

# A Scarf of Cambridge (or Bristol) Major

Asher Kaboth

November 7, 2014

## 1 Introduction

Change ringing is a practice for ringing church bells, invented by the English and enjoyed around the world (primarily in former British colonies). In change ringing, no recognizable tune is played on the bells. Instead, the bells are rung in carefully constructed permutations. So, for example, the bells would start in the order 12345678, then they might ring 21436587, then 24163857, and so forth. The important thing to note is that a bell can only move one ‘place’ at a time. In the example above, the number one bell starts off in 1sts place, then moves to 2nds place, then to 3rds. It couldn’t, however, jump straight from 1sts to 3rds. This is perfect for cabling!

I am a change ringer, and at some point it occurred to me that I should knit a method. (A method is a particular arrangement of changes. A change is each time all the bells ring—and all the bells must ring before a bell can ring again.) So I designed this scarf of a method called Cambridge Major<sup>1</sup>.

If you want to know more about change ringing, visit the North American Guild of Change Ringers website at <http://www.nagcr.org/>

To see the change ringers’ version of Cambridge and Bristol, see

<http://www.ringbell.co.uk/methods/cb8.htm> and

<http://www.changeringing.co.uk/downloads/BristolSMajor.pdf>

---

<sup>1</sup>Major means there are eight bells. Minimus is four, Doubles is five, Minor is six, Triples is seven, Caters is nine, Royal is ten, Cinques is eleven, and Maximus is twelve. If you’re ringing beyond that, you’re *completely insane*

## 2 The Pattern

Yarn: I used Lamb's Pride Worsted in Turkish Olive, three skeins.

Needles: American No. 9

Gauge: Meh. This is not a gauge dependent pattern. As long as your cables look good, and you aren't using 4s or 15s, you're probably fine. But, for those who really want it, I got four stitches and seven rows to the inch in the edging stitch (see below).

WARNING: This pattern involves cabling on the wrong side. This may not be for the faint of heart. However, I promise you that it's not hard, and that it's worth it. Be brave!

### 2.1 Edge

Cast on 48 stitches.

Rows 1 and 2: [k2,p2] repeat until end

Rows 3 and 4: [p2,k2] repeat until end

Repeat these four rows four times total

### 2.2 Cable set up

Row 17: [k2,p2] twice, p1, [k2,p2] seven times, k2, p1, [k2,p2] twice

Row 18: [k2,p2] twice, k1, [p2,k2] seven times, p2, k1, [k2,p2] twice

### 2.3 Cable!

Row 19: [p2,k2] twice, work row 1 of cable chart, [p2,k2] twice

Row 20: [p2,k2] twice, work row 2 of cable chart, [p2,k2] twice

Continue with cable chart, working the eight stitches on either side of the chart in established pattern. Repeat cable chart as necessary. Three repeats made a two meter scarf for me.

### 2.4 Edge

At the end of the cable chart (let's call it row 1' so as not to be scary, ok?)

Row 1' and 2': [p2,k2] repeat until end.

Row 3' and 4': [k2,p2] repeat until end.

Work these four rows three times total, then work rows 1', 2', and 3'. Work row 4', binding off in pattern.

### 3 A Note on Place Notation

If you like cable charts, feel free to ignore this section. However, note that each cable pattern is 128 rows and three dense pages long. However, you can carry the pattern in your head very easily in one line. This is called 'place notation'. For example, Cambridge looks like

x.38.x.14.x.1258.x.36.x.14.x.58.x.16.x.78(12)

Which is, admittedly, total gibberish until you know what you're talking about. (These are the numbers along the left hand edge of the cable charts.)

To make this clearer, let's look at the first five changes of Cambridge Major in Table ??.

1	2	3	4	5	6	7	8
2	1	4	3	6	5	8	7
1	2	4	6	3	8	5	7
2	1	6	4	8	3	7	5
2	6	1	4	3	8	5	7

Table 1: Cambridge Major

Each row is called a 'change'. To go from the first row to the second row, each numbered bell swaps places with its neighbor in the pairs 1-2, 3-4, 5-6, and 7-8. This is what's meant by the 'x' in place notation!

Now, beforewarned that the numbers in place notation are *not, not, NOT* the numbers of the bells. In the second change (row), for example, the six bell is in 5ths place. It's the *place* that matters in place notation. So every time there's an x is the place notation, the bell in 1sts place will swap with the bell in 2nds place, the bell in 3rds will swap with the bell in 4ths, etc, *no matter what the number of the bell in each place is.*

OK? OK. Now moving onto the third change. In this change, the bells in 1sts and 2nds swap, the bell in 3rds stays put, the bells in 4ths and 5ths swap, the bells in 6ths and 7ths swap, and the bell in 8ths stays put. This is abbreviated to '38'. So, basically, when you see numbers, the bells in those places will stay put and all the other bells will swap with the appropriate neighbor.

The fourth change is again 'x', so we swap all pairs, and the fifth is 14, so the bells in 1sts and 4ths stay put and all other bells swap.

