: a

Prechac: 3.3p

Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, one and a third beats after Anne.

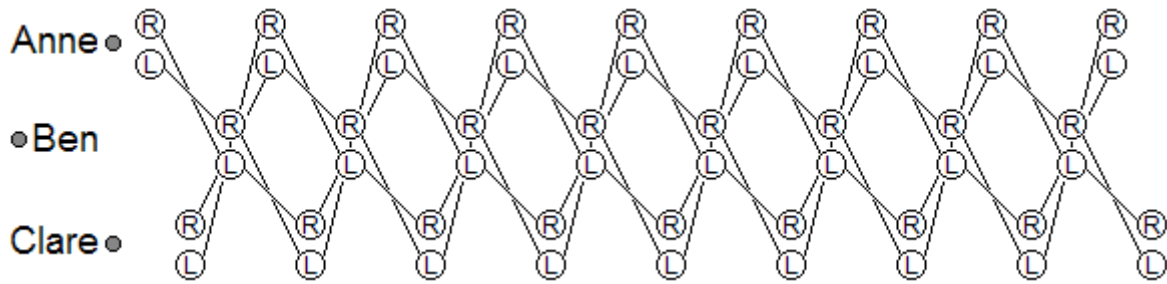
Start for Clare: two clubs in each hand, two thirds of a beat after Anne.

Pattern for all three jugglers: crossing single passes to the person on their right.

Colour coding: five red clubs for the right hand passes and five blue clubs for the left hand passes.

**Ten club synchronous one count triangle**

Everyone passes synchronous one count with straight single throws to the person on their right.



Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, one and a third beats after Anne.

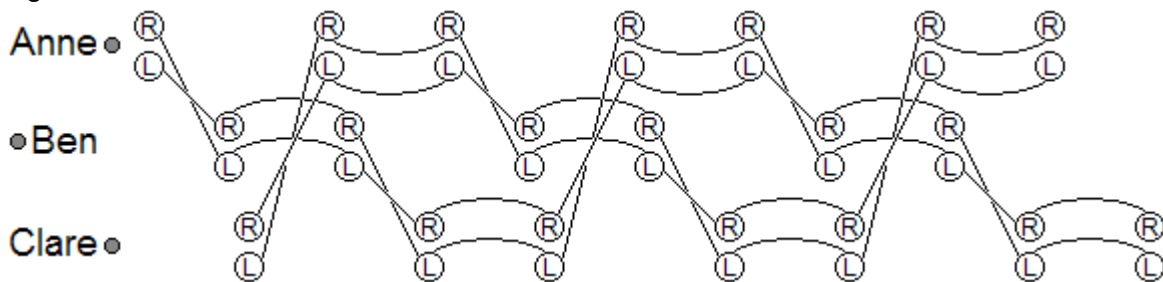
Start for Clare: two clubs in each hand, two thirds of a beat after Anne.

Pattern for all three jugglers: two simultaneous straight single passes to the person on their right.

Note: in the diagram the passes from Clare to Anne are covered by the beats for Ben's throws.

**Ten club synchronous one count triangle with heffs**

Everyone passes synchronous one count with heffs, with straight single throws, to the person on their right.



Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, two thirds of a beat after Anne.

Start for Clare: two clubs in each hand, one and a third beats after Anne.

Pattern for Anne: two simultaneous straight single passes to Ben, then two simultaneous heffs.

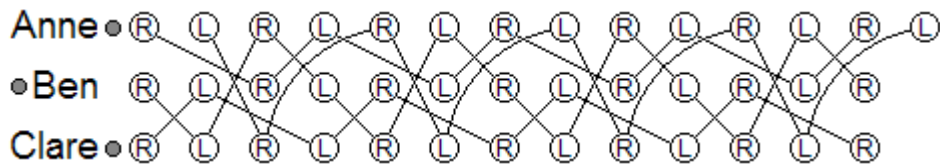
Pattern for Ben: two simultaneous heffs, then two simultaneous straight single passes to Clare.

Pattern for Clare: two simultaneous straight single passes to Anne, then two simultaneous heffs.

Colour coding: four red clubs for the passes and six green clubs that are always heffs.

**Ten club one count triangle with single and double passes #1**

Everyone feeds on one count with straight singles and crossing doubles.



Prechac: 4p3p3p

Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

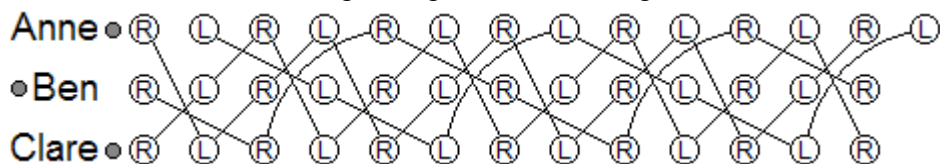
Pattern for Anne: double to Ben Clare Ben, with straight singles and crossing doubles.

Pattern for Ben: Clare double to Clare Anne, with straight singles and crossing doubles.

Pattern for Clare: Ben Anne double to Anne, with straight singles and crossing doubles.

**Ten club one count triangle with single and double passes #2**

Everyone feeds on one count with straight singles and crossing doubles.



Prechac: 3p4p3p

Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

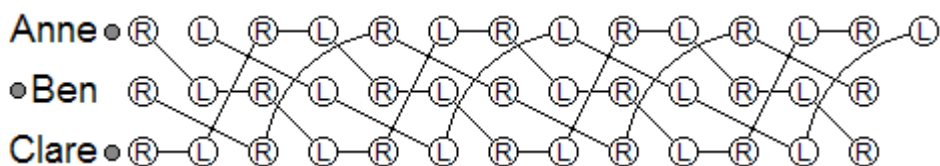
Pattern for Anne: Clare double to Ben Clare, with straight singles and crossing doubles.

Pattern for Ben: double to Clare Anne Anne, with straight singles and crossing doubles.

Pattern for Clare: Ben Ben double to Anne, with straight singles and crossing doubles.

**Ten club pass pass self triangle**

Everyone passes pass pass self, with straight singles and crossing doubles, to the person on their right.



Prechac: 3p4p3

Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben double to Ben self, with straight singles and crossing doubles.

Pattern for Ben: double to Clare self Clare, with straight singles and crossing doubles.

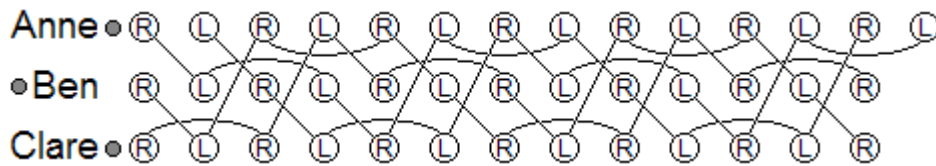
Pattern for Clare: self Anne double to Anne, with straight singles and crossing doubles.

Colour coding: seven red clubs for the passes and three green clubs that are always self throws.



**Ten club pass pass heff triangle**

Everyone passes pass pass heff with straight single passes, to the person on their right.



Prechac: 3p3p4

Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

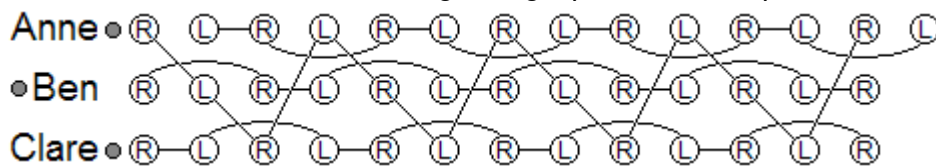
Pattern for Anne: Ben Ben heff.

Pattern for Ben: Clare heff Clare.

Pattern for Clare: heff Anne Anne.

**Ten club French three count triangle**

Everyone passes French three count with straight single passes, to the person on their right.



Prechac: 3p34

Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

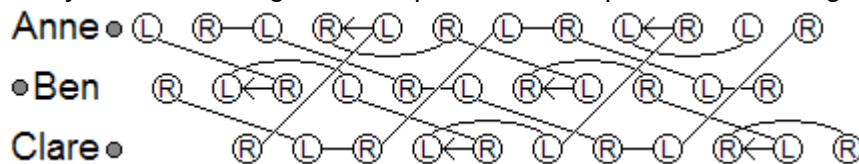
Pattern for Anne: Ben self heff.

Pattern for Ben: heff Clare self.

Pattern for Clare: self heff Anne.

**Ten club why not? triangle**

Everyone passes why not? with straight double passes, to the person on their right.



Anticlockwise siteswap: dd39c

Prechac: 4.3p34.3p41

Start for Anne: two clubs in each hand. Anne's first throw is left handed.

Start for Ben: two clubs in his right hand and one club in his left hand, a third of a beat after Anne.

Start for Clare: two clubs in her right hand and one club in her left hand, one and a third beats after Anne.

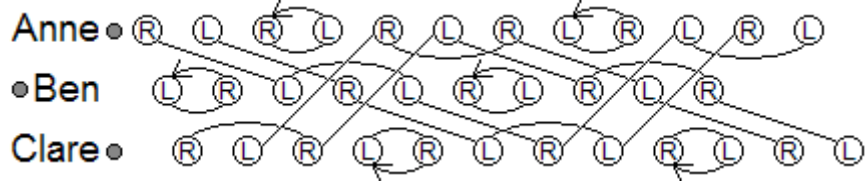
Pattern for Anne: Ben self Ben heff zip, with straight double passes.

Pattern for Ben: Clare heff zip Clare self, with straight double passes.

Pattern for Clare: Anne self Anne heff zip, with straight double passes.

### Ten club maybe triangle

Everyone passes maybe with straight double passes, to the person on their right.



Anticlockwise siteswap: d9cd3

Prechac: 4.3p4.3p314

Start for Anne: two clubs in each hand.

Start for Ben: one club in each hand, a third of a beat after Anne. Ben's first throw is left handed.

Start for Clare: two clubs each hand, two thirds of a beat after Anne.

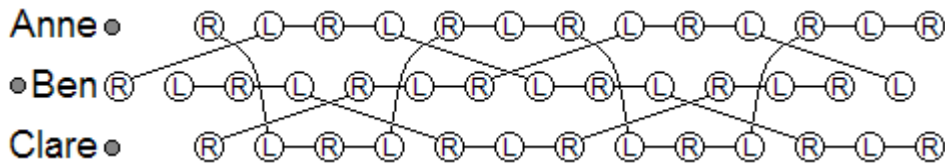
Pattern for Anne: Ben Ben self zip heff, with straight double passes.

Pattern for Ben: self zip heff Clare Clare, with straight double passes.

Pattern for Clare: heff Anne Anne self zip, with straight double passes.

### Isosceles triangle

Everyone passes three count. Anne throws crossing double passes to Ben and straight single passes to Clare. Ben throws straight double passes. Clare throws crossing double passes to Ben and straight single passes to Anne.



Anticlockwise siteswap: e999e8999d999ad999

Clockwise siteswap: d999ad999e999e8999

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, one and a half beats after Ben.

Pattern for Ben: Anne self self Clare self self, with straight double passes.

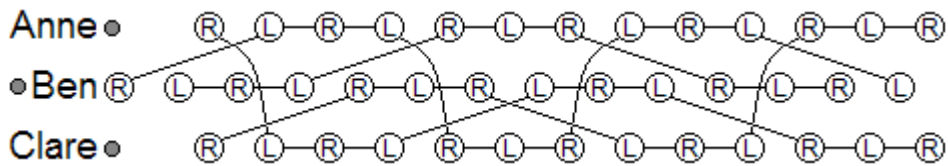
Pattern for Anne: Clare self self double to Ben self self, with straight singles and crossing doubles.

Pattern for Clare: double to Ben self self Anne self self, with straight singles and crossing doubles.

Colour coding: three red clubs that are always double passes, one green club that's always a single pass and six white clubs that are always self throws.

**Isosceles triangle variation**

This is a variation on the isosceles triangle, where everyone makes two passes to each person.



Anticlockwise siteswap: e999e8999e999e8999d999ad999d999ad999

Clockwise siteswap: d999ad999d999ad999e999e8999e999e8999

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, one and a half beats after Ben.

Pattern for Ben: Anne self self Anne self self Clare self self Clare self self, with straight double passes.

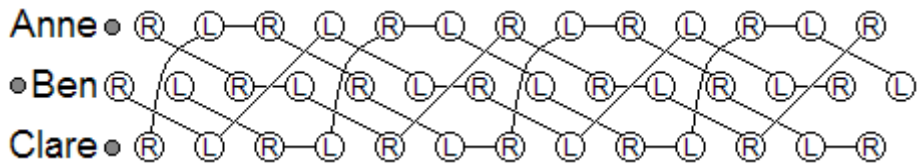
Pattern for Anne: Clare self self Clare self self double to Ben self self double to Ben self self, with straight singles and crossing doubles.

Pattern for Clare: double to Ben self self double to Ben self self Anne self self Anne self self, with straight singles and crossing doubles.

Colour coding: four red clubs that are always passes, and six green clubs that are always self throws.

**Asynchronous ten club pass pass self triangle**

Everyone passes pass pass self to the person on their right.



Anticlockwise siteswap: aaaad999a

Clockwise siteswap: b8b9b9b9b

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Clare Clare self, with straight single passes.

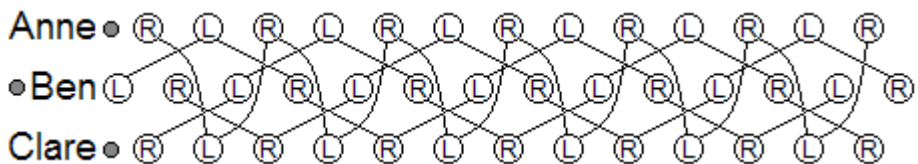
Pattern for Anne: Ben self Ben, with crossing single passes.

Pattern for Clare: Anne double to Anne self, with straight singles and crossing doubles.

Colour coding: seven red clubs for the passes and three green clubs that are always self throws.

**Ten club one count variation #1**

Everyone feeds on one count.



Anticlockwise siteswap: bb8aaa

Clockwise siteswap: aaabb8

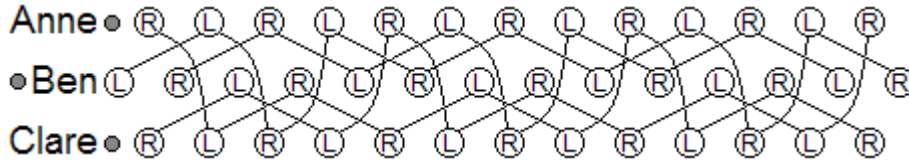
Start for Ben: two clubs in each hand. Ben's first throw is left handed.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare, with crossing single passes.  
 Pattern for Anne: Clare Ben, with straight single passes.  
 Pattern for Clare: Ben Anne, with straight single passes.

**Ten club one count variation #2**

Everyone feeds on one count, throwing two passes to each person.



Anticlockwise siteswap: bb8bb8aaaaaa

Clockwise siteswap: aaaaaabb8bb8

Start for Ben: two clubs in each hand. Ben's first throw is left handed.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Anne Clare Clare, with crossing single passes.

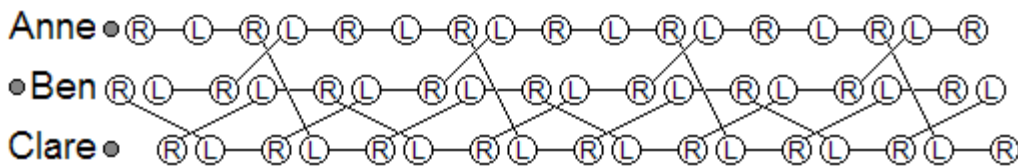
Pattern for Anne: Clare Clare Ben Ben, with straight single passes.

Pattern for Clare: Ben Ben Anne Anne, with straight single passes.

**Ten club mixed triangles**

**Ten club two count, two count, four count triangle**

Anne passes to Clare on four count, Ben passes to Anne and Clare on two count and Clare passes to Ben on two count.



Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in each hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat later.

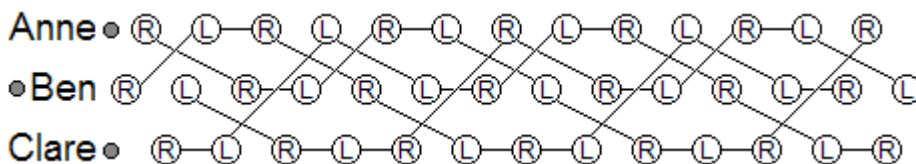
Pattern for Anne: self self Clare self.

Pattern for Ben: Clare self Anne self.

Pattern for Clare: Ben self Ben self.

**Ten club Tarim's triangle**

Anne passes to Ben on pass pass self, Ben passes to Anne and Clare on pass pass self and Clare passes to Anne on three count.



Clockwise siteswap: ab9b9b9

Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, a third of a beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, two thirds of a beat after Ben.

Pattern for Ben: Anne Clare self, with straight single passes.

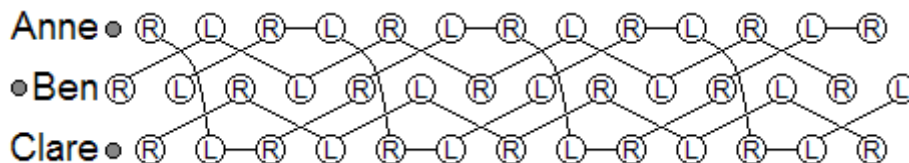
Pattern for Anne: Ben self Ben, with straight single passes.

Pattern for Clare: self Anne self, with crossing single passes.

Colour coding: six red clubs for the passes and four green clubs that are always self throws.

**Ten club pass pass self, pass pass self, one count triangle**

Anne passes to Ben and Clare on pass pass self, Ben passes to Anne and Clare on one count and Clare passes to Ben on pass pass self.



Anticlockwise siteswap: bb8b9aab9

Clockwise siteswap: aaaab9b9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

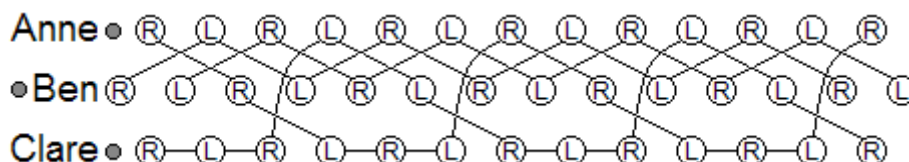
Pattern for Ben: Anne Anne Clare, with straight single passes.

Pattern for Anne: Clare Ben self, with straight single passes.

Pattern for Clare: Ben self Ben, with crossing single passes.

**Ten club one count, one count, three count triangle**

Anne passes to Ben on one count, Ben passes to Anne and Clare on one count and Clare passes to Anne on three count.



Anticlockwise siteswap: b9ab9aaaa

Clockwise siteswap: ab9ab9bb8

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

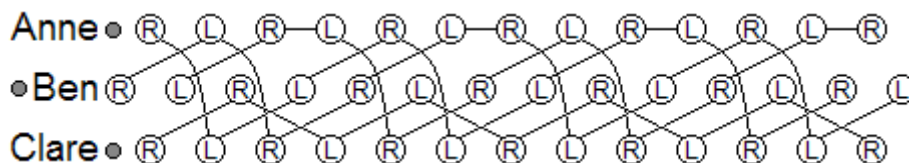
Pattern for Ben: Anne Anne Clare, with straight single passes.

Pattern for Anne: Ben Ben Ben, with crossing single passes.

Pattern for Clare: self self Anne, with straight single passes.

**Ten club one count, one count, pass pass self triangle**

Anne passes to Clare on pass pass self, Ben passes to Anne and Clare on one count and Clare passes to Ben on one count.



Anticlockwise siteswap: bb8bb8ab9

Clockwise siteswap: aaaaaab9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Anne Clare, with straight single passes.

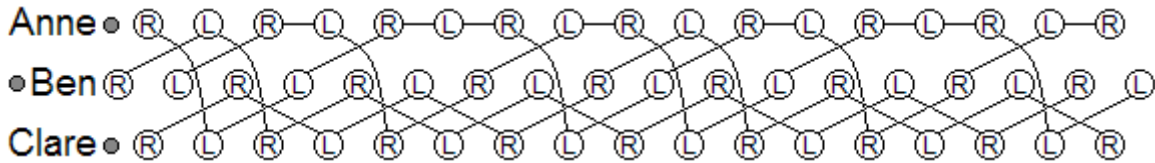
Pattern for Anne: Clare Clare self, with straight single passes.

Pattern for Clare: Ben Ben Ben, with crossing single passes.



### Ten club one count, one count, countdown triangle

Anne passes to Clare on a countdown from three count, Ben passes to Anne and Clare on one count and Clare passes to Ben on one count.



Anticlockwise siteswap: bb8bb8ab9bb8ab9ab9bb8ab9

Clockwise siteswap: aaaaaab9aaaab9ab9aaaab9a

Start for Ben: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

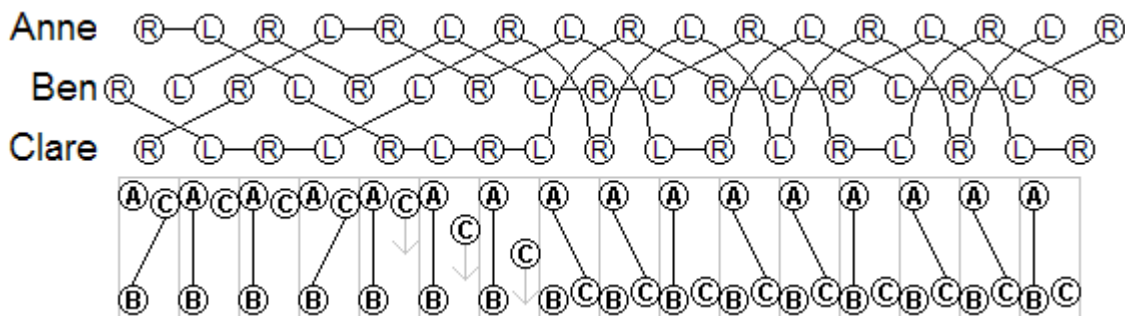
Pattern for Ben: Anne Anne Clare Anne Clare Clare Anne Clare, with straight single passes.

Pattern for Anne: Clare Clare self Clare self self Clare self, with straight single passes.

Pattern for Clare: Ben Ben Ben Ben Ben Ben Ben Ben, with crossing single passes.

### Ten club clockwise one count runaround

At the start Ben feeds Anne and Clare on one count, Anne passes pass pass self to Ben and Clare passes three count to Ben. Clare walks across the pattern after a pass to Ben and then Anne feeds Ben and Clare on one count, Ben passes three count to Anne and Clare passes pass pass self to Anne.



Starting pattern for Anne: self Ben Ben, with crossing single passes.

Starting pattern for Ben: Clare Anne Anne, with straight single passes.

Starting pattern for Clare: Ben self self, with crossing single passes.

After Clare walks:

Pattern for Anne: Clare Clare Ben, with crossing single passes.

Pattern for Ben: Anne self self, with straight single passes.

Pattern for Clare: self Anne Anne, with straight single passes.

Note: at the start the feeder throws straight passes and the other two people throw crossing passes. After the first person walks, in the new pattern the feeder throws crossing passes and the other two people throw straight passes. After the second person walks, in the new pattern the feeder throws straight passes and the other two people throw crossing passes.



## Four person feeds

• Anne

Ben •

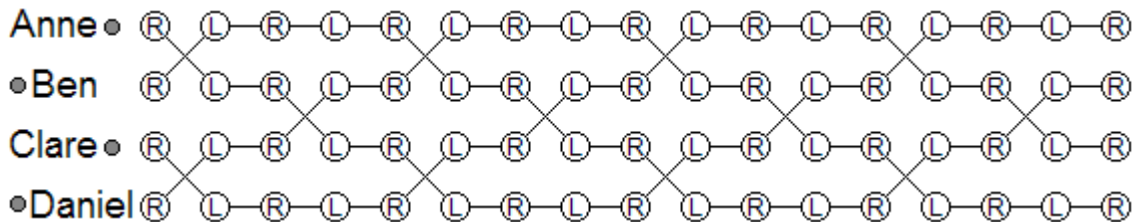
• Clare

Daniel •

In a four person feed the jugglers stand in an 'N' formation as shown above. Ben feeds Anne and Clare and Clare feeds Ben and Daniel. I have incorporated this picture into the causal diagrams for the four person patterns.

### **Four person two count feed**

Ben and Clare feed on two count. Anne and Daniel pass four count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self.

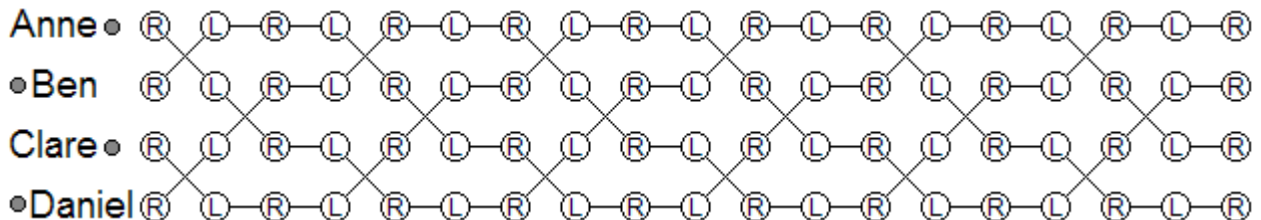
Pattern for Ben: Anne self Clare self.

Pattern for Clare: Daniel self Ben self.

Pattern for Daniel: Clare self self self.

### **Four person pass pass self feed**

Ben and Clare feed on pass pass self. Anne and Daniel pass three count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self.

Pattern for Ben: Anne Clare self.

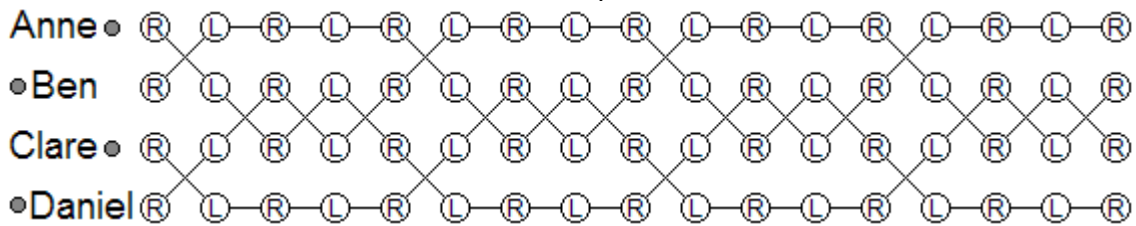
Pattern for Clare: Daniel Ben self.

Pattern for Daniel: Clare self self.

Colour coding: use two red clubs, two yellow clubs, two green clubs and six white clubs, so that Anne and Ben pass red clubs, Ben and Clare pass yellow clubs, Clare and Daniel pass green clubs and everyone has white clubs for their self throws.

**Four person one count feeding four count**

Ben and Clare feed on one count. Anne and Daniel pass four count.

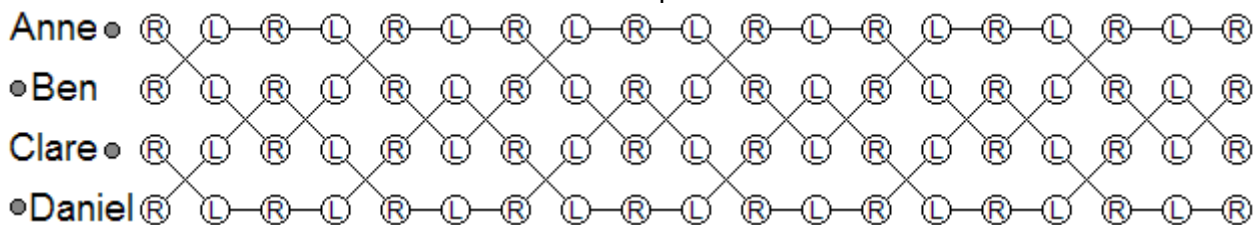


Start for all four jugglers: two clubs in the right hand and one club in the left hand.

- Pattern for Anne: Ben self self self.
- Pattern for Ben: Anne Clare Clare Clare.
- Pattern for Clare: Daniel Ben Ben Ben.
- Pattern for Daniel: Clare self self self.

**Four person one count feeding three count**

Ben and Clare feed on one count. Anne and Daniel pass three count.



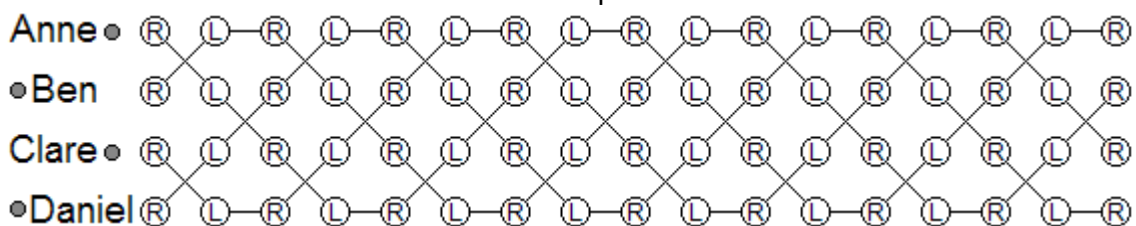
Start for all four jugglers: two clubs in the right hand and one club in the left hand.

- Pattern for Anne: Ben self self.
- Pattern for Ben: Anne Clare Clare.
- Pattern for Clare: Daniel Ben Ben.
- Pattern for Daniel: Clare self self.

Colour coding: use two red clubs, four yellow clubs, two green clubs and four white clubs, so that Anne and Ben pass red clubs, Ben and Clare pass yellow clubs, Clare and Daniel pass green clubs and Anne and Daniel have white clubs for their self throws.

**Four person one count feeding two count**

Ben and Clare feed on one count. Anne and Daniel pass two count.

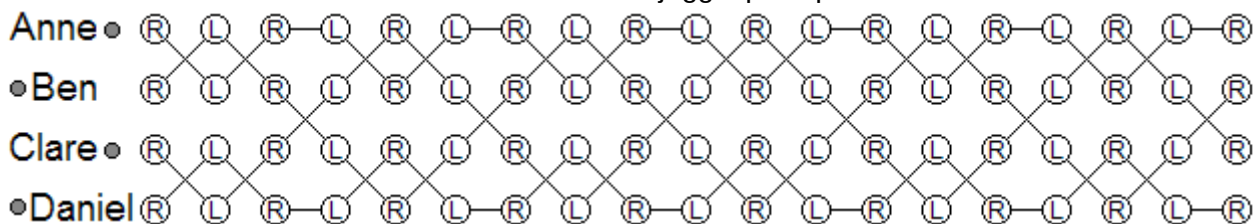


Start for all four jugglers: two clubs in the right hand and one club in the left hand.

- Pattern for Anne: Ben self.
- Pattern for Ben: Anne Clare.
- Pattern for Clare: Daniel Ben.
- Pattern for Daniel: Clare self.

**Four person one count feeding pass pass self**

Ben and Clare feed on one count. Anne and Daniel juggle pass pass self.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self.

Pattern for Ben: Anne Anne Clare.

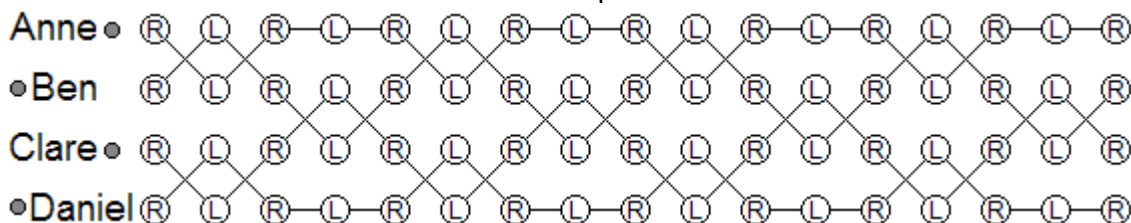
Pattern for Clare: Daniel Daniel Ben.

Pattern for Daniel: Clare Clare self.

Colour coding: use four red clubs, two yellow clubs, four green clubs and two white clubs, so that Anne and Ben pass red clubs, Ben and Clare pass yellow clubs, Clare and Daniel pass green clubs and Anne and Daniel have white clubs for their self throws.

**Four person one count feeding chocolate bar**

Ben and Clare feed on one count. Anne and Daniel pass chocolate bar.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self self.

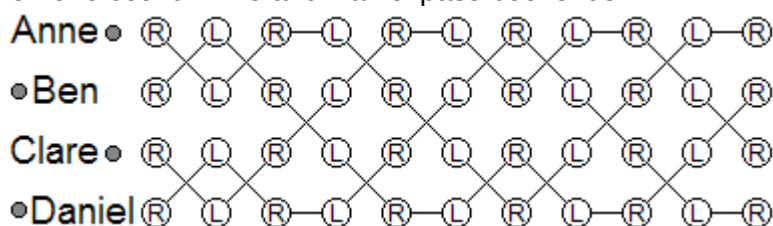
Pattern for Ben: Anne Anne Clare Clare.

Pattern for Clare: Daniel Daniel Ben Ben.

Pattern for Daniel: Clare Clare self self.

**Four person one count feeding bookends**

Ben and Clare feed on one count. Anne and Daniel pass bookends.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self Ben self.

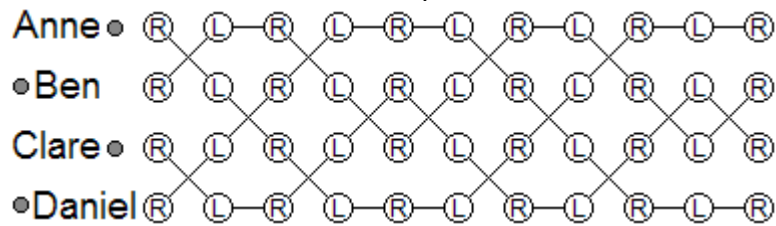
Pattern for Ben: Anne Anne Clare Anne Clare.

Pattern for Clare: Daniel Daniel Ben Daniel Ben.

Pattern for Daniel: Clare Clare self Clare self.

**Four person one count feeding inverted bookends**

Ben and Clare feed on one count. Anne and Daniel pass inverted bookends.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Ben self self.

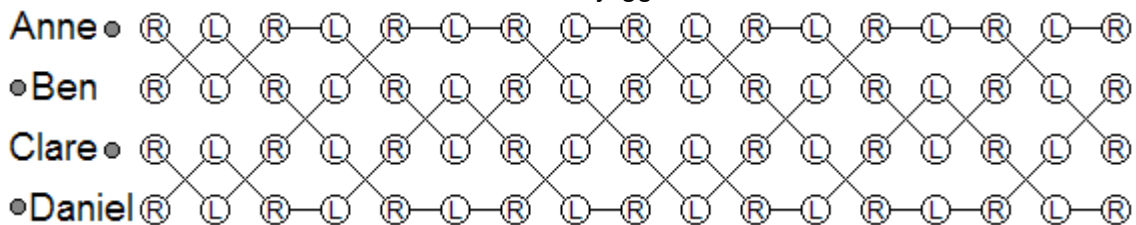
Pattern for Ben: Anne Clare Anne Clare Clare.

Pattern for Clare: Daniel Ben Daniel Ben Ben.

Pattern for Daniel: Clare self Clare self self.

**Four person one count feeding countdown**

Ben and Clare feed on one count. Anne and Daniel juggle a countdown from three count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self Ben self self Ben self.

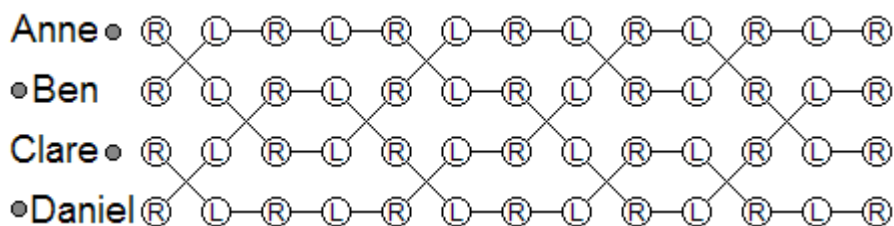
Pattern for Ben: Anne Anne Clare Anne Clare Clare Anne Clare.

