

**CAMPANALOGIA:
OR THE
ART
OF
RINGING
Improved.**

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CAMPANALOGIA ***

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CAMPANALOGIA:

OR THE

ART

OF

RINGING

Improved.

**With plain and easie Rules to
guide the Practitioner in the
Ringing all kinds of *Changes*.**

TO

Which is added, great variety of
NEW PEALS.

LONDON,

Printed by *W. Godbid*, for *W.S.* and are to be sold by *Langley*
Curtis in Goat-Court on *Ludgate-hill*. 1677.

[Fleuron]

TO
THE HONOURED
AND TO
His much Esteemed FRIENDS,
The Members of the Society of
COLLEDG YOUTHS.

Gentlemen,

As your Society even *ab origine* hath deservedly acquired an eminency in many respects above others of this kind; so more especially for the pregnancy of its Members in the composing of *Peals*. For when the Art of *Cross-pricking* lay enveloped in such obscurity, that it was thought impossible that double Changes on five bells could be made to extend farther than *ten*, and triple and double Changes on six farther than *sixty*; then it was that a worthy and knowing Member of your Society, to dissipate those mists of Ignorance, and to usher in the bright morn of Knowledg, prickt those much applauded *Peals* of *Grandsire* and *Grandsire Bob*; which for their excellency have for many years together continued triumphant in practice amidst all others whatsoever; and which indeed have been a great light in the production of that great variety of new *Peals* herein contained; the greatest part of which being also the offspring of your Society, I therefore thought fit to usher them into the world under the wings of your Protection.

Gentlemen, as a member I held my self obliged to add my Mite to your full fraught Treasury of Speculative and Practical Knowledg of this kind; though I confess your acquisition on this account will be very mean, since my want of ability sufficient to undertake a thing of

this nature, and also want of opportunity by converse with others to supply my own defects, have rendred the Book less acceptable than it might have been done by some more knowing head and acuter Pen. And although I am conscious that it meriteth not your acceptance; yet I assume the confidence to believe that you will favour it with a kind entertainment amongst you; and the rather, for that I know you are too judicious to sentence it without first casting into the ballance of your indifferent judgments some Grains of Allowance: The countenance you shew it will silence Detractors, and be Armour of proof against the fools bolts which may happen to be soon shot at the Author, who is

Gentlemen,

*A constant well-wisher to
the Prosperity (though an
unworthy member)
of your Society,*

F.S.

ERRATA.

Courteous Reader,

Some few faults have escaped the Press: as page [27](#) line the 4th, for grateful read graceful. page [31](#). line the 19th. for imitatieg read imitating, with some others, which you are desired either candidly to amend, or tasitly to pass over.

[Fleuron]

OF THE ART OF Changes.

These clear dayes of Knowledge, that have ransackt the dark corners of most Arts and Sciences, and freed their hidden mysteries from the bonds of obscurity, have also registred this of *Ringing*, in the Catalogue of their Improvements; as well the Speculative as the Practick part, which of late years remain'd in *Embryo*, are now become perfect, and worthy the knowledge of the most ingenious. Although the Practick part of *Ringing* is chiefly the subject of this Discourse, yet first I will speak something of the Art of *Changes*, its Invention being Mathematical, and produceth incredible effects, as hereafter will appear. But first, I will premise a word or two, to shew what the nature of those *Changes* are. Some certain number of things are presupposed to be changed or varied; as 2.3.4.5.6. or any greater number whatsoever; then the number of things to be so varied must have the like number of fixed places assigned them. As if five men were sitting upon five stools in a row; the stools are supposed to be fixed places for the five men, but the men by consent may move or change to each others places at pleasure, yet still sitting in a row as at first: now this Art directs how, and in what order those five men may change places with each other, whereby they may sit sixscore times in a row, and not twice alike. And likewise a *Peal* of five Bells, being raised up to a fit compass for ringing of *Changes*, are there supposed to have five fixed places, which time assigns to their notes or strokes; yet the notes of the Bells may change into each others places at pleasure: now this Art also directs the manner and

method of changing the five notes in such sort, that they may strike sixscore times round, and not twice alike.

The numbers of *Changes* are thus to be discovered. *Two* must first be admitted to be varied two wayes; then to find out the Changes in *three*, the Changes on two must be multiplied by three, and the product will be six, which are the compleat number of Changes on three.

Those six Changes being multiplied by four, will produce 24, which are the compleat number of Changes on four. The 24 Changes on four, being multiplied by five, will produce 120, which are the compleat number of Changes on five. And in like manner the 120, being multiplied by six, will produce 720, which are the compleat number on six. The 720, being multiplied, by seven, will produce 5040, which are the number of Changes on seven. The 5040, being multiplied by eight, will produce 40320, which are the number of Changes on eight. Those Changes on eight, being multiplied by nine, will produce 362880, which are the number of Changes on nine. Those Changes on nine, being multiplied by ten, will produce 3628800, which are the number on ten. Those on ten, being multiplied by eleven, will produce 39916800, which are the number on eleven. Those also being multiplied by twelve, will produce 479001600, which are the compleat number of Changes on twelve. And if twelve men should attempt to ring all those Changes on twelve Bells, they could not effect it in less than seventy five years, twelve Lunar Months, one week, and three days, notwithstanding they ring without intermission, and after the proportion of 720 Changes every hour. Or if one man should attempt to prick them down upon Paper, he could not effect it in less than the aforesaid space. And 1440 being prickt in a sheet, they would take up six hundred sixty five Reams of Paper, and upwards, reckoning five hundred Sheets to a Ream; which Paper at five shillings the Ream, would cost one hundred sixty six Pounds five Shillings,

The reason of the aforesaid Multiplication, by which the numbers of Changes are discovered, and also that those Products are the true numbers of Changes, will plainly and manifestly appear in these following Demonstrations.

But first, *two* must be admitted to be varied two ways, thus.—

	12
	21

And then consequently, *three* will make three times as many Changes as *two*; for there are three times two figures to be produced out of three, and not twice two the same figures, which are to be produced by casting away each of the three figures one after another. First, cast away 3, and 1.2 will, remain; cast away 2, and 1.3 will remain; cast away 1, and 2.3 will remain. So that here are three times two figures produced out of the three, and not twice two the same figures, as 12. 13. 23. each two may be varied two ways, as before: then to the changes which each two makes add the third figure which is wanting; as to the two changes made by 1.2 add the 3, to the changes on 1.3 add the 2, and to the changes on 2.3 add the 1, and the three figures will stand six times together, and not twice alike, as here appeareth.

	123
	213
	—
	132
	312
	—
	231
	321
	—

Four will make four times as many changes as *three*. For there are four times three figures to be had out of four, and not twice three the same figures, which are to be produced by casting away each of the four figures by turns. First cast away 4, and 123 will remain; cast away 3, and 124 will remain; cast away 2, and 134 will remain; and lastly, casting away 1, and 234 will remain; so that here is 123, 124, 134, 234, and not twice three the same figures. Now each three may be varied six ways, according to the preceding Example. Then to the six changes which each three makes, add the fourth figure which is wanting; as to the six changes on 123 add the 4, to the six changes on 124 add the 3, to the six changes on 134 add the 2, and to the six changes on 234 add the 1, which renders the changes compleat; for

then the four figures stand twenty four times together, and not twice alike, as here appears.

1234
2134

1324
3124

2314
3214

1243
2143

1423
4123

2413
4213

1342
3142

1432
4132

3412
4312

2341
3241

2431
4231

3421
4321

Five will make five times as many changes as *four*; for there are five times four figures to be had out of five, and not twice four the same figures, which are to be produced as before, by casting away each of the five figures by turns. Cast away 5, and 1234 will remain; cast away way 4, and 1235 will remain; cast away 3, and 1245 will remain; cast away 2, and 1345 will remain; cast away 1, and 2345 will remain. So that here are five times four figures produced, and not twice four the same figures. Now each four may be varied twenty four ways, as in the preceding example; then to the twenty four changes which each four makes, add the fifth figure which is wanting: as to the twenty four changes on 1234, add the 5; to the twenty four changes on 1235, add the 4. to the changes on 1245, add 3. to the changes on 1345, add 2. and to the changes on 2345, add 1. which renders the changes compleat, for then the five figures stand sixscore times together, and not twice alike.

12345	12354	12453	13452	23451
21345	21354	21453	31452	32451
13245	13254	14253	14352	24351
31245	31254	41253	41352	42351
23145	23154	24153	34152	34251
32145	32154	42153	43152	43251
12435	12534	12543	13542	23541
21435	21534	21543	31542	32541
14235	15234	15243	15342	25341
41235	51234	51243	51342	52341
24135	25134	25143	35142	35241
42135	52134	52143	53142	53241
13425	13524	14523	14532	24531
31425	31524	41523	41532	42531
14325	15324	15423	15432	25431
41325	51324	51423	51432	52431
34125	35124	45123	45132	45231
43125	53124	54123	54132	54231
23415	23514	24513	34512	34521
32415	32514	42513	43512	43521
24315	25314	25413	35412	35421
42315	52314	52413	53412	53421
34215	35214	45213	45312	45321
43215	53214	54213	54312	54321



And in this manner the compleat numbers of changes on six, seven, eight, nine, ten, eleven, twelve, &c. may also be demonstrated.

The numbers of changes will also plainly appear by the methods, whereby they are commonly prickt and rung. Now the nature of these methods is such, that the changes on one number comprehends the changes on all lesser numbers, and that so regularly, that the compleat number of changes on each lesser number are made in a most exact method within the greater; insomuch that a compleat Peal of changes on one number seemeth to be formed by uniting of the compleat Peals on all lesser numbers into one entire body; which will manifestly appear in the 479001600 changes on twelve: for that Peal comprehends the 39916800 changes on eleven; these likewise comprehend the 3628800 changes on ten, these changes on ten comprehend the 362880 on nine, these on nine comprehend the 40320 on eight, these on eight comprehend the 5040 on seven, these likewise the 720 on six, the 720 also comprehend the 120 on five, the 120 comprehend the 24 changes on four, these also comprehend the six changes on three, and the six comprehend the two changes on two. Each of these Peals (*viz.*) on eleven, ten, nine, eight, seven, six, five, four, three, and two, being made in a most exact method within the changes on twelve. For Example, *two* are first admitted to be varied two ways, thus——

12
21

Now the figure 3 being hunted through each of those two changes, will produce the six changes on three. The term *Hunt*, is given to a Bell to express its motion in Ringing, which in figures is after this manner. It must lie behind, betwixt, and before the two figures: first behind them thus, 1 2 3; then betwixt them, thus, 1 3 2; now before them, thus, 3 1 2: this is called a *hunting* motion, and here it has hunted through the first change of the two, wherein it made three variations, as appears in the figures, standing thus in order.—

123
132
312

Now it must hunt through the other change, which is 2 1, in the same manner as before; that is, first it must lie before, then betwixt the two figures, then behind them, thus, 321, 231, 213. Here it has hunted through again, wherein it made three more variations; which three being set directly under the former, the six variations will then plainly appear, as in these figures: where the three figures stand six times together, and not twice alike.

123
132
312
321
231
213

Now the figure 4 being in like manner hunted through each of those six changes, will produce the 24 changes on four. First, therefore it must hunt through the first, which is 123, letter (a), then through the second change of the six, which is 132, letter (b); then through the third, which is 312, letter (c), and so it being hunted through the rest of the changes likewise, will produce the twenty four changes on four.