Now, there's one last catch. Bell methods tend to be very symmetric beasts, and so they're abbreviated even more. Let's look at the place notation for Cambridge again:

x.38.x.14.x.1258.x.36.x.14.x.58.x.16.x.78(12)

What's that set of parentheses doing there? Well, when you get to the 78 change, you turn around and go back, like this:

x.38.x.14.x.1258.x.36.x.14.x.58.x.16.x.78.x.16.x.58.x.14.x.36.x.1258.x.14.x.38.x

... but you need one more change to make an even number to make the whole thing to work, so you add the number in parentheses, making the entire notation

x.38.x.14.x.1258.x.36.x.14.x.58.x.16.x.78.x.16.x.58.x.14.x.36.x.1258.x.14.x.38.x.12

I'm sure that was clear as mud.

Now, how does this apply to cabling?

To understand this, I'll explain a little bit about how the cables work. In the cable chart, four rows constitute a change. (Note that 1sts place is on the right in the chart, as you knit from the bottom of the chart up.) That is, a bell cable, constituting two knit stitches will move from its established place, swap with a neighbor, and end up back in an established place. Or, a bell cable will not move at all and just remain in its place. The first row of the change moves the bells to where they need to be to swap.

So if you're working on the first row (right side) of the change '38', you move the two stitches of the cable in 1sts place one stitch to the left, and the two stitches of the cable in 2nds one stitch to the right. The two stitches of the cable in 3rds stays put, 4ths goes one to the left, 5ths one to the right, 6ths one to the left, 7ths one to the right, and 8ths stays put.

On the second row of the change (wrong side), the swaps get made. Here's the rule: if the swap is being made between two places where the higher place is even, slip two and hold to the front. If the higher place is odd, slip two and hold to the back. So in our sample 8ths stays put, stitches get held to the back in 6-7 and 4-5, 3rds stays put, and stitches get held to the front in 1-2.

On the third row (right side), the bells return to their places. So in 1sts, the two stitches of the cable move one stitch to the right, 2nds one to the left, 3rds is still hanging out, 4ths one to the right, 5ths one to the left, 6ths one to the right, 7ths one to the left, and 8ths hangs out.



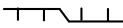

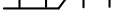

And finally, the fourth row (wrong side) is just relaxing, in pattern, and no cabling and just making everything neat for the next change.

So there you go. It's a bit easier once you've done a few changes, but I hope this section is somewhat helpful.

## 4 Copyright

This pattern is ©2009 by Asher Kaboth, and you may do any of the following things with it: copy it and share with your friends and/or enemies, modify it in large ways or small, *then* copy it and share with your friends and/or enemies, make as many objects as you want from it, and make objects for sale from it. You may not do any of the following things with it: pretend that you wrote it or sell the pattern or any modifications of the pattern. You should do the following things: attribute me in modifications of the pattern and when selling objects made from the pattern.

## 5 Stitch Key

	k1 on RS, p1 on WS
-	p1 on RS, k1 on WS
	slip one to cable needle, hold to back. k2, then p1 from cable needle
	slip two to cable needle, hold to front. p1, then k2 from cable needle
	on WS, slip two to cable needle, hold to front. p2, then p2 from cable needle
	on RS, slip two to cable needle, hold to front. k2, then k2 from cable needle
	on WS, slip two to cable needle, hold to back. p2, then p2 from cable needle
	on RS, slip two to cable needle, hold to back. k2, then k2 from cable needle

										56
16										55
										54
										53
										52
x										51
										50
										49
										48
58										47
										46
										45
										44
x										43
										42
										41
										40
14										39
										38
										37
										36
x										35
										34
										33
										32
36										31
										30
										29
										28
x										27
										26
										25
										24
1258										23
										22
										21
										20
x										19
										18
										17
										16
14										15
										14
										13
										12
x										11
										10
										9
										8
38										7
										6
										5
										4
x										3
										2
										1

										112
										111
14										110
										109
										108
x										107
										106
										105
										104
1258										103
										102
										101
										100
x										99
										98
										97
										96
36										95
										94
										93
										92
x										91
										90
										89
										88
14										87
										86
										85
										84
x										83
										82
										81
										80
58										79
										78
										77
										76
x										75
										74
										73
										72
16										71
										70
										69
										68
x										67
										66
										65
										64
78										63
										62
										61
										60
x										59
										58
										57

											128
12											127
											126
											125
											124
x											123
											122
											121
											120
38											119
											118
											117
											116
x											115
											114
											113



										56
14										55
										54
										53
										52
x										51
										50
										49
										48
58										47
										46
										45
										44
14										43
										42
										41
										40
x										39
										38
										37
										36
14										35
										34
										33
										32
36										31
										30
										29
										28
58										27
										26
										25
										24
x										23
										22
										21
										20
58										19
										18
										17
										16
14										15
										14
										13
										12
x										11
										10
										9
										8
58										7
										6
										5
										4
x										3
										2
										1

									112
14									111
									110
									109
									108
58									107
									106
									105
									104
x									103
									102
									101
									100
58									99
									98
									97
									96
36									95
									94
									93
									92
14									91
									90
									89
									88
x									87
									86
									85
									84
14									83
									82
									81
									80
58									79
									78
									77
									76
x									75
									74
									73
									72
14									71
									70
									69
									68
x									67
									66
									65
									64
18									63
									62
									61
									60
x									59
									58
									57