Pattern for Clare: Daniel Daniel Ben Daniel Ben Ben Daniel Ben.

Pattern for Daniel: Clare Clare self Clare self self Clare self.

**Four person civil war feed**

Ben and Clare feed pass pass self. Anne and Daniel juggle a countdown from four count to two count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Ben self self Ben self Ben self self.

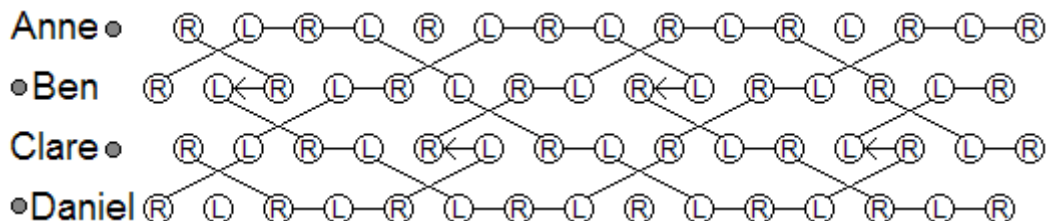
Pattern for Ben: Anne Clare self Clare Anne self Clare Anne self Anne Clare self.

Pattern for Clare: Daniel Ben self Ben Daniel self Ben Daniel self Daniel Ben self.

Pattern for Daniel: Clare self self self Clare self self Clare self Clare self self.

**Four person mild madness feed**

Ben feeds Martin's mildness. Clare feeds Martin's madness. Anne and Daniel pass Jim's three count.



Start for Ben and Daniel: two clubs in the right hand and one club in the left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip self Anne Clare self, with straight single passes.

Pattern for Daniel: Clare hold self self Clare self self, with straight single passes.

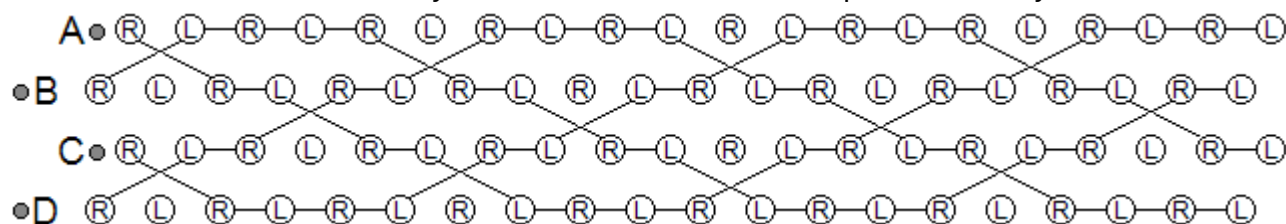
Pattern for Anne: Ben self self Ben hold self self, with crossing single passes.

Pattern for Clare: Daniel Ben self Daniel Ben zip self, with crossing single passes.

Colour coding: use two red clubs, two yellow clubs, two green clubs and six white clubs, so that Anne and Ben pass red clubs, Ben and Clare pass yellow clubs, Clare and Daniel pass green clubs and everyone has white clubs for their self throws.

**Four person Rachel's feed**

Ben and Clare feed on a Jim's style two count. Anne and Daniel pass a Jim's style four count.



Start for Ben and Daniel: two clubs in the right hand and one club in the left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne hold self Clare self Anne self Clare hold self Anne self Clare self, with straight single passes.

Pattern for Daniel: Clare hold self self self Clare hold self self self Clare self self self Clare hold self self self, with straight single passes.

Pattern for Anne: Ben self self self Ben hold self self self Ben hold self self self Ben hold self self self, with crossing single passes.

Pattern for Clare: Daniel self Ben hold self Daniel self Ben self Daniel hold self Ben self Daniel self Ben hold self, with crossing single passes.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

## Four person period five feeds

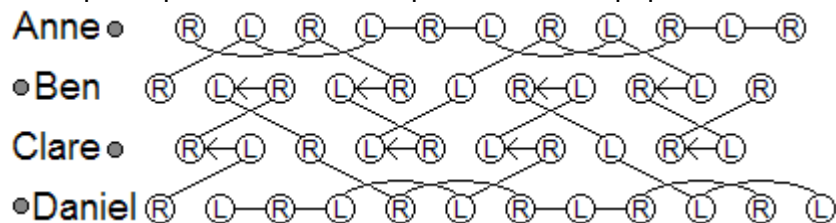
This section contains four person feeds where everyone's pattern is a period five four handed siteswap. In all these patterns Ben and Daniel throw straight passes and Anne and Clare throw crossing passes.

This list of feeds is not exhaustive as many period five patterns are interchangeable: Wherever you have why not? you could juggle Jim's two count, not why or not likely; instead of maybe you could juggle maybe not; funky bookends can be replaced with 77966 and there are three versions of five count popcorn.

You can also remove a club from some feeds if you replace five count popcorn with five club why not? or you replace funky bookends with parsnip. Alternatively you can add a club to some feeds if you replace five club why not? with five count popcorn, or you replace parsnip with funky bookends.

### Four person parsnip feeding five count popcorn

Ben and Clare feed on parsnip Anne and Daniel pass five count popcorn.



Start for Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Clare: one club in each hand, half a beat after Ben and Daniel.

Pattern for Ben: Anne Clare zip Clare zip, with straight single passes.

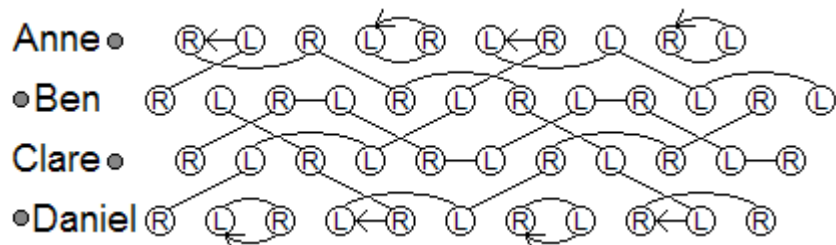
Pattern for Daniel: Clare self self heff heff, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: Ben zip Daniel Ben zip, with crossing single passes.

### Four person funky bookends feeding five club why not?

Ben and Clare feed on funky bookends. Anne and Daniel pass five club why not?



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in the right hand and one club in the left hand.

Start for Anne: one club in each hand, half a beat later.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben and Daniel.

Pattern for Ben: Anne Clare self Clare heff, with straight single passes.

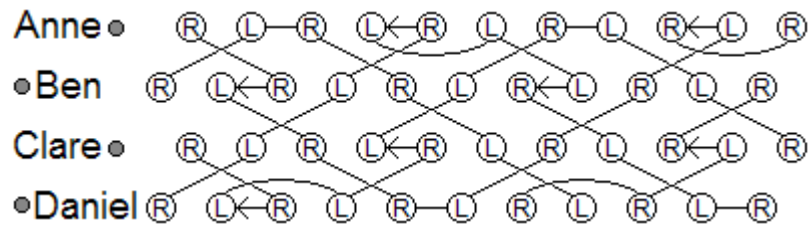
Pattern for Daniel: Clare self zip heff zip, with straight single passes.

Pattern for Anne: heff zip Ben self zip, with crossing single passes.

Pattern for Clare: Ben heff Daniel Ben self, with crossing single passes.

**Four person Martin's one count feeding why not?**

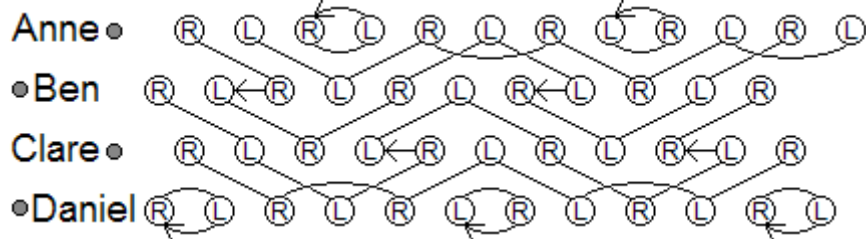
Ben and Clare feed on Martin's one count. Anne and Daniel pass why not?



Start for Ben and Daniel: two clubs in the right hand and one club in the left hand.  
 Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Anne Clare zip Anne Clare, with straight single passes.  
 Pattern for Daniel: Clare heff zip Clare self, with straight single passes.  
 Pattern for Anne: Ben self Ben heff zip, with crossing single passes.  
 Pattern for Clare: Daniel Ben Daniel Ben zip, with crossing single passes.

**Four person Martin's one count feeding maybe**

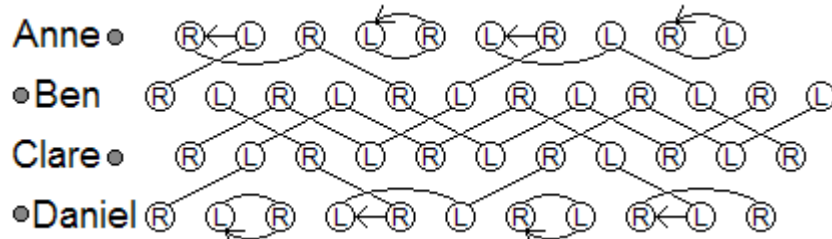
Ben and Clare feed on Martin's one count. Anne and Daniel pass maybe.



Start for Ben: two clubs in his right hand and one club in his left hand.  
 Start for Daniel: one club in each hand.  
 Start for Anne: two clubs in each hand, half a beat later.  
 Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben and Daniel.  
 Pattern for Ben: Clare Clare zip Anne Anne, with straight single passes.  
 Pattern for Daniel: self zip heff Clare Clare, with straight single passes.  
 Pattern for Anne: Ben Ben self zip heff, with crossing single passes.  
 Pattern for Clare: Daniel Daniel Ben Ben zip, with crossing single passes.

**Four person one count feeding five club why not?**

Ben and Clare feed on one count. Anne and Daniel pass five club why not?



Start for Ben: two clubs in each hand.  
 Start for Daniel: two clubs in the right hand and one club in the left hand.  
 Start for Anne: one club in each hand, half a beat after Ben and Daniel.



Start for Clare: two clubs in the right hand and one club in the left hand, half a beat after Ben and Daniel.

Pattern for Ben: Anne Clare Clare Clare Clare, with straight single passes.

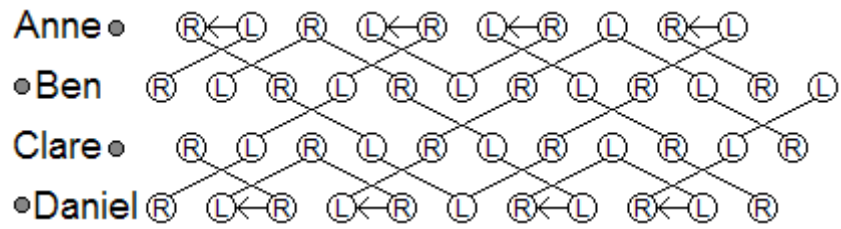
Pattern for Daniel: Clare self zip heff zip, with straight single passes.

Pattern for Anne: heff zip Ben self zip, with crossing single passes.

Pattern for Clare: Ben Ben Daniel Ben Ben, with crossing single passes.

**Four person one count feeding parsnip**

Ben and Clare feed on one count. Anne and Daniel pass parsnip.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in the right hand and one club in the left hand.

Start for Anne: one club in each hand, half a beat after Ben and Daniel.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat after Ben and Daniel.

Pattern for Ben: Anne Anne Clare Anne Clare, with straight single passes.

Pattern for Daniel: Clare Clare zip Clare zip, with straight single passes.

Pattern for Anne: Ben zip Ben Ben zip, with crossing single passes.

Pattern for Clare: Daniel Ben Daniel Daniel Ben, with crossing single passes.

## Box feeds

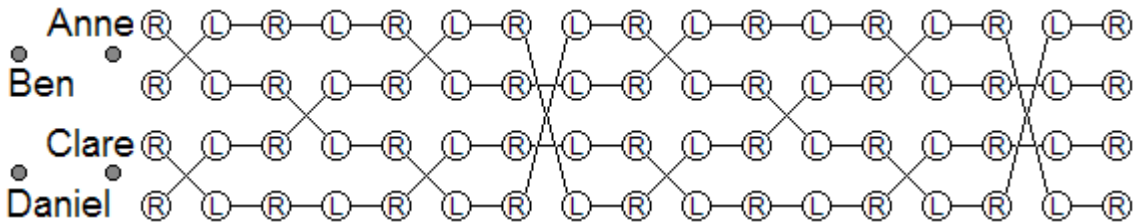
Ben ●      ● Anne

Daniel ●      ● Clare

In a box feed the jugglers stand in an square as shown above. Ben and Daniel feed Anne and Clare vice-versa. I have incorporated this picture into the causal diagrams for the four person patterns.

### **Mixed count feed**

Everyone feeds, alternating two passes on two count and one pass on four count.



Prechac: 3p3333p33p3

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Ben self Daniel self.

Pattern for Ben: Anne self Clare self Anne self self self.

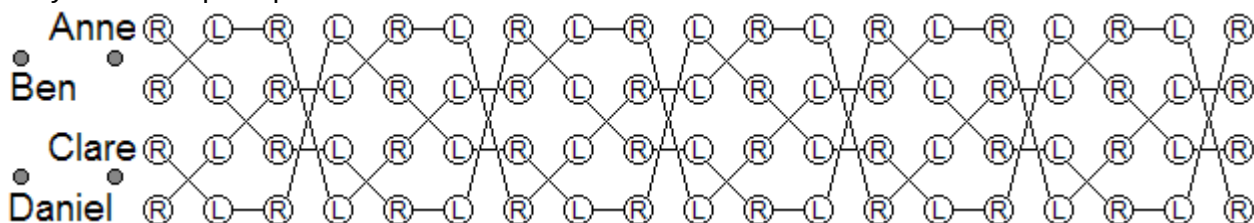
Pattern for Clare: Daniel self Ben self Daniel self self self.

Pattern for Daniel: Clare self self self Clare self Anne self.

Colour coding for the next two patterns: use two red clubs, two yellow clubs, two green clubs, two blue clubs and four white clubs, so that Anne and Ben pass red clubs, Ben and Clare pass yellow clubs, Clare and Daniel pass green clubs, Daniel and Anne pass blue clubs and everyone has a white club that's never passed.

### **Pass pass self box**

Everyone feeds pass pass self.



Prechac: 3p3p3

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Daniel.

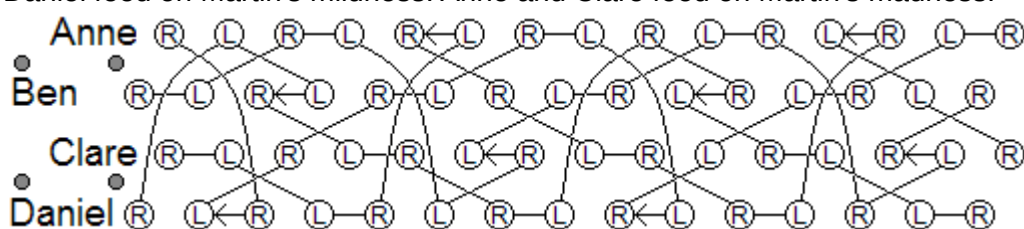
Pattern for Ben: Anne Clare self.

Pattern for Clare: Daniel Ben self.

Pattern for Daniel: Clare self Anne.

### **Mild madness box**

Ben and Daniel feed on Martin's mildness. Anne and Clare feed on Martin's madness.



Prechac: 3.5p3.5p33.5p3.5p13

Start for Ben and Daniel: two clubs in the right hand and one club in the left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: self Anne Clare zip self Anne Clare, with straight single passes.

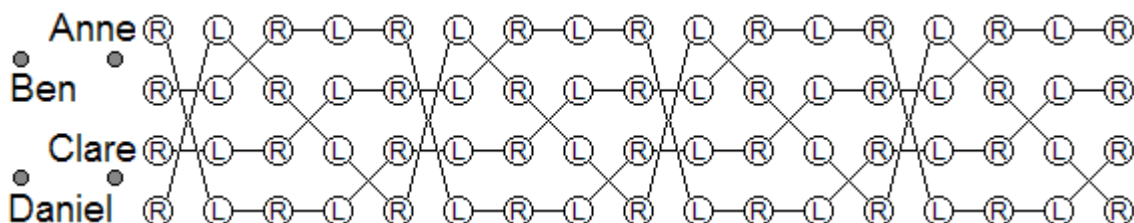
Pattern for Daniel: Anne Clare zip self Anne Clare self, with straight single passes.

Pattern for Anne: Daniel Ben self Daniel Ben zip self, with crossing single passes.

Pattern for Clare: self Daniel Ben self Daniel Ben zip, with crossing single passes.

### **Chocolate square**

Everyone feeds on chocolate bar.



Prechac: 3p3p33

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

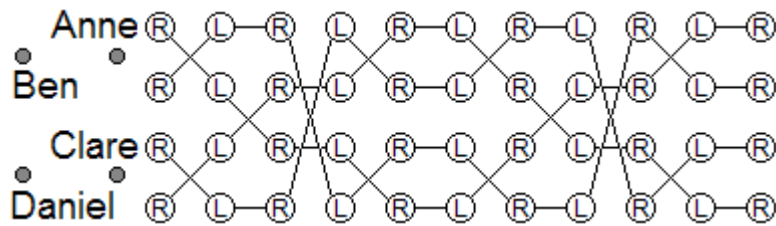
Pattern for Anne: Daniel Ben self self.

Pattern for Ben: self Anne Clare self.

Pattern for Clare: self self Ben Daniel.  
Pattern for Daniel: Anne self self Clare.

**Bookends box**

Everyone feeds on bookends.



Prechac: 3p3p33p3

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Daniel Ben self.

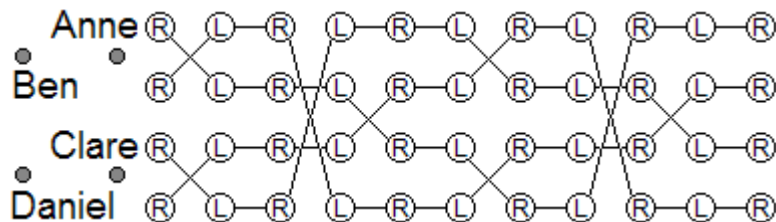
Pattern for Ben: Anne Clare self Anne self.

Pattern for Clare: Daniel Ben self Daniel self.

Pattern for Daniel: Clare self Anne Clare self.

**Inverted bookends box**

Everyone feeds on inverted bookends.



Prechac: 3p33p33

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Daniel self self.

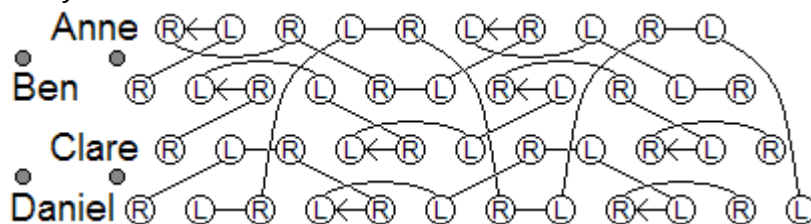
Pattern for Ben: Anne self self Clare self.

Pattern for Clare: Daniel self self Ben self.

Pattern for Daniel: Clare self Anne self self.

**Why not? box**

Everyone feeds on why not?



Prechac: 3.5p33.5p41

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Daniel: two clubs in each hand.

Start for Anne: one club in each hand, half a beat later.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben and Daniel.

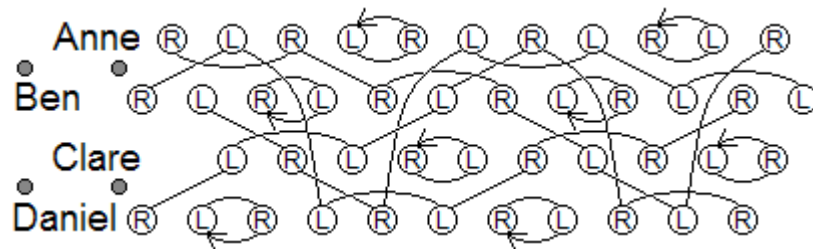
Pattern for Ben: Anne heff zip Clare self, with straight single passes.

Pattern for Daniel: Clare self Anne heff zip, with straight single passes.

Pattern for Anne: heff zip Ben self Clare, with crossing single passes.  
Pattern for Clare: Ben self Daniel heff zip, with crossing single passes.

### Maybe box

Everyone feeds on maybe.



Prechac: 3.5p3.5p314

Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Clare: one club in each hand, one and a half beats after Ben and Daniel. Clare's first throw is left handed.

Pattern for Ben: Anne Clare self zip heff, with straight single passes.

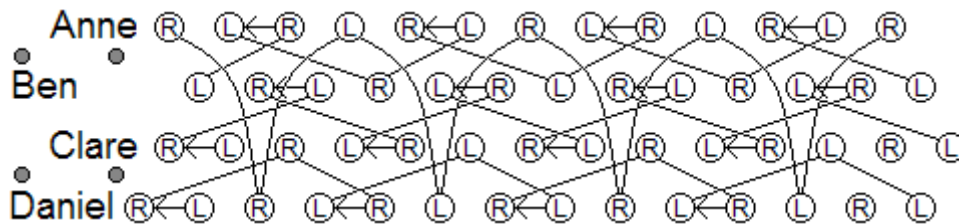
Pattern for Daniel: Clare self zip heff Anne, with straight single passes.

Pattern for Anne: heff Daniel Ben self zip, with crossing single passes.

Pattern for Clare: heff Daniel Ben self zip, with crossing single passes.

### 972 box

Everyone feeds on 972.



Prechac: 3.5p4.5p1

Start for Daniel: two clubs in his left hand and one club in his right hand. His first throw is right handed.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Clare: two clubs in her left hand and one club in her right hand, half a beat after Daniel. Clare's first throw is right handed.

Start for Ben: two clubs in his left hand and one club in his right hand, one beat after Daniel. Ben's first throw is left handed.

Pattern for Daniel: Clare zip Anne, with crossing doubles to Clare and straight singles to Anne.

Pattern for Anne: Daniel Ben zip, with crossing singles to Daniel and straight doubles to Ben.

Pattern for Clare: Ben zip Daniel, with straight doubles to Ben and crossing singles to Daniel.

Pattern for Ben: Anne Clare zip, with straight singles to Anne and crossing doubles to Clare.



## Line Feeds

● Anne

Ben ●

● Clare

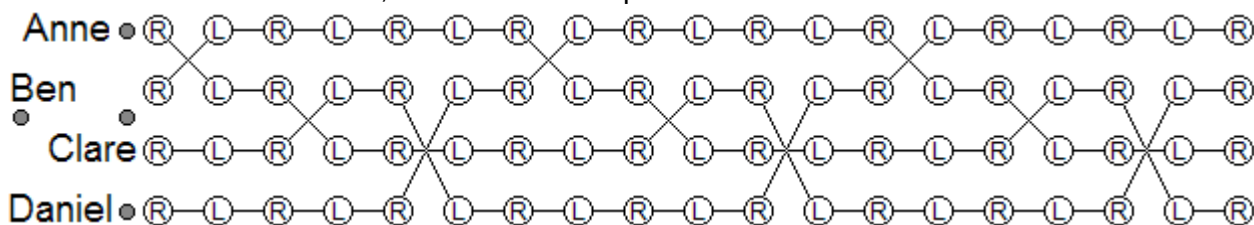
● Daniel

In a line feed Ben feeds Anne, Clare and Daniel. Anne, Clare and Daniel stand in a line facing Ben, as shown above. I have incorporated this picture into the causal diagrams for the four person line feeds.

Colour coding for the next two patterns: use two red clubs, two yellow clubs, two green clubs and six white clubs, so that Ben passes red clubs with Anne, yellow clubs with Clare and green clubs with Daniel. Anne, Clare and Daniel each have two white clubs that are always self throws.

### **Two count line feed**

Ben feeds on two count. Anne, Clare and Daniel pass to Ben on six count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self.

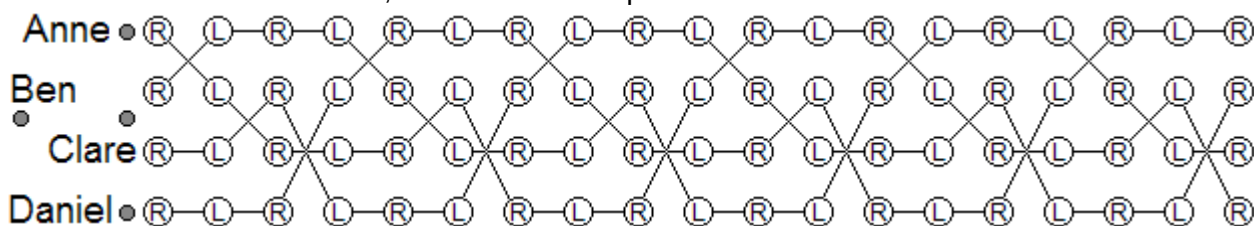
Pattern for Ben: Anne self Clare self Daniel self.

Pattern for Clare: self self Ben self self self.

Pattern for Daniel: self self self self Ben self.

### **Urban terror feed (one count line feed)**

Ben feeds on one count. Anne, Clare and Daniel pass to Ben on three count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self.

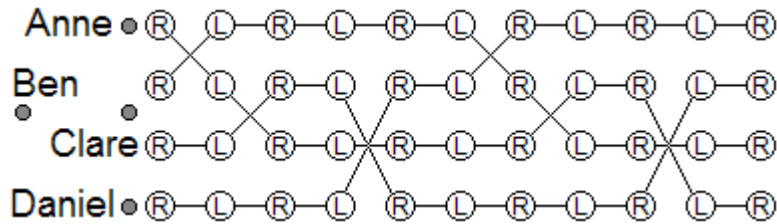
Pattern for Ben: Anne Clare Daniel.

Pattern for Clare: self Ben self.

Pattern for Daniel: self self Ben.

**Bookends line feed**

Ben feeds on bookends. Anne, Clare and Daniel pass to Ben on five count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self.

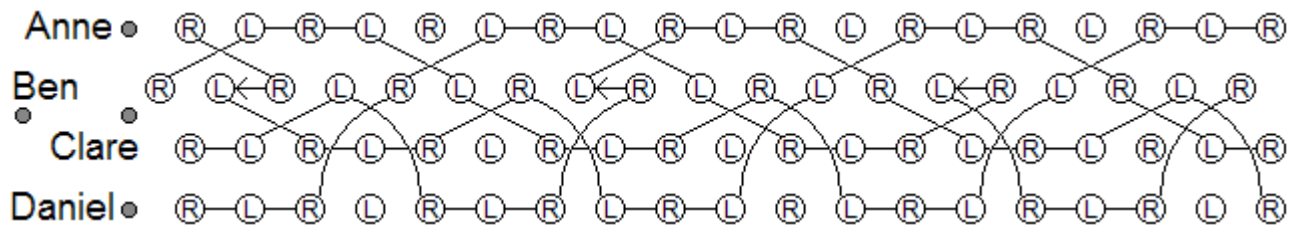
Pattern for Ben: Anne Clare self Daniel self.

Pattern for Clare: self Ben self self self.

Pattern for Daniel: self self self Ben self.

**Mob mildness / madness**

Ben feeds on a Martin's style one count. Anne Clare and Daniel pass to Ben on a Jim's style three count.



Start for Ben: two clubs in his right hand and one club in his left hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip Daniel Anne Clare Daniel Anne zip Clare Daniel Anne Clare Daniel zip Anne Clare Daniel, with straight single passes.

Pattern for Anne: Ben self self Ben hold self self Ben self self Ben hold self self Ben hold self self, with crossing single passes.

Pattern for Clare: self Ben self self Ben hold self self Ben hold self self Ben self self Ben hold self, with crossing single passes.

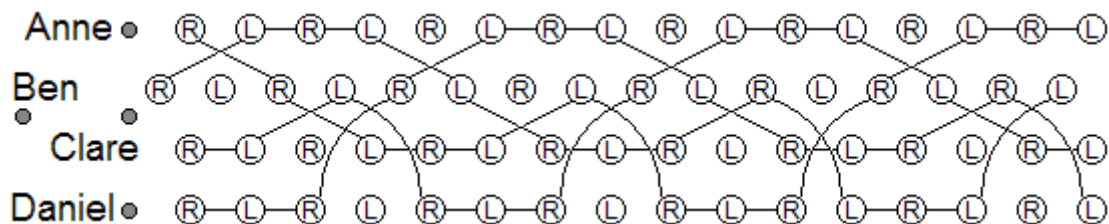
Pattern for Daniel: self self Ben hold self self Ben self self Ben hold self self Ben self self Ben hold, with crossing single passes.

Colour coding: use two red clubs, two yellow clubs, two green clubs and six white clubs, so that Ben passes red clubs with Anne, yellow clubs with Clare and green clubs with Daniel. Anne, Clare and Daniel each have two white clubs that are always self throws.

Note: the pattern in the diagram is mob mildness. If you relabel all the beats in Ben's pattern, he starts left handed and throws crossing passes, whereas Anne and Clare throw straight passes. This pattern is known as mob madness.

### **Mob neurosis / psychosis**

Ben feeds on a Jim's style one count. Anne Clare and Daniel pass to Ben on a Jim's style three count.



Start for Ben: two clubs in his right hand and one club in his left hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne hold Clare Daniel Anne Clare hold Daniel Anne Clare Daniel hold Anne Clare Daniel, with straight single passes.

Pattern for Anne: Ben self self Ben hold self self Ben hold self self Ben hold self self, with crossing single passes.

Pattern for Clare: self Ben hold self self Ben self self Ben hold self self Ben hold self, with crossing single passes.

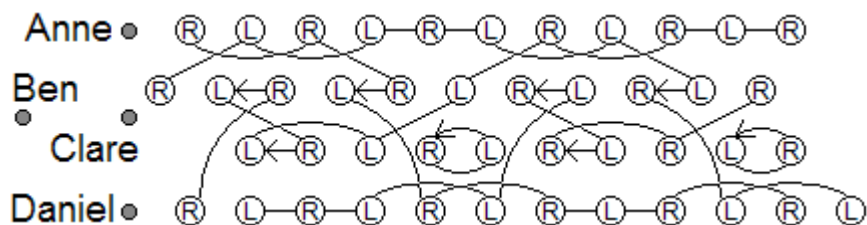
Pattern for Daniel: self self Ben hold self self Ben hold self self Ben self self Ben hold, with crossing single passes.

Colour coding: use six red clubs and six white clubs, so that the passes are red clubs and Anne, Clare and Daniel each have two white clubs that are always self throws.

Notes: the pattern in the diagram is mob neurosis. If you relabel all the beats in Ben's pattern, he starts left handed and throws crossing passes, whereas Anne and Clare throw straight passes. This pattern is known as mob psychosis. The pattern repeats with the other hand. The diagram only shows half the pattern.

### **Parsnip line feed**

Ben feeds on parsnip. Anne and Daniel pass to Ben on five count popcorn. Clare passes to Ben on five club why not?



Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Daniel: two clubs in each hand, half a beat after Ben.

Start for Clare: one club in each hand, one and a half beats after Ben. Clare's first throw is left handed.

Pattern for Ben: Anne Clare zip Daniel zip, with straight single passes.

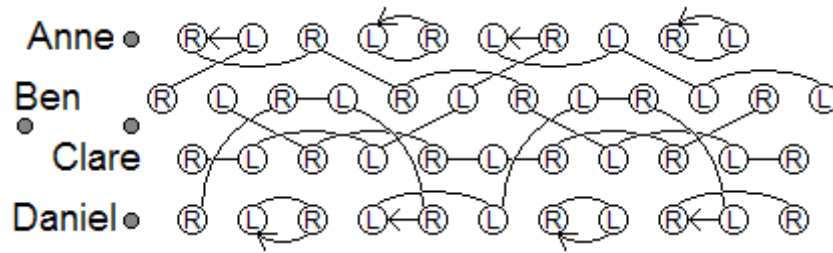
Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Daniel: Ben self self heff heff, with crossing single passes.

Pattern for Clare: heff zip Ben self self, with crossing single passes.

**Funky bookends line feed**

Ben feeds on funky bookends. Anne and Daniel pass to Ben on five club why not? Clare passes to Ben on five count popcorn.



Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat later.

Start for Clare and Daniel: two clubs in the right hand and one club in the left hand, half a beat after Ben.

Pattern for Ben: Anne Clare self Daniel heff, with straight single passes.

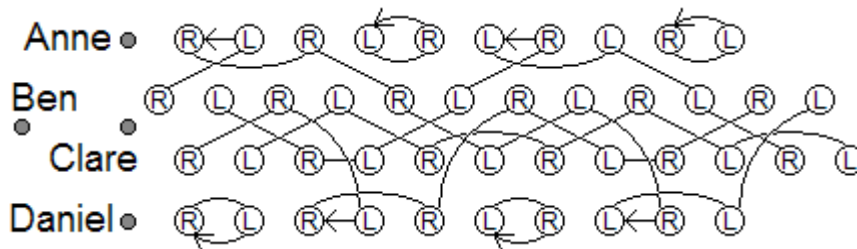
Pattern for Anne: heff zip Ben self zip, with crossing single passes.

Pattern for Clare: self heff heff Ben self, with crossing single passes.

Pattern for Daniel: Ben self zip heff zip, with crossing single passes.

**One count feeding five club why not? and funky bookends**

Ben feeds on one count. Anne and Daniel pass to Ben on five club why not? Clare passes to Ben on funky bookends.



Start for Ben: two clubs in each hand.

Start for Anne: one club in each hand, half a beat later.

Start for Clare: two clubs in each hand, half a beat after Ben.

Start for Daniel: one club in each hand, half a beat after Ben.

Pattern for Ben: Anne Clare Daniel Clare Clare, with straight single passes.

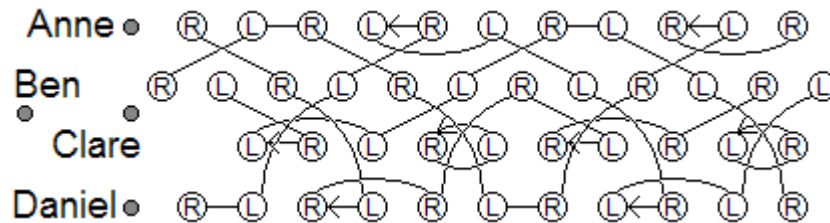
Pattern for Anne: heff zip Ben self zip, with crossing single passes.

Pattern for Clare: Ben Ben self Ben heff, with crossing single passes.

Pattern for Daniel: self zip heff zip Ben, with crossing single passes.

**One count feeding why not? and five club why not?**

Ben feeds on one count. Anne and Daniel pass to Ben on why not? Clare passes to Ben on five club why not?



Start for Ben: two clubs in each hand.

Start for Anne and Daniel: two clubs in the right hand and one club in the left hand, half a beat later.

Start for Clare: one club in each hand, one and a half beats after Ben. Clare's first throw is left handed.

Pattern for Ben: Anne Clare Daniel Anne Daniel, with straight single passes.

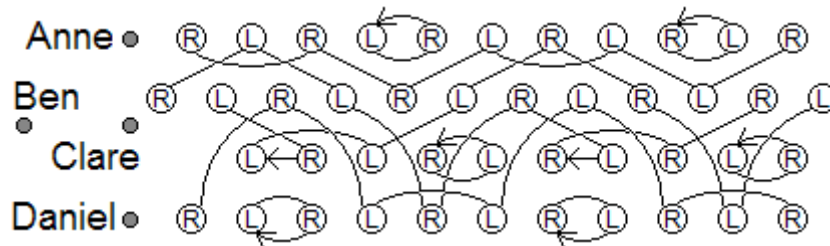
Pattern for Anne: Ben self Ben heff zip, with crossing single passes.

Pattern for Daniel: self Ben heff zip Ben, with crossing single passes.

Pattern for Clare: heff zip Ben self zip, with crossing single passes.

**One count feeding maybe and five club why not?**

Ben feeds on one count. Anne and Daniel pass to Ben on maybe. Clare passes to Ben on five club why not?



Start for Ben: two clubs in each hand.