(a)	1234
	1243
	1423
	4123
(b)	4132
	1432
	1342
	1324
(c)	3124
	3142
	3412
	4312

The figure 5 being hunted through each of those twenty four changes, will produce the 120 changes on five, First therefore it must

hunt through the first, which is 1234, letter (*a*); then through the second, which is 1243, letter (*b*); then also through the third, which is 1423, letter (*c*). In which manner it being hunted through the rest of the twenty four changes, will produce the 120 on five. And then the figure 6 being hunted through each of those sixscore changes will produce the 720 changes on six. And the figure 7 being hunted through each of those 720 changes, will produce the 5040. In which manner also the eighth, ninth, tenth, eleventh, and twelfth, being successively hunted through each Peal in the aforesaid order, will at length produce the compleat number of changes on twelve. Wherein 'tis observable, that all the figures, except two, have a hunting motion; which two may properly be term'd the Center, about which the rest do circulate. By these methods it is evident, that every hunting figure hath a certain number of figures assigned, through which tis constantly to hunt: as in the aforesaid Example on twelve, where the 1.2 are assigned for the figure 3 to hunt through, as appears in the six changes before. And in like manner, 123 are assigned for the figure 4 to hunt through; 1234 are assigned for the figure 5 to hunt through; 12345 for 6 to hunt through, &c. Now the figure 3 hunts as many times through the 1.2. as those two make changes, that is, two times wherein it makes twice three changes, that is, six, as before appeareth. The figure 4 hunts as many times through the 123, as those three figures make changes, that is, six times; wherein it makes six times four changes, which amounts to twenty four. The figure 5 hunteth as many times through the 1234, as those four figures make changes, that is, twenty four times; wherein it makes twenty four times five changes, which amounts to 120. The figure 6 hunts as many times through the 12345, as those five make changes, that is 120 times, wherein it maketh 120 times six changes, which amounts to 720. And in like manner the figure 7 hunts 720 times through 123456, wherein it maketh 720 times seven changes, which amounts to 5040. The eighth hunteth 5040 times through 1234567, wherein it makes 40320 changes. The 9th hunteth 40320 times through 12345678, wherein it makes 362880 changes. The tenth hunteth 362880 times through 123456789, wherein it makes 3628800. The eleventh hunteth 3628800 times through 1.2.3.4.5.6.7.8.9.10. wherein it makes 39916800. And lastly, the twelfth hunteth 39916800 times through 1.2.3.4.5.6.7.8.9.10.11. wherein it makes 39916800 times twelve changes, which amounts to

479001600, being the compleat number on twelve. By which 'tis evident, that every hunting figure hunts as many times through its assigned number of figures, as those figures are capable of making changes, which in short comprehends the summe and substance of this method, which is universal from two, to all greater numbers whatsoever.

(a)	12345
	12354
	12534
	15234
	51234
(b)	51243
	15243
	12543
	12453
	12435
(c)	14235
	14253
	14523
	15423
	51423

If we consider the multitude of different words, wherewith we express our selves in Speech, it may be thought almost impossible that such numbers should arise out of twenty four Letters; yet this Art of variation will produce much more incredible effects. To give an instance thereof, I will shew the numbers of every quantity of Letters from two to twelve, that may be produced out of the Alphabet. The generality of Words consisting of these quantities, (*viz.*) two letters, three letters, four, five, six, seven, eight, nine, ten, eleven, and twelve letters. There are 10626 times four letters to be produced out of the twenty four letters of the Alphabet, and not twice four all the same Letters. There are likewise 42504 times five letters, 134596 times six letters, 346104 times seven, 735471 times eight, 1307504 times nine, 1961256 times ten, 2496144 times eleven, and 2704156 times twelve. Now each quantity being varied by the rules of this Art, will produce

incredible numbers. First the 10626 times four letters, being multiplied by 24, which are the number of ways to vary each four letters, will produce 255024 that is to say, four letters may be produced out of the Alphabet to stand together after this manner (*a b c d*) two hundred fifty five thousand and twenty four times, and not twice alike. And in like manner, the 42504 times five Letters, being multiplied by 120, which are the number of ways to vary each five, will produce 5100480. The 134596 times six letters, being also multiplied by 720, will produce 96909120. The 346104, being multiplied by 5040, will produce 1744364160. The 735471, being multiplied by 40320, will produce 29654190720. The 1307504, being multiplied by 362880, will produce 474467051520. The 1961256, being multiplied by 3628800, will produce 7117005772800. The 2496144, being multiplied by 39916800, will produce 99638080819200. And lastly, the 2704156 time twelve letters, being multiplied by 479001600, will produce 1295295050649600, which products being all added together, as also 12696 which are the numbers consisting of two and three letters, the whole will amount to 1402556105125320, wherein there are not two alike, nor two letters of one sort in any one of them; which being written or printed on large Paper in *folio*, allowing 5000 to a sheet, they would take up 561022442 Reams of Paper and upwards, reckoning 500 sheets to a Ream: which Paper all the Houses in the City and Liberties of *London* would not contain; and in quantity doubtless infinitely exceeds all the Books that ever were printed in the world, reckoning only one of each Impression. And at the rate of five shillings the Ream, the Paper would cost 140255610.5 Pounds sterling; which is above four times as much as the yearly Rent of all the Lands and Houses in *England* amounts to. And all the people both young and old in the City and Suburbs of *London* (admitting they are five hundred thousand) could not speak the like numbers of words under forty years and upwards, each of them speaking 15000 every hour, and twelve hours every day. These prodigious numbers are the more to be admired, considering that the greatest number of letters in any of them, exceeds not twelve, neither are two letters of one sort in any one of them: but by producing and varying all the greater quantities, and placing two or more letters of one sort, or two of one sort and two of another, with all variety of the like nature that commonly happens in words, the numbers arising thereby would infinitely

exceed the former; And if all the numbers of every quantity of letters from one to twenty four, together with all the variety as aforesaid, were methodically drawn out and varied according to the rules of this Art; which might easily be performed in respect of the plain and practical method of doing it; but the infinite numbers of them would not permit a Million of men to effect it in some thousands of years: it would be evident, that there is no word or syllable in any language or speech in the world, which can be exprest with the character of our *Alphabet*, but might be found *literatim* and entire therein; and more by many thousands of Millions than can be pronounced, or that ever were yet made use of in any language.

I will here give one instance of another kind, shewing the admirable effects of this Art, and so conclude. A man having twenty Horses, contracts with a Brick-maker to give him one hundred pound Sterling; conditionally that the Brick-maker will deliver him as many Loads of Bricks, as there are several Teams of six Horses to be produced out of the aforesaid twenty to fetch them, and not one Team or Sett of six Horses to fetch two Loads. The Brick-maker might be thought to have made a very advantageous bargain, but the contrary will appear. For there are thirty eight thousand seven hundred and sixty several Teams of six Horses, to be produced out of twenty, and not twice six the same Horses; then the Brick-maker must deliver as many Loads as there are Teams, and each Load consisting of five hundred Bricks, the whole would amount to 19380000, which being bought for one hundred pounds as aforesaid, would not cost above five Farthings a thousand; and at the rate of thirteen shillings and four pence the thousand, they amount to twelve thousand nine hundred and twenty pounds Sterling. But should a contract be made with the Brick-maker to deliver as many Loads of Bricks, as there are Teams of six Horses in each, to be produced out of the aforesaid twenty, which shall stand in the Cart in a differing manner; that is to say, although there may be the same Horses in several Teams, yet their places shall be so changed, that they shall not stand twice alike in any two Teams. On this account the Brick-maker must deliver seven hundred and twenty times as many as before; for there are 38760 several Teams as before I have shewed: then each Team may be placed 720 ways in the Cart, and not twice alike, which is to be done according to the methods whereby the 720 changes on six Bells are rung. So that 38760, which are the

number of Teams, multiplied by 720, which are the number of ways to vary the six Horses in each Team, the product will be 27907200, which are the compleat number of Teams; and every Team carrying one Load, consisting of five hundred Bricks, the Whole will amount to 13953600000 Bricks. And after the proportion of a hundred and fifty thousand of Bricks to a House, they would build ninety three thousand and twenty four Houses; which are above six times as many as the late dreadful fire in *London* consumed. And at the rate of thirteen shillings and four pence the thousand, they are worth 6976800 pounds Sterling, which is at least four hundred Waggon-loads of money, as much as five Horses can ordinarily draw.

[Fleuron]

AN
INTRODUCTION
To the Practice of
RINGING

As the original design of casting Peals of Bells was in order to make pleasant Musick thereon; so the Notes in every Peal are formed apt for that end and purpose, every Peal of Bells being tun'd according to the principles of Musick; for in a Peal of six Bells are the six plain Song-Notes, whereupon all Musick consists, namely, *la sol fa mi re ut*. But in regard that in ringing of them the Notes cannot be had at command, as the Notes of other Instruments may; therefore, as the Practitioners in ancient time found some necessity to cause all the Notes to strike successively after one another, so likewise they thought fit in ringing them to place the Notes in this following order. The least note to lead or strike first, then the Note which is the next degree deeper or flatter, and so the rest of the notes to strike after each other according to their degrees, the flattest striking last; in which order the notes were successively reiterated both at fore-stroke and back-stroke, from the beginning to the end of each Peal. And at this day the same order is also observed in raising, ceasing, and ringing them at a low compass; wherein each note being confin'd to strike in a certain place, therefore had they their terms of First, Second, Third, Fourth, Fifth, &c. given them, to denote their order and places of striking; from whence also the Bells derive those terms of distinction by which they are now known. Although the ringing of a Peal of Bells in the aforesaid order, (which is commonly term'd *Round-ringing*) is in it self Musical; yet the Notes may be so placed in ringing, that their Musick may be rendred much more pleasant:

for in Musick there are Concords, which indeed may be term'd the very life and soul of it, that renders all Musick exceeding pleasant: the principal are Thirds, Fifths, and Eights; Thirds are 1 3. 2 4. and such like: Fifths are 1 5. 2 6. &c. Eights are 1 8. 2 9. 3 10. &c. each Concord consisting of two notes. They may well be termed Concords, in respect of their agreement and harmony; for the two notes (as if it were by mutual consent) being struck together at one instant, or else immediately after one another, affords delightful melody to the ear; in which respect, a peal of five Bells are capable of making better Musick than a peal of four; six better than five; and more especially will ten or twelve make more excellent Musick than any lesser numbers can possibly do, there being greater variety of Concords therein, and especially of Eights. For this Musical end were changes on Bells first practised, *changes* being nothing else but a moving and placing of the Notes in ringing, whereby variety of pleasant Musick is made; and as the manner of moving the notes, is, for two notes to change places with each other, therefore are they called *Changes*. The methods of changes being somewhat intricate, I have therefore penn'd the following Treatise as a Clue to guide the Practitioner through the Labirinth of them, wherein I have made use of figures to represent the notes of Bells, the manner thus. In a peal of five Bells there are five several notes, which with figures are thus exprest, 1 2 3 4 5: the figure 1 represents the least or sharpest note, which is term'd the First, because its place in round ringing is to lead; this note is most commonly called the *Treble*. The figure 2 represents the note which is the next degree deeper or flatter, and is term'd the Second, because it strikes in the second place. And in like manner 3 represents the note of the third Bell, 4 the note of the fourth Bell, and 5 the note of the Fifth or Tennor. In which manner, the figures in all the following methods do likewise represent the notes of Bells.