Start for Anne and Daniel: two clubs in the right hand and one club in the left hand, half a beat later.

Start for Clare: one club in each hand, one and a half beats after Ben. Clare's first throw is left handed.

Pattern for Ben: Anne Clare Daniel Daniel Anne, with straight single passes.

Pattern for Anne: heff Ben Ben self zip, with crossing single passes.

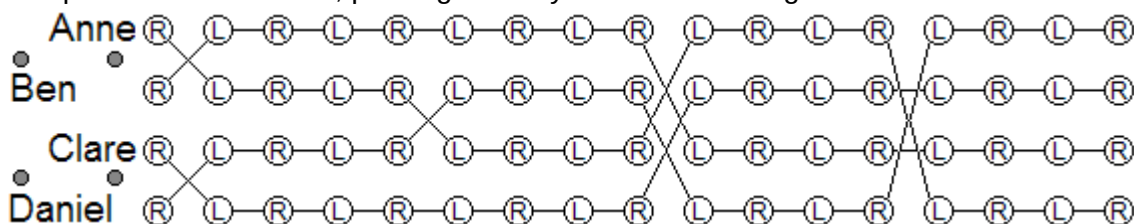
Pattern for Daniel: Ben self zip heff Ben, with crossing single passes.

Pattern for Clare: heff zip Ben self zip, with crossing single passes.

## Four person feasts

### Four person four count feast

Everyone passes on four count, passing to everyone else including themselves.



Prechac: 3p3333p3333p3333333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self self Clare self self self Daniel self self self.

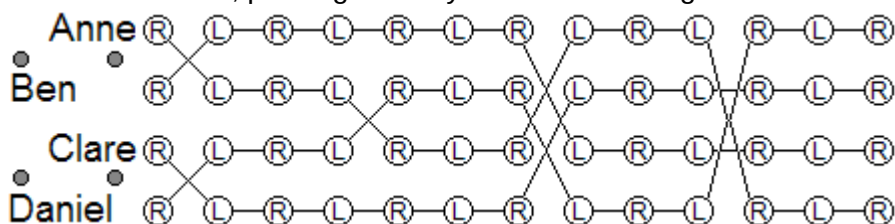
Pattern for Ben: Anne self self self Clare self self self Daniel self self self self self self self.

Pattern for Clare: Daniel self self self Ben self self self Anne self self self self self self self.

Pattern for Daniel: Clare self self self self self self self Ben self self self Anne self self self.

### Four person three count feast

Everyone passes on three count, passing to everyone else including themselves.



Prechac: 3p333p333p33333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self Clare self self Daniel self self.

Pattern for Ben: Anne self self Clare self self Daniel self self self self self.

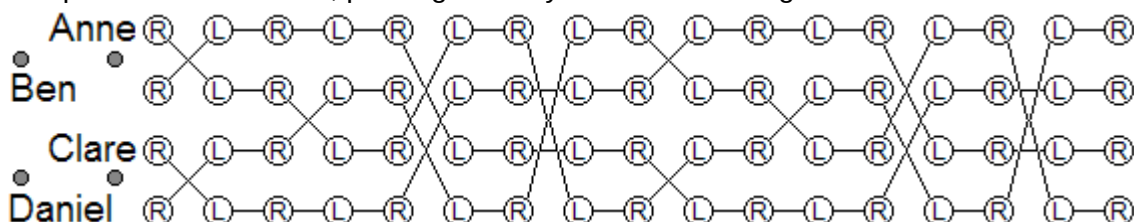
Pattern for Clare: Daniel self self Ben self self Anne self self self self self.

Pattern for Daniel: Clare self self self self self Ben self self Anne self self.

Colour coding: use four red clubs and eight white clubs, so that the passes are always red clubs and everyone has two white clubs that are always self throws.

### Four person two count feast

Everyone passes on two count, passing to everyone else including themselves.



Prechac: 3p33p33p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

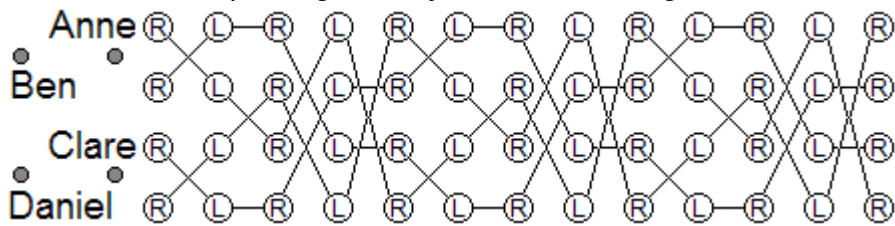
Pattern for Anne: Ben self self self Clare self Daniel self.

Pattern for Ben: Anne self Clare self Daniel self self self.

Pattern for Clare: Daniel self Ben self Anne self self self.  
Pattern for Daniel: Clare self self self Ben self Anne self.

**Four person one count feast**

Everyone passes on one count, passing to everyone else including themselves.



Prechac: 3p3p3p3

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Clare Daniel.

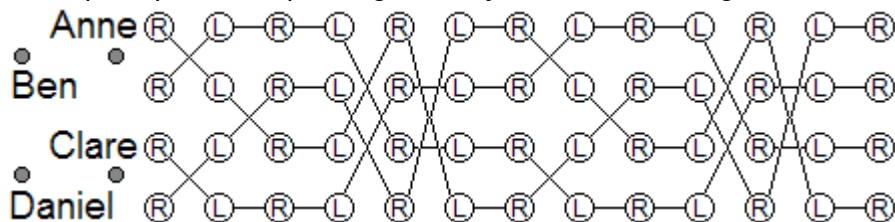
Pattern for Ben: Anne Clare Daniel self.

Pattern for Clare: Daniel Ben Anne self.

Pattern for Daniel: Clare self Ben Anne.

**Four person pass pass self feast**

Everyone passes on pass pass self, passing to everyone else including themselves.



Prechac: 3p3p33p33

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self Clare Daniel self.

Pattern for Ben: Anne Clare self Daniel self self.

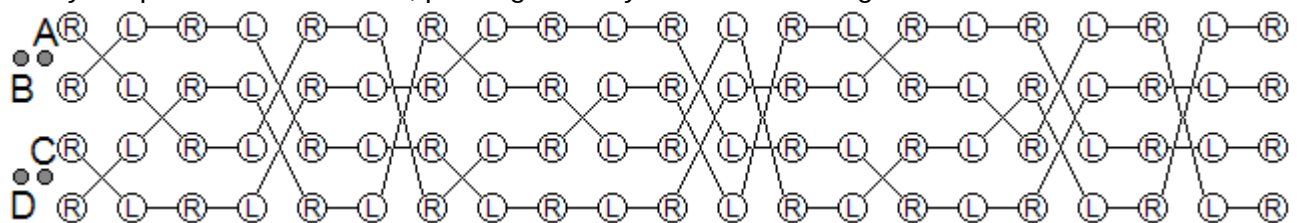
Pattern for Clare: Daniel Ben self Anne self self.

Pattern for Daniel: Clare self self Ben Anne self.

Colour coding: use eight red clubs and four white clubs. The passes are always red clubs and the white clubs are always self throws.

**Four person bookends feast**

Everyone passes on bookends, passing to everyone else including themselves.



Prechac:3p3p33p333p33p333p33p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self Clare self Daniel Ben self self self Clare Daniel self Ben self self Clare self Daniel self.

Pattern for Ben: Anne Clare self Daniel self self Anne self Clare self Daniel self self Anne self Clare Daniel self self self.

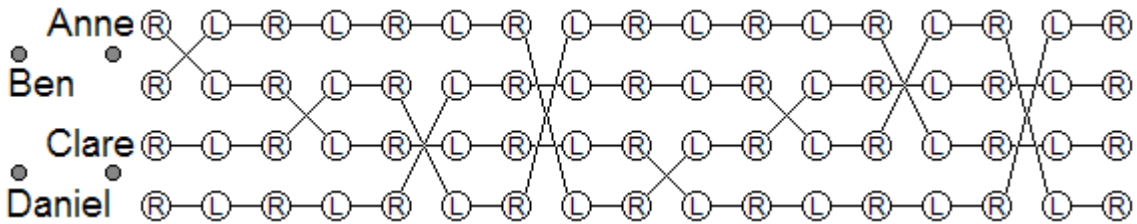


Pattern for Clare: Daniel Ben self Anne self self Daniel self Ben self Anne self self Daniel self Ben Anne self self self.

Pattern for Daniel: Clare self self Ben self Anne Clare self self self Ben Anne self Clare self self Ben self Anne self.

**Four person two count revolving feed**

Everyone takes turns feeding on two count. When you're not feeding you pass on six count.



Prechac: 3p33p33p33333p33333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self Daniel self self self self self Clare self Daniel self.

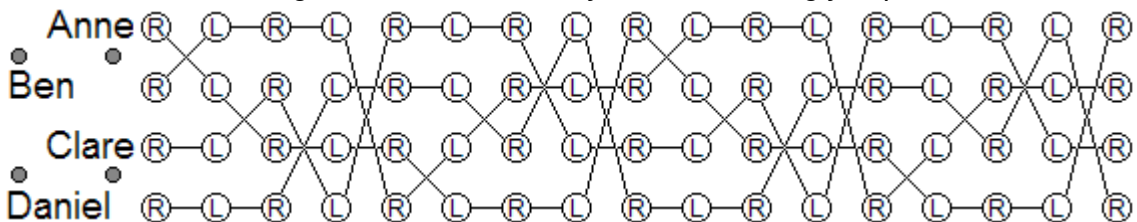
Pattern for Ben: Anne self Clare self Daniel self self self self self Clare self self self self self.

Pattern for Clare: self self Ben self self self self self Daniel self Ben self Anne self self self.

Pattern for Daniel: self self self self Ben self Anne self Clare self self self self self Anne self.

**Four person one count revolving feed**

Everyone takes turns feeding on one count. When you're not feeding you pass on three count.



Prechac: 3p3p33p333p33

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self Daniel self self Clare Daniel.

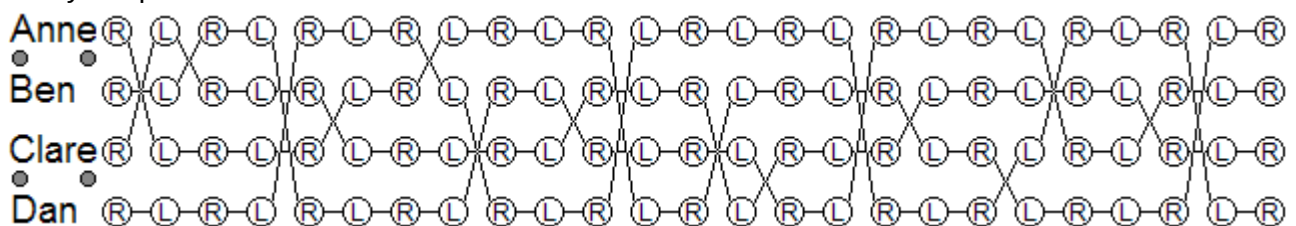
Pattern for Ben: Anne Clare Daniel self self Clare self self.

Pattern for Clare: self Ben self self Daniel Ben Anne self.

Pattern for Daniel: self self Ben Anne Clare self self Anne.

**Four person quasar**

Everyone passes a countdown from five count.



Prechac: 3p3p33p333p3333p33333p33333p3333p333p3

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare Ben self Daniel self self Ben self self self Daniel self self self self Daniel self self self Clare self self Daniel self.

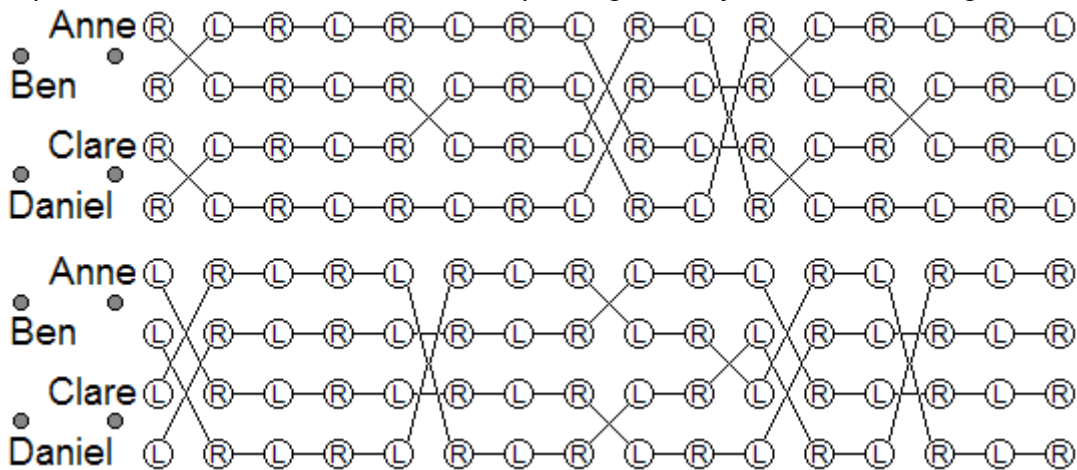
Pattern for Ben: self Anne self self Clare self Anne Daniel self Clare self self Daniel self self self Clare self self self Clare self self.

Pattern for Clare: Anne self self self Ben self self self self Ben self self self Daniel self self Ben self Daniel Anne self Ben self self.

Pattern for Daniel: self self self Anne self self self Ben self self Anne self Ben Clare self Anne self  
self Clare self self self Anne self.

**Four person countdown feast**

Everyone passes a countdown from four count, passing to everyone else, including themselves.



Prechac: 3p3333p333p333p33p333p333333p33p3p3333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self self self self Clare self Daniel Ben self self self self Clare self self self Daniel self self Ben self self Clare self Daniel self self.

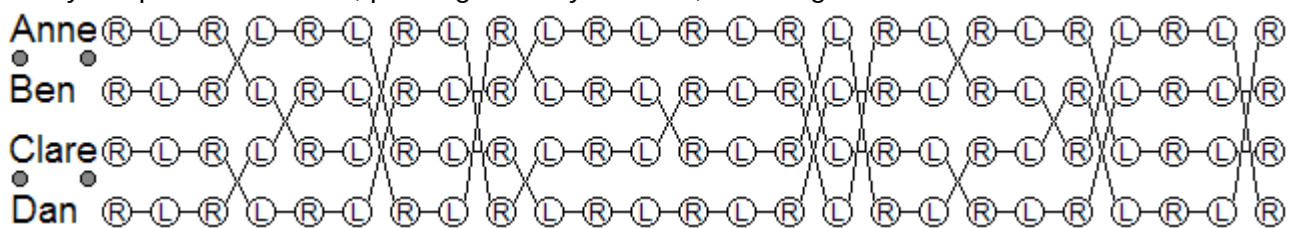
Pattern for Ben: Anne self self self Clare self self Daniel self self Anne self Clare self self Daniel self self self self self Anne self Clare Daniel self self self self.

Pattern for Clare: Daniel self self self Ben self self Anne self self Daniel self Ben self self Anne self self self self self Daniel self Ben Anne self self self self.

Pattern for Daniel: Clare self self self self self self Ben self Anne Clare self self self self Ben self self self Anne self self Clare self self Ben self Anne self self.

**Four person fizz buzz feast**

Everyone passes fizz buzz, passing to everyone else, including themselves.



Prechac: 333p333p33p3p333333p3p33p333p333p

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: self self Ben self self Clare self Daniel Ben self self self self self Clare Daniel self Ben self self Clare self self Daniel.

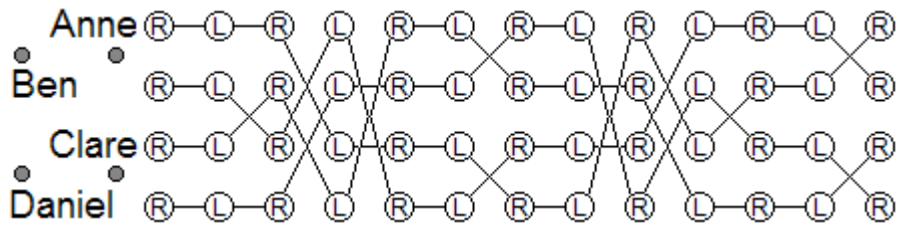
Pattern for Ben: self self Anne Clare self Daniel self self Anne self self Clare self self Daniel self self Anne self Clare Daniel self self self.

Pattern for Clare: self self Daniel Ben self Anne self self Daniel self self Ben self self Anne self self Daniel self Ben Anne self self self.

Pattern for Daniel: self self Clare self self Ben self Anne Clare self self self self self Ben Anne self Clare self self Ben self self Anne.

**Four person selfless fizz buzz**

Everyone passes fizz buzz, passing to everyone else. Anne and Daniel start counting from one, whereas Ben and Clare start counting from seven!



Prechac: 333p3p33p33p3p333p

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: self self Clare Daniel self Ben self self Daniel Clare self Ben.

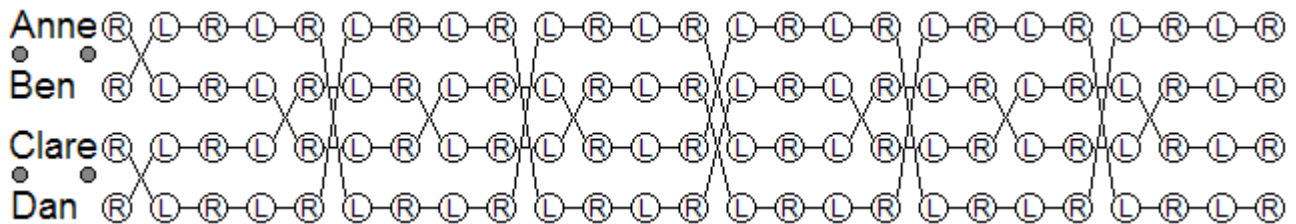
Pattern for Ben: self Clare Daniel self self Anne self self Daniel Clare self Anne.

Pattern for Clare: self Ben Anne self self Daniel self self Anne Ben self Daniel.

Pattern for Daniel: self self Ben Anne self Clare self Anne Ben self self Clare.

**Aidan's feast #1**

Anne and Daniel do a sweep feed on four count, passing once to the people on either side of them and twice to the person opposite. Ben and Clare do a sweep feed on three count, passing once to the people on either side of them and three times to the person opposite.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Daniel self self self Daniel self self self Clare self self self Daniel self self self.

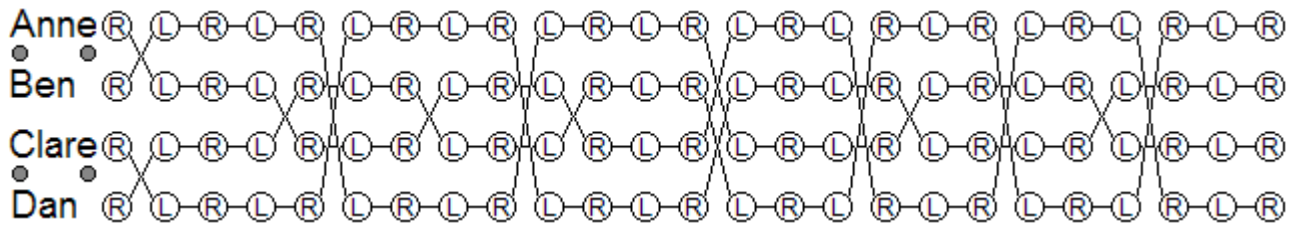
Pattern for Ben: Anne self self Clare self self Clare self self Clare self self Daniel self self Clare self self Clare self self Clare self self.

Pattern for Clare: Daniel self self Ben self self Ben self self Ben self self Anne self self Ben self self Ben self self Ben self self.

Pattern for Daniel: Clare self self self Anne self self self Anne self self self Ben self self self Anne self self self Anne self self self.

**Extended Aidan's feast #1**

This is a variation of Aidan's feast #1, where you switch from four count to three count (or vice-versa) every twelve beats. There are similar variations for all of Aidan's feasts.



Prechac: 3p333p333p333p333p333p333p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self Daniel self self self Daniel self self self Clare self self Daniel self self Daniel self self.

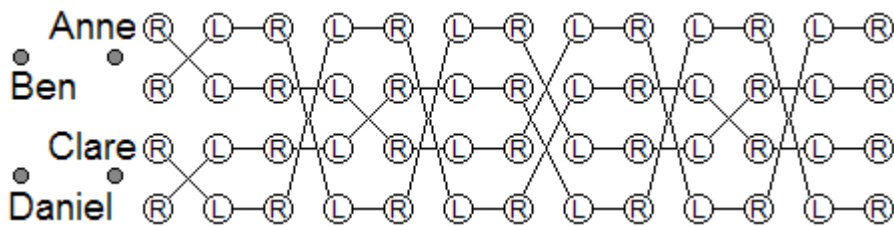
Pattern for Ben: Anne self self Clare self self Clare self self Clare self self Daniel self self self Clare self self self Clare self self self.

Pattern for Clare: Daniel self self Ben self self Ben self self Ben self self Anne self self self Ben self self self Ben self self self.

Pattern for Daniel: Clare self self self Anne self self self Anne self self self Ben self self Anne self self Anne self self Anne self self.

**Aidan's feast #2**

Anne and Daniel do a sweep feed on two count, passing once to the people on either side of them and twice to the person opposite. Ben and Clare do a sweep feed on three count, passing once to everyone.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Daniel self Daniel self Clare self Daniel self Daniel self.

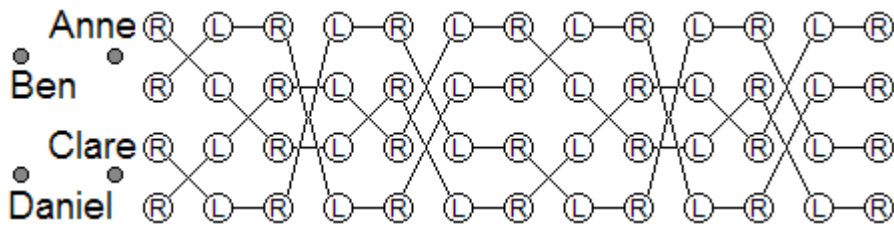
Pattern for Ben: Anne self self Clare self self Daniel self self Clare self self.

Pattern for Clare: Daniel self self Ben self self Anne self self Ben self self.

Pattern for Daniel: Clare self Anne self Anne self Ben self Anne self Anne self.

**Aidan's feast #3**

Anne and Daniel do a typewriter feed on two count, passing once to everyone. Ben and Clare do a typewriter feed on pass pass self, passing once to the people on either side of them and twice to the person opposite.



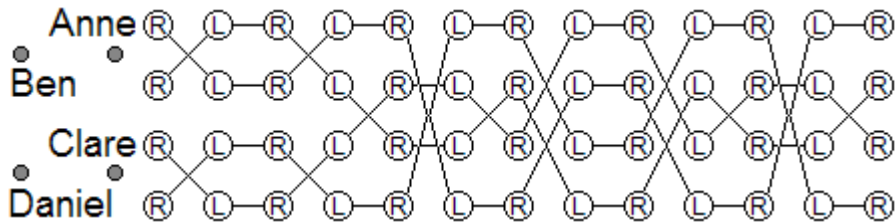
Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Daniel self Clare self.

Pattern for Ben: Anne Clare self Clare Daniel self.  
 Pattern for Clare: Daniel Ben self Ben Anne self.  
 Pattern for Daniel: Clare self Anne self Ben self.

**Aidan's feast #4**

Anne and Daniel do a sweep feed on two count, passing twice to the people on either side of them and once to the person opposite. Ben and Clare do a sweep feed on pass pass self, passing twice to everyone.

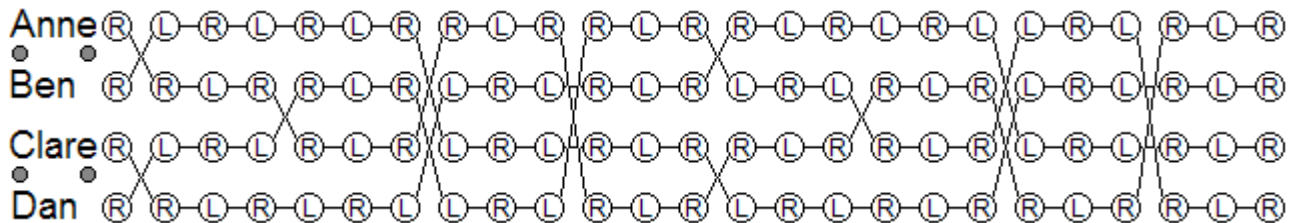


Start for all four jugglers: two clubs in the right hand and one club in the left hand.  
 Pattern for Anne: Ben self Ben self Daniel self Clare self Clare self Daniel self.  
 Pattern for Ben: Anne self Anne Clare self Clare Daniel self Daniel Clare self Clare.  
 Pattern for Clare: Daniel self Daniel Ben self Ben Anne self Anne Ben self Ben.  
 Pattern for Daniel: Clare self Clare self Anne self Ben self Ben self Anne self.

**Four person lunch boxes**

**Four person three count lunch box**

Everyone passes three count to everyone else, including themselves. Also everyone alternates straight and crossing passes (or vice-versa).

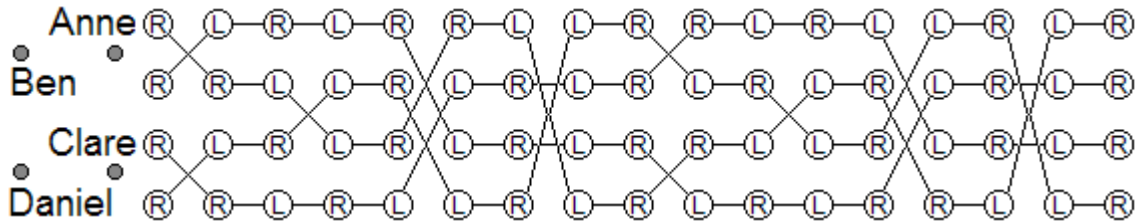


Start for all four jugglers: two clubs in the right hand and one club in the left hand.  
 Pattern for Anne: crossing pass to Ben self self self self self Clare hurried self self crossing pass to Daniel hurried self self Ben hurried self self self self self crossing pass to Clare hurried self self Daniel self self.  
 Pattern for Ben: Anne hurried self self crossing pass to Clare hurried self self Daniel self self self self self crossing pass to Anne self self Clare self self crossing pass to Daniel self self self self self.  
 Pattern for Clare: crossing pass to Daniel self self Ben self self crossing pass to Anne self self self self self Daniel hurried self self crossing pass to Ben hurried self self Anne self self self self self.  
 Pattern for Daniel: Clare hurried self self self self self crossing pass to Ben hurried self self Anne self self crossing pass to Clare self self self self self Ben hurried self self crossing pass to Anne hurried self self.

Colour coding: use four red clubs and eight white clubs, so that the passes are always red clubs and everyone has two white clubs that are always self throws.

**Four person two count lunch box**

Everyone passes two count to everyone else, including themselves. Also everyone alternates straight and crossing passes (or vice-versa).



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self self self Clare hurried self crossing pass to Daniel hurried self Ben hurried self self self crossing pass to Clare hurried self Daniel self.

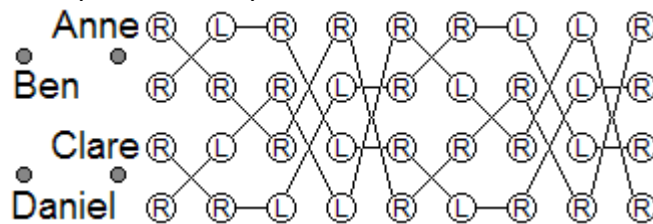
Pattern for Ben: Anne hurried self crossing pass to Clare hurried self Daniel self self self crossing pass to Anne self Clare self crossing pass to Daniel self self self.

Pattern for Clare: crossing pass to Daniel self Ben self crossing pass to Anne self self self Daniel hurried self crossing pass to Ben hurried self Anne self self self.

Pattern for Daniel: Clare hurried self self self crossing pass to Ben hurried self Anne self crossing pass to Clare self self self Ben hurried self crossing pass to Anne hurried self.

**Four person one count lunch box**

Everyone passes one count to everyone else, including themselves. Also everyone alternates straight and crossing passes (or vice-versa).



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self Clare hurried crossing pass to Daniel hurried pass to Ben hurried self crossing pass to Clare hurried pass to Daniel.

Pattern for Ben: Anne hurried crossing pass to Clare hurried pass to Daniel self crossing pass to Anne Clare crossing pass to Daniel self.

Pattern for Clare: crossing pass to Daniel Ben crossing pass to Anne self Daniel hurried crossing pass to Ben hurried pass to Anne self.

Pattern for Daniel: hurried pass to Clare hurried self crossing pass to Ben hurried pass to Anne crossing pass to Clare self Ben hurried crossing pass to Anne.

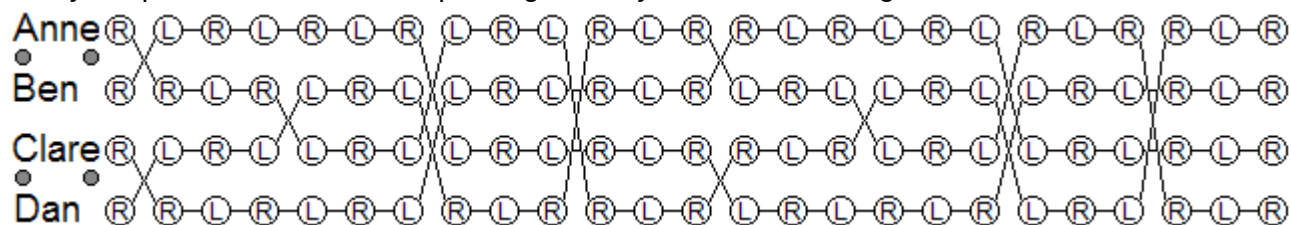


## Four person Rick's picnics

Four person Rick's picnics are feasts, where two jugglers start with a crossing pass and the other two start with a straight pass. Every time you pass to yourself you switch from crossing passes to straight passes or vice-versa.

### *Four person three count Rick's picnic*

Everyone passes on three count passing to everyone else, including themselves.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self self self self self Clare self self Daniel self self Ben hurried self self self self self crossing pass to Clare self self crossing pass to Daniel hurried self self.

Pattern for Ben: Anne hurried self self Clare self self Daniel hurried self self self self self crossing pass to Anne self self crossing pass to Clare hurried self self crossing pass to Daniel hurried self self self self self.

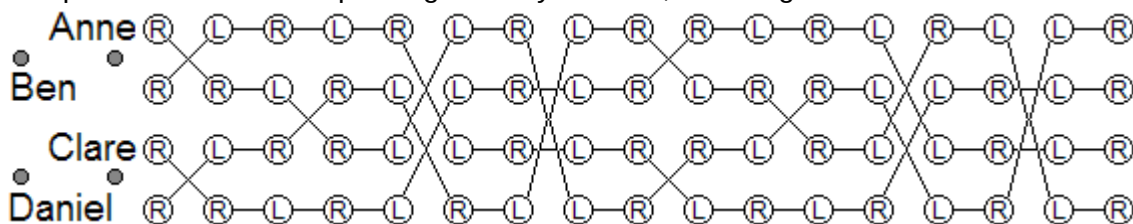
Pattern for Clare: crossing pass to Daniel self self crossing pass to Ben hurried self self crossing pass to Anne hurried self self self self self Daniel hurried self self Ben self self Anne hurried self self self self self.

Pattern for Daniel: Clare hurried self self self self self crossing pass to Ben self self crossing pass to Anne hurried self self crossing pass to Clare self self self self self Ben self self Anne self self.

Colour coding: use four red clubs and eight white clubs, so that the passes are always red clubs and everyone has two white clubs that are always self throws.

### *Four person two count Rick's picnic*

Everyone passes on two count passing to everyone else, including themselves.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: crossing pass to Ben self self self Clare self Daniel self Ben hurried self self self crossing pass to Clare self crossing pass to Daniel hurried self.

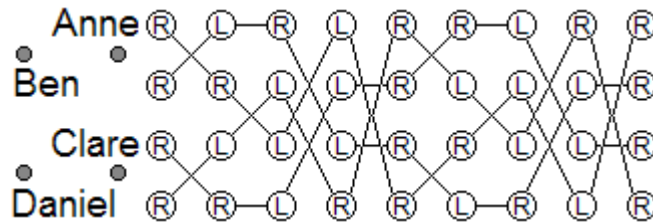
Pattern for Ben: Anne hurried self Clare self Daniel hurried self self self crossing pass to Anne self crossing pass to Clare hurried self crossing pass to Daniel hurried self self self.

Pattern for Clare: crossing pass to Daniel self crossing pass to Ben hurried self crossing pass to Anne hurried self self self Daniel hurried self Ben self Anne hurried self self self.

Pattern for Daniel: Clare hurried self self self crossing pass to Ben self crossing pass to Anne hurried self crossing pass to Clare self self self Ben self Anne self.

**Four person one count Rick's picnic**

Everyone passes on one count passing to everyone else, including themselves.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: hurried crossing pass to Ben self Clare Daniel Ben hurried self crossing pass to Clare crossing pass to Daniel.

Pattern for Ben: Anne hurried pass to Clare Daniel hurried self crossing pass to Anne crossing pass to Clare hurried crossing pass to Daniel hurried self.

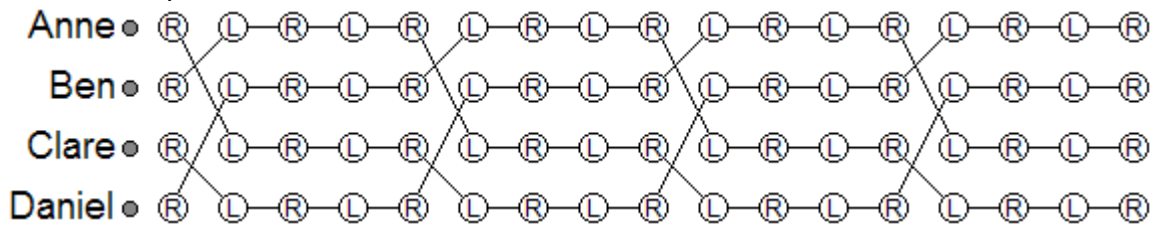
Pattern for Clare: crossing pass to Daniel crossing pass to Ben hurried crossing pass to Anne hurried self Daniel hurried pass to Ben Anne hurried self.

Pattern for Daniel: Clare hurried self crossing pass to Ben crossing pass to Anne hurried crossing pass to Clare self Ben Anne.

**Other four person patterns**

**Four person four count drop-back line #1**

For this pattern the jugglers stand in a line. Anne and Ben face Clare and Daniel, and vice-versa. Everyone passes on four count. Anne passes to Clare and Daniel passes to Ben. Ben throws his passes over his head to Anne and Clare throws her passes over her head to Daniel. These passes are known as drop-backs.



Prechac: 3p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Clare self self self.

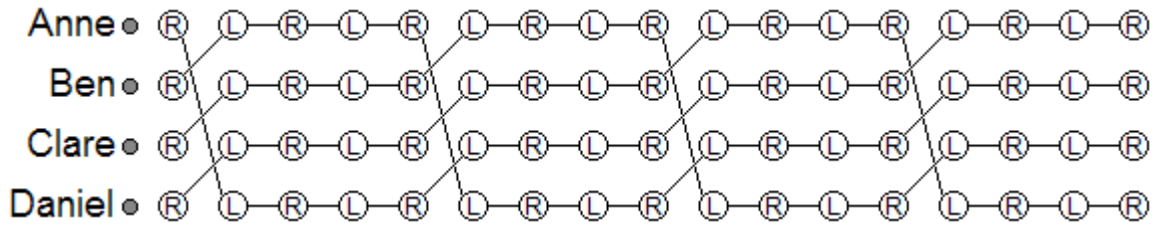
Pattern for Ben: drop-back to Anne self self self.

Pattern for Clare: drop-back to Daniel self self self.

Pattern for Daniel: Ben self self self.

**Four person four count drop-back line #2**

For this pattern the jugglers stand in a line. Anne, Ben and Clare face Daniel, and Daniel faces Anne, Ben and Clare. Everyone passes on four count. Anne passes to Daniel and Daniel passes to Clare. Ben throws his passes over his head to Anne and Clare throws her passes over her head to Ben. These passes are known as drop-backs.