Since the ringing of changes requires the peal of Bells, on which the changes are to be rung, to be first raised up to a set Pull, which compass is most proper for the ringing of them; therefore the Learners first practice must be to raise a Bell true in peal, to ring it at a low compass, and also to cease it true in peal, wherein consists the chief grounds of this Art, which depends on the Ear, and therefore much judgment is required therein. And to speak the truth, most practitioners are in these days somewhat deficient herein; the ringing of changes having generally diverted the Learners fancy from

the practice of *raising*, *round-ringing*, and *ceasing*, by which means we have in a manner lost one Excellency in the pursuit of another. Therefore I could wish that the Practitioners of this Art would set a greater esteem on true Ringing in general, since the only excellency as well in the ringing of Changes as Rounds, depends thereon: the keeping of time being as essential to render all kinds of ringing pleasant to the ear, as 'tis to render any other kind of Musick; therefore the practitioner ought to have a Musical eare, and to have some judgment in beating time, without which he can never ring his Bell true in its place. A prospect of true ringing at any certain compass under the Sett, may thus be taken; for Instance, in ringing a peal of 5 Bells; from the fore-stroke of every note to the next fore-stroke of the same note, there ought to be eleven *punctums* or Beats of time, which are all supposed to stand at *Æquidistances*: now in ten of these *punctums*, the five notes ought exactly to strike at the fore-stroke and back-stroke, and the eleventh stands as a Cypher to guide the Treble-note at fore-stroke to a double proportion of time from the Tennor-note at back-stroke: which blank *punctum* must also be beaten in the same place by every note, to render its fore-stroke answerable to that of the Treble. For example; the third note having struck at fore-stroke, it must beat eleven *punctums* of equidistance unto its striking there again. The first *punctum* is that of the 4th note, the second 5, the third 1, the fourth 2, the fifth 3, the sixth 4, the seventh 5, the eighth 0, the ninth 1, the tenth 2, the eleventh its own place of striking again at fore-stroke. These *punctums* or Beats of time, must be proportioned either wider or closer, according to the compass of the Treble: therefore first the Treble must fix its compass certain and true at fore-stroke, which ought to be proportionate to what the number of the notes, and compass of the peal of Bells, may according to judgment permit; and then from one fore-stroke of it to the next, if there are five notes; there ought to be eleven *punctums* of equidistance assigned, wherein the notes should exactly strike (except the blank) as before. From hence 'tis, that the most judicious Ringer ought to be put to the Treble; for that bell cannot possibly be rung true by any other means than by beating of its own time; and although the exactness of true ringing requires the like in every note, when once the compass is fixed, yet the leading note being rung true, may be a guide to the rest of the notes, which may tolerably take their measures of time from the Treble-note: but for every note to

take its measure of time solely from the next preceding note, must needs be very erroneous; for thereby they implicitly lead one another out of the way. Or else in the ringing of five bells, from the fore-stroke of every note to the next fore-stroke of the same note, there may be one and twenty *punctums* or beats of time assigned, to stand at equidistances; and the five notes, as they follow one another, at the fore-stroke and back-stroke to strike in every second *punctum*, except the Treble-note at fore-stroke, which must strike in the third *punctum* from the Tenor at back-stroke; so that then there will be two of those spaces betwixt every note, and three betwixt the note of the Tenor at back-stroke and the note of the Treble at fore-stroke, which possibly by some may be held a better compass than the former: but *quot homines tot sententiæ*. Every Practitioner, that has judgment to beat his own time, has the advantage of ringing his bell true, whilst the rest of the notes commit faults; for the compass being once fixed, as many bells as do either rise or fall from thence commit errors.

The truest way of raising a peal of bells according to the best of modern practice, is, as quick as may be; every Ringer taking assistance to raise his bell, according as the going of it requires. In raising of them, the lesser bells as the Treble &c. ought at the first pull to be swayed very deep, and held down in the sway by strength of armes as much as may be, to delay the time of their first striking, by which means the bigger bells, which carry a large compass, may have space to come in; and the raising of the smaller bells to be continued with a strong pull, giving them scope over head (for the aforesaid reason) untill they come up Frame-high, or thereabouts, and then the pull to be slacken'd, and the bells leisurely to be raised to the intended height or pitch. The bigger bells of the peal, as the Tenor &c. must in their first raising be checkt or pinch'd over head, by which means the notes of all the bells may be made to strike round in their due place and order from the beginning; and observe, that at the first pull all the bells must follow one another as close as may be. A peal of bells may thus be ceased: the falling of the bells from a Sett-pull must gradually be done, by checking them only at Sally, until the low compass renders the Sally useless; and when they are ceased so low, that they scarce strike at back-stroke for want of compass: then he that rings the Treble, may give notice (by stamping on the ground) that the next time the bells come to strike at the fore-

stroke, they may be checkt down so low as to cease their striking at the back-stroke, yet their striking round at the fore-stroke may be continued, until they are brought into a chime, which is a graceful conclusion of a peal.

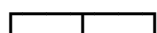
In raising of a peal of bells, all the notes ought to strike round at one pull: but mistake me not, I do not mean at the first pull; for at small bells 'tis usual to sway them all round at the first pull without striking; at the second pull to strike them at the fore-stroke, and at the third pull at back-stroke. In raising of a peal of more weighty bells, 'tis usual to strike them double at the fourth pull, because the extraordinary weight and large compass of the hind-bells permits it not to be done sooner. In the first raising of a peal of bells, one bell ought not to strike before the rest, or to miss striking when the rest go round: neither ought any bell in ceasing to strike after the rest, or to leave striking before the rest; all which, according to the strictness of true ringing, are accounted great faults.

The peal of bells on which the changes are to be rung, must first be raised up to a Sett-pull, which compass is most proper for the ringing of changes; for then the notes of the bells may be had at command. Therefore before the young Practitioner can be capable of ringing changes, he must be extraordinary well skill'd in the managing of a bell at a Sett-pull, which is absolutely requisite, for this reason: In the ringing of changes, his mind will be so busied and wholly taken up with the consideration of the course and method of them, and his eye continually wandring about to direct his pull in the following of the other bells; that unless he has extraordinary skill in the managing of his own bell, and can set it in a manner hood-winkt, he will be apt either to drop or overturn it; or else on the other hand, for want of skill, his eye and mind will be so fixed on his own rope and bell to guide the managing of it, that he cannot at the same time mind the course of the changes, and then no wonder if he is in a wood, which consequently follows; and indeed hence partly 'tis, that the Learners in their first practice do oftentimes toil and moil themselves to so little purpose. Therefore 'tis not enough that the young Practitioner can set a bell it may be half a score times together, when 'tis an even wager that he either drops or overturns it in those ten-pulls: but he must be so perfectly skill'd, as that he might adventure to lay ten to one, that he can set it thirty or forty times

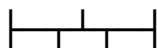
together, both fore-stroke and back-stroke, without dropping or overturning it, and without looking directly either on his hands or rope whilst he sets it. Therefore in his practice of setting a bell, he may cast his eye about on the other bell-ropes whilst he manageth his bell, whereby he may accustom himself to manage it as the ringing of changes requires.

The ringing of changes is performed, partly by the ear, and partly by the eye; the ear informs when to make a change, the eye directs the pull in the making of it, but then again the ear guides the striking of the note true in its place according to time. So that the ear and eye have each of them its proper object in the ringing of changes, and therefore ought at the same time to be absolutely free from all others whatsoever, the notes of the bells being the object of the ear, and the bell-ropes the object of the eye. Now these two Senses in the time of ringing do each of them thus perform its office. First, the ear, as a Sentinel, discovers the near approaching change, and also the place wherein his note lies, that is, whether before or behind the note wherewith 'tis to make a change, and gives present information to the eye, to perform its part accordingly in the making of it; but then again the eye refers it to the ear, to place the note true in striking. But questionless (by the bye) the truest ringing of changes is to be performed only by the ear; but then the Practitioners must be capable to judge of time, and to beat it true, which must be the only direction to guide their pull; and then it must be performed at a peal of bells that may be managed with ease: and being so fitted in all respects, the changes may doubtless be rung more true, with greater pleasure to the Practitioners, and much more free from mistakes and forgets, only by the ear, than by making use of the eye to direct their pull. But in regard that either the ill going of the bells, or want of fit accomplishments in the practitioners, may render it unfit for common practice; therefore the surest way is to ring both by the eye and ear, as I said before. Now to render the eye and ear rightly useful in the ringing of changes, five things ought by the young Practitioner to be well understood. First, he must be able to distinguish the notes of a peal of bells, and to know one from another in the time of ringing. Secondly, he must apprehend the places of the notes. Thirdly, the precedency of notes. Fourthly, the manner of making a change in ringing. Fifthly, a general prospect of the manner of putting the four preceding notions into practice.

Observation 1. The Learner must be able to distinguish the notes of a peal of bells one from another, and to know them asunder; as the Treble-note from the Second, the Second from the Third, &c. which, tis true, may readily be done in round ringing, because each note may be known by the place wherein it constantly strikes; but in ringing of changes it is more difficult. For admitting that six bells should strike in this order, 5.3.6.1.4.2. it might puzzle an unskilful ear to judg which is the Treble, or which the Second note, especially whilst any other note strikes betwixt them: and the like difficulty might happen in distinguishing the rest of the notes, as the 2*d* from the 3*d*, &c. To remove this difficulty, he must endeavour to acquire some skill in tuning the notes of a peal of bells, with his voice, which he may do by imitating the notes of the bells when he hears them ring: or else any person that has skill in singing, will presently direct him therein, and also how to take the true pitch of any notes with his voice, which will be the only means to distinguish them asunder.



| 1 | 2 |



| 3 | 4 | 5 |



Observ. 2d. The Learner must rightly apprehend the places of the notes, which I think cannot better be done than by this means. Considering that the notes of a peal of bells do all strike one after another at the fore-stroke, and the like at back-stroke; it might be requisite for him to imagine, that the notes in their striking do lie in a direct line, that is, in a row at the fore-stroke, and the like again at back-stroke; for then the places of the notes will much resemble the places of the figures wherewith the changes are prickt: for as the figures of every change do all stand in a row; so likewise the notes of the bells, being imagined to strike in the like row, he may the more readily apprehend the places of the notes, and consequently of changing them. For the practick part of this Art, is performed by means of imaginary, not real notions; which will thus manifestly appear. This is the platform of a Frame, wherein five bells may be supposed to hang in a Steeple, the figures therein representing the places wherein the five bells hang. Now in the sixscore changes on five bells, we will suppose the Treble to be the whole Hunt, and to hunt up first over the Second, then over the Third, &c. Now the Treble cannot really move out of the place wherein it hangs; but by delaying its striking untill the Second Bell has struck, it may by that means strike next after it; and again, by delaying its striking until the Third has struck; it may also strike next after that, this being the true manner of the changes; by which 'tis evident, that the bells have neither really such places nor motion as is pretended, but is meerly imaginary, and was at first feigned only as a Guide to direct the Practitioner's apprehension in the ringing of them. So that although the art of changes is in it self a real thing, yet the notions by which they are reduced to practice on bells, are not so. For which reason, the several practitioners of this Art, before they can become expert, are fain to form in their minds imaginary notions to guide them; some after one manner, some perhaps after another, according to their several fancies, yet all tending, to render the methods of changes practicable on bells; and having once form'd in their minds

such imaginary helps, they become expert in short time: and then no sooner do they understand the methods of changes prickt with figures, which they commonly discover at first view; but they are presently capable of ringing them readily on bells, which experience daily testifies. And hence it is, that oftentimes the Learners, although they perfectly understand the methods of changes prickt, and also can perfectly manage a Bell; yet for want of a right apprehension of the nature of changing the notes, which of themselves it may be they cannot soon attain, are therefore much puzzled in their first practice of ringing changes. Therefore as a guide, the Learner must first form in his mind a fit representation of the places of the notes; which I think cannot better be done, than by imagining each note to be a figure; as the Treble-note to be the figure 1, the second note the figure 2, the third note the figure 3, and the like of the rest. Then whensoever he hears a peal of bells ring, let him by strength of imagination conceit, that each note bears the shape of a figure; that is, at the same instant of time that the note strikes, he may imagine that it leaves the impression of the figure behind it, and that with the eye of his imagination he perfectly sees it: and likewise as the notes of the bells do all strike after one another at the fore-stroke, so he may imagine that they lie in a row in the shape of figures; and the like again at back-stroke. For instance: suppose that five Muskets were charged with five bullets, and that each bullet bears the shape of a figure; one Gun to be charged with the figure 1, another with the figure 2, and the other three Guns with these three figures, 3. 4. 5. Then supposing a straight line were drawn upon the wall, thus ————— and that the five Muskets were by five men levell'd against the line, which is to be the mark for them to shoot at; the figure 1 to be first shot off, then the figure 2, and so the rest in order immediately after one another: now at the same instant of time that the Guns are heard to go off, the five figures would appear in a row upon the wall, thus. —1—2—3—4—5— So in like manner when he hears a peal of five bells strike after one another at the fore-stroke, and again at back-stroke, he may imagine that at the very instant of their striking their notes appear to his apprehension in the shape of the five figures, and that they strike in a row, thus, 1 2 3 4 5, as if each Bell were a Gun, and had shot out its note in the shape of a figure. There being necessity that the young Practitioner must either imagine each note to be a real figure, or else a representative: for as