Prechac: 3p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

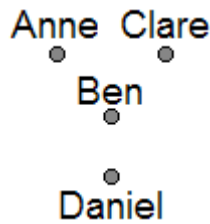
Pattern for Anne: Daniel self self self.

Pattern for Ben: drop-back to Anne self self self.

Pattern for Clare: drop-back to Ben self self self.

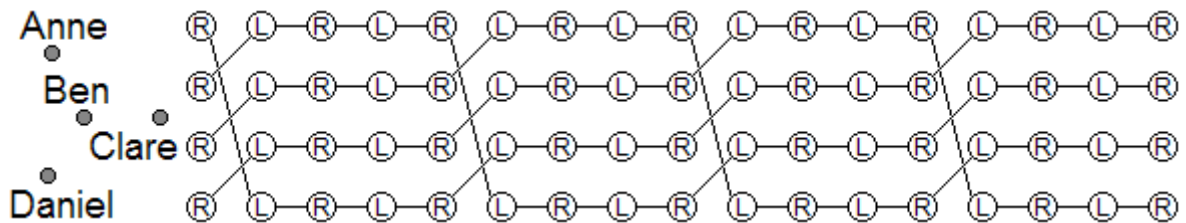
Pattern for Daniel: Clare self self self.

**Four count y**



For a y pattern the jugglers stand in the formation shown above, with Anne and Clare facing Ben and Daniel and vice-versa. Anne passes to Daniel, Daniel passes to Clare, Clare passes to Ben and Ben passes to Anne. Left hand passes usually go the opposite way.

In the four count y everyone passes on four count.



Prechac:3p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Daniel self self self.

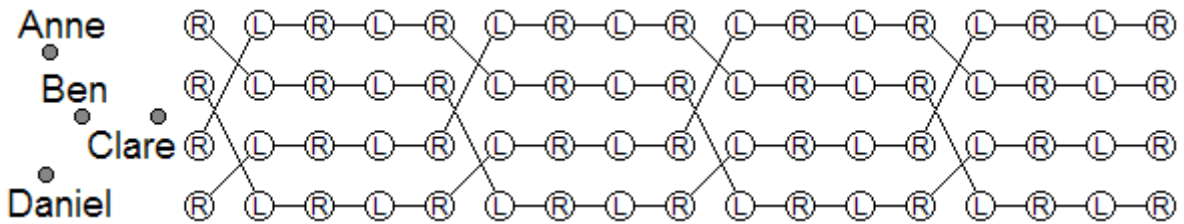
Pattern for Ben: Anne self self self.

Pattern for Clare: Ben self self self.

Pattern for Daniel: Clare self self self.

**Four count drop-back y**

Everyone passes on four count. Ben throws drop-backs to Daniel.



Prechac: 3p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self.

Pattern for Ben: drop-back to Daniel self self self.

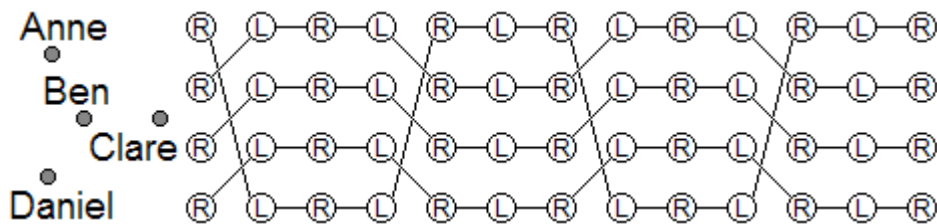
Pattern for Clare: Anne self self self.

Pattern for Daniel: Clare self self self.

Colour coding for the next two patterns: four red clubs for the passes and eight white clubs for the self throws.

**Three count y**

Everyone passes on three count.



Prechac: 3p33

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Daniel self self Ben self self.

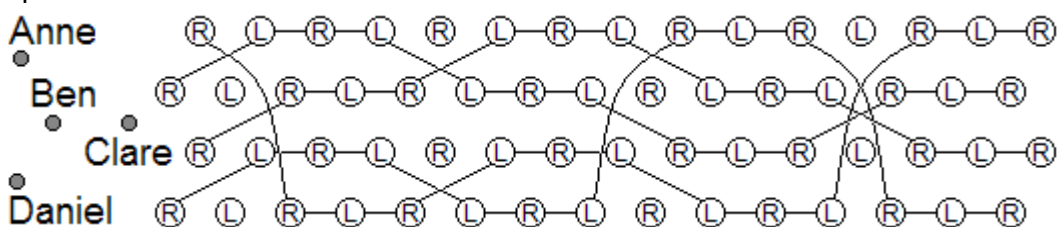
Pattern for Ben: Anne self self Clare self self.

Pattern for Clare: Ben self self Daniel self self.

Pattern for Daniel: Clare self self Anne self self.

**Jim's three count y**

Everyone passes on Jim's three count.



Prechac: 3.5p2333.5p33

Start for Ben and Daniel: two clubs in the right hand and one club in the left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne hold self self Anne self self Clare hold self self Clare self self.

Pattern for Daniel: Clare hold self self Clare self self Anne hold self self Anne self self.


Pattern for Anne: Daniel self self Ben hold self self Ben self self Daniel hold self self.  
Pattern for Clare: Ben self self Daniel hold self self Daniel self self Ben hold self self.  
Note: Ben and Daniel throw straight passes, Anne and Clare throw crossing passes.

**Generalised y pattern**

You can create a four person y pattern from any two person pattern. If Adam and Brenda are passing a two person pattern, then in the four person y: Ben and Daniel pass the same pattern as Adam, whereas Anne and Clare pass the same pattern as Brenda.

**Four count trapeze**

Ben Anne

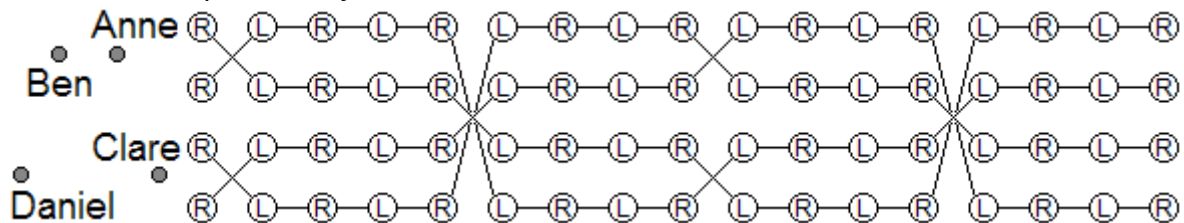


Daniel Clare



In a trapeze pattern the jugglers stand in the formation shown above. Ben and Daniel face Anne and Clare and vice-versa. In this formation Ben can pass with Clare and Anne can pass with Daniel at the same time, with less chance of collisions!

In the four count trapeze, everyone feeds on four count.



Prechac: 3p333

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self self self Daniel self self self.

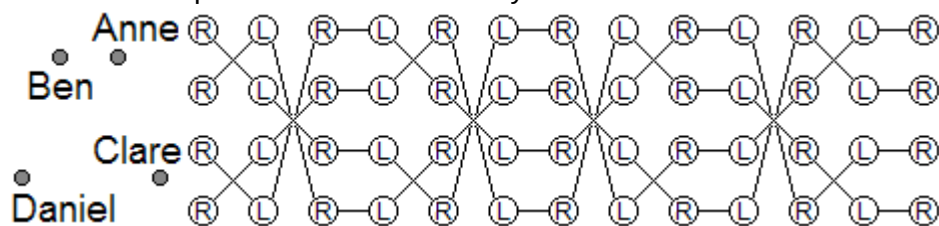
Pattern for Ben: Anne self self self Clare self self self.

Pattern for Clare: Daniel self self self Ben self self self.

Pattern for Daniel: Clare self self self Anne self self self.

**All out civil war feed**

The jugglers stand in the trapeze formation and everyone does the civil war feed.



Prechac:3p3p3

Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Daniel self Ben Daniel self Daniel Ben self Daniel Ben self.

Pattern for Ben: Anne Clare self Anne Clare self Clare Anne self Clare Anne self.

Pattern for Clare: Daniel Ben self Daniel Ben self Ben Daniel self Ben Daniel self.

Pattern for Daniel: Clare Anne self Clare Anne self Anne Clare self Anne Clare self.

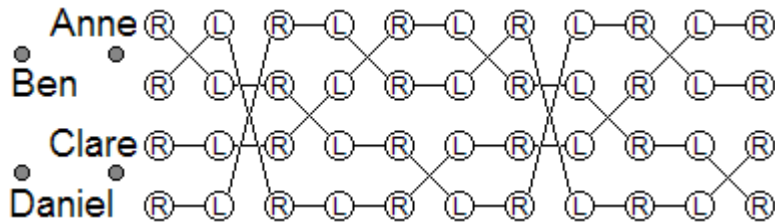
Colour coding: eight red clubs that are always passed and four white clubs that are always self throws.

Note: this pattern also works in the y formation!

The jugglers stand in a square formation for the rest of the patterns in this section.

**Bookends / inverted bookends box**

Anne and Ben feed on bookends. Clare and Daniel feed on inverted bookends.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Daniel self Ben self.

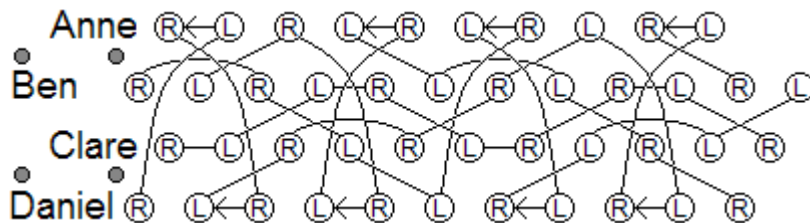
Pattern for Ben: Anne self Clare Anne self.

Pattern for Clare: self self Ben self Daniel.

Pattern for Daniel: self Anne self self Clare.

**Funky bookends / parsnip box**

Anne and Daniel feed on parsnip. Ben and Clare feed on funky bookends.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne: one club in each hand, half a beat later.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat after Ben and Daniel.

Pattern for Ben: heff Anne Clare self Clare, with straight single passes.

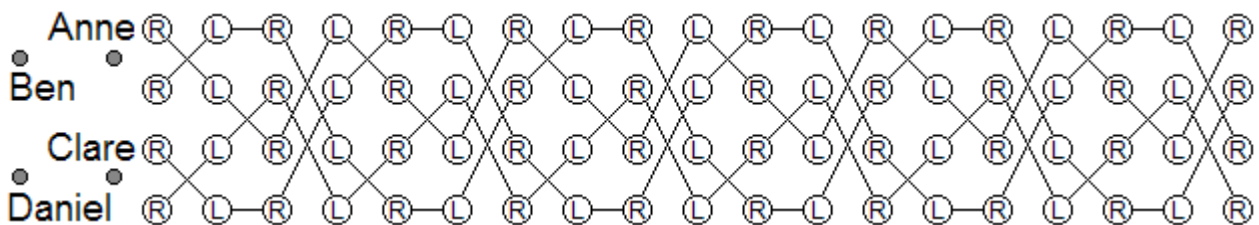
Pattern for Daniel: Anne Clare zip Anne zip, with straight single passes.

Pattern for Anne: Daniel zip Daniel Ben zip, with crossing single passes.

Pattern for Clare: self Ben heff Daniel Ben, with crossing single passes.

**Double urban terror feed**

Ben and Clare do a one count typewriter feed (urban terror feed). Anne and Daniel do a pass pass self feed.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Clare.

Pattern for Ben: Anne Clare Daniel.

Pattern for Clare: Daniel Ben Anne.

Pattern for Daniel: Clare self Ben.

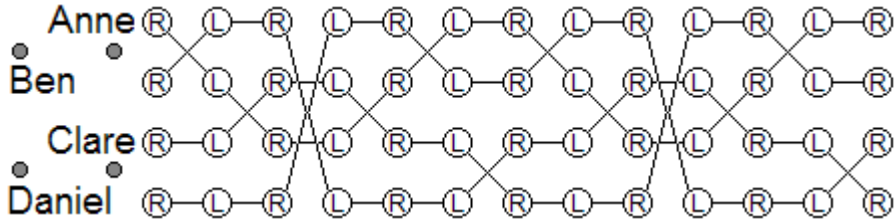
Colour coding: use four red clubs, two yellow clubs, four green clubs and two white clubs, so that Anne and Ben, and Daniel and Clare pass red clubs, Ben and Clare pass yellow clubs, Anne and Clare and Ben and Daniel pass green clubs and Anne and Daniel each have a white club for their self throws.



Colour coding for the next two patterns: six red clubs which Ben passes with Anne and Clare, three green clubs which Daniel passes with Anne and Clare, and three white clubs which are always self throws for Ben and Daniel.

**Three count accommodation**

Anne and Clare feed on two count, Clare's passes are left handed. Ben feeds on pass pass self. Daniel feeds on three count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben self Daniel self Ben self.

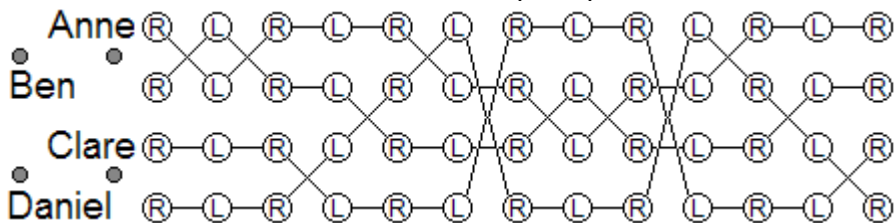
Pattern for Ben: Anne Clare self Clare Anne self.

Pattern for Clare: self Ben self Ben self Daniel.

Pattern for Daniel: self self Anne self self Clare.

**Low fat chocolate box**

Anne and Clare feed on chocolate bars. Ben feeds on pass pass self. Daniel feeds on three count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self self Ben Daniel self self Daniel Ben self self.

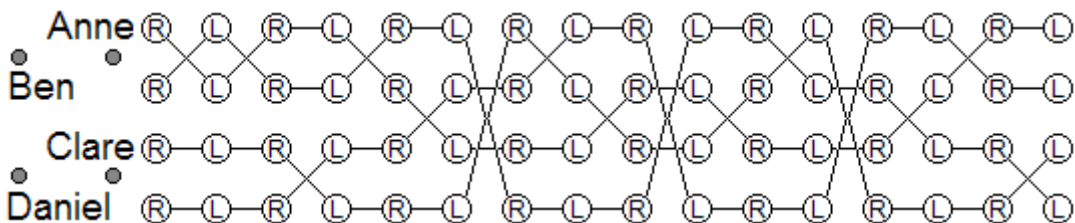
Pattern for Ben: Anne Anne self Clare Anne self Clare Clare self Anne Clare self.

Pattern for Clare: self self Daniel Ben self self Ben Ben self self Ben Daniel.

Pattern for Daniel: self self Clare self self Anne self self Anne self self Clare.

**Bookshelf**

Anne feeds on bookends. Clare feeds on inverted bookends. Ben feeds on pass pass self. Daniel feeds on three count.



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: Ben Ben self Ben self Daniel Ben self Daniel self Ben Daniel self Ben self.

Pattern for Ben: Anne Anne self Anne Clare self Anne Clare self Clare Anne self Clare Anne self.

Pattern for Clare: self self Daniel self Ben self self Ben self Ben self self Ben self Daniel.

Pattern for Daniel: self self Clare self self Anne self self Anne self self Anne self self Clare.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.



Pattern for Daniel: Anne self self Clare self self self Anne self self Clare self.

Colour coding: use one red club that's always the four count pass, one green club that's always the two count pass, six blue clubs that are the three count passes and four yellow clubs that are always self throws.



Pattern for Clare: pattern 2 pattern 3 pattern 4 pattern 1.  
Pattern for Daniel: pattern 3 pattern 4 pattern 1 pattern 2.



**Frere Jacques**

This is the same passing pattern as 'Row, row, row your boat', but everyone sings 'Frere Jacques'.

Frere Jacques, Frere Jacques, Dormez vous? Dormez vous?  
 pass self self self self self pass self self self pass self self self

Sonnes les matines, sonnes les matines. Din, dan, don. Din, dan, don.  
 pass self pass self pass self pass self self self self self self self self

Each line of the song has a passing sequence associated with it:

First line of the song: Frere Jacques, Frere Jacques.

Associated pattern 1: pass to the person opposite self self self self self pass to the person opposite self.

Second line of the song: Dormez vous? Dormez vous?

Associated pattern 2: self self pass to the left self pass to the left self self self.

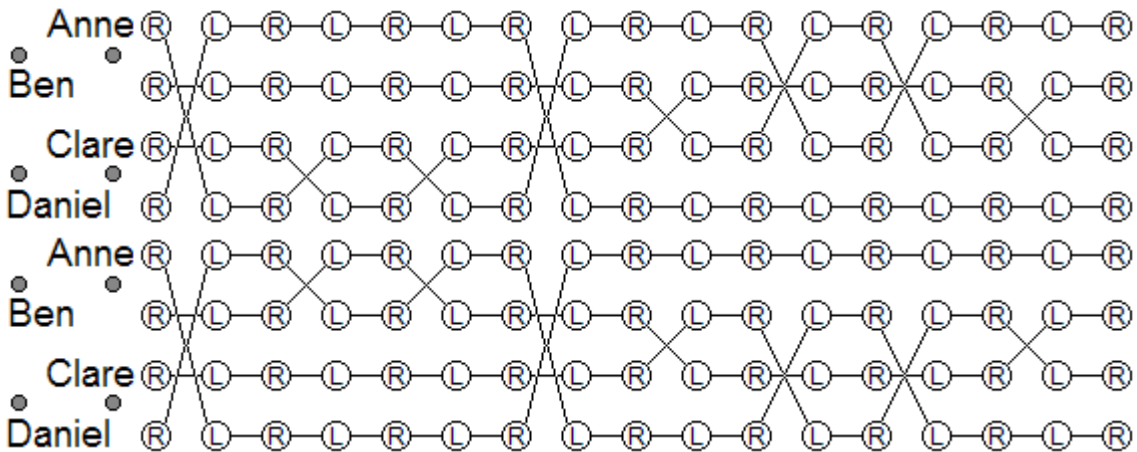
Third line of the song: Sonnes les matines, sonnes les matines.

Associated pattern 3: pass to the person opposite self pass to the right self pass to the right self pass to the person opposite self.

Fourth line of the song: Din, dan, don. Din, dan, don.

Associated pattern 4: self self self self self self self self.

Here's the causal diagram for the whole pattern:



Start for all four jugglers: two clubs in the right hand and one club in the left hand.

Pattern for Anne: pattern 1 pattern 2 pattern 3 pattern 4.

Pattern for Ben: pattern 4 pattern 1 pattern 2 pattern 3.

Pattern for Clare: pattern 2 pattern 3 pattern 4 pattern 1.

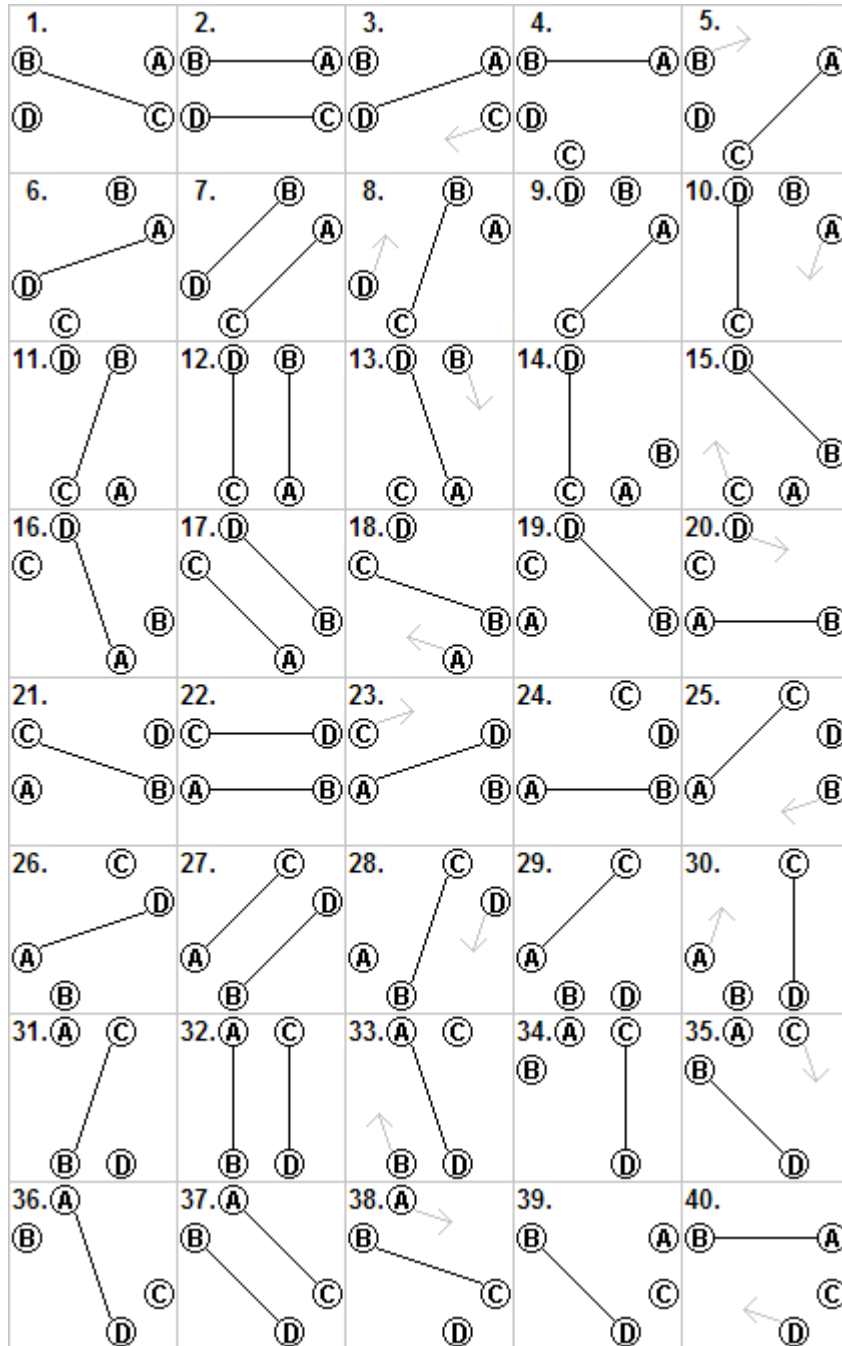
Pattern for Daniel: pattern 3 pattern 4 pattern 1 pattern 2.

Note: you could do an ambidextrous version of 'Frere Jacques' by using the passing pattern from the ambidextrous version of 'Row, row, row your boat'.





## Four person runarounds



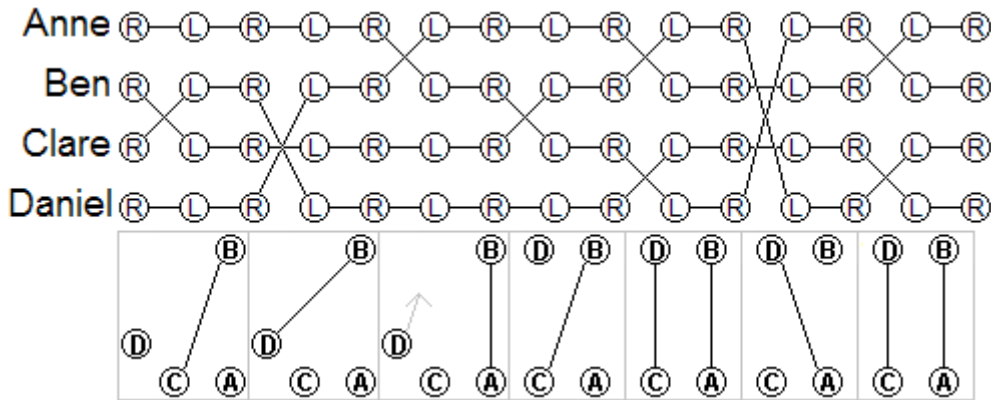
The diagram shows the passes and movement for a four person clockwise runaround. At the start, the jugglers are passing in a box feed. After her second pass, Clare walks across the pattern and stands next to Daniel, and the pattern becomes a line feed with Anne feeding. After his pass with Anne, Ben walks across the pattern and stands next to Anne, and the pattern becomes a box feed again. Each time someone walks across the pattern it switches from a box feed to a line feed or vice-versa.

Usually you have three beats to walk across the pattern, so you can juggle four count as you walk and turn. Alternatively you can catch the incoming club, stop juggling as you walk across the pattern and start juggling with a pass three beats later.

In this example someone walks after a set number of passes from the feeder, however in general you can walk across the pattern after any pass.

### The walk away

This is a clockwise runaround between a two count line feed and a mixed feed. At the start Ben is feeding Anne, Clare and Daniel on a two count line feed. Daniel walks across the pattern after a pass to Ben and the pattern becomes a mixed feed, with everyone alternating two passes on two count and one pass on four count.



Starting pattern for Anne: self self self self Ben self.

Starting pattern for Ben: Clare self Daniel self Anne self.

Starting pattern for Clare: Ben self self self self self.

Starting pattern for Daniel: self self Ben self self self.

After Daniel walks across the pattern:

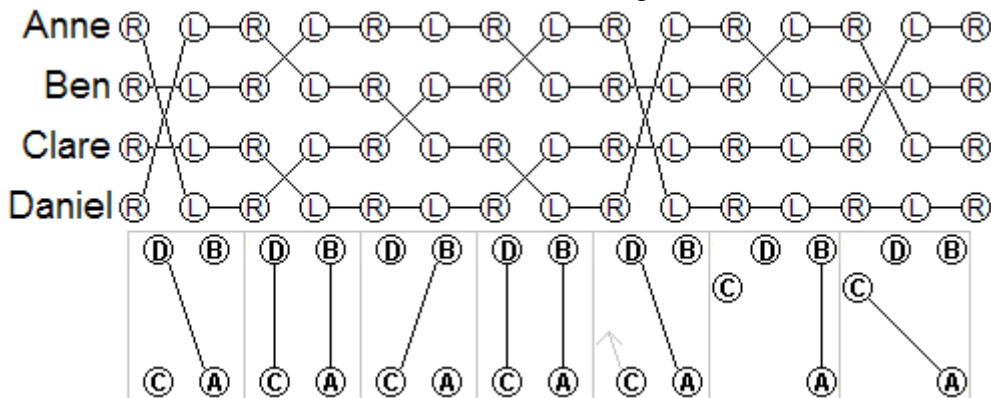
Pattern for Anne: self self Ben self Daniel self Ben self.

Pattern for Ben: Clare self Anne self self self Anne self.

Pattern for Clare: Ben self Daniel self self self Daniel self.

Pattern for Daniel: self self Clare self Anne self Clare self.

Now everyone is juggling a mixed feed. Clare walks across the pattern after a pass with Daniel and the pattern becomes a two count line feed, with Anne feeding Ben, Clare and Daniel.



Starting pattern for Anne: Daniel self Ben self self self Ben self.

Starting pattern for Ben: self self Anne self Clare self Anne self.

Starting pattern for Clare: self self Daniel self Ben self Daniel self.

Starting pattern for Daniel: Anne self Clare self self self Clare self.

After Clare walks across the pattern:

Pattern for Anne: Daniel self Ben self Clare self.

Pattern for Ben: self self Anne self self self.

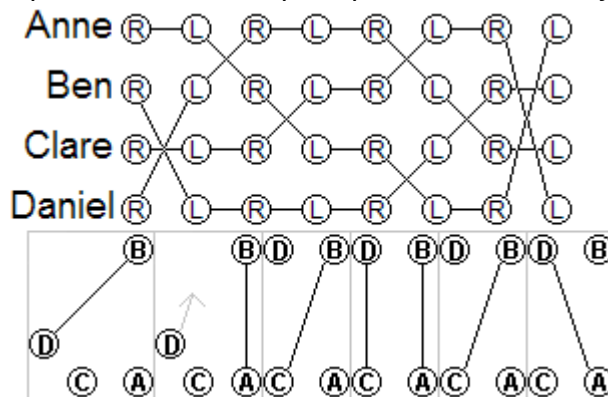
Pattern for Clare: self self self self Anne self.

Pattern for Daniel: Anne self self self self self.

Note: in this pattern you have five beats to walk across the pattern, so you can juggle six count.

**Tarim's runaway**

This is a clockwise runaround between an urban terror feed and a pass pass self box. At the start Ben is feeding Anne, Clare and Daniel on an urban terror feed. Daniel walks across the pattern after a pass to Ben and the pattern becomes a pass pass self box. Everyone feeds pass pass self.



Starting pattern for Anne: self Ben self.

Starting pattern for Ben: Daniel Anne Clare.

Starting pattern for Clare: self self Ben.

Starting pattern for Daniel: Ben self self.

As Daniel walks across the pattern everyone does an extra self.

After Daniel walks across the pattern:

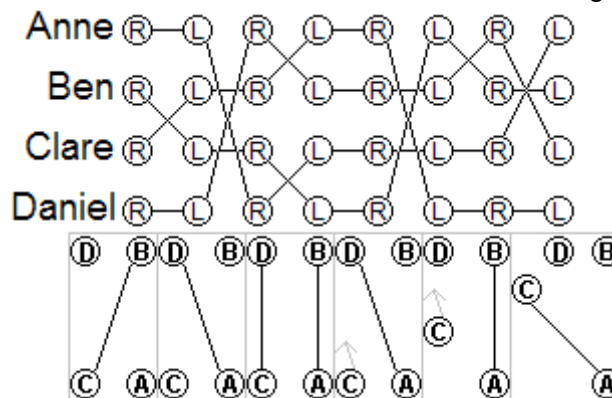
Pattern for Anne: Ben self Daniel.

Pattern for Ben: Anne Clare self.

Pattern for Clare: Daniel Ben self.

Pattern for Daniel: Clare self Anne.

Now everyone is juggling a pass pass self box. Clare walks across the pattern after a pass with Daniel and the pattern becomes an urban terror feed, with Anne feeding Ben, Clare and Daniel.



Starting pattern for Anne: self Daniel Ben.

Starting pattern for Ben: Clare self Anne.

Starting pattern for Clare: Ben self Daniel.

Starting pattern for Daniel: self Anne Clare.

Clare warns Ben that she's about to walk by saying 'soon' as she makes her last pass with him.

As Clare walks across the pattern everyone does an extra self.

After Clare walks across the pattern:

Pattern for Anne: Daniel Ben Clare.

Pattern for Ben: self Anne self.

Pattern for Clare: self self Anne.

Pattern for Daniel: Anne self self.

## Four person patterns with walking

### *Some tips to help with walking patterns*

Try to lead your passing partners by throwing your passes to where they are going to walk. Let's assume you are throwing a right hand straight pass to your partner:

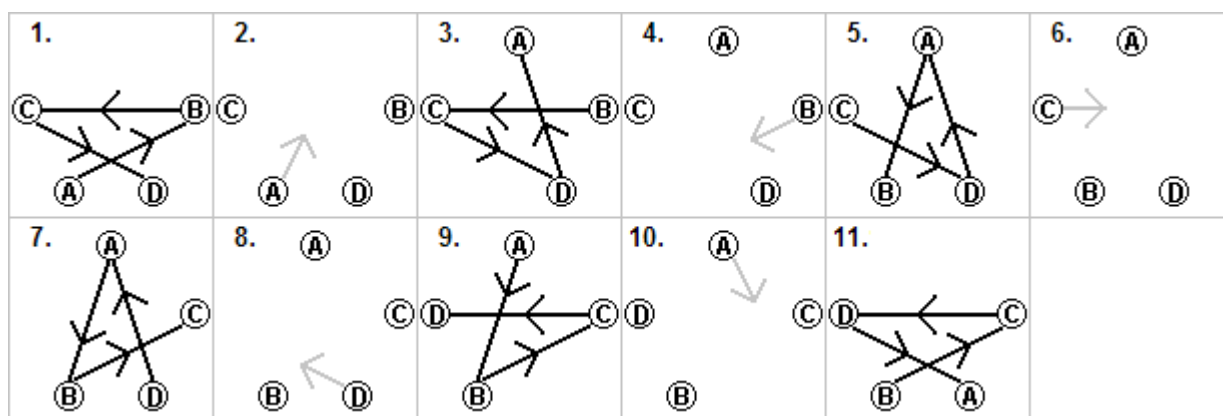
- if they are moving to their right, throw the pass at their body;
- if they are moving to their left, throw the pass wide;
- if they are moving towards you, throw the pass short;
- if they are moving away from you, throw the pass long;
- if they are turning clockwise, throw the pass short;
- if they are turning anticlockwise, throw the pass long.

When walking take a few deliberate steps. Don't walk further than you have to.

In some patterns, there are passes that are longer than the other passes. You should try to throw these passes at the same height as a normal pass, otherwise you might mess up the timing of the pattern. Give these long passes 'more arm' to make them travel faster, but less spin, so that they arrive the right way up.

In many walking patterns, everyone passes four count. Sometimes the path you have to walk is quite complicated. When you're learning a pattern like this, you can try doing it on six count, to give you more time to work out where to walk. Once you have learned it in six count, then you can revert to the four count pattern. Once you have mastered it on four count, you might want to try an ambidextrous version of the pattern, by doing it in three count!

### *Shooting star (11 clubs)*

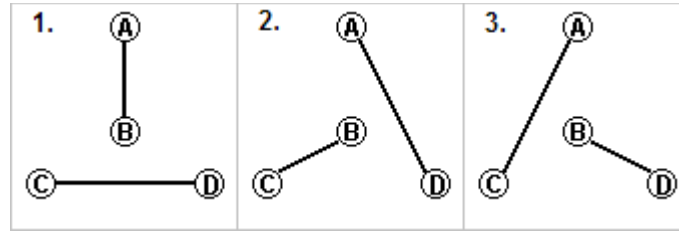


In this pattern everyone passes four count. Anne always passes to Ben, Ben always passes to Clare, Clare always passes to Daniel and Daniel always passes to Anne. The jugglers start standing at four of the points of a five point star. Daniel is standing two points clockwise from the empty point, and he starts with two clubs. Everybody else starts with three clubs. Whenever you pass a club, but don't receive one, you end up with two clubs. At this point you stop juggling and walk across the pattern to the empty point of the star, where you will receive your next pass.

Note: the diagram doesn't show the whole pattern. The last diagram is just like the first, except Anne and Daniel have swapped roles, and Ben and Clare's have swapped roles.

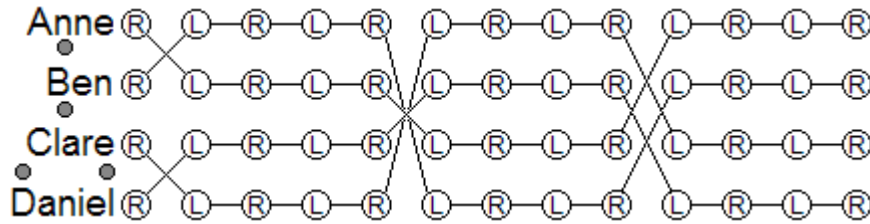
If you're feeling brave, you could try a faster version of the shooting star, by passing two count!