the ear is to be his guide to direct when to make each change; so a right apprehension of the motion and places of the notes, must be a means to guide his ear. Now in regard that the changes are first prickt with figures, from whence the notes of the bells derive their course, therefore if in ringing he imagine each note to be a real figure, then the same knowledge that guides the pricking, guides also as readily the ringing of them, for then the note of his bell is supposed to have the same course with that of a real figure. But if he imagines that each note is not a real, but a representative of a figure; then consequently it must only have the like, and not the same course: by which means, whilst he is ringing of changes, his mind must have frequent recourse to his Pocket, that is, to the changes there prickt; from whence he must continually fetch instructions to direct the course of his Bell, which is oftentimes the case of the Learner: his thoughts in the time of ringing being commonly upon the figures that are prickt, either upon paper, or else upon the Steeple-wall, whilst it should be wholly intent upon the notes. Therefore in a word, the Practitioner whilst he is ringing of changes, must fix his mind fully and wholly upon the notes of the bells, and not permit it in the least to wander from thence; for the notes are to be the sole object of the thoughts in the time of ringing.

The notes being imagined to strike in a row as aforesaid, their places will then soon be understood. The notes do take their places according to their successive order of striking both at fore-stroke and back-stroke; each succeeding note taking its place next to that which preceds it: for whatsoever bell leads either at fore-stroke or at back-stroke, its note lieth in the first place of the supposed row of notes; and that which strikes next after the leading note, its note lieth in the second place of the supposed row of notes, and so the rest in the like order. As if five bells should strike thus after one another either of fore-stroke or back-stroke, 5 4 1 2 3. here the *5th* lieth in the first place, because it was first struck; the *4th* in the second place, because it was second struck; the Treble in the third place, because it was third struck; the *2d* in the fourth place, because it was fourth struck; and the *3d* in the last place, because it was last struck; and the like of the notes in every change.

Observ. 3. The next thing to be understood by the Learner, is the precedency of the notes. Now whereas in the ringing of changes, the

notes do all strike after one another at the fore-stroke, and again at the back-stroke, therefore are they said to lie before or behind each other, according to their places of striking. As if five men were standing in a row, as these five figures represent, 1 2 3 4 5, the first man to stand at the fig. 1, the second man at the figure 2, &c. and that they stand with their faces all one way, that is, the first man ready to lead, and the rest to follow him one behind another. Now the first man stands before the rest, and the fifth man behind the rest; the second man stands behind the first man, but before the third; the third man stands behind the second, but before the fourth; and the fourth stands behind the third, but before the fifth. In which manner the notes being supposed to strike in the like row, may also be laid to lie before or behind each other as the men did. For whatsoever note leads either at fore-stroke or back-stroke, is said to lie before the rest; and that which strikes last, to strike behind the rest. The note which lieth in the second place, as on the one hand it lieth behind the leading note, so on the other hand it lieth before the note in the third place. As the note in the third place lieth behind the note in the second place, so it lieth before the note in the fourth place. And in like manner, every note is said to lie behind those that strike before it, and before those that strike after it.

Observ. 4. A Change is to be made betwixt two notes, by moving them into each others places; wherein 'tis to be observed as a general Rule, That every change must be made betwixt two notes that strike next to each other. As if five bells were ringing round in this order, 12345, the 1 and 2 may make a change, or 2 and 3, or likewise 3 and 4, or 4 and 5, because each two lie next each other; but the 1 and 3 cannot, because 2 strikes between them, much less may 1 and 4, &c. The two notes which make every change, moves into each others places in the making of it; wherein one note is said to move *up*, and the other *down*. The reason why one of them is said to move up, is, because he that rings that bell, in the making of the change must hold it up at the Sett a little longer than ordinary, to delay its striking, whereby 'tis made to follow the other note which before it preceded; and because 'tis so held up, therefore 'tis said to make an *Up-change*, or to move up: and on the contrary, the reason why the other note is said to move down, is, because he that rings it, pulls down the bell a little sooner than ordinary, to make it strike before the note which before it followed; and because 'tis so pulled down,

therefore it is said to make a *Down-change*, or to move down. I will here give a short though certain rule to know when an Up-change or a Down-change is to be made: whensoever any note moves to strike behind the note wherewith it makes a change, it makes an up-change in doing it; and whensoever it moves to strike before the note, which 'tis to make a change with, it makes a down-change in doing it: so that every note which moves fromward the leading-note, makes an up-change; and when it moves toward the leading-note, it makes a down-change. I will here shew the manner of making a change: admitting that a peal of five bells were raised to a sett-pull, which is the usual compass for ringing of changes; the notes are first supposed to strike in this order, 12345. Now a change may be made betwixt any two notes that strike next each other; I will here make it betwixt the 3d. and 4th. which is to be done by moving them into each others' places. Now 'tis observable, that before the making of the change, the 3d. note lies before the 4th. that is, it strikes next before the 4th; and the 4th. lies behind the 3d. that is, it strikes behind it: now in the making of the change, the 3d. must move to strike behind the 4th: wherein it makes an up-change; and the 4th. note at the same time must move to strike before the 3d. wherein it makes a down-change; the change being made, the bells will strike thus, 12435. All changes whatsoever are made in the aforesaid manner: for as the 3d note made an up-change in moving to strike behind the 4th, and the 4th at the same time a down-change in moving to strike before the 3d; so in like manner the two notes that make every change, must in the making of it move the one up, and the other down, as the 3d and 4th here has done. The Learner may take notice, that in ringing termes 'tis not usual to say, that a bell makes an up-change, or a down-change; but in short, that it *moves up* or *down*, which implies the former. When a note makes an up-change, 'tis then said to move *over* the other note; and when it makes a down-change, to move *under* it: as in the next preceding example, where the 3d note is said to move up over the 4th, and the 4th down under the 3d, in which manner the terms *over* and *under* are given to the two notes that make every change.

Observ. 5. In the time of ringing changes, two things are by the Practitioners to be well considered. First, to observe and readily to know, which two bells are always to make the next succeeding change: Secondly, if he is concern'd therein, to consider what bell he

is to follow in the making of it. Upon a right knowledge of these two things, depends the Practick part of this Art. To make him expert herein, he must before hand perfectly understand, and readily remember the course and method of the changes prickt with figures, wherein he ought to be so well skill'd, as to be able to prick them down divers ways, that is, to make any figure a Hunt at pleasure; which when he can readily and speedily do, without pausing to consider of the course, then 'tis presumed that he understands the methods throughly. But yet he will not be capable to put them in practice, untill he understands the manner of making a change in ringing; neither can he understand that, until he understands the precedency of the notes; nor the precedency, until he understands the places; nor the places, until he knows the notes one from another. Therefore the four preceding observations being first perfectly understood, and also the methods of the changes as before; the Practitioner may then successfully proceed in the ringing of changes; and as a further help therein I will here instruct him. There are three bells concern'd in the making of every single change, except only when 'tis made behind, and then but two: whensoever the note of his bell is to make a change with any other note, his ear must then inform him whether it lies before or behind the other note; if it lies before, then in making the change it must move up behind it, that is, to follow it; and consequently, he must draw down his bell next after that which he makes a change with, which is called an up-change, as I said before. But if the note of his bell lies behind the other, then in making of the change it must move down to strike before it, and consequently he must draw down his bell next after that which the other before followed, this being a down-change. So that the making of an up-change is very easie, because he must always follow that bell which he makes a change with; but a down-change is more difficult, because he cannot so readily apprehend what bell he is to follow; yet there is a certain rule for it, which is this: to observe beforehand what note strikes the next but one before his, which bell he must follow in the making of the change. Whensoever the two notes, which strike next before his note, are to make a change; he must consider, that notwithstanding his note is to lie still in its place, yet he is concern'd therein, because the bell which he followed before the making of the change, must in the making of it move away down, and therefore he must follow the bell that comes into its place.

The changes are to be rung, either by *walking* them, as the term is; or else Whole-pulls, or Half-pulls. By *walking* them, is meant, that the bells go round four, six, eight times or more in one change; which way is very proper for young Practitioners, to introduce them into a more ready way of Practice; for whilst the bells go round divers times in one change, they have in the mean time leisure to consider which two bells are to make the next following change, and also what bell each of them is to follow in the making of it; and so by diligence in practice they will by degrees acquire a more ready skill to enable them to ring at whole-pulls. Whole-pulls, is, when the bells go round at the fore-stroke and back-stroke in a change; and every time they are pull'd down at Sally, a new change is made. Whole-pulls was the general practice in former times; and indeed, considering the manner of the hanging of the bells in those days, they could not well be rung at half-pulls: but since the improvement of the Art of Bell-hanging, that is, with round Wheels, trussing them up in the Stock, and placing the Roll at right Angles with the Sole of the Wheel; the bells go much better, and are managed with more ease at a Sett-pull than formerly: therefore the changes are now generally rung at half-pulls, that is, at the fore-stroke one change, at the back-stroke another, and so throughout.

In ringing half-pulls, some peals of changes will cut compass, wherein the whole Hunt comes always to lead at the back-stroke; to prevent which, make the first change of the peal at the back-stroke. In plain and single changes on six bells, to hunt (that is, whole Hunt) the Treble, third, or fifth, down at the beginning of a peal cuts compass, unless prevented as before. Also to hunt the second, fourth, or sixth up at the beginning of a peal, cuts compass, unless prevented as before. Which rules, leaving out the Tenor, serves in like manner to prevent cutting compass on five bells.

'Tis convenient in ringing, to give notice of the extream changes, and he that rings the slowest Hunt, may best do it. The manner of it is, to say *Extream*, when the leading bell is pulling down, in order to make the change next before the extream; by which means there will be one compleat change betwixt the warning and the extream: longer warning would be too much, and shorter too little.

The divers kinds of changes on Bells may be comprehended under two heads, *viz.* Plain Changes, and Cross Peals, which terms

are comparatively given: for as the first are plain and easie only in comparison to the methods of the second; so consequently the second cross and intricate in comparison to the methods of the first. I will first shew in what respect they differ, and then proceed to the methods. Plain changes (I mean compleat peals) are such as have one universal method, wherein all the notes except three have a direct hunting course, moving gradually under each other in one plain and uniform order. But the methods of cross peals are various, each peal having a course differing from all others: and although most of them have Hunts, yet the Hunts have different kinds of motions, and some very intricate. Moreover plain changes are also term'd Single changes, because in the ringing of them there is only a single change made in the striking of all the notes once round either at fore-stroke or back-stroke; whereas in cross changes 'tis usual to make as many changes as the number of notes will permit. For example, supposing that a peal of 5 bells were raised, and rung at a Sett-pull; the notes are supposed to strike round in this order, 12345: now any two of the notes that strike next together may make a change, therefore either a single or a double change may be made at pleasure. The single change is made by changing only two notes; the double change is made by changing four notes, that is, two to make one change and two another, yet 'tis called one double change, and not two changes, in regard 'tis made in the striking of the five notes of the bells once round: as, admit the treble, second, third, and fourth, should make a change, 'tis thus to be done, 21435, where the Treble and Second made one change, and 3, 4 another; which we will imagine to be made at the fore-stroke of the bells, and therefore 'tis called one double change, and not two changes, because 'tis entirely made in the striking of the five notes once round. So that this one double change has effected that which would have required two single changes to have done the like. For instance, there can but two notes change their places at once in a single change, therefore the Treble and Second shall first change their places thus, 21345; then the third and fourth thus, 21435: so that here the five notes have gone twice round to effect that, which in the double change was done in going once round. And this is the nature of the difference between Plain and Cross changes.

As the Learner ought to proceed regularly in his practice, beginning first with the plainest and easiest methods. I will therefore

observe that order, and first shew the course and methods of Plain changes.

The Changes on two Bells.

Two bells are capable to make only two changes, which is to be done by changing the notes twice, as in these figures.—

	<u>1 2</u>
	2 1
	1 2

The Changes on three Bells.

There are six changes on three bells; which are made by this rule: the two first and two last notes must be changed by turns.

	<u>123</u>
First the two first notes, which are 1 2 thus.	213
The two last, which are 1 3, thus.	231
The two first	321
The two last	312
The two first	132
The two last	123

In these six changes 'tis observable, that the two first notes, which were 1 2, made the first change of the six; but they may as well be rung by

	<u>123</u>
beginning with the two last notes, which are 2, 3 thus—	132
Next the two first notes, which are 1 3, thus,	312
The two last	321
The two first	231
The two last	213
The two first	123

The six changes can be rung no more than these two ways here set down.

The Six changes are sometimes rung by observing a hunt therein, which is very improper, since every note has a like course. Yet I confess in demonstrating the methods on twelve, I did there admit a Hunt into the six changes; but that was only for demonstration sake.

The compleat peals of plain changes, from three to all greater numbers whatsoever, as the Twenty four changes on four, the Sixscore on five, the Seven hundred and twenty on six, &c. are prickt and rung by one method; all the notes having a hunting-motion, except only three in each peal, which three do make the six changes in the same manner as they are before prickt. So that the Six changes

on three may be term'd the *basis* or foundation of the compleat peals on all greater numbers.

Every Hunting note in each peal has a certain number of notes assigned, through which 'tis always to hunt. The term *hunt* is given to a note in respect of the manner of its motion, which I will shew in this example. First, the notes of four bells are supposed to strike round in this order, 1234. The Treble shall be the Hunt, and the other three assigned or appointed for it to hunt through. Now whereas the Treble-note leads, it must move through its assigned number to strike behind them: and whereas every change must be made betwixt two notes that strike next each other, as I have shewed before in the *4th Observation*; therefore the hunting-note is confin'd to move gradually through the rest by making a change with each note that strikes next to it; and accordingly it must first move into the *2d* place, next into the *3d* place, and lastly into the *4th*. So that 'tis to make a change with every note that lies behind it; first with the *2d* note, next with the *3d*, and lastly with the *4th*.

	<u>1234</u>
The first change is thus	2134
The second thus	2314
The third thus	2341

The hunting note has here moved through its assigned number; for whereas at first it did lead, now it strikes behind them. Wherein 'tis observable, that it made up changes all the way; which of necessity it must do, because every note with which it was to make a change, lay behind it: and because it made up changes, therefore 'tis said to have hunted up. The hunting-note shall now move through its assigned number again, to lead as at first. Therefore first it must move into the *3d* place, then into the second place, and lastly into the first place, which is called the Treble's place; in which motion it must make a change with each note that strikes next before it: first with the *4th* note, next with the *3d*, then with the *2d*.

The first change thus	2314
The second thus	2134
The third thus	1234

'Tis observable, that here the Treble made down-changes all the way, which of necessity it must do, because every note with which it

was to make a change, lay before it: and because it made down-changes, therefore it is said to have hunted down. This is the manner of the motion of the hunting notes in all peals of plain changes; for they hunt up and down through their assigned number, as the 1 here has done. This example is plain and full to instruct the Learner in the hunting of any bell, therefore he ought to peruse it diligently, that he may understand the true scope and meaning of it; and as a help he may apply himself to practice by taking a Treble, and attempt to hunt it up and down as this Example directs; which he may the more readily do, if he understand the *5th Observation* before set down, which guides him to make a change in ringing. So that partly by reading and well considering of what I have here wrote, and partly by practice, he may in a short time become perfect in the hunting motion of any note; which when he rightly apprehends, he will then presently be capable of understanding the following methods; and therefore I shall be the more brief in my directions to them.

The Changes on four Bells.

Twenty four changes may be rung upon four bells: but the Learner may first practice the twelve changes, and the eighteen changes. In the twelve changes the notes are all to be hunted up after one another, which may be called the Twelve all over. First the treble-note must be hunted up, letter (*a*); then the second note must likewise hunt up, letter (*b*); next the third note must hunt up, letter (*c*); and lastly the *4th* note also, letter (*d*).

	<u>1234.</u>
	2134
<i>a</i>	2314
	<u>2341</u>
	3241
<i>b</i>	3421
	<u>3412</u>
	4312
<i>c</i>	4132
	<u>4123</u>
	1423
<i>d</i>	1243
	<u>1234</u>

The four notes may also hunt down one after another. First, the *4th* note must hunt down to lead: then the *3d* note likewise, and so the *2d* and Treble one after another, which may be term'd the Twelve all under.

Courteous Reader, in my directions to the course of each peal, I do there refer by letters to the examples; which I am forced to do, to prevent those confused breaks, and unhandsome spaces, which otherwise would have happen'd both in examples and precepts. Whatever letter I mention in my directions, refers to the like at the figures. For instance; in my directions to the twelve changes next before, I there directed the treble-note to be first hunted up, letter (*a*); which letter refers to the like letter at the first three

changes of the twelve, where the Treble hunted up, as 'tis here again represented, and the like of the rest.

	2134
<i>a</i>	2314
	2341

In the Eighteen changes, the Treble is a hunting note, but never hunts up farther than the *3d* place; and when it lies there, the two first notes must make a change; and every time it leads, the two hindmost notes. First it hunts up into the *3d* place, letter (*a*); the two first notes, Which are 2.3, make a change, letter (*b*); the Treble hunts down (*c*). The two hindmost notes make a change (*d*), the Treble hunts up (*e*). The two first notes, which are 3.4, make a change (*f*) the Treble hunts down (*g*); the two last notes, which are 3.2, make a change (*h*), which method being continued, will bring the bells round at the end of eighteen changes. The Eighteen changes may also be rung by hunting the *4th* note down into the *2d* place, and then a change to be made behind: the *4th* note to be hunted up again into its own place, and then a change to be made before, which course being continued, will produce Eighteen changes.

	1234
<i>a</i>	2134 2314
<i>b</i>	3214
<i>c</i>	3124 1324
<i>d</i>	1342
<i>e</i>	3142 3412
<i>f</i>	4312
<i>g</i>	4132 1432
<i>h</i>	1423
<i>i</i>	4123 4213
<i>k</i>	2413
<i>l</i>	2143 1243
<i>m</i>	1234

The Six changes on three are the ground of the Twenty four changes on four; for one of the four notes hath a constant hunting motion through the other three, in the same manner as in the preceding Example, [page 50](#). and the three notes are to make the six changes in the same manner as I have before shewed in the changes on three bells; one of the six changes being always made every time the hunt lies either before or behind the three bells: therefore if the Learner do but rightly apprehend the course of the six changes, and also the manner of the motion of the hunting note, he will presently understand the method of the twenty four changes. The six changes in the twenty four, according to the terms of ringing are called Extream changes, and the three bells which makes them, Extream bells. So that in the twenty four changes, there is a hunt and three extream bells. Every time the hunt lies either before or behind the extream bells, an extream change must then be made. The extream changes may be made two ways, *viz.* either betwixt the two farthest extream bells from the hunt, or else betwixt the two nearest extream

bells to it. In this Example every extream change shall be made betwixt the two farthest extream bells from the hunt, and the treble shall be the hunting note, which must first hunt up (*a*); then the two farthest notes from the hunt, which are 2.3, must make an extream change (*b*). The Treble must hunt down (*c*). The two farthest notes from the hunt, which are 2.4, must make an extream change (*d*). The treble must hunt up (*e*); the two farthest notes from the hunt, which are 3.4, must make an extream change (*f*). The treble-note must hunt down (*g*). The two farthest extream bells from the hunt, which are 3.2, must make an extream change (*h*). The treble must hunt up (*i*). The two farthest notes from the hunt, which are 4.2, must make an extream change (*k*). The treble must hunt down (*l*). The two farthest extream bells, which are 4.3, must make an extream change (*m*), which concludes the peal. Now the Learner for his satisfaction may take out the extream changes in the same order as they were made, as first at (*b*), then (*d*), and so (*f.h.k.m.*) and they will stand as they are here set down; where 'tis evident, that 2.3.4 have made the six changes according to the method of the first six changes on three bells, before set down, ([page 48.](#)) where the first change of that six was 213, and this being 324, is the same in course though the figures differ, and the rest of the changes in this six, are likewise the same in course and method with those.

	1234
<i>a</i>	2134
	2314
	2341
<i>b</i>	3241
<i>c</i>	3214
	3124
	1324
<i>d</i>	1342
<i>e</i>	3142
	3412
	3421
<i>f</i>	4321
<i>g</i>	4312
	4132
	1432
<i>h</i>	1423
<i>i</i>	4123
	4213
	4231
<i>k</i>	2431
<i>l</i>	2413
	2143
	1243
<i>m</i>	1234

3241
1342
4321
1423
2431
1234

In the preceding twenty four changes, every extream change was made betwixt the two furthest extream bells from the hunt. I will therefore here set down an example, where they shall be made between the two nearest bells, to it. First, the treble hunts up (*a*). The two next notes to the hunt, which are 3.4, must make an extream change (*b*). The Treble must hunt down (*c*). The two nearest notes to the hunt, which are 2.4, must make an extream change (*d*). The Treble hunts up (*e*). The two nearest extream bells to the hunt, which are 2.3, must make an extream change (*f*). The Treble hunts down (*g*). The two next extream bells to the hunt, which are 4.3, must make a change (*h*). And the like extream changes being made as at (*k*) and (*m*), concludes the peal.

	1234
<i>a</i>	2134
	2314
	2341
<i>b</i>	2431
<i>c</i>	2413
	2143
	1243
<i>d</i>	1423
<i>e</i>	4123
	4213
	4231
<i>f</i>	4321
<i>g</i>	4312
	4132
	1432
<i>h</i>	1342
<i>i</i>	3142
	3412
	3421
<i>k</i>	3241
<i>l</i>	3214
	3124
	1324
<i>m</i>	1234

The six extream changes, *viz.* (*b.d.f.h.k.* and *m.*) being set down by themselves, will stand in this order, as here you see; where 'tis plain, that 2 3 4 have made the six changes, according to the method of the last six changes on three bells, *page* [49](#). where the first change of that six is made between the last two notes thus, 1 3 2. So in like manner is the first here thus, 243, which is the same method with that, though not the same figures.

2431
1423
4321

1342

3241

1234

So that the making of the extream changes two ways in the twenty four, proceeds from the two ways of making the six changes on three bells. This last way of making the extream changes, may, for distinction from the other way, be called *mediums*; which term is very proper, in regard that the two middlemost of the four notes do always make the extream change. The extream changes in one peal must all be made alike, that is, either betwixt the two farthest notes from the hunt, or else betwixt the two nearest notes to it; but the most usual way is to make them between the two farthest.