**Rotator**

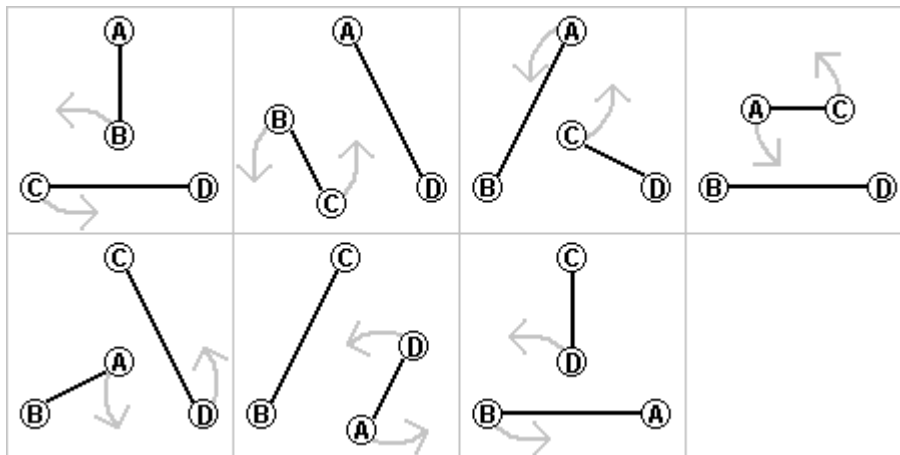


Everyone passes four count. Anne, Clare and Daniel stand in a triangle. Ben stands in the middle of the triangle turning anticlockwise and passes to Anne, then Clare, then Daniel. When Ben passes with Anne, Clare passes with Daniel. When Ben passes with Clare, Anne passes with Daniel. When Ben passes with Daniel, Anne passes with Clare.

Here's the causal diagram for the whole pattern:



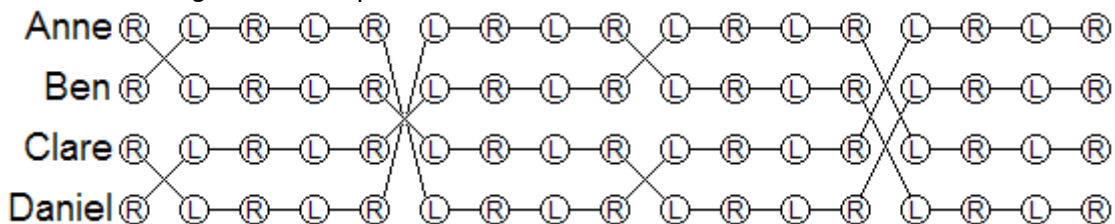
**Three leaf clover**



Everyone passes four count. Clover starts just like rotator. Anne, Clare and Daniel stand in a triangle. Ben stands in the middle of the triangle. Ben passes with Anne, while Clare passes with Daniel. When Ben passes with Clare, they swap places. At the same time Anne passes with Daniel. Then Clare moves to the centre of the triangle, and she passes with Daniel, as Anne passes with Ben. When Clare passes with Anne, they swap places. At the same time Ben passes with Daniel. And so the pattern continues.

Note: the diagram doesn't show the whole pattern. The last diagram is just like the first, except Anne has taken on Daniel's role, Ben has taken on Clare's role, Clare has taken on Anne's role and Daniel has taken on Ben's role.

Here's the causal diagram for the pattern:



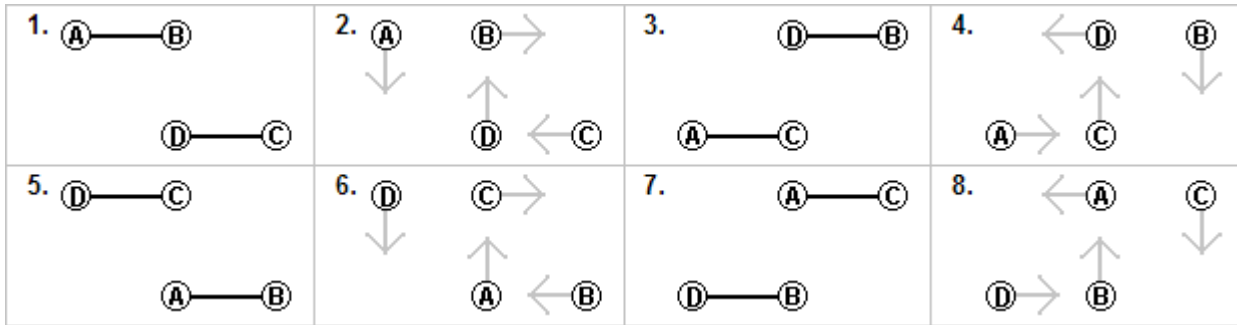
There are other three leaf clover patterns. You'll find some nice ones in the Madison Passing book:

[www.madjugglers.com/links/Madison\\_Patterns\\_V1-2.pdf](http://www.madjugglers.com/links/Madison_Patterns_V1-2.pdf)



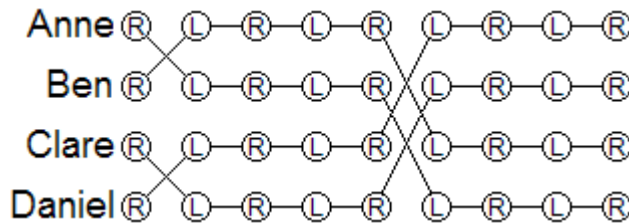
Try combining the three leaf clover with the trapeze.

**Pistons**

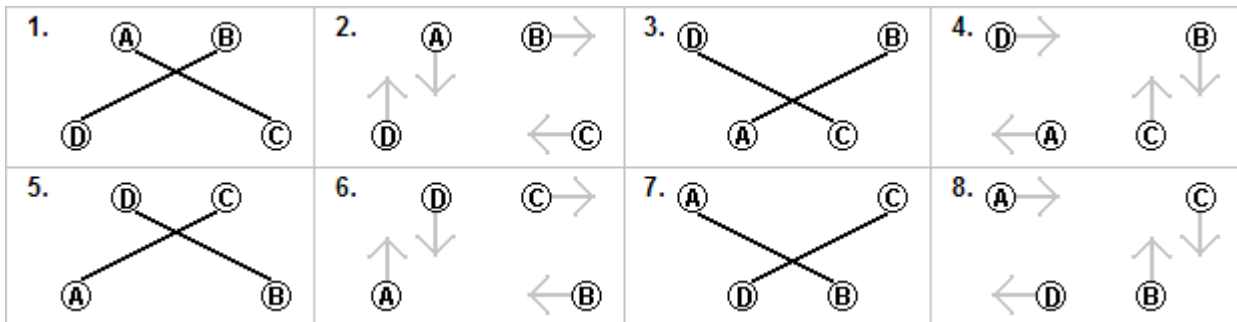


Everyone passes four count. At the start Anne and Daniel stand at opposite corners of a square. They face Ben and Clare, who are standing at opposite corners of another square. During the pattern Anne and Daniel walk anticlockwise around their square, and Ben and Clare walk clockwise around their square. When you are at the corner of a square, you pass to the person facing you.

Here's the causal diagram for the pattern:

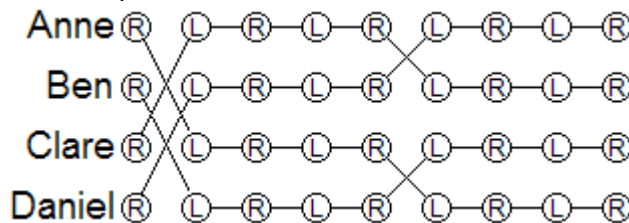


**Flying trapeze**



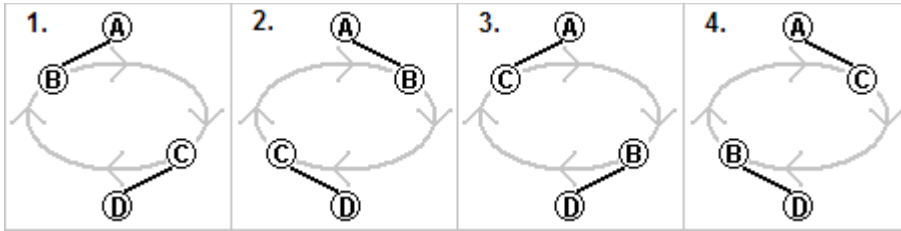
Everyone passes four count. At the start the jugglers stand in the trapeze formation. During the pattern Anne and Daniel walk clockwise around one square, and Ben and Clare walk clockwise around another square. When you are in the trapeze formation, you pass with the person diagonally opposite you.

Here's the causal diagram for the pattern:



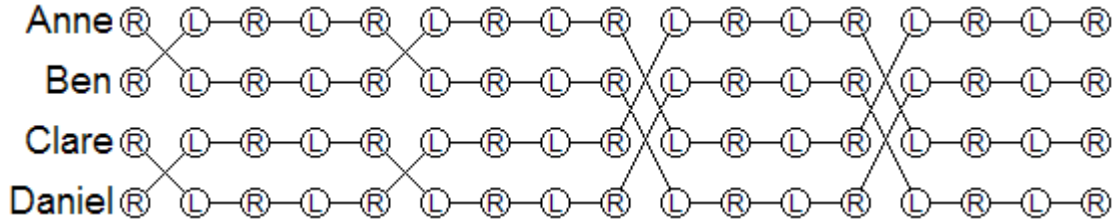
There are other ways of combining pistons and trapeze.

**four person benzene ring**

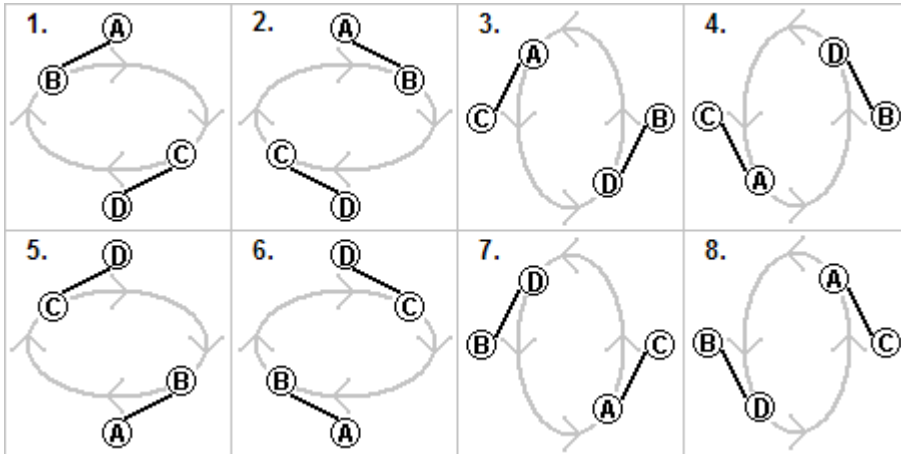


Everyone passes four count. Anne and Daniel stand still facing each other. Ben and Clare walk clockwise around an oval path between Anne and Daniel, passing twice to each of them.

Here's the causal diagram for the whole pattern:

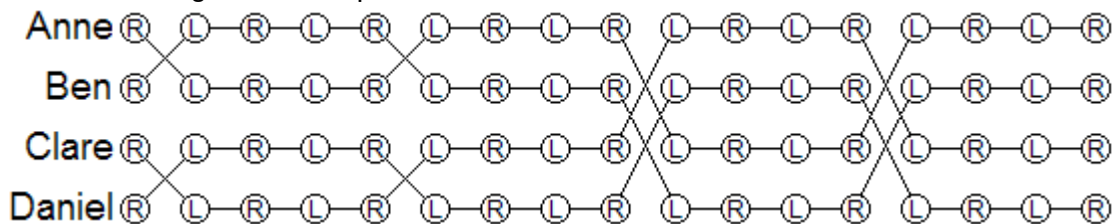


**Dosado**

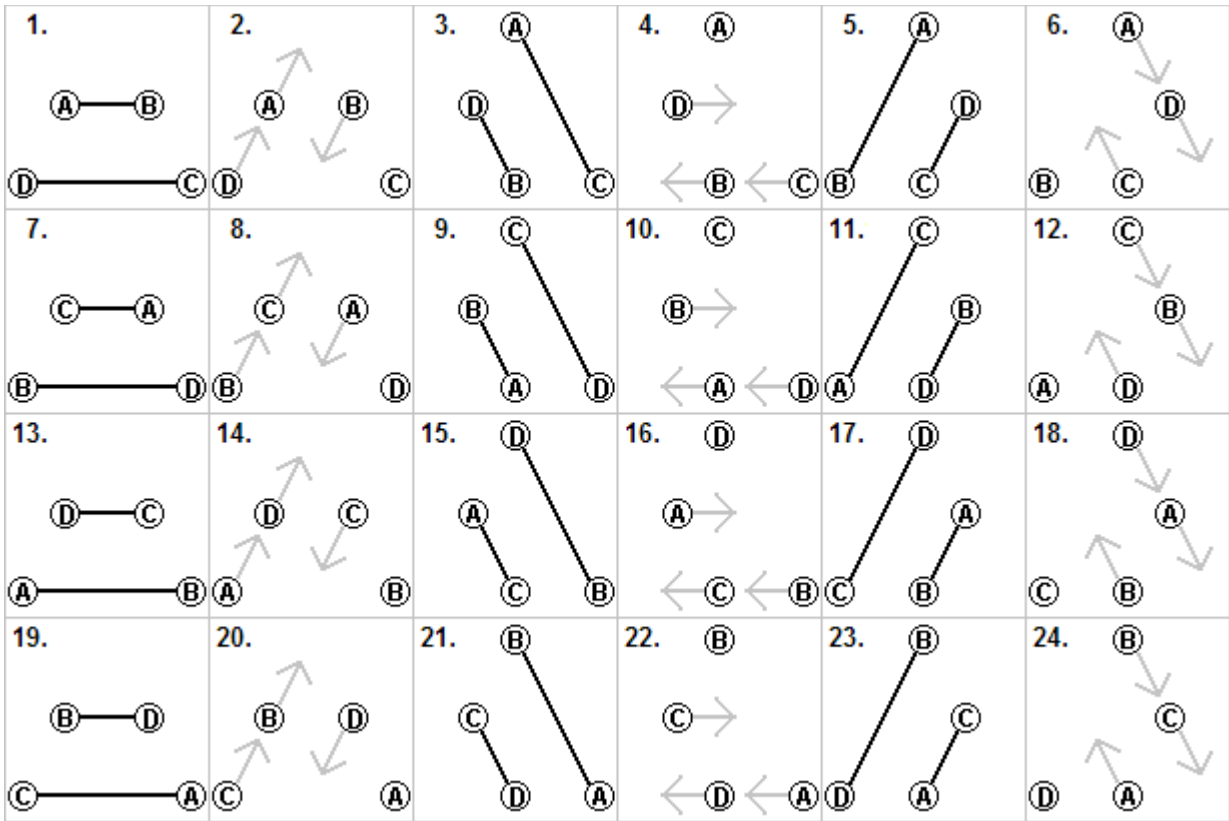


Everyone passes four count. Dosado starts just like the four person benzene ring, but after Ben and Clare have made two passes, they stand still and Anne and Daniel walk anticlockwise along an oval path between Ben and Clare. After another two passes, Anne and Daniel stand still, and Ben and Clare start moving.

Here's the causal diagram for the pattern:



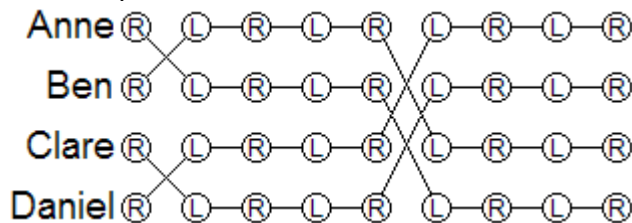
### Sticky triangle



Everyone passes four count. Use some juggling balls to mark out the corners of a triangle, and the midpoints of it's sides. At the start Clare and Daniel stand at two corners of the triangle facing each other. Anne stands at the midpoint between Daniel and the empty corner. Ben stands at the midpoint between Clare and the empty corner. If you are at a corner, you pass to someone else at a corner. If you are at a midpoint, you pass to someone else at a midpoint. After a pass three of the jugglers move. If you are at a midpoint and the empty corner is at your left, you move to the empty corner. If you are at a midpoint and there's someone standing at the corner on your left, you cross in front of that person to the midpoint to their left. If you are at a corner and you have already thrown two passes, you move to the midpoint on your left. If you are at a corner and you have only thrown one pass, you don't move.

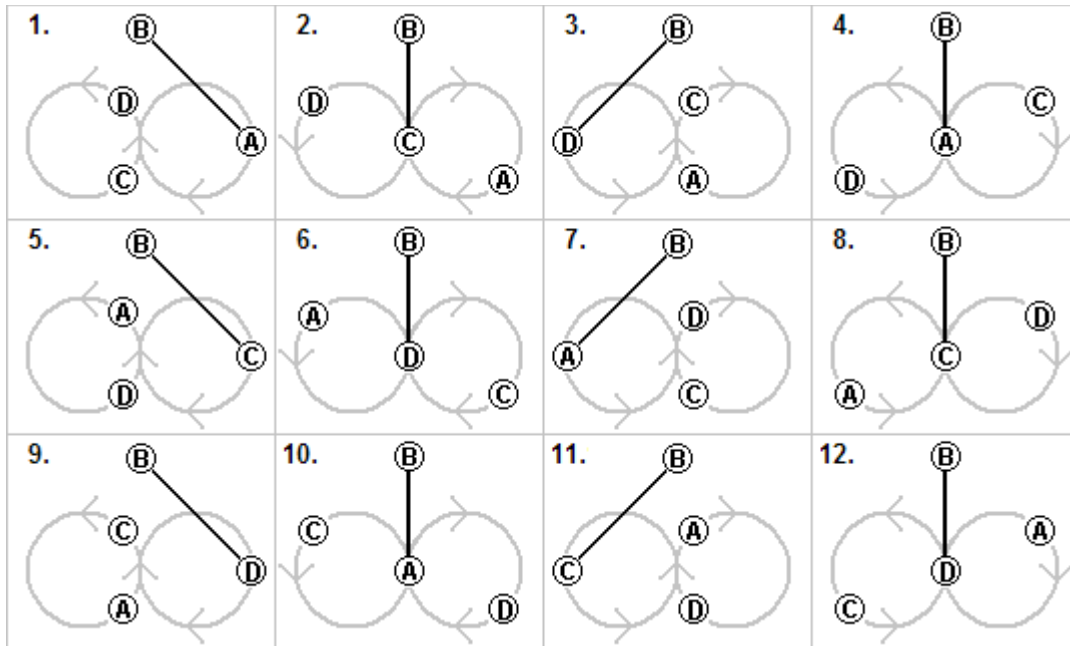
The movement for each juggler is: corner midpoint midpoint corner.

Here's the causal diagram for the pattern:



Try combining sticky triangle with trapeze.

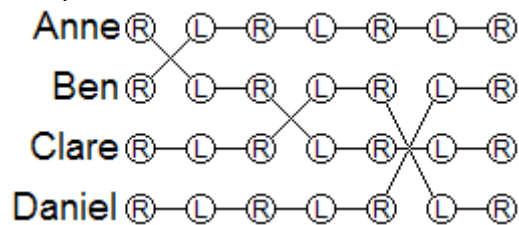
## The weave



Ben does a sweep feed on two count. He passes to his left, the middle, his right and then the middle again. He also passes to each juggler in turn: Anne, then Clare, then Daniel. Anne, Clare and Daniel pass to Ben on six count as they walk around a figure of eight pattern. They pass to Ben as they walk backwards on the edge of the figure of eight pattern, and also as they walk forwards through the middle of the figure of eight pattern.

This pattern is easier if the feeder calls out each person's name as he passes to them.

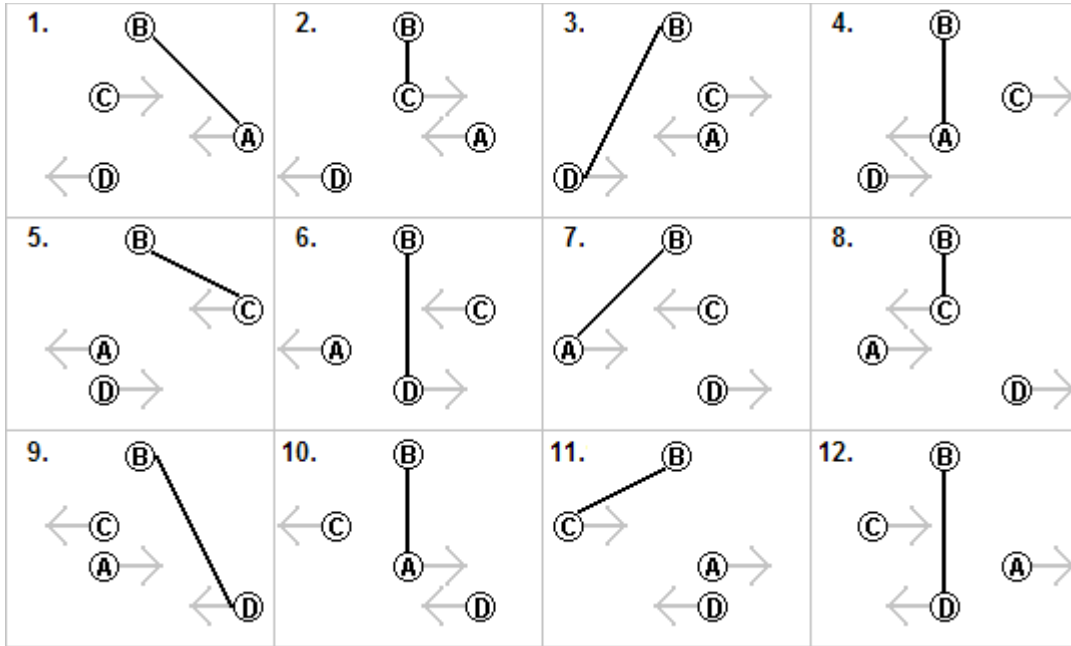
Here's the causal diagram for the pattern:



Colour coding: use two red clubs, two yellow clubs, two green clubs and six white clubs, so that Ben passes red clubs with Anne, yellow clubs with Clare and green clubs with Daniel. Anne, Clare and Daniel each have two white clubs that are always self throws.

You could try a reverse weave. In this pattern the walkers would pass to the feeder as they walk backwards through the middle of the pattern and as they walk forwards at the edge.

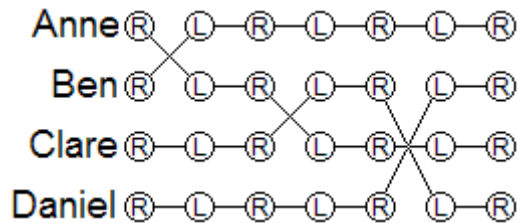
**Dresser drawer weave**



Ben does a sweep feed on two count. He passes to his left, the middle, his right and then the middle again. He also passes to each juggler in turn: Anne, then Clare, then Daniel. Anne, Clare and Daniel pass to Ben on six count as they walk left and right along their own line. They pass to Ben when they are at either end of their line, and also when they are in the middle of their line.

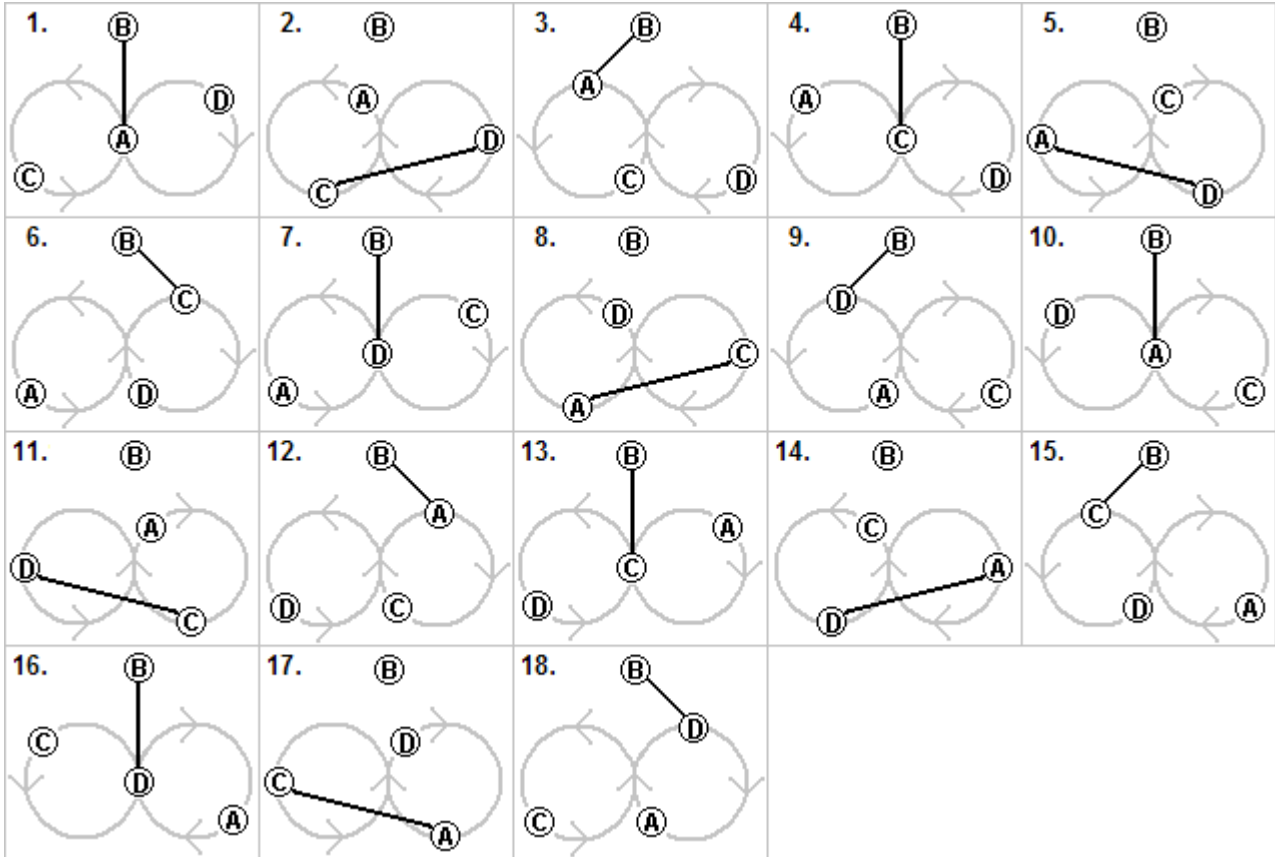
This pattern is easier if the feeder calls out each person's name as he passes to them.

Here's the causal diagram for the pattern:



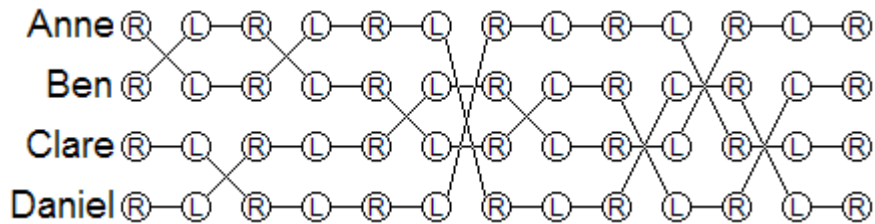
Colour coding: use two red clubs, two yellow clubs, two green clubs and six white clubs, so that Ben passes red clubs with Anne, yellow clubs with Clare and green clubs with Daniel. Anne, Clare and Daniel each have two white clubs that are always self throws.

**It's a good one (countdown weave)**

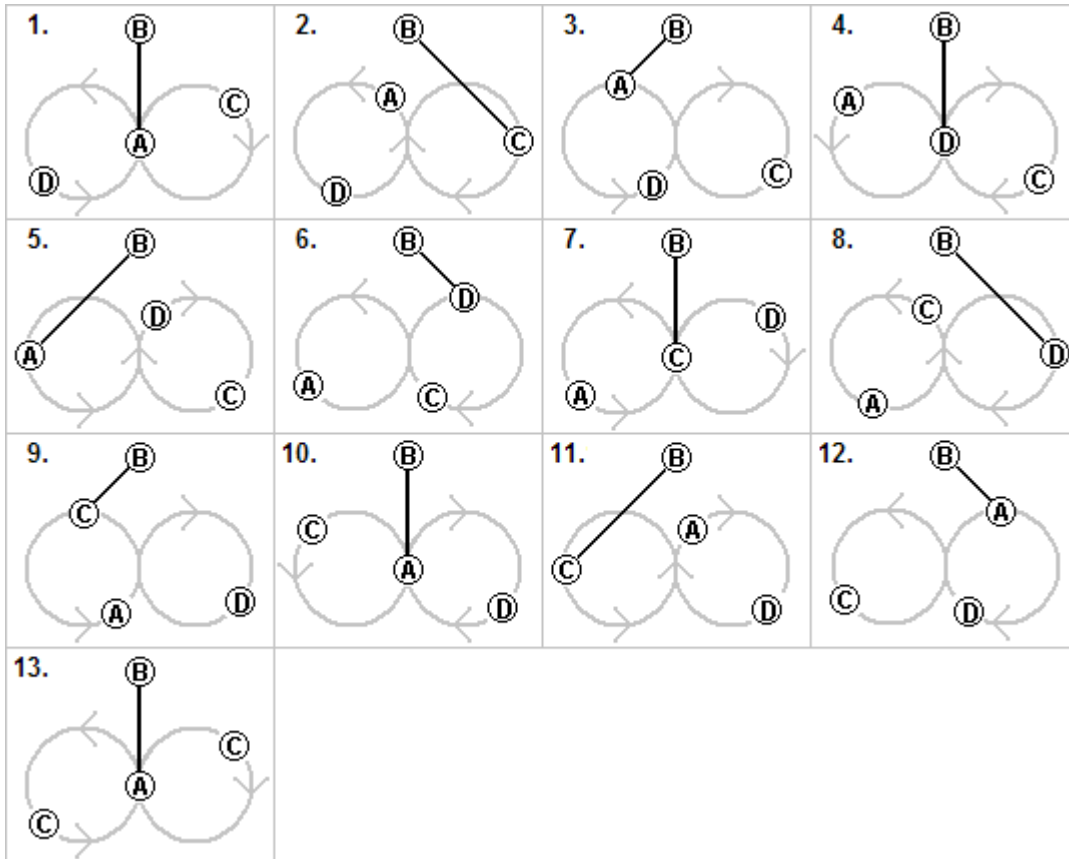


Ben does a sweep feed on two count. He passes to the middle, his left, the middle, and then his right. He also passes twice to each juggler in turn: twice to Anne, then twice to Clare, then twice to Daniel. Anne, Clare and Daniel do a countdown from two count to four count: two count, three count, four count, three count. They also walk on a figure of eight pattern as they do this. They pass twice to Ben on two count, as they walk forward through the middle of the figure of eight. They then walk to the edge of the figure of eight, turn to face the middle of the pattern and throw a left hand pass to one of the other walkers at the back of the figure of eight. They then walk to the back of the figure of eight pattern and throw another left hand pass to another walker. Then the pattern repeats on the other side of the figure of eight.

Here's the causal diagram for the pattern:

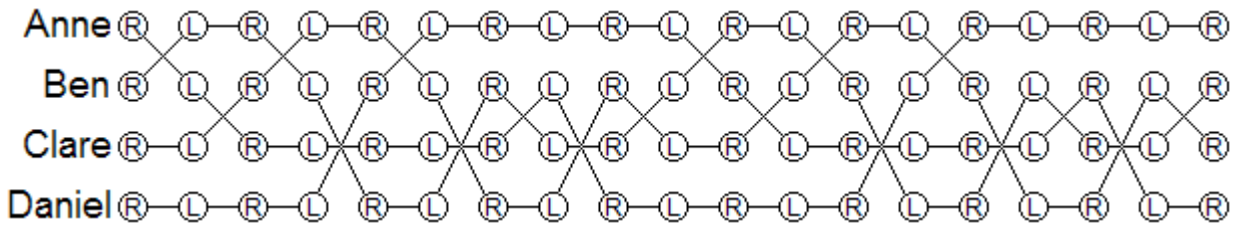


**Gorilla weave**



Ben feeds on one count. With his right hand he makes three passes with each juggler: three passes with Anne, then three passes with Clare, then three passes with Daniel. With his left hand, Ben starts with one pass with Clare. After this he makes three passes with each juggler: three passes with Daniel, then three passes with Anne, then three passes with Clare. Anne, Clare and Daniel pass: two count, two count, five count. They also walk on a figure of eight pattern as they do this. They each pass with Ben three times in a row before doing their five count. They pass to Ben as they walk forwards through the middle of the pattern, as they walk left or right at the front of the pattern, and as they walk backwards at the edge of the pattern.

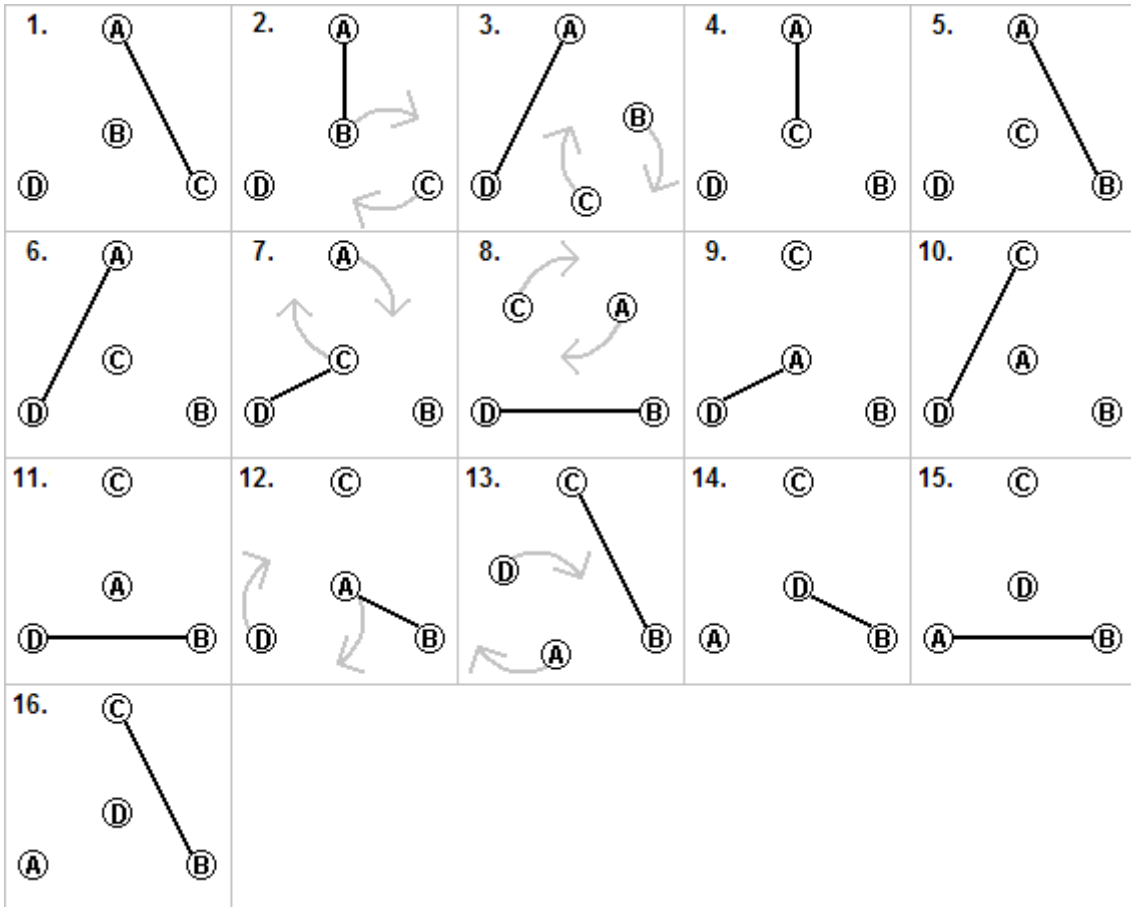
Here's the causal diagram for the pattern:



Colour coding: use four red clubs, four yellow clubs and four green clubs. Then for each walker their first pass with the feeder is a green club, their second pass is a yellow club and their third pass is a red club.



**Havana feed**

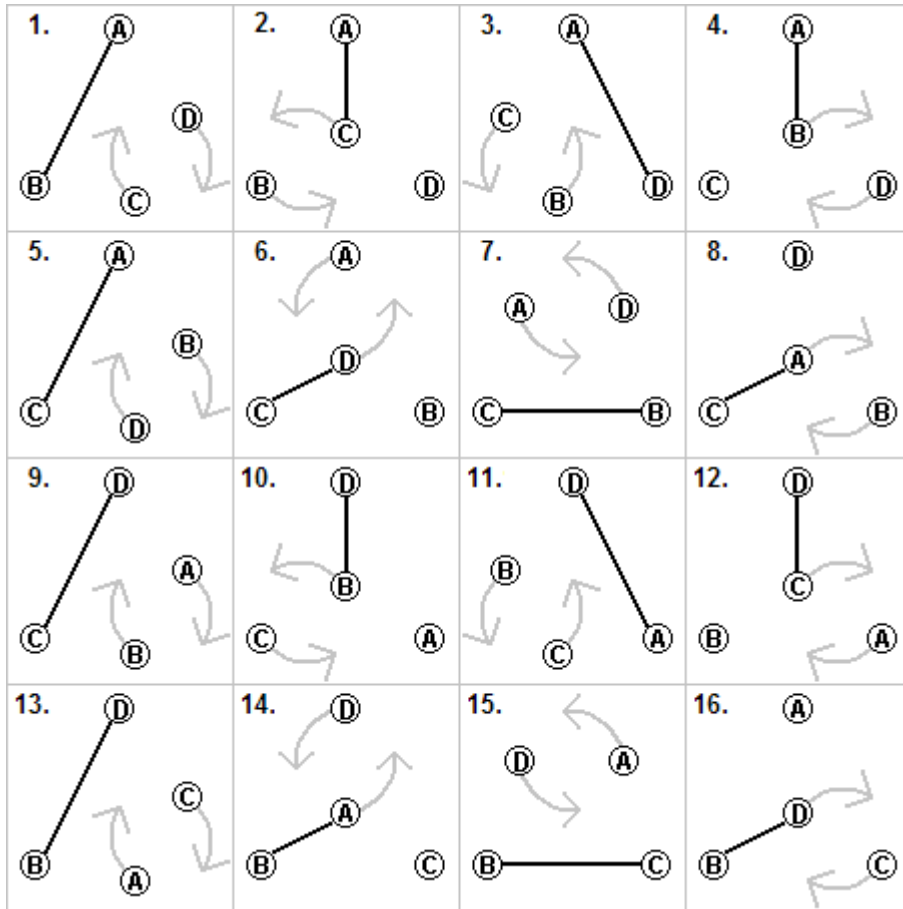


This is a variation of the weave where the feeder changes after every five passes. It starts just like the weave. Anne does a sweep feed on two count, passing to her left, the middle, her right and then the middle again. She also passes to each juggler in turn: Clare, then Ben, then Daniel. Clare, Ben and Daniel pass to Anne on six count. Clare and Ben swap places after passing with Anne. After Anne has made five passes as the feeder, Daniel becomes the new feeder. Clare is in the middle of the pattern, she has to turn left to face the new feeder. People say: 'turn left at Havana' to remember this!

In this pattern, when you are feeding you pass on two count, otherwise you pass on six count.

Note: the diagram doesn't show the whole pattern. The last diagram is just like the first, except Anne has taken on Daniel's role, Ben has taken on Clare's role, Clare has taken on Anne's role and Daniel has taken on Ben's role.

**Interlocking weaves**

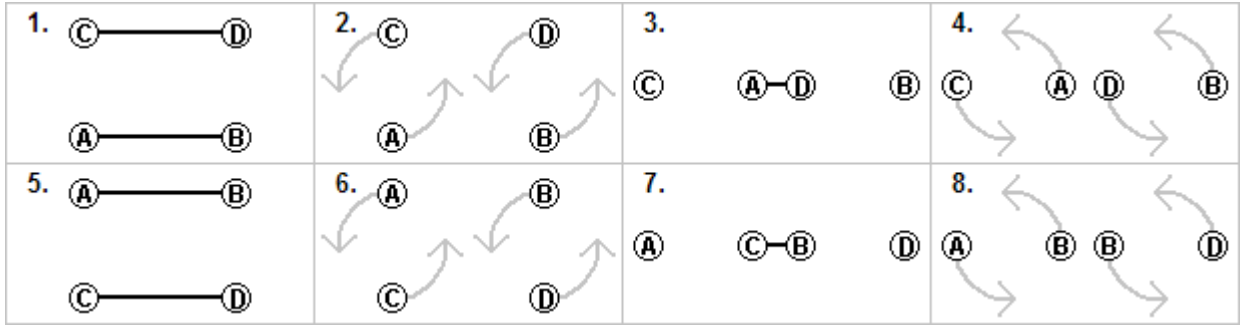


This is a variation of the weave where the feeder changes after every four passes. It starts just like the weave. Anne does a sweep feed on two count, passing to her right, the middle, her left and then the middle again. She also passes to each juggler in turn: Ben, then Clare, then Daniel. Ben, Clare and Daniel pass to Anne on six count. Ben and Clare swap places after passing with Anne. After Anne has made four passes as the feeder, Clare becomes the new feeder. Clare's first pass as the feeder is with Anne, who is on her left. So her feed is a mirror image of Anne's.

In this pattern, when you are feeding you pass on two count, otherwise you pass on six count.

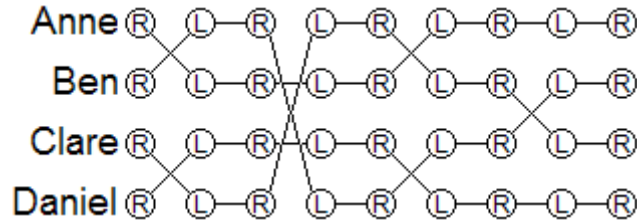
Note: Ben and Clare walk around each other in a figure of eight pattern, and Anne and Daniel walk around each other in a reverse figure of eight pattern!

**Karamazov shuffle**

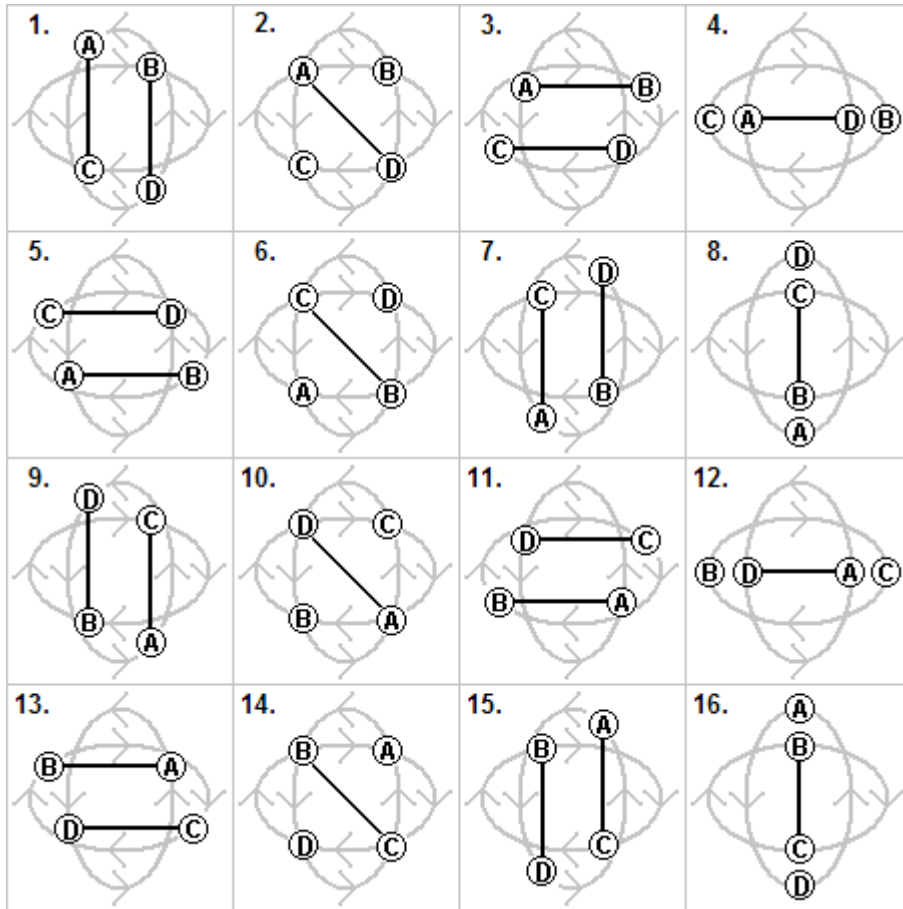


This pattern is based on the mixed count feed. At the start the jugglers stand in a square. Anne faces Ben, and Clare faces Daniel. Anne and Clare walk around each other on one circle. Ben and Daniel walk around each other on another circle. When you are in the square formation you pass with the person in front of you. When you are in the line formation: if you are in the middle of the line, you pass with the person in front of you; if you are at the end of the line, you don't pass.

Here's the causal diagram for the pattern:

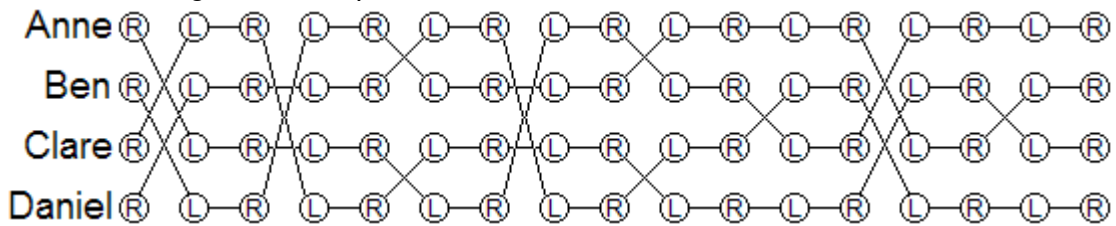


# Cyclone



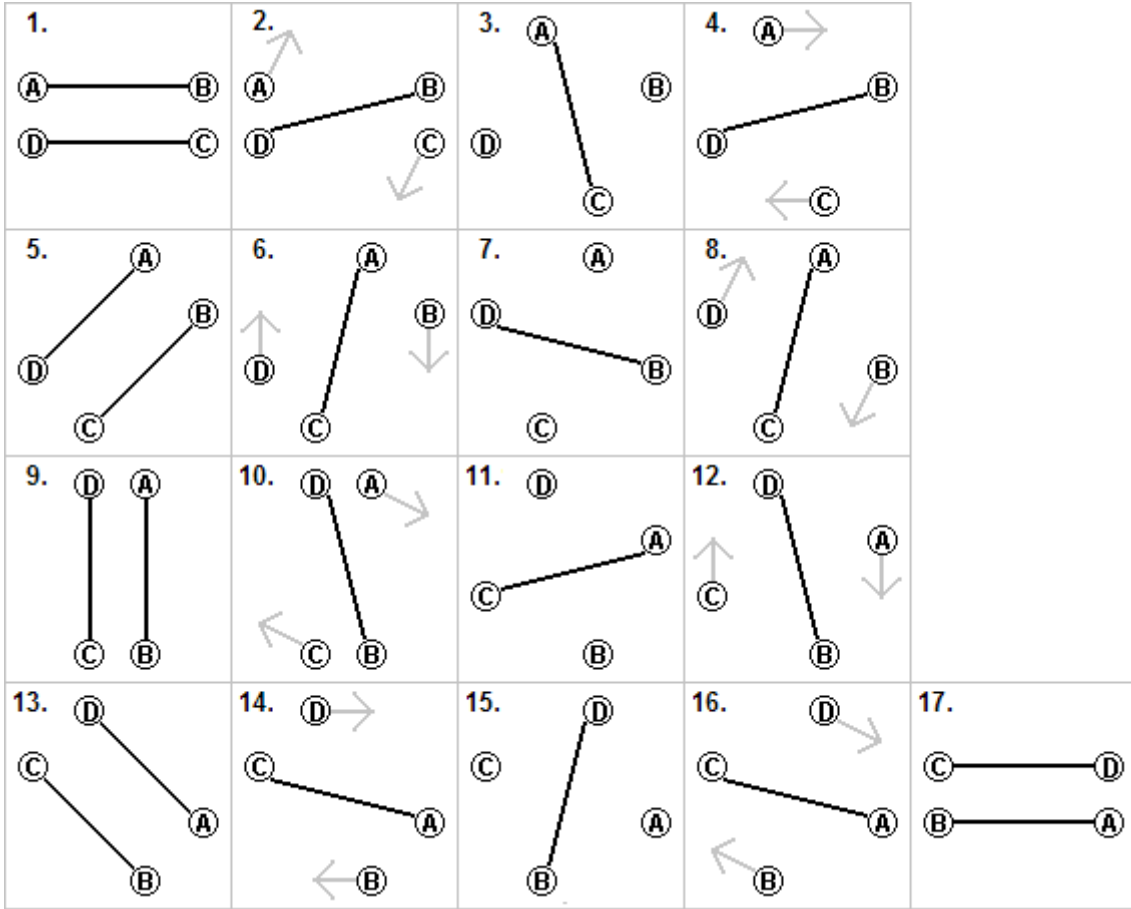
This pattern is loosely based on the mixed count feed. At the start the jugglers stand in a parallelogram formation. Anne faces Clare, and Ben faces Daniel. Anne and Daniel walk anticlockwise around each other on an oval path. Ben and Clare walk clockwise around each other on another oval path. When you are in the parallelogram formation you pass with the person in front of you. When you are walking into the middle of your oval you pass on two count, and every other pass is with the other person on your oval path. When you are at the edge of your oval, you pass on four count.

Here's the causal diagram for the pattern:



If you miss out the two count throws, you get a pattern that is essentially the same as the minuet (aka square dance).

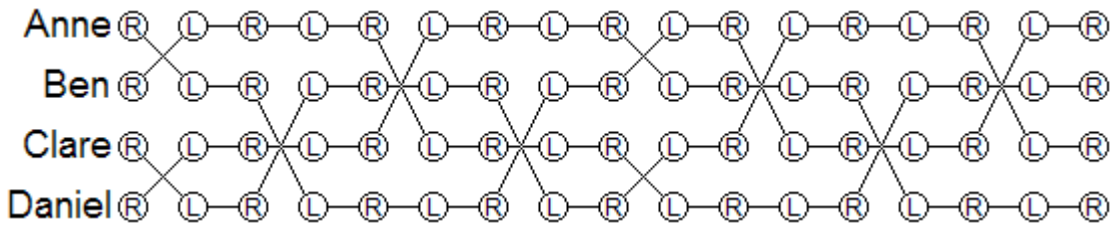
**Seattle shuffle**



This pattern is loosely based on the mixed count feed. At the start the jugglers stand in a rectangle formation. Anne faces Ben, and Clare faces Daniel. In the rectangle formation, you pass to the person in front of you. If there is nobody on your right, you start in two count. Your second pass is to the person diagonally opposite. After this pass you revert to four count. Your next pass is to the same person, and then you briefly switch to two count again. If there is nobody on your left, you start in four count. After the first pass you walk to your left, and your next pass is to the person diagonally opposite. Then you continue walking left until you return to the rectangle formation.

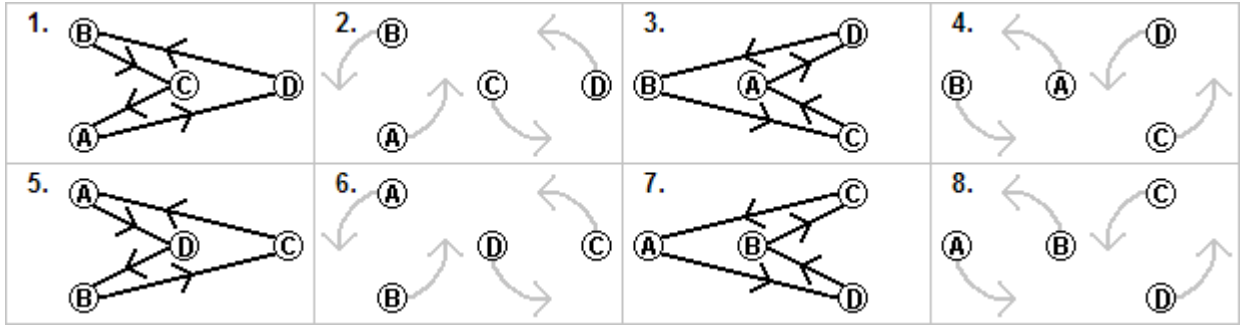
Note: the diagram doesn't show the whole pattern. The last diagram is just like the first, except Anne and Clare have switched roles, and Ben and Daniel have switched roles.

Here's the causal diagram for the pattern:



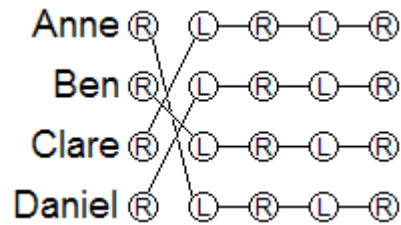
Try combining the Seattle shuffle with Aidan's feast.

**Rotating y**

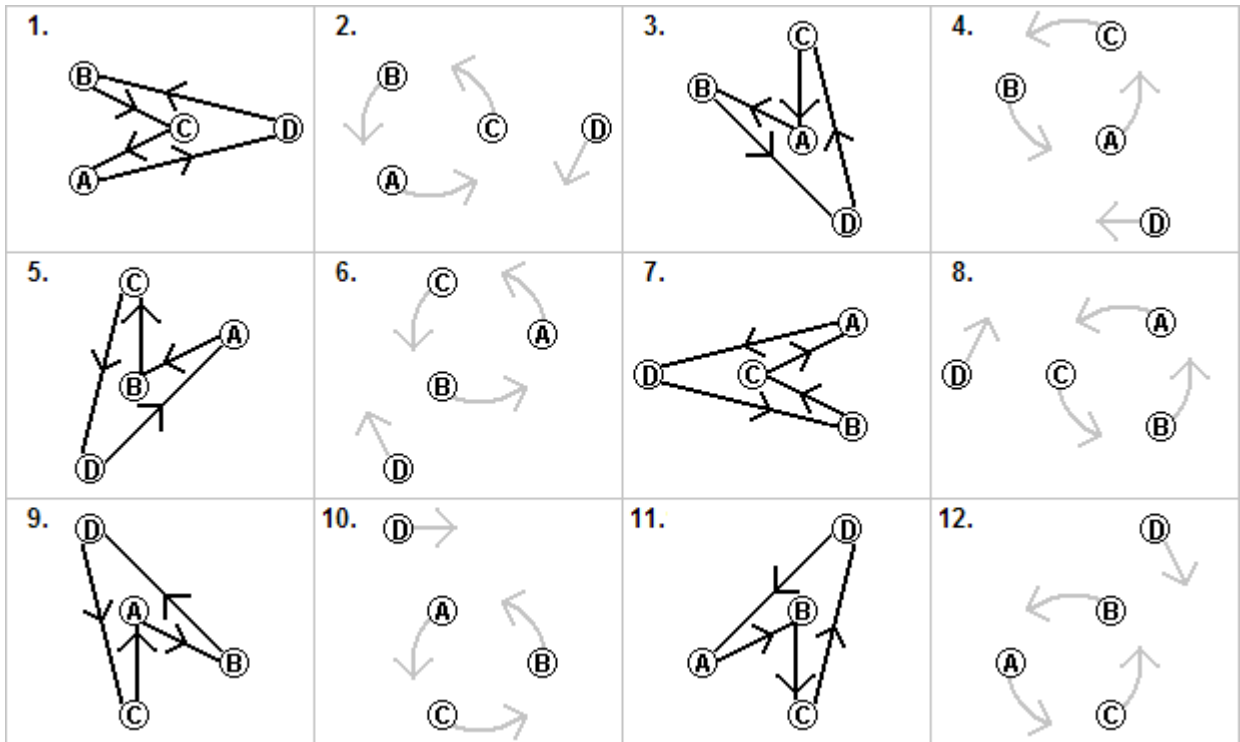


Everyone passes four count. At the start the jugglers stand in the y formation. Anne always passes to Daniel, Daniel always passes to Ben, Ben always passes to Clare and Clare always passes to Anne. Anne and Ben walk anticlockwise around each other on a circular path. Ben and Daniel walk anticlockwise around each other on another circular path. Whenever you are in the y formation you pass.

Here's the causal diagram for the pattern:

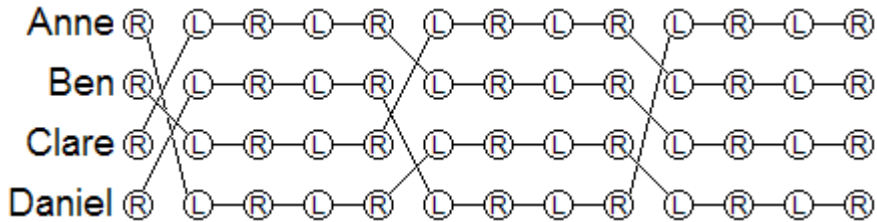


### Rotating $\lambda$



This is an Australian version of a rotating y. Everyone passes four count. The jugglers start in a y formation. After each pass Daniel walks clockwise around the outside of the pattern. Anne, Ben and Clare walk anticlockwise around the inside of the pattern. Whenever you are in the y formation you pass.

Here's the causal diagram for the pattern:

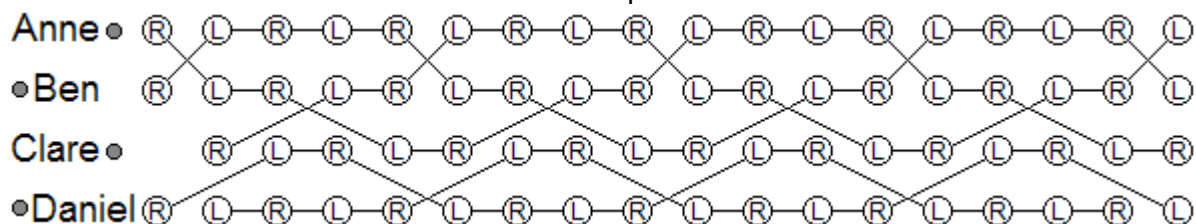


Try combining this pattern with the rotating y.

## Thirteen club four person feeds

### *Thirteen club two count feed*

Ben and Clare feed on two count. Anne and Daniel pass four count.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Clare: two clubs in the right hand and one club in the left hand, one beat later.

Pattern for Anne: Ben self self self, with straight single passes.

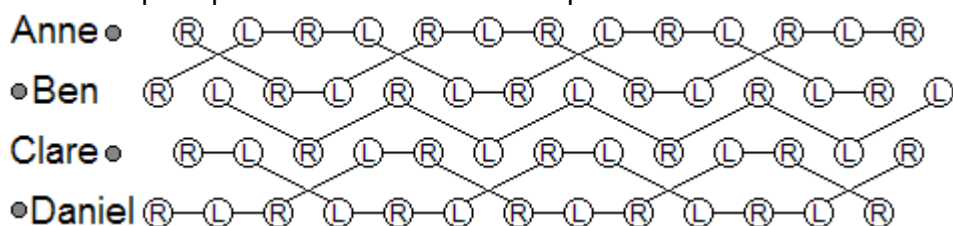
Pattern for Ben: Anne self Clare self, with straight singles to Anne and straight doubles to Clare.

Pattern for Daniel: Clare self self self, with straight double passes.

Pattern for Clare: Ben self Daniel self, with straight double passes.

### *Thirteen club pass pass self feed*

Ben and Clare feed on pass pass self. Anne and Daniel pass three count.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare self, with straight single passes.

Pattern for Daniel: self self Clare, with straight single passes.

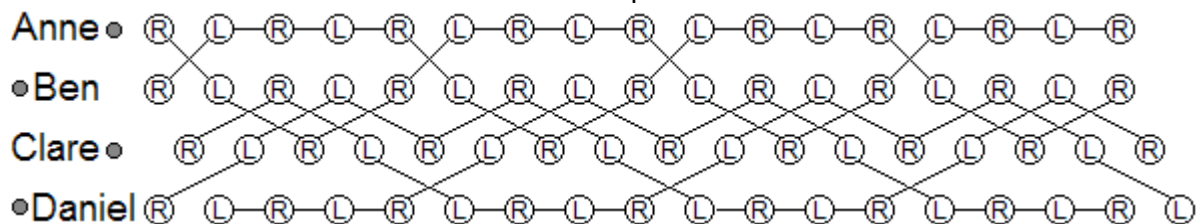
Pattern for Anne: Ben self self, with crossing single passes.

Pattern for Clare: self Daniel Ben, with crossing single passes.

Colour coding: seven red clubs for the passes and six green clubs for the self throws.

### *Thirteen club one count feeding four count*

Ben and Clare feed on one count. Anne and Daniel pass four count.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.



Pattern for Anne: Ben self self self, with straight single passes.

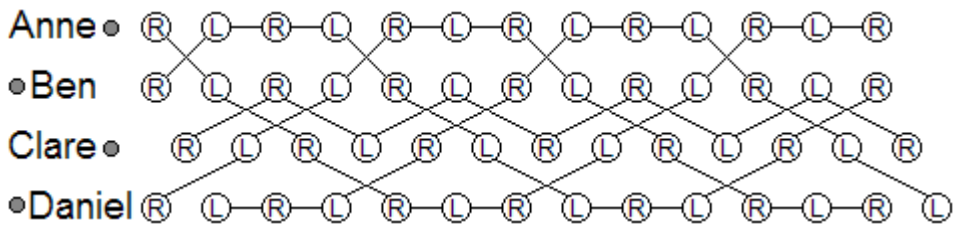
Pattern for Ben: Anne Clare Clare Clare, with straight single passes.

Pattern for Daniel: Clare self self self, with straight single passes.

Pattern for Clare: Ben Ben Ben Daniel, with crossing single passes.

**Thirteen club one count feeding three count**

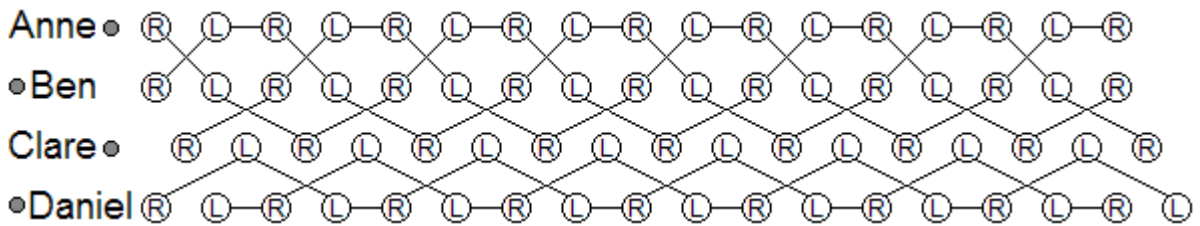
Ben and Clare feed on one count. Anne and Daniel pass three count.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.  
 Start for Daniel: two clubs in each hand.  
 Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Anne: Ben self self, with straight single passes.  
 Pattern for Ben: Anne Clare Clare, with straight single passes.  
 Pattern for Daniel: Clare self self, with straight single passes.  
 Pattern for Clare: Ben Ben Daniel, with crossing single passes.  
 Colour coding: use nine red clubs for the passes and four green clubs for the self throws.

**Thirteen club one count feeding two count**

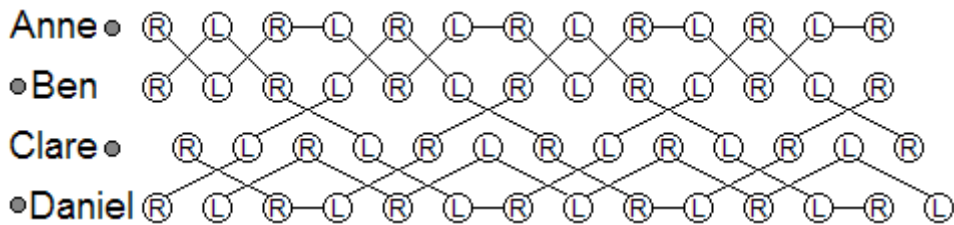
Ben and Clare feed on one count. Anne and Daniel pass two count.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.  
 Start for Daniel: two clubs in each hand.  
 Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Anne: Ben self, with straight single passes.  
 Pattern for Ben: Anne Clare, with straight single passes.  
 Pattern for Daniel: Clare self, with straight single passes.  
 Pattern for Clare: Ben Daniel, with crossing single passes.

**Thirteen club one count feeding pass pass self**

Ben and Clare feed on one count. Anne and Daniel juggle pass pass self.



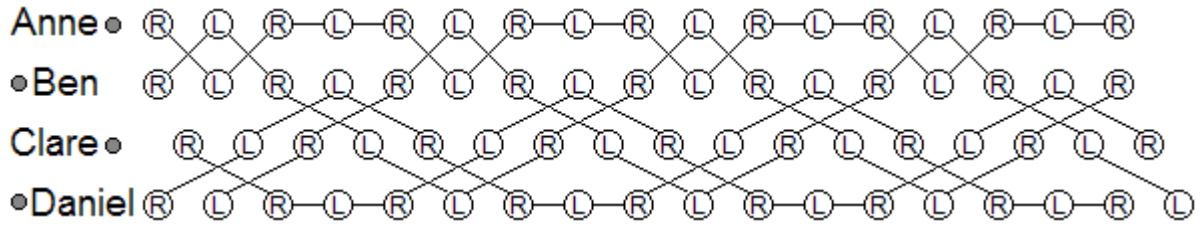
Start for Anne and Ben: two clubs in the right hand and one club in the left hand.  
 Start for Daniel: two clubs in each hand.  
 Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Anne: Ben Ben self, with straight single passes.  
 Pattern for Ben: Anne Anne Clare, with straight single passes.

Pattern for Daniel: Clare Clare self, with straight single passes.

Pattern for Clare: Daniel Ben Daniel, with crossing single passes.

**Thirteen club one count feeding chocolate bar**

Ben and Clare feed on one count. Anne and Daniel pass chocolate bar.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Anne: Ben Ben self self, with straight single passes.

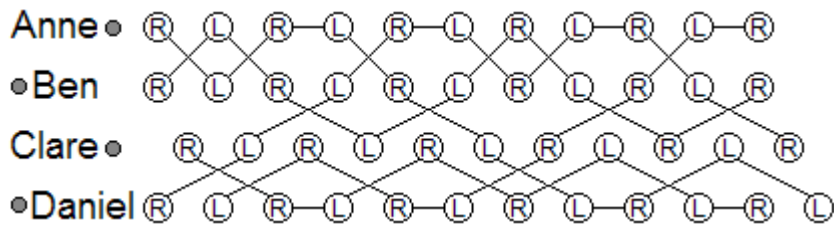
Pattern for Ben: Anne Anne Clare Clare, with straight single passes.

Pattern for Daniel: Clare Clare self self, with straight single passes.

Pattern for Clare: Daniel Ben Ben Daniel, with crossing single passes.

**Thirteen club one count feeding bookends**

Ben and Clare feed on one count. Anne and Daniel pass bookends.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Anne: Ben Ben self Ben self, with straight single passes.

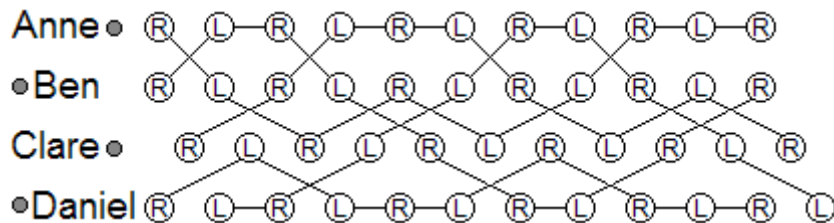
Pattern for Ben: Anne Anne Clare Anne Clare, with straight single passes.

Pattern for Daniel: Clare Clare self Clare self, with straight single passes.

Pattern for Clare: Daniel Ben Daniel Ben Daniel, with crossing single passes.

**Thirteen club one count feeding inverted bookends**

Ben and Clare feed on one count. Anne and Daniel pass inverted bookends.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Anne: Ben self Ben self self, with straight single passes.

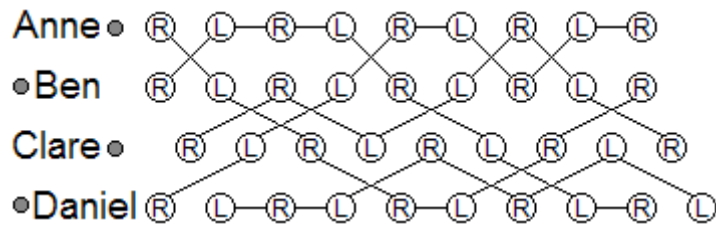
Pattern for Ben: Anne Clare Anne Clare Clare, with straight single passes.

Pattern for Daniel: Clare self Clare self self, with straight single passes.

Pattern for Clare: Ben Daniel Ben Ben Daniel, with crossing single passes.

**Thirteen club one count feeding countdown**

Ben and Clare feed on one count. Anne and Daniel juggle a countdown from three count.



Start for Anne and Ben: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Anne: Ben self self Ben self Ben Ben self, with straight single passes.

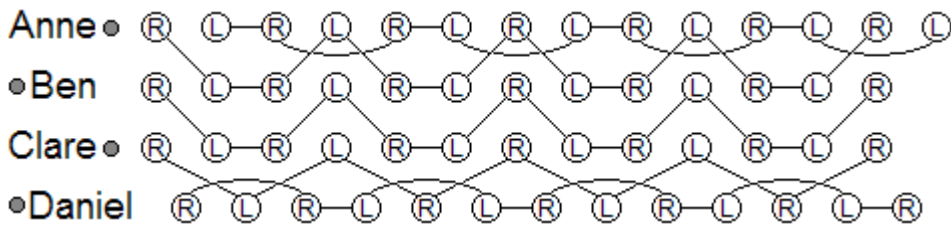
Pattern for Ben: Anne Clare Clare Anne Clare Anne Anne Clare, with straight single passes.

Pattern for Daniel: Clare self self Clare self Clare Clare self, with straight single passes.

Pattern for Clare: Ben Ben Daniel Ben Daniel Daniel Ben Daniel, with crossing single passes.

**Thirteen club pass pass self feeding French three count**

Ben and Clare feed pass pass self. Anne and Daniel pass French three count.



Start for Anne: two clubs in each hand.

Start for Ben and Clare: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Anne: Ben self heff, with straight single passes.

Pattern for Ben: Clare self Anne, with straight single passes.

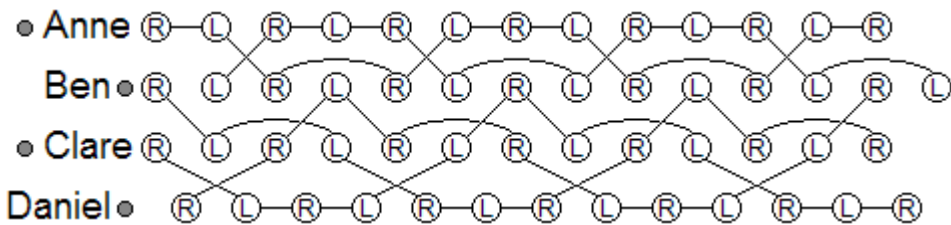
Pattern for Clare: Daniel self Ben, with straight single passes.

Pattern for Daniel: heff Clare self, with crossing single passes.

Colour coding: use nine red clubs for the passes and heffs and four green clubs for the self throws.

**Thirteen club pass pass heff feeding three count**

Ben and Clare feed pass pass heff. Anne and Daniel pass three count.



Start for Anne: two clubs in her right hand and one club in her left hand.

Start for Ben: two clubs in each hand.

Start for Clare: two clubs in her right hand and one club in her left hand.

Start for Daniel: two clubs in his right hand and one club in his left hand, half a beat later.

Pattern for Anne: self Ben self, with straight single passes.

Pattern for Ben: Clare Anne heff, with straight single passes.

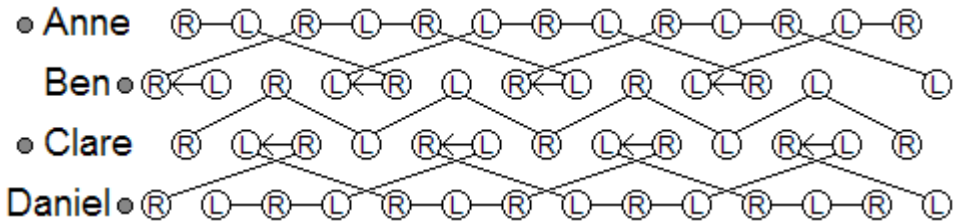
Pattern for Clare: Daniel heff Ben, with straight single passes.