Any note may be made a hunt at pleasure, and its first motion at the beginning of the peal may be either up or down. The twenty four changes may be rung sixteen ways according to the aforesaid method, yet the changes to each are still one and the same; but by making each note a hunt, and moving it either up or down at the beginning, and also by making the extream changes two ways, the course of the changes will be so altered, that the same changes shall not come all along together in any two of those sixteen ways. With the hunting of one note it may be rung four ways; for the note may move either up or down at the beginning of the peal; then in its motion either way the extream changes maybe made two ways, as before: so that to make each note a hunt, and with each hunt to ring it four ways makes sixteen in the whole. Wherein 'tis observable, that the treble-note cannot be moved down at first, nor the *4th* up; therefore an extream change must first be made, which is as effectual as if either note had moved at first. I have here prickt the twenty four changes three ways, wherein the extream changes are all made betwixt the two farthest notes from the hunt.

<i>2d. down</i>	<i>3d. up</i>	<i>4th. up</i>
<u>1</u> 234.	<u>1</u> 234.	<u>1</u> 234.
2134	1243	2134
2143	2143	2143
1243	2134	2413
1423	2314	4213
1432	3214	4231
4132	3241	2431
4123	2341	2341
4213	2431	2314
2413	2413	3214
2431	4213	3241
4231	4231	3421
4321	4321	4321
4312	3421	4312
3412	3412	3412
3421	4312	3142
3241	4132	3124
2341	4123	1324
2314	1423	1342
3214	1432	1432
3124	1342	4132
3142	3142	4123
1342	3124	1423
1324	1324	1243
1234	1234	1234

The Changes on five Bells.

There are sixscore changes to be rung on five bells; but the Learner may first practice some shorter peals, as the Ten changes, the twelve, the Fourteen, the Twenty all over, the Twenty with one hunt, and the Forty eight.

In the Ten changes the treble must first hunt up (*a*); the 2.3 must make a change (*b*). The treble must hunt down again (*c*); the 3.2 must make another change (*d*). The ten changes may also be rung by hunting down the 5 to lead; then 3.4 to make a change; the 5 to be hunted up again, and the 4.3 to make another change.

	12345
	21345
<i>a</i>	23145
	23415
	23451
<i>b</i>	32451
	32415
<i>c</i>	32145
	31245
	13245
<i>d</i>	12345

In the Twelve changes the treble hunts up into the third place, then the two first notes make a change; the treble hunts down again, then the two hindmost notes make a change. First the treble hunts into the 3^d place (*a*); the two first notes 2.3 make a change (*b*). The treble hunts down (*c*); the two last notes make a change (*d*); the treble hunts up (*e*); the two first notes make a change (*f*); the treble hunts down (*g*); the two last notes make another change (*h*).

	12345
<i>a</i>	21345 23145
<i>b</i>	32145
<i>c</i>	31245 13245
<i>d</i>	13254
<i>e</i>	31254 32154
<i>f</i>	23154
<i>g</i>	21354 12354
<i>h</i>	12345

In the Fourteen changes, the treble first hunts up behind; then the 5 hunts down to lead; the treble then hunts down again into its own place; and the fifth also hunts up into its own place.

The Twenty all over are rung in the same manner as the Twelve all over upon four bells, to which I refer.

In the Twenty changes with one hunt, the hunting note continually hunts up and down through the other notes, and every time it lies either before or behind them, an extream change must be made betwixt the two farthest notes from it. The treble shall be the hunt, and first hunteth up (*a*). An extream change is made (*b*); the treble hunts down (*c*); an extream change is made (*d*); which course must be continued to the end. The extream changes may also be made betwixt the two next notes to the hunt. Any note may be made a hunt at pleasure, yet still observing to make the extreams as before.

	12345
<i>a</i>	21345
	23145
	23415
	23451
<i>b</i>	32451
<i>c</i>	32415
	32145
	31245
	13245
<i>d</i>	13254

In the forty eight changes, the *5th* and *4th* are both hunts, and 1 2 3 do make the six changes; the 5.4 do hunt down by turns, and when either of them leads, then one of the six changes is made. First the 5 hunts down (*a*); one of the six changes is made (*b*); the 5 hunts up into its own place (*c*); the 4 hunts down (*d*); another of the six changes is made (*e*); then the 4 must hunt up, and the 5 down again, &c. which course must be continued to the end.

	12345
<i>a</i>	12354
	12534
	15234
	51234
<i>b</i>	52134
<i>c</i>	25134
	21534
	21354
	21345
<i>d</i>	21435
	24135
	42135
<i>e</i>	42315

In the Sixscore changes, four of the notes do make the Twenty four changes, and the fifth note hunts continually through them: so that the course and method of the Sixscore is in effect the same with

that of the Four and twenty. For as the Four and twenty comprehended the Six changes on three; so in like manner the Sixscore comprehend the Four and twenty changes on four, and the Six changes on three. Therefore in the Sixscore there must be two hunts and three extream bells; one of the hunts is term'd the whole-hunt, and the other the half-hunt, The three extream bells do make the Six changes in the same manner as they were made before in the Four and twenty changes upon four bells, and are here also call'd Extream changes: the half-hunt and three extream bells do make the Four and twenty changes in the same manner as the Four and twenty changes on four bells were likewise made: and the whole hunt continually hunts through those four bells, and every time it either leads or lies behind them, one change must then be made in the twenty four. 1 shall here be the whole-hunt, 2 the half-hunt, and 345 extream bells: so that 2345 must make the four and twenty changes. Every extream change shall be made betwixt the two farthest extream bells from the half-hunt. First, the treble hunts up (*a*). One of the twenty four changes must now be made; and therefore 2 which is the hunt in the twenty four, must begin its motion through the extream bells (*b*). The treble hunts down (*c*); the half-hunt must proceed in its course (*d*); the whole-hunt hunts up (*e*); The half-hunt proceeds forward (*f*); the whole-hunt moves down (*g*). The half-hunt should now proceed, but having finished its course through the extream bells, therefore an extream change must now be made betwixt the two farthest extream bells from it, which are 3.4 (*h*). The treble must hunt up (*i*); the half-hunt must now begin its course again through the extream bells (*k*); treble hunts down (*l*); the half-hunt proceeds in its course down (*m*); treble hunts up (*n*); the half-hunt proceeds in its course down (*o*); treble hunts down (*p*); the half-hunt having finished its course, therefore an extream change must be made betwixt the two farthest extream bells from it, which are 3.5 (*q*). The treble hunts up (*r*). The half-hunt begins its motion again through the extream bells, and first it moves up over 4th (*s*). The whole hunt moves down (*t*); the half-hunt must proceed in its course, and therefore must move over another note (*v*). And this method being observed, will produce sixscore changes, and then the bells will in course come round. Now 'tis observable, that the changes at (*b d f h k m o q s v x* and *z*), being set down by themselves, that is, the 1 to be excluded, and the changes on 2345 to be set directly under one

another in the same successive order as they were made, it will thereby appear, that those four figures have made twelve changes of the twenty four, according to the method of the first twenty four changes on four bells before set down. And whereas here are just half the sixscore changes prickt down, so likewise here are just half the four and twenty changes made therein: and the remaining part of this sixscore being likewise prickt, the remaining part of this four and twenty would also appear therein, which part being added to the former twelve, would make up the twenty four changes compleat; and the method of them the same in all respects with the first twenty four changes on four bells, *page*.

	12345
a	21345 23145 23415 23451
b	32451
c	32415 32145 31245 13245
d	13425
e	31425 34125 34215 34251
f	34521
g	34512 34152 31452 13452
h	14352
i	41352 43152 43512 43521
k	43251
l	43215 43125 41325 14325
m	14235
n	41235 42135 42315 42351

<i>o</i>	24351
<i>p</i>	24315
	24135
	21435
	12435
<i>q</i>	12453
<i>r</i>	21453
	24153
	24513
	24531
<i>s</i>	42531
<i>t</i>	42513
	42153
	41253
	14253
<i>v</i>	14523
<i>w</i>	41523
	45123
	45213
	45231
<i>x</i>	45321
<i>y</i>	45312
	45132
	41532
	14532
<i>z</i>	15432

Any note may be made a whole hunt at pleasure, and its first motion at the beginning of the peal may either be up or down. Any note may also be made a half-hunt, and its first motion likewise up or down at pleasure; yet still observing that the half-hunt and three extream bells must make the twenty four changes, as in this last example. So that in the sixscore changes the Learner may observe, that the three extream bells are always assigned for the half-hunt to hunt through; and the half-hunt and three extream bells are also assigned for the whole-hunt to hunt through: so that the whole-hunt always hunts through four notes, and the half-hunt through three.

The extream changes may be made two ways; first, betwixt the two farthest extream bells from the half-hunt, as in this last example; secondly, betwixt the two next extream bells to the half-hunt, which may be called *mediums*, for distinction from the former. But the most usual and easiest way, is to make them betwixt the two farthest notes from the half-hunt.

Whereas the treble or fifth being made whole-hunts, the first of them can neither be moved down, nor the last up, at the beginning of a peal; therefore one of the twenty four changes must first be made, which is as effectual, as if the treble had moved down, or the 5th up.

The Learner may observe, that two of the four and twenty changes are never made together in any sixscore, but as soon as one is made, the whole-hunt moves through the four notes before another can be made.

The sixscore changes may be rung one hundred and sixty ways, which are thus demonstrable. There are five times four figures to be produced out of five, and not twice four the same figures: as 1234. 1235. 1245. 1345. 2345. with each four the twenty four changes may be prickt sixteen ways, as before I have shewed on four bells; so that here will be five times sixteen four and twenties, which amount to eighty, and not two alike. Now to each four add the fifth figure which is wanting, as to 1234 add 5, to 1235 add 4, to 1245 add 3, to 1345 add 2, to 2345 add 1, and every fifth figure being hunted through the sixteen four and twenties, which the other four make, as the 5 through the sixteen four and twenties which the 1234 make, and the like of the rest, will produce as many sixscores as there were four and twenties, that is, 80. Then the whole hunt may hunt two ways through each four and twenty, that is, up and down at the beginning, which doubles the former number, and makes 160 in the whole.

Treble up, fifth down.

12345	12534	15243	21453	————	14325	13524
————	21534	51243	24153	14253	<i>Extre.</i>	13254
21345	25134	52143	24513	14523	13425	————
23145	25314	52413	24531	————	————	13245
23415	25341	52431	24351	15423	13452	<i>Extre.</i>
23451	52341	25431	24315	<i>Extre.</i>	13542	12345
23541	52314	25413	24135	15432	————	
23514	52134	25143	21435	————	15342	
23154	51234	21543	12435	14532	<i>Extre.</i>	
21354	15234	12543	<i>Extre.</i>	14352	15324	
12354	<i>Extre.</i>	12453	14235	————	————	

Treble up, fourth down.

12345	12435	41253	21543	52134	————	14325
————	14235	14253	12543	51234	15342	13425
21345	41235	12453	12534	15234	15324	————
23145	42135	21453	21534	15243	————	13245
23415	42315	24153	25134	————	13524	13254
23451	42351	24513	25314	15423	13542	————
24351	<i>Extre.</i>	24531	25341	14523	————	12354
24315	42531	25431	<i>Extre.</i>	————	13452	12345
24135	42513	25413	52341	14532	14352	————
21435	42153	25143	52314	15432	————	

Second down, fourth up.

12345	31524	34125	43512	35412	<i>Extre.</i>
	31254	34215	43521	35421	53142
21345	32154	32415	43251	35241	53124
21354	23154	23415	42351	32541	53214
12354	23145	24315	24351	23541	52314
13254	32145	42315	23451	23514	25314
13524	31245	43215	32415	32514	25341
13542	31425	43125	34251	35214	52341
<i>Extre.</i>	31452	43152	34521	35124	53241
31542	34152	<i>Extre.</i>	34512	35142	&c.