Pattern for Daniel: Clare self self, with crossing single passes.

Colour coding: use nine red clubs for the passes and heffs and four green clubs for the self throws.

**Thirteen club 972 feeding three count**

Ben and Clare feed on 972. Anne and Daniel pass three count.



Start for Ben: two clubs in his left hand and one club in his right hand, but his first throw is right handed.

Start for Daniel: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne zip Clare, with crossing doubles to Anne and straight singles to Clare.

Pattern for Daniel: Clare self self, with crossing double passes.

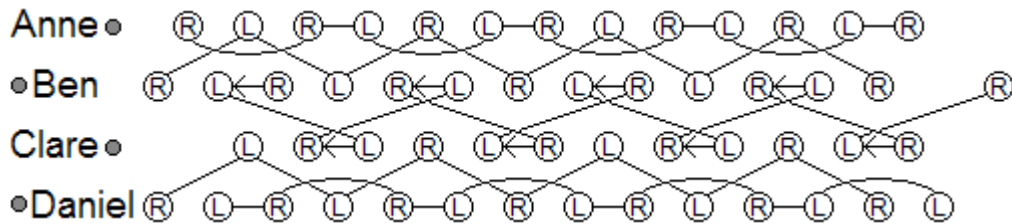
Pattern for Anne: self Ben self, with straight double passes.

Pattern for Clare: Ben Daniel zip, with crossing singles to Ben and straight doubles to Daniel.

Colour coding: use nine red clubs for the passes and zips and four green clubs for the self throws.

**Thirteen club 972 feeding French three count**

Ben and Clare feed on 972. Anne and Daniel pass French three count.



Start for Ben: three clubs in his right hand and one club in his left hand.

Start for Daniel: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Clare: one club in each and, one and a half beats after Ben and Daniel.

Pattern for Ben: Anne Clare zip, with straight singles to Anne and crossing doubles to Clare.

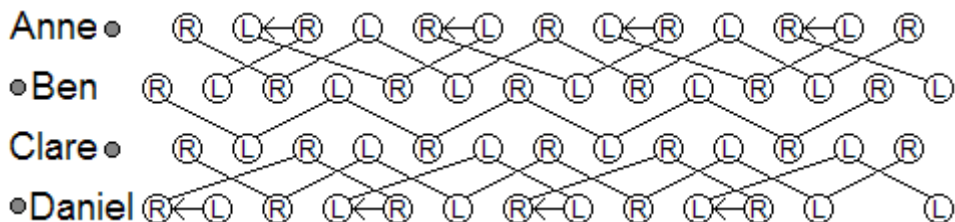
Pattern for Daniel: Clare self heff, with straight single passes.

Pattern for Anne: heff Ben self, with crossing single passes.

Pattern for Clare: Daniel Ben zip, with crossing singles to Daniel and straight doubles to Ben.

**One count feeding 972**

Ben and Clare feed on one count. Anne and Daniel pass 972.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his left hand and one club in his right hand, but his first throw is right handed.



Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Clare Anne Anne, with straight single passes.  
 Pattern for Daniel: double to Clare zip Clare, with crossing doubles and straight singles.  
 Pattern for Anne: Ben double to Ben zip, with crossing singles and straight doubles.  
 Pattern for Clare: Daniel Ben Daniel, with crossing single passes.

## Thirteen club period five feeds

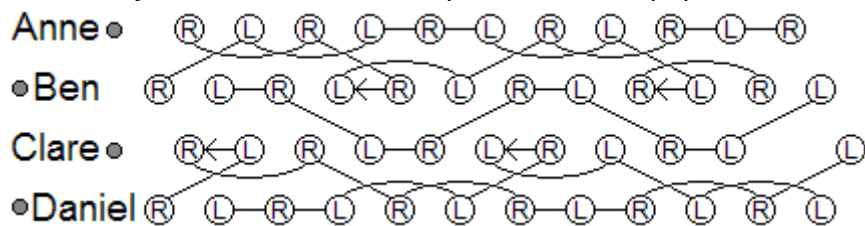
This section contains four person feeds where everyone's pattern is a period five four handed siteswap. In all these patterns Ben and Daniel throw straight passes and Anne and Clare throw crossing passes.

This list of feeds is not exhaustive as many period five patterns are interchangeable: Wherever you have why not? you could juggle Jim's two count, not why or not likely; instead of maybe you could juggle maybe not; funky bookends can be replaced with 77966 and there are three versions of five count popcorn.

You can also remove a club from some feeds if you replace five count popcorn with five club why not, or you replace funky bookends with parsnip. Alternatively you can add a club to some feeds if you replace five club why not with five count popcorn, or you replace parsnip with funky bookends.

### Thirteen club why not? feeding five count popcorn

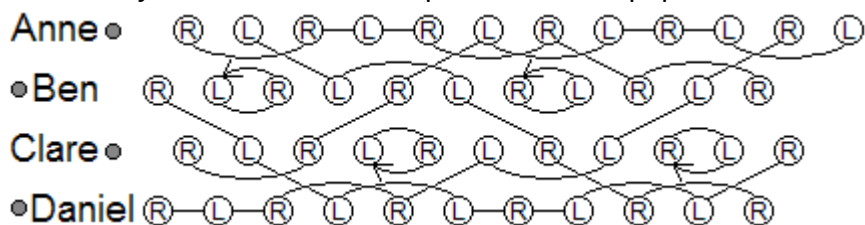
Ben and Clare feed on why not? Anne and Daniel pass five count popcorn.



Start for Ben and Daniel: two clubs in each hand.  
 Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.  
 Start for Clare: one club in each hand, half a beat after Ben and Daniel.  
 Pattern for Ben: Anne self Clare heff zip, with straight single passes.  
 Pattern for Daniel: Clare self self heff heff, with straight single passes.  
 Pattern for Anne: heff heff Ben self self, with crossing single passes.  
 Pattern for Clare: heff zip Daniel self Ben, with crossing single passes.

### Thirteen club maybe feeding five count popcorn

Ben and Clare feed on maybe. Anne and Daniel pass five count popcorn.



Start for Ben and Daniel: two clubs in the right hand and one club in the left hand.  
 Start for Anne: two clubs in each hand, half a beat later.

Start for Clare: two clubs in the right hand and one club in the left hand, half a beat after Ben and Daniel.

Pattern for Ben: Clare self zip heff Anne, with straight single passes.

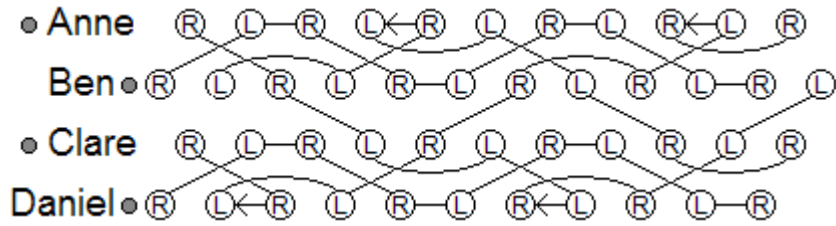
Pattern for Daniel: self self heff heff Clare, with straight single passes.

Pattern for Anne: heff Ben self self heff, with crossing single passes.

Pattern for Clare: heff Daniel Ben self zip, with crossing single passes.

**Thirteen club funky bookends feeding why not?**

Ben and Clare feed on funky bookends. Anne and Daniel pass why not?



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne heff Clare Anne self, with straight single passes.

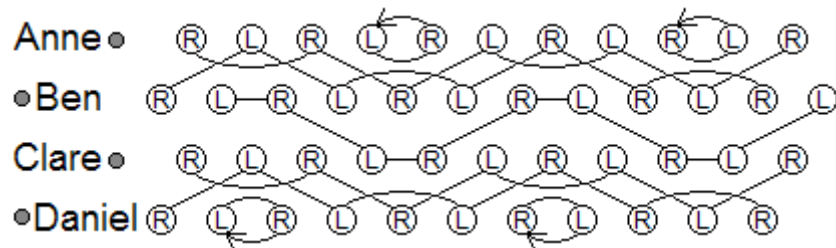
Pattern for Daniel: Clare heff zip Clare self, with straight single passes.

Pattern for Anne: Ben self Ben heff zip, with crossing single passes.

Pattern for Clare: Daniel self Daniel heff Ben, with crossing single passes.

**Thirteen club funky bookends feeding maybe**

Ben and Clare feed on funky bookends. Anne and Daniel pass maybe.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne self Clare heff Anne, with straight single passes.

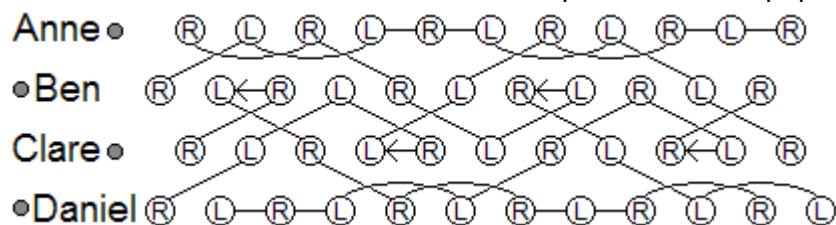
Pattern for Daniel: Clare self zip heff Clare, with straight single passes.

Pattern for Anne: heff Ben Ben self zip, with crossing single passes.

Pattern for Clare: heff Daniel Daniel self Ben, with crossing single passes.

**Thirteen club Martin's one count feeding five count popcorn**

Ben and Clare feed on Martin's one count. Anne and Daniel pass five count popcorn.



Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Daniel: two clubs in each hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare zip Clare Clare, with straight single passes.

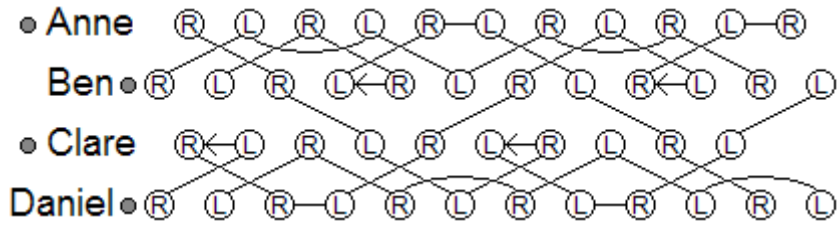
Pattern for Daniel: Clare self self heff heff, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: Ben Ben Daniel Ben zip, with crossing single passes.

**Thirteen club Martin's one count feeding funky bookends**

Ben and Clare feed on Martin's one count. Anne and Daniel pass funky bookends.



Start for Ben and Daniel: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Clare: one club in each hand, half a beat after Ben and Daniel.

Pattern for Ben: Anne Anne Clare Anne zip, with straight single passes.

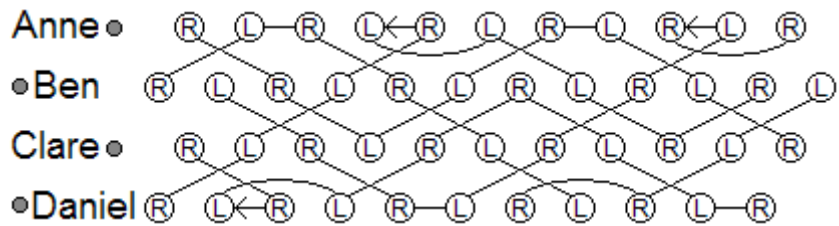
Pattern for Daniel: Clare Clare self Clare heff, with straight single passes.

Pattern for Anne: Ben heff Ben Ben self, with crossing single passes.

Pattern for Clare: Daniel zip Daniel Daniel Ben, with crossing single passes.

**Thirteen club one count feeding why not?**

Ben and Clare feed on one count. Anne and Daniel pass why not?



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare Clare Anne Clare, with straight single passes.

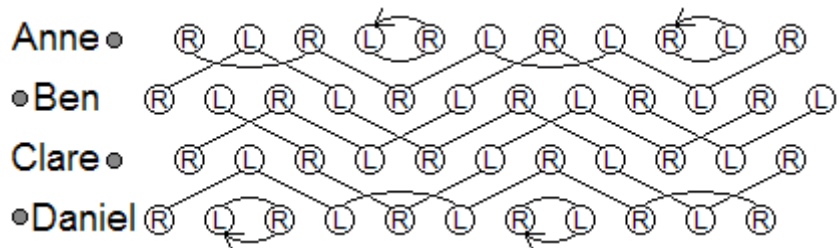
Pattern for Daniel: Clare heff zip Clare self, with straight single passes.

Pattern for Anne: Ben self Ben heff zip, with crossing single passes.

Pattern for Clare: Daniel Ben Daniel Ben Ben, with crossing single passes.

**Thirteen club one count feeding maybe**

Ben and Clare feed on one count. Anne and Daniel pass maybe.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in her right hand and one club in her left hand, half a beat later.

Pattern for Ben: Anne Clare Clare Clare Anne, with straight single passes.

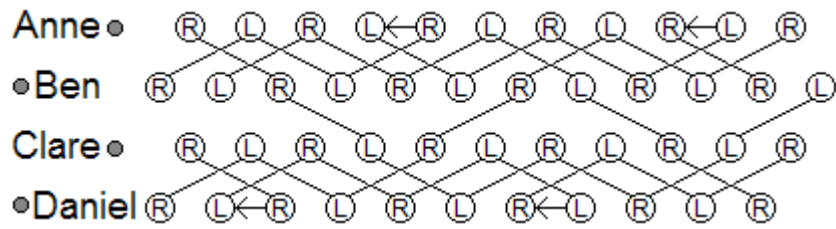
Pattern for Daniel: Clare self zip heff Clare, with straight single passes.

Pattern for Anne: heff Ben Ben self zip, with crossing single passes.

Pattern for Clare: Ben Daniel Daniel Ben Ben, with crossing single passes.

**Thirteen club one count feeding Martin's one count**

Ben and Clare feed on one count. Anne and Daniel pass Martin's one count.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Anne Clare Anne Anne, with straight single passes.

Pattern for Daniel: Clare Clare zip Clare Clare, with straight single passes.

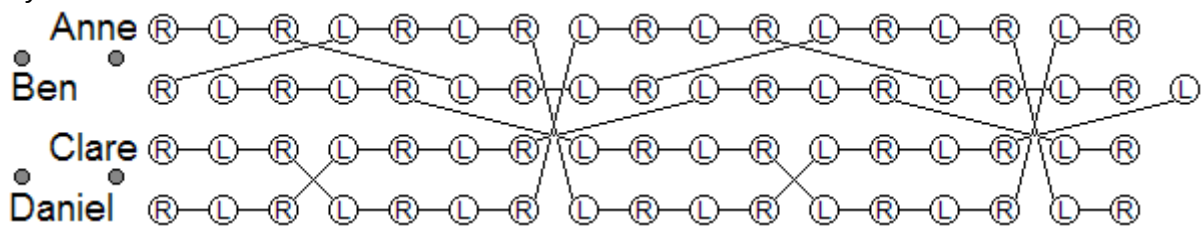
Pattern for Anne: Ben Ben Ben Ben zip, with crossing single passes.

Pattern for Clare: Daniel Daniel Daniel Daniel Ben, with crossing single passes.

**Thirteen club box feeds**

**Thirteen club four count box**

Everyone feeds on four count.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand.

Pattern for Ben: Anne self self self Clare self self self, with straight triple passes.

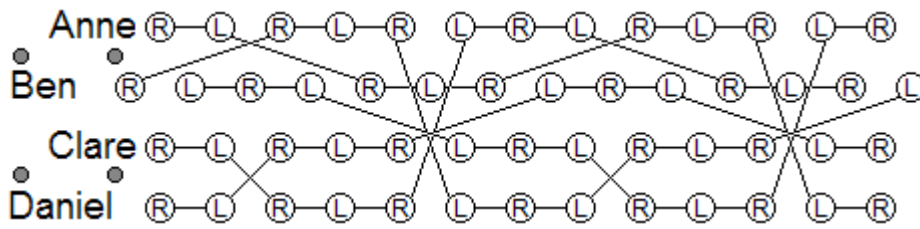
Pattern for Anne: self self Ben self self self Daniel self, with straight triples to Ben and straight singles to Daniel.

Pattern for Clare: self self Daniel self self self Ben self, with straight singles to Daniel and straight triples to Ben.

Pattern for Daniel: self self Clare self self self Anne self, with straight single passes.

**Thirteen club three count box**

Everyone feeds on three count.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne self self Clare self self, with crossing double passes.

Pattern for Anne: self Ben self self Daniel self, with straight doubles to Ben and straight singles to Daniel.

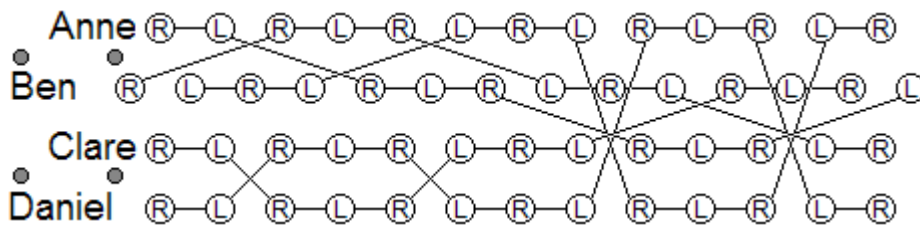
Pattern for Clare: self Daniel self self Ben self, with straight singles to Daniel and straight doubles to Ben.

Pattern for Daniel: self Clare self self Anne self, with straight single passes.

Colour coding: use five red clubs for the passes and eight green clubs for the self throws.

**Thirteen club three count box variation**

Everyone feeds on three count.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne self self Anne self self Clare self self Clare self self, with crossing double passes.

Pattern for Anne: self Ben self self Ben self self Daniel self self Daniel self, with straight doubles to Ben and straight singles to Daniel.

Pattern for Clare: self Daniel self self Daniel self self Ben self self Ben self, with straight singles to Daniel and straight doubles to Ben.

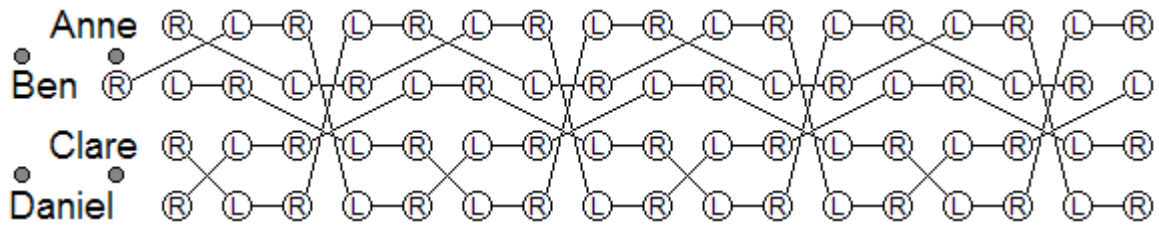
Pattern for Daniel: self Clare self self Clare self self Anne self self Anne self, with straight single passes.

Colour coding: use five red clubs for the passes and eight green clubs for the self throws.



**Thirteen club two count box**

Everyone feeds on two count.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, one beat later.

Pattern for Ben: Anne self Clare self, with straight double passes.

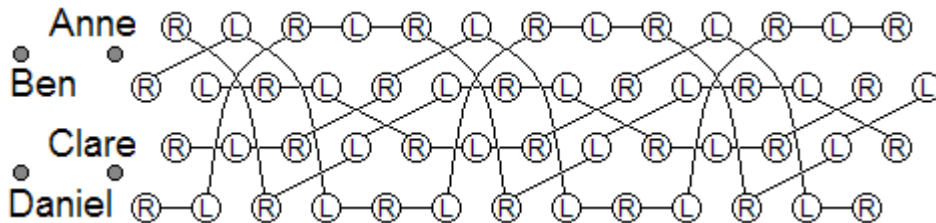
Pattern for Anne: Ben self Daniel self, with straight doubles to Ben and straight singles to Daniel.

Pattern for Clare: Daniel self Ben self, with straight singles to Daniel and straight doubles to Ben.

Pattern for Daniel: Clare self Anne self, with straight single passes.

**Thirteen club chocolate square**

Everyone passes on chocolate bar.



Prechac: 3.5p3.5p33

Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne self self Clare, with straight single passes.

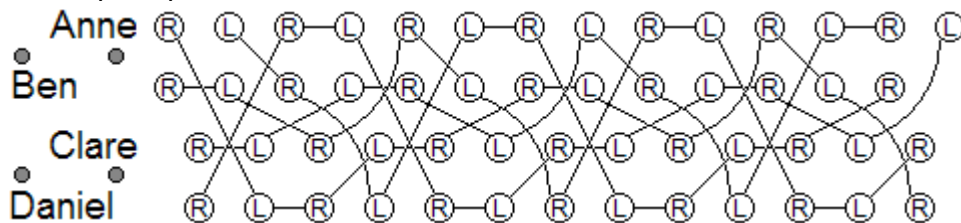
Pattern for Daniel: self Anne Clare self, with straight single passes.

Pattern for Anne: Daniel Daniel self self, with crossing single passes.

Pattern for Clare: self self Ben Ben, with crossing single passes.

**Weird pass pass self box**

Everyone feeds on pass pass self.



Start for Anne: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Clare and Daniel: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Anne: Daniel Ben self, with straight single passes.

Pattern for Ben: self Clare Daniel, with straight single passes.

Pattern for Clare: self Ben Anne, with crossing single passes.

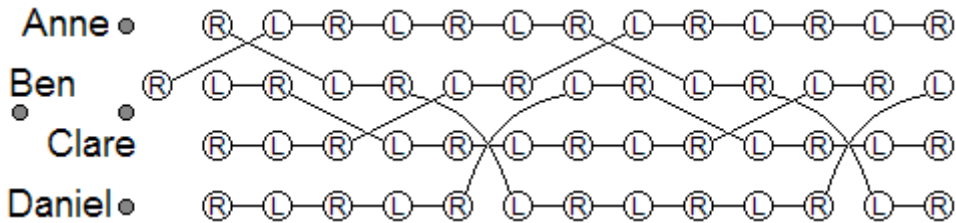
Pattern for Daniel: Anne self Clare, with crossing singles to Anne and straight singles to Clare.

Colour coding: use nine red clubs for the passes and four green clubs for the self throws.

## Thirteen club line feeds

### **Thirteen club two count line feed**

Ben feeds on two count. Anne, Clare and Daniel pass to Ben on six count.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, one beat later.

Pattern for Ben: Anne self Clare self Daniel self, with straight double passes.

Pattern for Anne: Ben self self self self self, with straight double passes.

Pattern for Clare: self self Ben self self self, with straight double passes.

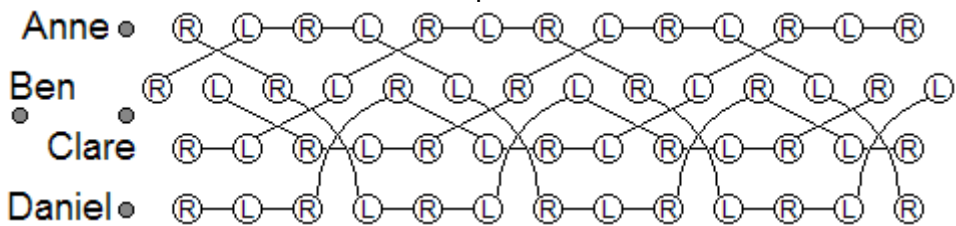
Pattern for Daniel: self self self self Ben self, with straight double passes.

Colour coding: use seven red clubs for the passes and six green clubs for the self throws.

Note: you can do this pattern with straight single passes.

### **Thirteen club urban terror feed (one count line feed)**

Ben feeds on one count. Anne, Clare and Daniel pass to Ben on three count.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare Daniel self, with straight single passes.

Pattern for Anne: Ben self self, with crossing single passes.

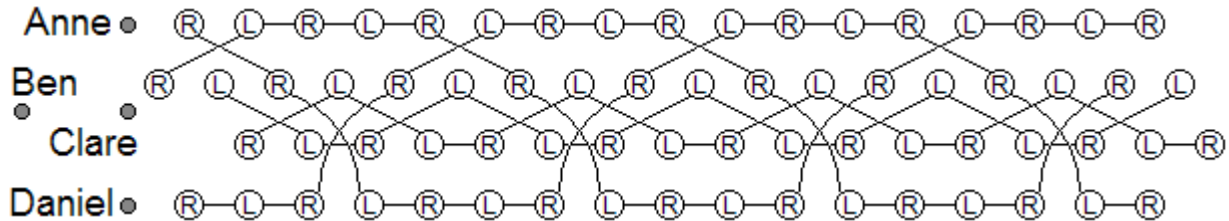
Pattern for Clare: self Ben self, with crossing single passes.

Pattern for Daniel: self self Ben, with crossing single passes.

Colour coding: use seven red clubs for the passes and six green clubs for the self throws.

**Thirteen one count line feed, feeding four count and two count**

Ben feeds on one count. Anne and Daniel pass to Ben on four count. Clare passes to Ben on two count.



Start for Ben: two clubs in each hand.

Start for Anne and Daniel: two clubs in the right hand and one club in the left hand, half a beat later.

Start for Clare: two clubs in her right hand and one club in her left hand, one and a half beats after Ben.

Pattern for Ben: Anne Clare Daniel Clare, with straight singles to Anne and Daniel and crossing singles to Clare.

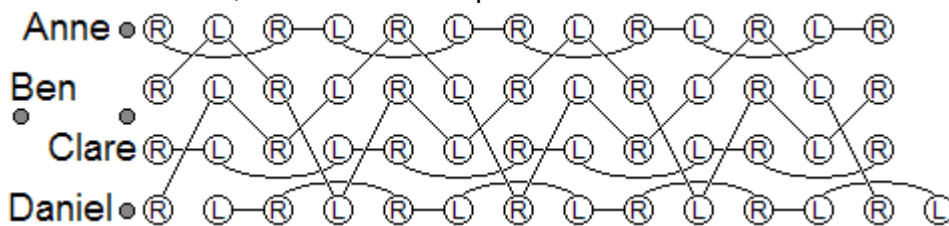
Pattern for Anne: Ben self self self, with crossing single passes.

Pattern for Daniel: self self Ben self, with crossing single passes.

Pattern for Clare: Ben self, with straight single passes.

**Thirteen club one count line feed, feeding French three count**

Ben feeds on one count. Anne, Clare and Daniel pass to Ben on French three count.



Start for Anne, Ben and Clare: two clubs in the right hand and one club in the left hand.

Start for Daniel: two clubs in each hand.

Pattern for Anne: heff Ben self, with straight single passes.

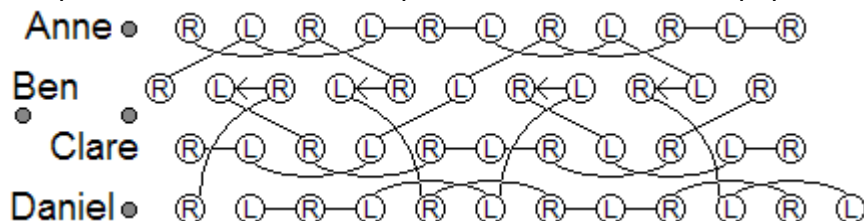
Pattern for Ben: Anne Clare Daniel, with straight single passes.

Pattern for Clare: self heff Ben, with straight single passes.

Pattern for Daniel: Ben self heff, with straight single passes.

**Thirteen club parsnip line feed, feeding five count popcorn**

Ben feeds on parsnip. Anne, Clare and Daniel pass to Ben on five count popcorn.



Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

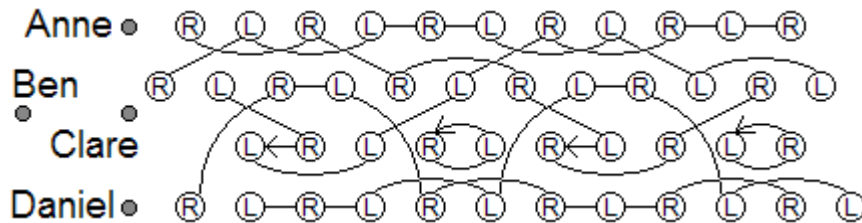
Start for Daniel: two clubs in each hand, half a beat after Ben.

Pattern for Ben: Anne Clare zip Daniel zip, with straight single passes.

Pattern for Anne: heff heff Ben self self, with crossing single passes.  
 Pattern for Clare: self heff heff Ben self, with crossing single passes.  
 Pattern for Daniel: Ben self self heff heff, with crossing single passes.

**Thirteen club funky bookends line feed, feeding five count popcorn and five club why not?**

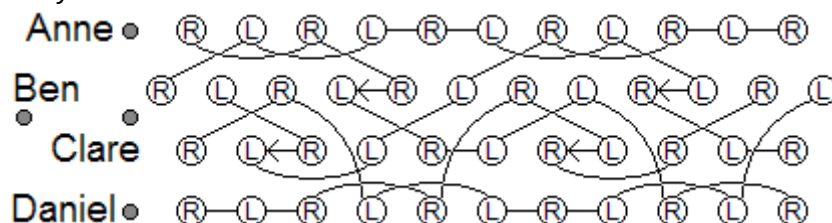
Ben feeds on funky bookends. Anne and Daniel pass to Ben on five count popcorn. Clare passes to Ben on five club why not?



Start for Ben: two clubs in each hand.  
 Start for Anne: two clubs in her right hand and one club in her left hand, half a beat later.  
 Start for Daniel: two clubs in each hand, half a beat after Ben.  
 Start for Clare: one club in each hand, one and a half beats after Ben. Clare's first throw is left handed.  
 Pattern for Ben: Anne Clare self Daniel heff, with straight single passes.  
 Pattern for Anne: heff heff Ben self self, with crossing single passes.  
 Pattern for Daniel: Ben self self heff heff, with crossing single passes.  
 Pattern for Clare: heff zip Ben self zip, with crossing single passes.

**Thirteen club Martin's one count line feed, feeding five count popcorn and why not?**

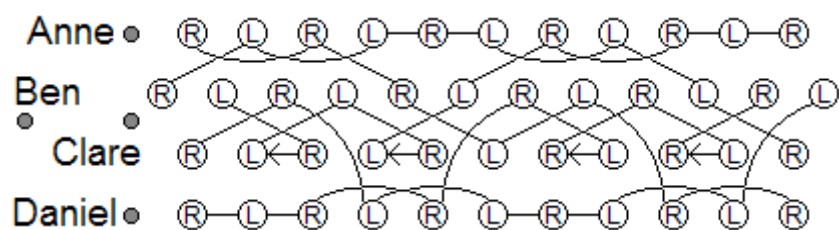
Ben feeds on Martin's one count. Anne and Daniel pass to Ben on five count popcorn. Clare passes to Ben on why not?



Start for Ben: two clubs in each hand.  
 Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Anne Clare Daniel Clare zip, with straight single passes.  
 Pattern for Anne: heff heff Ben self self, with crossing single passes.  
 Pattern for Clare: Ben heff zip Ben self, with crossing single passes.  
 Pattern for Daniel: self self heff heff Ben, with crossing single passes.

**Thirteen club one count line feed, feeding five count popcorn and parsnip**

Ben feeds on one count. Anne and Daniel pass to Ben on five count popcorn. Clare passes to Ben on parsnip.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare Daniel Clare Clare, with straight single passes.

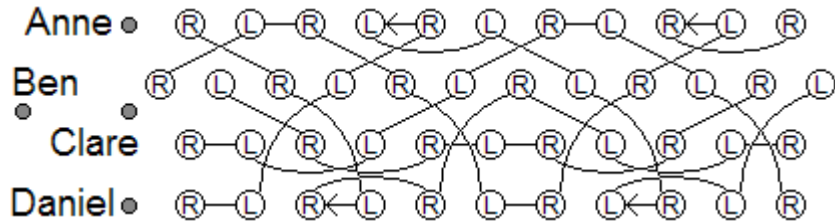
Pattern for Anne: heff heff Ben self self, with crossing single passes.

Pattern for Clare: Ben Ben zip Ben zip, with crossing single passes.

Pattern for Daniel: self self heff heff Ben, with crossing single passes.

**Thirteen club one count line feed, feeding why not? and five count popcorn**

Ben feeds on one count. Anne and Daniel pass to Ben on why not? Clare passes to Ben on five count popcorn.



Start for Ben: two clubs in each hand.

Start for everyone else: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Clare Daniel Anne Daniel, with straight single passes.

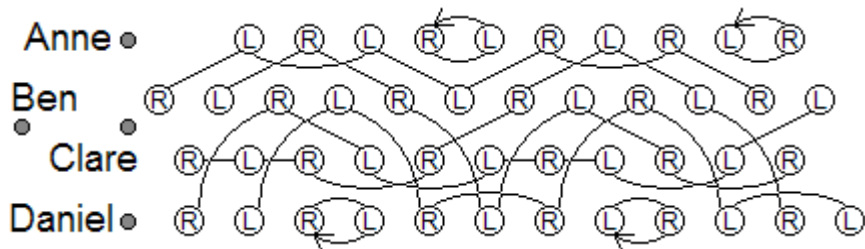
Pattern for Anne: Ben self Ben heff zip, with crossing single passes.

Pattern for Clare: self heff heff Ben self, with crossing single passes.

Pattern for Daniel: self Ben heff zip Ben, with crossing single passes.

**Thirteen club one count line feed, feeding maybe and five count popcorn**

Ben feeds on one count. Anne and Daniel pass to Ben on maybe. Clare passes to Ben on five count popcorn.



Start for Ben: two clubs in each hand.

Start for Clare: two clubs in her right hand and one club in her left hand, half a beat later.

Start for Daniel: two clubs in each hand, half a beat after Ben.

Start for Anne: one club in each hand, one and a half beats after Ben.

Pattern for Ben: Anne Anne Clare Daniel Daniel, with straight single passes.

Pattern for Clare: self self heff heff Ben, with crossing single passes.

Pattern for Daniel: Ben Ben self zip heff, with crossing single passes.

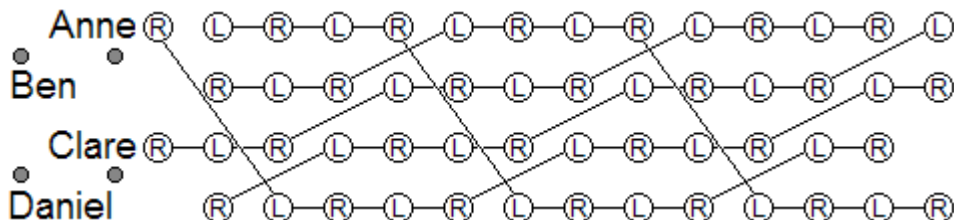
Pattern for Anne: heff Ben Ben self zip, with crossing single passes.

## Other thirteen club four person patterns

The first four patterns in this section can be done in a y formation as well as a square.

### *Thirteen club four count*

Everyone passes on four count.



Prechac: 4p333

Start for Anne: two clubs in each hand.

Start for Clare: two clubs in her right hand and one club in her left hand.

Start for Ben and Daniel: two clubs in the right hand and one club in the left hand, one beat later.

Pattern for Anne: Daniel self self self, with straight double passes.

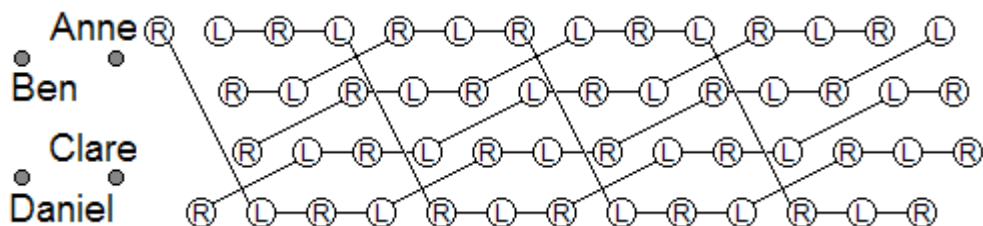
Pattern for Clare: self self Ben self, with straight double passes.

Pattern for Ben: self self Anne self, with straight double passes.

Pattern for Daniel: Clare self self self, with straight double passes.

### *Thirteen club three count*

Everyone passes on three count.



Prechac: 3.7p33

Start for Anne: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand,  $\frac{3}{4}$  of a beat later.

Start for Ben: two clubs in his right hand and one club in his left hand,  $1\frac{1}{4}$  beats after Anne.

Start for Clare: two clubs in her right hand and one club in her left hand,  $1\frac{1}{2}$  beats after Anne.

Pattern for Anne: Daniel self self, with straight single passes.

Pattern for Daniel: Clare self self, with straight single passes.

Pattern for Ben: self Anne self, with straight single passes.

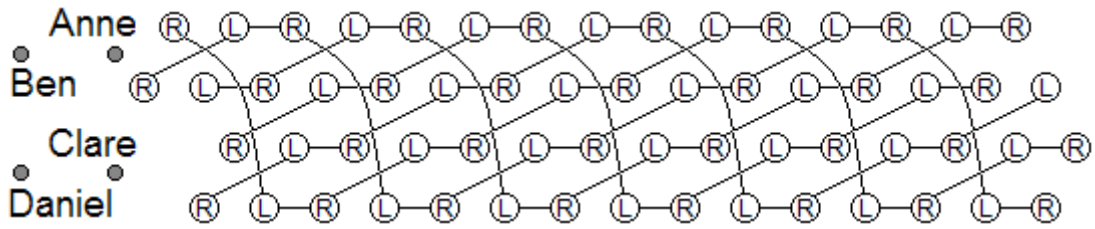
Pattern for Clare: Ben self self, with crossing single passes.

Colour coding: use five red clubs for the passes and eight green clubs for the self throws.



**Thirteen club two count**

Everyone passes on two count.



Prechac: 3.5p3

Start for Ben: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, 1/2 a beat later.

Start for Daniel: two clubs in his right hand and one club in his left hand, one beat after Ben.

Start for Clare: two clubs in her right hand and one club in her left hand, 1 1/2 beats after Ben.

Pattern for Ben: Anne self, with straight single passes.

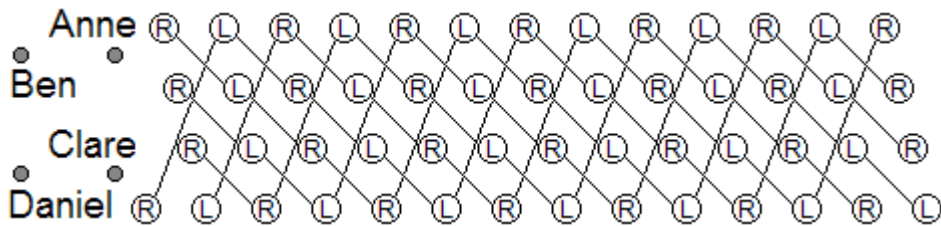
Pattern for Anne: Daniel self, with straight single passes.

Pattern for Daniel: Clare self, with straight single passes.

Pattern for Clare: Ben self, with straight single passes.

**Thirteen club one count**

Everyone passes on one count.



Prechac: 3.2p

Start for Daniel: two clubs in each hand.

Start for Anne: two clubs in her right hand and one club in her left hand, 1/4 of a beat later.

Start for Ben: two clubs in his right hand and one club in his left hand, 1/2 a beat after Daniel.

Start for Clare: two clubs in her right hand and one club in her left hand, 3/4 of a beat after Daniel.

Pattern for Daniel: Anne, with straight single passes.

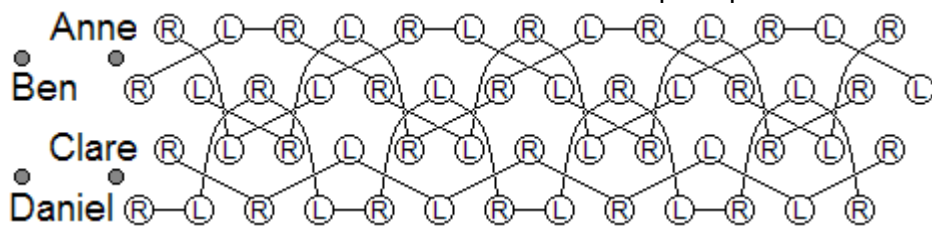
Pattern for Anne: Ben, with straight single passes.

Pattern for Ben: Clare, with straight single passes.

Pattern for Clare: Daniel, with crossing single passes.

**Thirteen club double urban terror feed**

Ben and Clare do an urban terror feed. Anne and Clare feed on pass pass self.



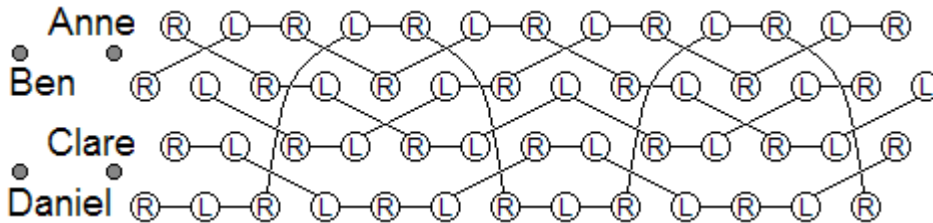
Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Anne Clare Daniel, with straight single passes.  
 Pattern for Daniel: self Ben Clare, with straight single passes.  
 Pattern for Anne: Clare self Ben, with straight singles to Clare and crossing singles to Ben.  
 Pattern for Clare: Daniel Ben self, with crossing single passes.

**Thirteen club three count accommodation**

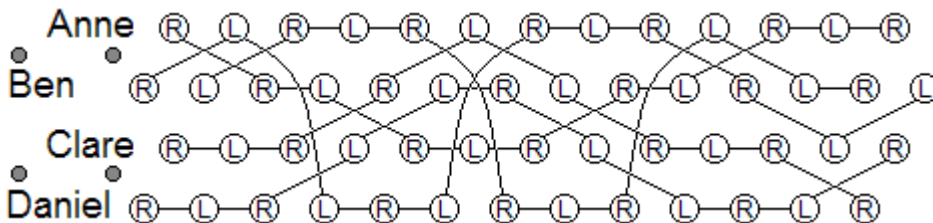
Anne and Clare feed on two count, Clare's passes are left handed. Ben feeds on pass pass self. Daniel feeds on three count.



Start for Ben: two clubs in each hand.  
 Start for Daniel: two clubs in his right hand and one club in his left hand.  
 Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Anne Clare self Clare Anne self, with straight single passes.  
 Pattern for Daniel: self self Anne self self Clare, with straight single passes.  
 Pattern for Anne: Ben self Ben self Daniel self, with crossing single passes.  
 Pattern for Clare: self Daniel self Ben self Ben, with crossing single passes.

**Thirteen club low fat chocolate box**

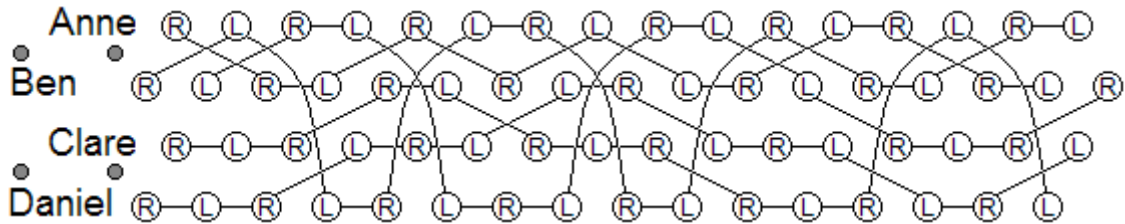
Anne and Clare feed on chocolate bars. Ben feeds on pass pass self. Daniel feeds on three count.



Start for Ben: two clubs in each hand.  
 Start for Daniel: two clubs in his right hand and one club in his left hand.  
 Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.  
 Pattern for Ben: Anne Anne self Clare Anne self Clare Clare self Anne Clare self, with straight single passes.  
 Pattern for Daniel: self self Clare self self Anne self self Anne self self Clare, with straight single passes.  
 Pattern for Anne: Ben Daniel self self Daniel Ben self self Ben Ben self self, with crossing single passes.  
 Pattern for Clare: self self Ben Ben self self Ben Daniel self self Daniel Ben, with crossing single passes.

**Thirteen club bookshelf**

Anne feeds on pass pass self. Ben feeds on bookends. Clare feeds on three count. Daniel feeds on inverted bookends.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Anne self Anne self Clare Anne self Clare self Anne Clare self Anne self, with straight single passes.

Pattern for Daniel: self self Clare self Anne self self Anne self Anne self self Anne self Clare, with straight single passes.

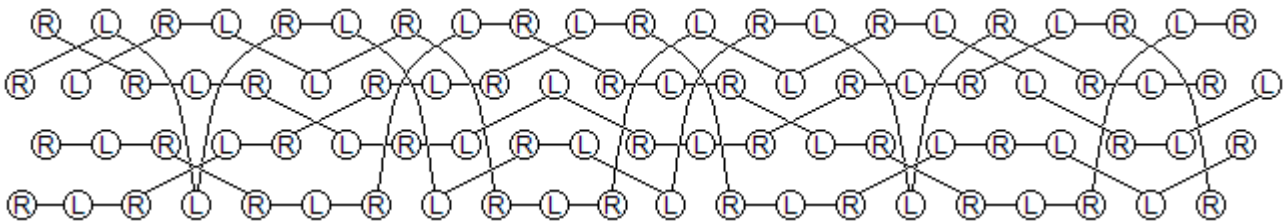
Pattern for Anne: Ben Daniel self Daniel Ben self Daniel Ben self Ben Ben self Ben Daniel self, with crossing single passes.

Pattern for Clare: self self Ben self self Ben self self Daniel self self Daniel self self Ben, with crossing single passes.

Note: the pattern repeats with the other hand. The diagram only shows half the pattern.

**Thirteen club chocolate bookshelf**

Anne feeds on bookends. Clare feeds on inverted bookends. Ben and Daniel feed on chocolate bars.



Start for Ben: two clubs in each hand.

Start for Daniel: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Ben: Anne Anne self self Clare Anne self self Anne Clare self self Clare Anne self self Anne Clare self self, with straight single passes.

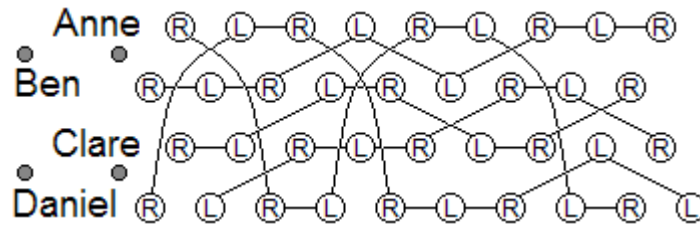
Pattern for Daniel: self self Clare Anne self self Anne Clare self self Anne Anne self Clare Anne self self Anne Clare, with straight single passes.

Pattern for Anne: Ben Daniel self Ben self Daniel Daniel self Ben self Daniel Ben self Daniel self Ben Ben self Daniel self, with crossing single passes.

Pattern for Clare: self self Daniel self Ben self self Ben self Daniel self self Ben self Daniel self self Daniel self Ben, with crossing single passes.

**Thirteen club countdown accommodation**

Everyone passes on a countdown from three count.



Prechac: 3.5p3.5p33.5p333.5p3

Start for Daniel: two clubs in each hand.

Start for Ben: two clubs in his right hand and one club in his left hand.

Start for Anne and Clare: two clubs in the right hand and one club in the left hand, half a beat later.

Pattern for Daniel: Anne Clare self Anne self self Clare self, with straight single passes.

Pattern for Ben: self self Anne self Clare Anne self Clare, with straight single passes.

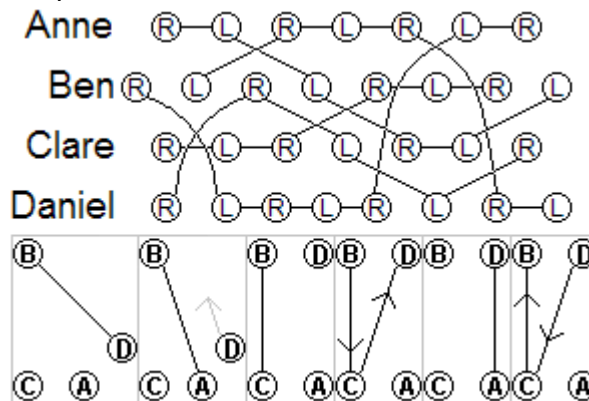
Pattern for Anne: Daniel self Daniel Ben self Daniel self self, with crossing single passes.

Pattern for Clare: self Ben self self Ben self Ben Daniel, with crossing single passes.

**Thirteen club patterns with walking**

**Thirteen club runaway**

This is an anticlockwise runaround between an urban terror feed and a pass pass self feed. At the start Ben is feeding Anne, Clare and Daniel on an urban terror feed. Daniel walks across the pattern after a pass to Ben and the pattern becomes a pass pass self feed. Clare and Daniel feed pass pass self. Anne and Ben pass three count.



Starting pattern for Anne: self Ben self, with crossing single passes.

Starting pattern for Ben: Daniel Anne Clare, with straight single passes.

Starting pattern for Clare: self self Ben, with crossing single passes.

Starting pattern for Daniel: Ben self self, with crossing single passes.

After Daniel walks across the pattern:

Pattern for Anne: self Daniel self, with crossing single passes.

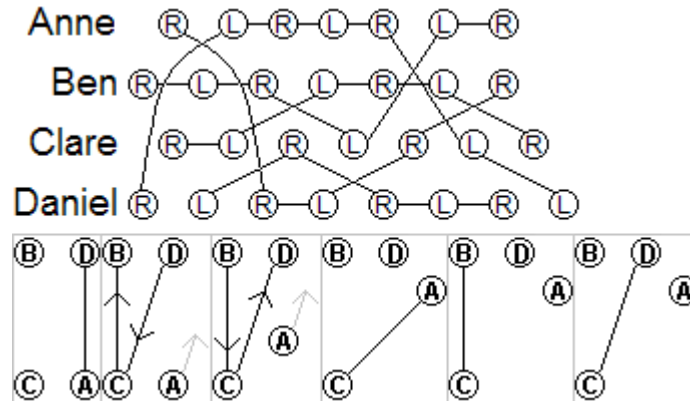
Pattern for Ben: Clare self self, with straight single passes.

Pattern for Clare: Daniel self Ben, with crossing single passes.

Pattern for Daniel: self Anne Clare, with straight single passes.

Continued on the next page...

Now everyone is juggling a pass pass self feed. Anne walks across the pattern after a pass with Daniel and the pattern becomes an urban terror feed, with Clare feeding Ben, Daniel and Anne.



Starting pattern for Anne: Daniel self self, with crossing single passes.

Starting pattern for Ben: self self Clare, with straight single passes.

Starting pattern for Clare: self Ben Daniel, with crossing single passes.

Starting pattern for Daniel: Anne Clare self, with straight single passes.

After Anne walks across the pattern:

Pattern for Anne: self Clare self, with straight single passes.

Pattern for Ben: self self Clare, with straight single passes.

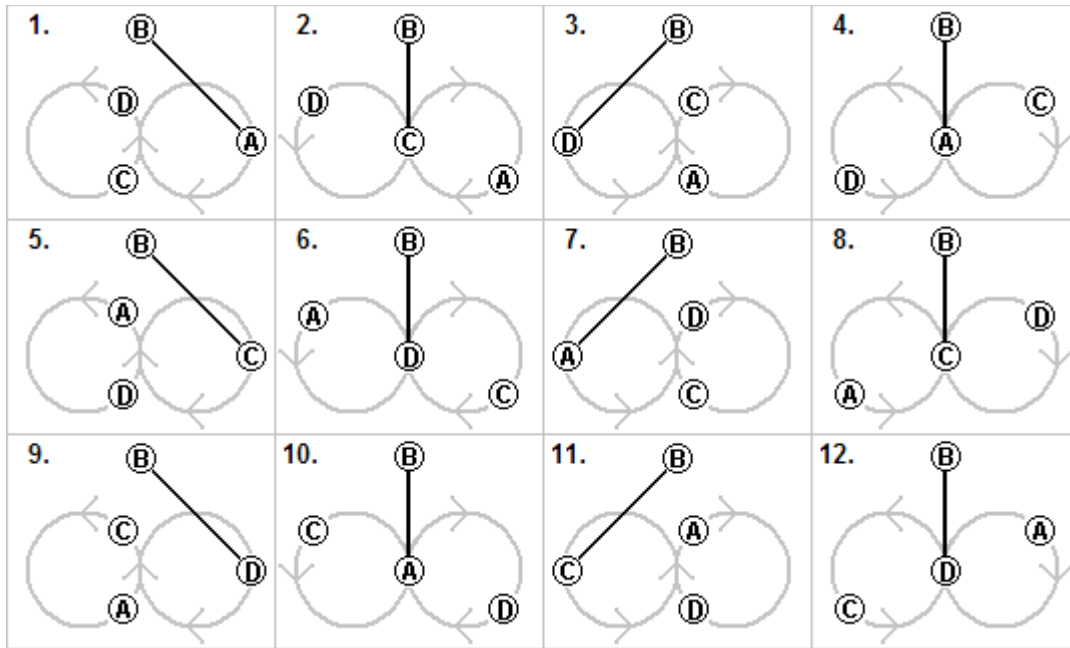
Pattern for Clare: Anne Ben Daniel, with crossing single passes.

Pattern for Daniel: Clare self self, with straight single passes.

Notes: whenever you walk across the pattern, you have two and a half beats to throw three self throws, so you have to juggle a bit faster.

Each time Ben and Daniel do the urban terror feed, they throw straight passes and everyone else throws crossing passes. When Anne and Clare do the urban terror feed, they throw crossing passes and everyone else throws straight passes.

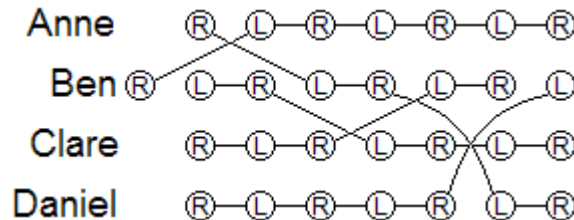
### Thirteen club weave



In this pattern all the passes are straight double passes. Ben starts with four clubs, one beat before everyone else. Ben does a sweep feed on two count. He passes to his left, the middle, his right and then the middle again. He also passes to each juggler in turn: Anne, then Clare, then Daniel. Anne, Clare and Daniel pass to Ben on six count as they walk around a figure of eight pattern. They pass to Ben as they walk backwards on the edge of the figure of eight pattern, and also as they walk forwards through the middle of the figure of eight pattern.

This pattern is easier if the feeder calls out each person's name as he passes to them.

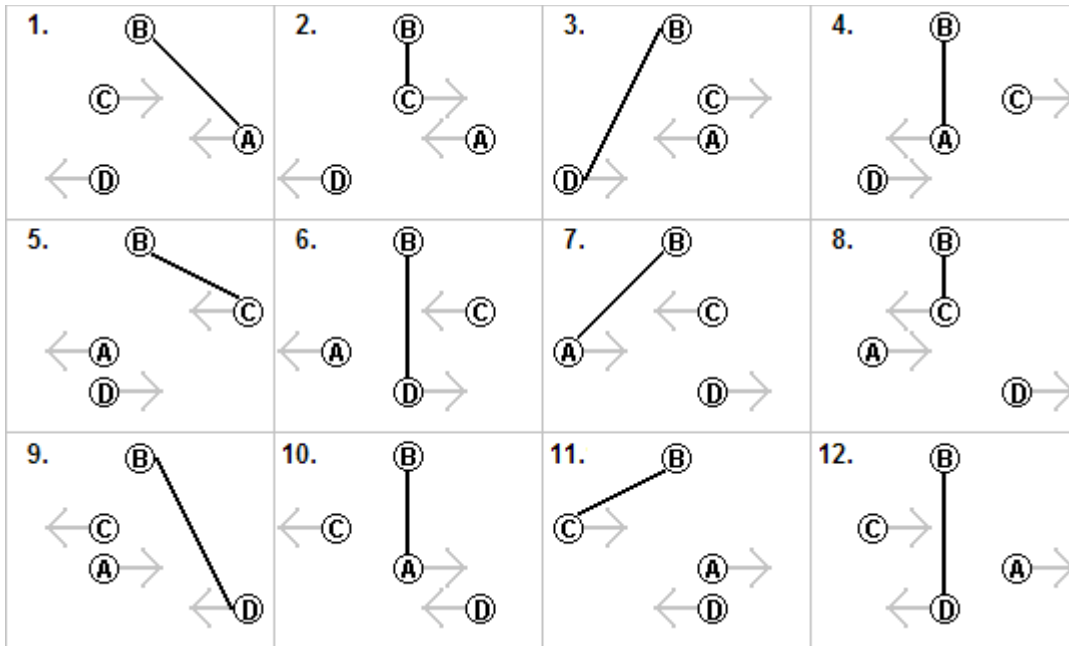
Here's the causal diagram for the pattern:



Colour coding: use seven red clubs for the passes and six green clubs for the self throws.

Note: you can do this weave with straight single passes.

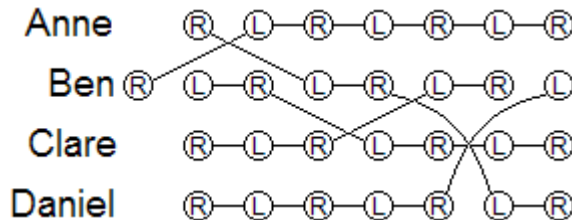
**Thirteen club dresser drawer weave**



In this pattern all the passes are straight double passes. Ben starts with four clubs, one beat before everyone else. Ben does a sweep feed on two count. He passes to his left, the middle, his right and then the middle again. He also passes to each juggler in turn: Anne, then Clare, then Daniel. Anne, Clare and Daniel pass to Ben on six count as they walk left and right along their own line. They pass to Ben when they are at either end of their line, and also when they are in the middle of their line.

This pattern is easier if the feeder calls out each person's name as he passes to them.

Here's the causal diagram for the pattern:

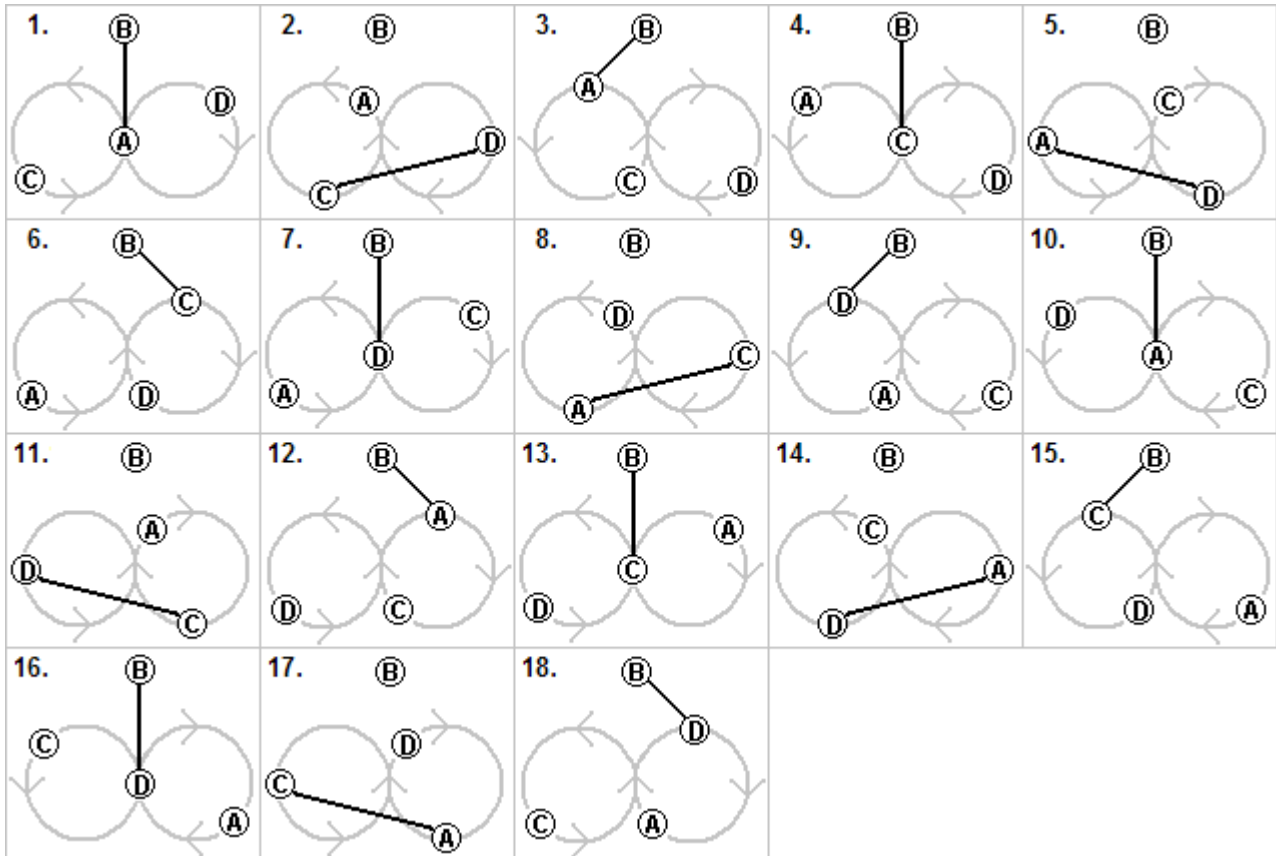


Colour coding: use seven red clubs for the passes and six green clubs for the self throws.

Note: you can do this weave with straight single passes.

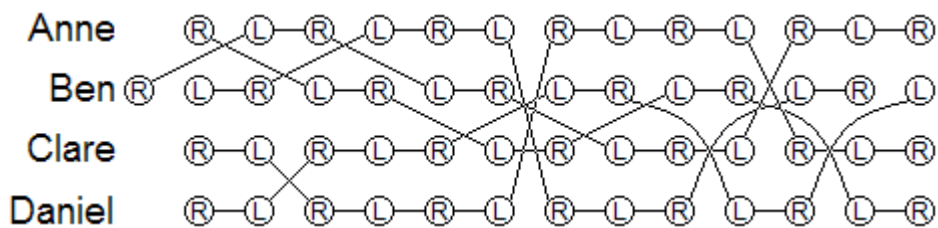


**Thirteen club it's a good one (countdown weave)**



In this pattern all the passes with the feeder are straight double passes. Ben starts with four clubs, one beat before everyone else. Ben does a sweep feed on two count. He passes to the middle, his left, the middle, and then his right. He also passes twice to each juggler in turn: twice to Anne, then twice to Clare, then twice to Daniel. Anne, Clare and Daniel do a countdown from two count to four count: two count, three count, four count, three count. They also walk on a figure of eight pattern as they do this. They pass twice to Ben on two count, as they walk forward through the middle of the figure of eight. They then walk to the edge of the figure of eight, turn to face the middle of the pattern and throw a left hand pass to one of the other walkers at the back of the figure of eight. They then walk to the back of the figure of eight pattern and throw another left hand pass to another walker. Then the pattern repeats on the other side of the figure of eight.

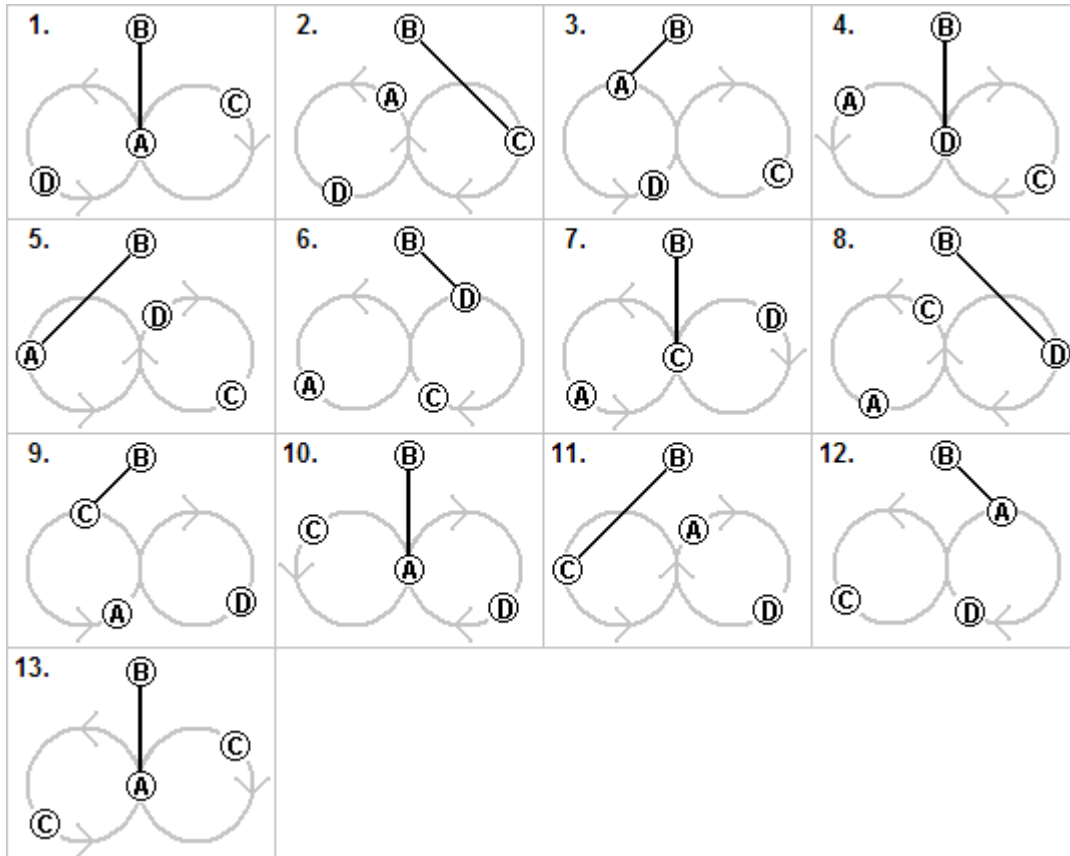
Here's the causal diagram for the pattern:



Colour coding: use five blue clubs, five green clubs and three white clubs. The feeder always passes blue clubs to the left and green clubs to the right. Each weaver has one white club which they never pass.

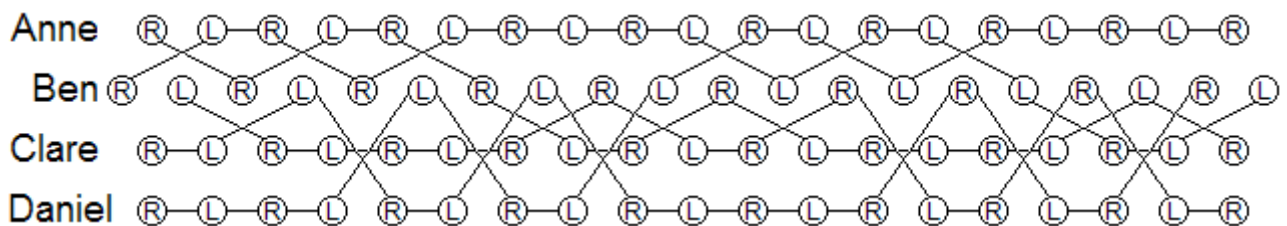
Note: you can do this weave with straight single passes.

**Thirteen club gorilla weave**

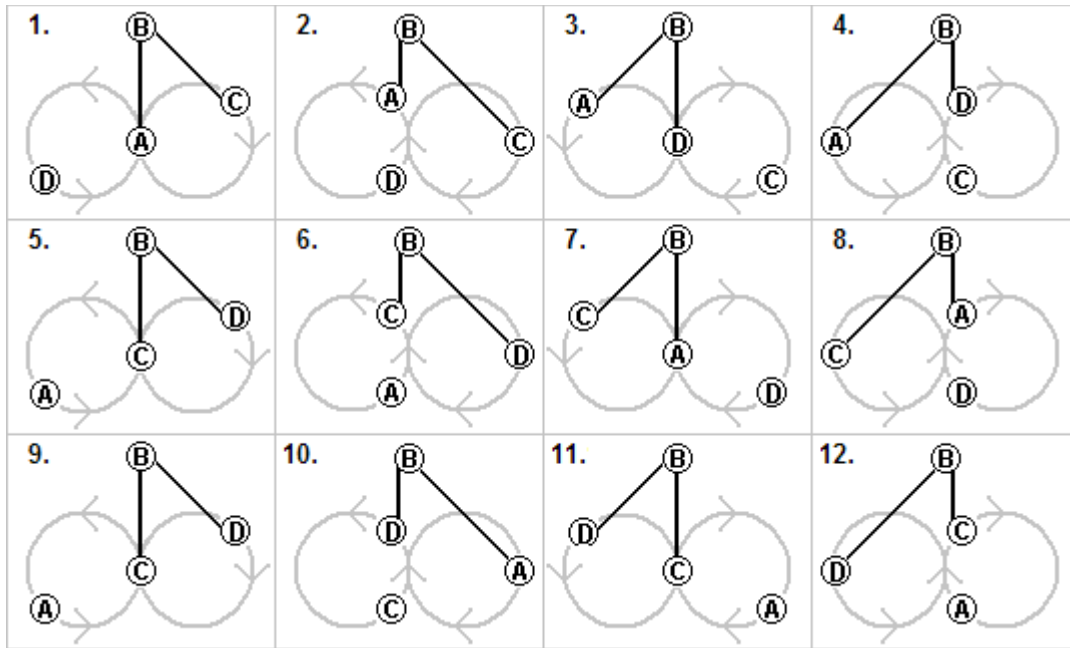


In this pattern Ben starts with four clubs, half a beat before everyone else. Ben throws straight single passes, and everyone else throws crossing single passes. Ben feeds on one count. With his right hand he makes three passes with each juggler: three passes with Anne, then three passes with Clare, then three passes with Daniel. With his left hand, Ben starts with one pass with Clare. After this he makes three passes with each juggler: three passes with Daniel, then three passes with Anne, then three passes with Clare. Anne, Clare and Daniel pass: two count, two count, five count. They also walk on a figure of eight pattern as they do this. They each pass with Ben three times in a row before doing their five count. They pass to Ben as they walk forwards through the middle of the pattern, as they walk left or right at the front of the pattern, and as they walk backwards at the edge of the pattern.

Here's the causal diagram for the pattern:

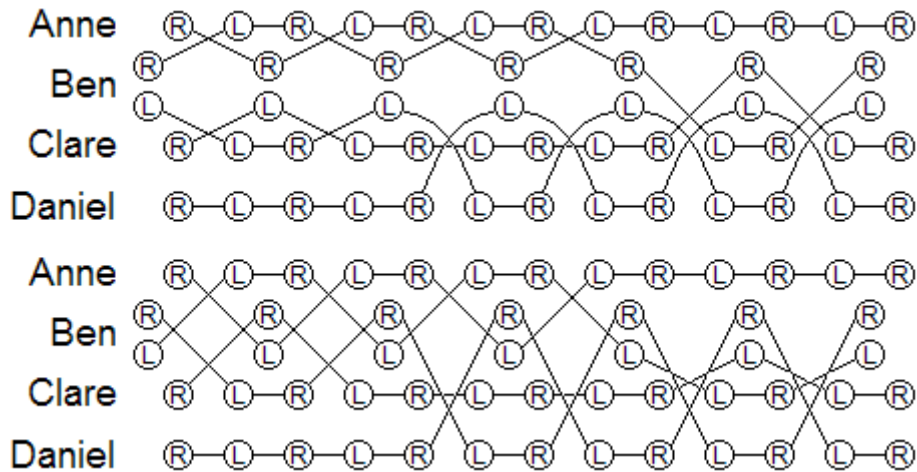


**Thirteen club synchronous gorilla weave**



In this pattern Ben starts with four clubs, half a beat before everyone else. Ben feeds on synchronous one count. All his passes are singles and he throws them to the weavers' left hands. He passes four times to each weaver, as they come forward through the middle of the pattern, as they walk across the front of the pattern, and as they walk backwards at the edge of the pattern. Anne, Clare and Daniel walk in a figure of eight as they pass to Ben. They pass three times to Ben on two count, and then they pass on six count as they walk at the back of the pattern.

Here's the causal diagram for the pattern:



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