In ringing terms the hunts are named in short, as in the peals here prickt. The first which is named is here understood to be the whole-hunt, and the last the half-hunt. For instance, Treble is the whole-hunt, and fifth the half-hunt; and treble is the whole-hunt, and fourth the half-hunt, &c.

The Changes on six Bells.

There are seven hundred and twenty changes to be rung of six bells. But the Learner may first practice some shorter peals.

The twenty four changes are thus rung. The treble must continually hunt through the rest of the notes, and every time it leads or lies behind them, an extream change must then be made between the two farthest notes from it. The treble hunts up (*a*). A change is made betwixt the two farthest notes from it, which are 2.3 (*b*). The treble hunts down (*c*). An extream change is made betwixt 5.6 (*d*), which method must be continued to the end. Any note may be made a hunt at pleasure, and the extream changes may as well be made betwixt the two nearest notes to the hunt. The Thirty-all-over are rung according to the method of the Twelve all over upon four bells, to which I refer.

	123456
	213456
	231456
<i>a</i>	234156
	234516
	234561
<i>b</i>	324561
	324516
	324156
<i>c</i>	321456
	312456
	132456
<i>d</i>	132465

The thirty six changes are thus rung. The treble hunts up into the third place, and then the two first notes make a change. The treble hunts down again to lead, and then the two notes in the 3^d and 4th places do make a change, except the 2 lies next the treble, and then the two hindmost notes. The treble hunts up (*a*). The two first notes make a change (*b*). The treble hunts down (*c*); the 2.4 make a

change (*d*). In which manner the changes are to be made untill the treble leads, and the 2 (which may be term'd the half-hunt) lies next it, and then the extream change is made behind, as in the last change of this example, there being but two of these changes in the peal.

	123456
<i>a</i>	213456 231456
<i>b</i>	321456
<i>c</i>	312456 132456
<i>d</i>	134256
<i>e</i>	314256 341256
<i>f</i>	431256
<i>g</i>	413256 143256
<i>h</i>	142356
<i>i</i>	412356 421356
<i>k</i>	241356
<i>l</i>	214356 124356
<i>m</i>	124365 &c.

In the Twelvescore long-hunts, (otherwise called the *Esquire's twelvescore*); the *6th* and *5th* are hunts, and 1234 do make the twenty four changes. The *6th* and *5th* do hunt down by turns, and when either of them leads, one of the twenty four changes must then be made. The course and method of this is the same with that of the forty eight changes on five bells, to which I refer the Learner.

In the Sevenscore and four, the treble and tenor are both hunts; and 2345 do make the twenty four changes, 2 being the hunt therein. The treble and tenor do both hunt at one and the same time, the one up, and the other down, crossing each others course; and when one of them leads, the other always lies behind; at which time one of the twenty four changes must be made. The extream changes in this peal

are made in the same manner as before I have shewed upon four bells. The treble hunts up, and the tenor down (*a*). One of the twenty four changes is made (*b*). The treble hunts down, and the tenor up (*c*). Another of the twenty four changes is made (*d*). The treble hunts up, and the tenor down (*e*), &c. which method must be observed to the end.

	123456
<i>a</i>	213465
	231645
	236145
	263415
	623451
<i>b</i>	632451
<i>c</i>	362415
	326145
	321645
	312465
	132456
<i>d</i>	134256
<i>e</i>	314265
	341625
	346125
	364215
	634251
<i>f</i>	634521
	&c.

In the sixscore changes there is a whole-hunt, a half-hunt, and four extream bells. The half-hunt and four extream bells do make the twenty changes in the same manner as the twenty changes were made upon five bells with one hunt. *page 61*. The whole hunt hath a continual motion through the other five notes, and every time it leads and lies behind them, one of the twenty changes must then be made. In this example, treble is the whole-hunt, 2 the half-hunt, and 3456 extream bells; therefore 23456 must make the twenty changes wherein 2 is the hunt, and every time it lies either before the four extream bells, or behind them, an extream change must then be

made, which here shall be betwixt the two farthest extream bells from the half-hunt. The treble hunts up (*a*). One of the twenty changes must now be made, therefore 2 being the hunt in it, must begin its course through the extream bells (*b*). The treble hunts down (*c*); The half-hunt proceeds forward (*d*); the treble hunts up (*e*); the half-hunt proceeds forward in its course (*f*); the treble hunts down (*g*); the 2 proceeds forward (*h*); the treble hunts up (*i*); the half-hunt should now proceed forward, but its course through the extream bells being finished, therefore an extream change must be made betwixt 3.4, which are the two farthest extream bells from it, (*k*). The treble must hunt down (*l*); the half-hunt must now go its course again through the extream bells, and first it moves down under the 6th, (*m*) &c. which method must be continued to the end. Any note may be made a whole hunt at pleasure, or a half-hunt also. And the extream changes may be made betwixt the two nearest extream notes to the half-hunt; but withall observing to make all the extreams in one peal alike. There are four extream changes in each peal, and thirty changes distance from one to another.

	123456
<i>a</i>	213456
	231456
	234156
	234516
	234561
<i>b</i>	324561
<i>c</i>	324516
	324156
	321456
	312456
	132456
<i>d</i>	134256
<i>e</i>	314256
	341256
	342156
	342516
	342561
<i>f</i>	345261
<i>g</i>	345216
	345126
	341526
	314526
	134526
<i>h</i>	134562
<i>i</i>	314562
	341562
	345162
	345612
	345621
<i>k</i>	435621
<i>l</i>	435612
	435162
	431562
	413562

	143562
<i>m</i>	143526
	&c.

The method of the Seven hundred and twenty, hath an absolute dependency upon the method of the Sixscore changes on five bells; for five of the notes are to make the sixscore changes, and the sixth note hunts continually through them, and every time it leads or lies behind them, one of the Sixscore changes must then be made. The method of the Seven hundred and Twenty is in effect the same with that of the Sixscore: for as the Sixscore comprehended the Twenty four changes on four, and the Six on three; so likewise the Seven hundred and twenty comprehend the Sixscore changes on five, the Twenty four changes on four, and the Six changes on three. Therefore here must be three Hunts, and three Extream bells: the three Hunts are thus distinguished; one of them is call'd the *whole-hunt*, another the *half-hunt*, and the other the *quarter-hunt*. The Half-hunt, Quarter-hunt, and three Extream bells, are to make the Sixscore changes; the Quarter-hunt and three Extream bells are to make the Twenty four changes, and the three Extream bells are to make the *six* changes, which are here also called *extream* changes, and made in the same manner as before I have shewed upon four bells. In this example here prickt, *treble* is the *whole-hunt*, *2d* the *half-hunt*, *3d* the *quarter-hunt*, and *4 5 6* *extream* bells. Now 'tis observable, that *4 5 6* are to make the six *extream* changes, which will divide the *seven hundred and twenty* into six equal parts; the *3 4 5 6* are to make the *twenty four* changes, wherein the *3d* is the *hunt*, (but in the *seven hundred and twenty* 'tis call'd the *quarter-hunt*;) and *2 3 4 5 6* are to make the *sixscore* changes, wherein the *2d* is the *whole-hunt* (though in the *720* 'tis call'd the *half-hunt*;) by which 'tis evident, that the *treble* continually hunts through these five *2 3 4 5 6*, the *2d* through the four *3 4 5 6*, and the *3d* through these three *4 5 6*; which are assigned for the respective *hunts* to hunt through, from the beginning to the end of the peal. First the *treble* hunts up (*a*). Now one of the *sixscore* changes must be made, therefore the *2d* being the *hunt* in the *sixscore*, must begin its course through the other four notes (*b*). The *treble* hunts down (*c*); the *2d* proceeds in its course (*d*); the *treble* hunts up (*e*). The *2d* proceedeth forward in its course (*f*); the *treble* hunts down (*g*); the *2d* proceeds

forward (*h*); the *treble* hunts up (*i*); the *2d*, which is the *half-hunt*, should now proceed forward, but having finished its course through the four bells, therefore the *3d*, which is the *quarter-hunt*, must begin its motion through the *extream* bells (*k*). The *treble* hunts down (*l*). The *half-hunt* must now begin its course again through the four bells, and first therefore it moves down under the 6 (*m*). The *treble* must hunt up again, and then the *2d* must move down under another bell, which method must be observed untill the *2d* has moved quite down through the four bells again, and then the *3d* must proceed forward by moving over another of the *extream* bells; which method must be observed in the motion of the three *hunts*, until the *quarter-hunt* hath moved up behind the *extream* bells, and then the *whole* and *half-hunts*, having gone their course again through the bells, an *extream* change must be made: after which the *whole*, *half*, and *quarter-hunts* proceed again in their course as before.

	123456
<i>a</i>	213456
	231456
	234156
	234516
	234561
<i>b</i>	324561
<i>c</i>	324516
	324156
	321456
	312456
	132456
<i>d</i>	134256
<i>e</i>	314256
	341256
	342156
	342516
	342561
<i>f</i>	345261
<i>g</i>	345216
	345126
	341526
	314526
	134526
<i>h</i>	134562
<i>i</i>	314562
	341562
	345162
	345612
	345621
<i>k</i>	435621
<i>l</i>	435612
	435162
	431562
	413562

$$\begin{array}{r|l} & 143562 \\ \hline m & 143526 \end{array}$$

The letter *h* standing by the figures signifies *half-hunt*, that is, the motion of the *half-hunt* in that change; and likewise *q* the *quarter-hunt*. Here are the first *sixscore* changes of a *seven hundred and twenty*; wherein 'tis observable, that all the changes at *h* and *q* being set down by themselves in the same successive order as they were made, that is, the 1 to be excluded, and the changes on the other five figures to be set down directly under one another, and the *extream* change at last, it will thereby appear, that the five figures have made twenty changes of a *sixscore*, according to the method of the example on five bells, [page 63](#). with this only difference, these are made on 23456, and those were made on 12345; but the five figures of each have both alike course, the *2d* and *3d* going the same course in this, as the *treble* and *2d* did in that. Now whereas the *sixscore* changes here prickt down are a sixth part of the *seven hundred and twenty*, so likewise are the *twenty changes*, here made by 23456, a sixth part of the *sixscore*: and then consequently, the *seven hundred and twenty* changes being all prickt, the *sixscore* changes on 23456 would plainly appear therein, in the same manner as twenty of them appear in this *sixscore*. Therefore more need not be said of the method of the 720, since the method of the *sixscore* changes on five bells being well understood, will be a sure and certain guide to the Learner: only this one thing farther; in ringing of this peal with any *hunts*, the second *extream* change being made between the two bells which made the first *extream*, will always bring the bells round at the end of the *twelvescore*. But after *twelvescore* are made, they cannot in course be brought round until the end of the 720.

	<u>123456</u>					
	213456		435612		214536	456312
	231456		435162		241536	456132
	234156		431562		245136	451632
	234516		413562		245316	415632
	234561		143562		245361	145632
<i>h</i>	324561	<i>h</i>	143526	<i>h</i>	425361	<i>h</i> 145623
	324516		413526		425316	415623
	324156		431526		425136	451623
	321456		435126		421536	456123
	312456		435216		412536	456213
	132456		435261		142536	456231
<i>h</i>	134256	<i>h</i>	432561	<i>h</i>	145236	<i>h</i> 452631
	314256		432516		415236	452613
	341256		432156		451236	452163
	342156		431256		452136	451263
	342516		413256		452316	415263
	342561		143256		452361	145263
<i>h</i>	345261	<i>h</i>	142356	<i>h</i>	453261	<i>h</i> 142563
	345216		412356		453216	412563
	345126		421356		453126	421563
	341526		423156		451326	425163
	314526		423516		415326	425613
	134526		423561		145326	425631
<i>h</i>	134562	<i>h</i>	243561	<i>h</i>	145362	<i>h</i> 245631
	314562		243516		415362	245613
	341562		243156		451362	245163
	345162		241356		453162	241563
	345612		214356		453612	214563
	345621		124356		453621	124563
<i>q</i>	435621	<i>q</i>	124536	<i>q</i>	456321	Extre.
						125463

The 720 changes may be rung one thousand nine hundred and twenty several ways, which is thus demonstrable. There are six times five figures to be produced out of six, and not twice five the same: as 12345. 12346. 12356. 12456. 13456. 23456. and with each five the

sixscore changes may be prickt one hundred and sixty ways, as before I have shewed on five bells. Now to each five add the sixth figure which is wanting, as to 12345 add 6, to 12346 add 5, to 12456 add 3, to 13456 add 2, and to 23456 add 1. And the sixth figure which is added, being hunted through all the several *sixscores* which the other five figures make; for instance, the 6 through the 160 several *sixscores* which 12345 make, and the 5 also through the 160 several *sixscores*, which 12346 make, and the like of the rest; will produce as many *seven hundred* and *twenties* as there are *sixscores*, that is, six times one hundred and sixty, which amounts to nine hundred and sixty. Then the note that hunts through the other five, may hunt two ways through each *sixscore*, that is, up and down, which will double the former number, and make nineteen hundred and twenty in the whole.

[Fleuron]

AN INTRODUCTION to the Knowledge of *CROSSE PEALS.*

These Peals are term'd *cross* in respect of their intricate methods; wherein several notes moving at one and the same time, do thwart or *cross* each other in their course and motion, some moving up, others at the same time down, gives this Denomination to the Peals. The end of pricking them is to make the compleat number of changes by a method differing from that of other Peals. For although five can be varied but 120 ways, and six but 720 &c. yet the methods by which they are varied, are differing, according to the several fancies of the Artist. And as order and method are the only *basis* on which this Art is founded; so the skilful Artists, the better to effect the aforesaid end, have thought fit in most peals to appoint one note to be as it were a Helm or Rudder, by which the course of the peal is steered; which note is term'd a *Hunt*, and hath one constant uniform motion throughout the peal, differing from that of the other notes. The manner of its motion is continually through the other notes, that is, from leading to strike behind, and from thence again to lead, which motion, first up and then down, is term'd one compleat Course. Some peals upon five bells, as *old Doubles*, &c. consist of single Courses; there being ten changes in every single Course, and twelve of those Courses in the peal. Other peals upon five bells, as *London Paradox*, &c. consist of double Courses; there being twenty changes in every double Course, and six of those Courses in the peal. Upon six bells there are also single and double Courses, *viz.* twelve changes in every single Course, as in *Grandsire Bob* &c. and twenty four changes in every double Course, as in *Colledg Bob*, &c. the change wherein the *Hunt* leaves leading being the first change of every

Course. Now the methods of these peals being well considered, they will be found more easie than at the first view they may seem to be; for the first Course of any Cross Peal being judiciously viewed, the general method of the whole peal will thereby appear: for all the Courses in a Cross peal do agree in these three respects. First, in the motion of the *Hunt*; secondly, in the motion of the rest of the notes; thirdly, in the making of the changes, which will plainly appear in the following peals, (some few changes in each peal only excepted, as hereafter I shall shew in my Directions to the several peals:) for proof of which I will give an instance in the peal of new Doubles upon five bells, these being the three first Courses of the peal. Wherein 'tis observable, that the last change of the first Course which is 13524, I have set down again at the top of the second Course; and likewise the last change of the second Course which is 15432, I have also put at the top of the third course; which I have done for the plainer Demonstration of what I here intend. So that the ten lowermost changes are the ten changes of each Course.

First Course	2d Course	3d Course
12345	13524	15432
21354	31542	51423
23145	35124	54132
32415	53214	45312
23451	35241	54321
32541	53421	45231
23514	35412	54213
32154	53142	45123
31245	51324	41532
13254	15342	14523
13524	15432	14253

First therefore, as to the motion of the *hunt*, the 1 which is the *hunt* moves directly up behind, where it lieth twice, and then down again to lead, where it lieth also twice; as appears in each of these three Courses, and the like also throughout the peal.

Secondly, as the *2d*, *3d*, *4th*, and *5th* bells move through the first Course, so the bells that lie in the *2d*, *3d*, *4th*, and *5th* places in the last change of every course, moves in the same manner also through

the next following course. For instance; first, for the bell in the *2d* place: in the first course the *2d* bell moves down to lead, where it lieth twice, and then dodges untill the *treble* comes down to it. So likewise in the second course, the *3d* bell lying in the *2d* place moves down to lead, where it lies twice, and then dodges until *treble* comes down to it; and also in the third course, the *5th* bell lying in the *2d* place, moves down to lead where it lieth twice, and dodgeth until the *treble* moves down to it. Secondly, for the bell in the *3d* place. In the first course the *3d* bell moves down to lead, and there dodgeth untill the *treble* comes down to it: so likewise in the second course the *5th* bell lying in the *3d* place moves down to lead, and there dodgeth untill the *treble* comes down to it: and also in the *3d* course the *4th* bell lying in the *3d* place moves down to lead, and there dodgeth until the *treble* comes down to it. Thirdly, for the bell in the fourth place: In the first course, the fourth bell moves up behind, then down into the *3d* place where it lieth twice, then up again behind; so likewise in the second course, the *2d* bell lying in the *4th* place moves up behind, then down into the *3d* place where it lieth twice, then up again behind; and also in the third course the *3d* bell lying in the *4th* place, moves therefore up behind, then down into the *3d* place where it lieth twice, then up again behind. And such uniform motion also hath the bell in the *5th* place through every course.

Thirdly, that the changes in all the courses of the peal are made alike, will here also plainly appear in the three courses. For the first change of every course is made on the two first and two last bells; the second change of every course is made on the four last; the third is made on the four first; the fourth on the two first and two last; the fifth on the four first; the sixth on the two first and two last; the seventh on the four first; the eighth on the four last; the ninth on the two first and two last; and the tenth single.

And thus in every Cross-peal the Courses do all agree, first in the motion of the Hunt, secondly in the motion of the rest of the notes, and thirdly in the making of the changes, as before I have showed. So that these three things being well observed, will be very helpful both in pricking and ringing them; the first and third being most proper to direct the pricking of them, and the first and second the ringing of them. Therefore if the Practitioner do but observe how the changes are made in the first course of a peal, wherein he must have

particular regard to the motion of the Hunt, (with a little further help from the following directions to each peal, as to the making of *Extreams* and *Bob-changes*) he may easily prick down all the following Courses of the same peals and therefore in the following peals I have onely prickt down two or three of the first courses for an example, and then have abridged the rest of the peal by setting down only the changes that are made at the leadings of the Hunt. But note, there are some few *Cambridg*-peals upon five bells, wherein all the courses of each peal do not agree in the aforesaid three respects: For although as to the motion of the *whole-hunt* they do, yet in the motion of the rest of the notes, and consequently in the making of the changes they do not.

It being very difficult to begin the following peals with cross *hunts*, that is, to make the *2d*, *3d*, *4th* &c. whole-hunts, I will therefore set down a general rule for making the first changes at the beginning of each Peal, wherein consists the great difficulty. In any Cross-peal the *whole-hunt* may move either up or down at the beginning; and the motion of the *whole-hunt* in the first course of each of the following peals will direct the first motion of any cross *hunt*, and consequently of making the first changes in that peal. For Example, admit the *4th* were made the *whole-hunt* in the peal called *Old doubles and singles* upon five bells, and to *hunt* up at first: now to know how to make the first changes, observe how the change is made wherein the treble (which is there the *whole-hunt*) moves up out of the *4th* place, and in the same manner must the change be made wherein the *4th* bell also moves up out of that place: therefore as the change wherein the treble moves up out of the *4th* place is a *single* behind; so likewise must the change wherein the *4th* bell moves up out of that place, be also a *single* behind thus, 12354: and then as the next change wherein the treble lieth still behind is double of the four first bells; so likewise the next change wherein the *4th* bell lieth still behind, must also be made on the four first, thus, 21534, &c. Or admit the *4th* were to hunt down at the beginning, then observe how the change is made wherein the treble hunts down out of the *4th* place, and so in like manner must the change be made wherein the *4th* hunts also down out of that place: therefore as the change wherein the treble hunts down out of the *4th* place, is double of the four first bells; so likewise must the change wherein the *4th* bell hunts down out of that place, be also double of the four first

thus, 21435; then as the *treble* makes a *single* when it moves down out of the 3^d place, so likewise must the 4th next make a single change in moving down out of the 3^d place thus 24135, &c. which observations will guide the making of the first changes in any cross peal with any Hunts; but observe whensoever the first change of any peal happens to be single, it must be made at the back-stroke to prevent cutting compass; and the like when a double change happens first in a peal of Triples and Doubles. And moreover by the way observe, that all the following peals are so prickt, that in ringing them at half-pulls, if the first change of each peal is made at the fore-stroke, the single changes in each peal will always be made at the back-stroke; and also the double changes in Triples and Doubles, excepting some few Single in two or three peals. But when it happens that the first change of a peal is made at the back-stroke, then consequently the bells at the end of the peal will come round at a fore-stroke change.

In such peals on five bells where *singles* are made in the 3^d and 4th places at the leadings of the *whole-hunt*, the *extreams* may there be made three ways in each peal; *viz.* every time the *half-hunt* lieth next to the *whole-hunt*; secondly, every time it lieth behind; thirdly, every time the *half-hunt* lieth next the *whole-hunt*, and also behind: in this last way there are six *extreams* in each peal, but in other ways only three in each; the *extreams* being always made when the *whole-hunt* leads, and betwixt the two farthest *extream* bells from the *half-hunt*.

In such peals upon five bells wherein there are three *extreams*, and made in the 3^d and 4th places at the leadings of the *whole-hunt*; the rest of the *singles* at the leadings of the *whole-hunt* may be made two ways in each peal, *viz.* either in the 2^d and 3^d, or the 4th and 5th places; if they are made in the 2^d and 3^d, then the *extreams* must be made when the *half-hunt* lyeth behind; but if the *singles* are made behind, then the *extreams* must be made when the *half-hunt* lieth next the *whole-hunt*, the *extreams* being always made between the two next *extream* bells to the *half-hunt*.

In all the following peals the figures standing by themselves at the title of the peal, are the *hunts* in the peal there prickt: for instance, in the first *cross-peal* upon five bells call'd *Old doubles and*

singles, the two figures standing thus *1 and 2*, are the *hunts* in that peal; *1* is the *whole-hunt*, *2* the *half-hunt*, and the like of the rest.

All peals of *doubles* upon five bells, which go sixty changes compleat without any *single*, by making of two *extreams* they will go 120. And also all peals of *doubles* upon six bells, and *triples* and *doubles* upon six, which go 360 changes without any *single* or *extreme*, by making of two *extreams* they will go 720. The *extreams* in all these compleat peals proceeding from one and the same cause, are therefore to be made after one manner, according to this general and infallible rule: Wheresoever any two of the *extream* bells are in course to make a change, those two bells by lying still will effectually make the *extream*. So that the making of the *extream* in *doubles* upon five bells, necessitates the making of a *single change* at the same time, by reason that the two *extream* bells which should contribute to the making of the *double* change, do lie still; so that the *single* change is accidental, and very improperly called the *extream*. When the *extreams* in *triples* and *doubles* upon six bells are made at *double* changes, then there happens two *singles* in the peal; but when they are made at *triple* changes, then those two changes will become *double*, and consequently the 720 will then go compleat without any *single*. Upon five bells the first *extream* must be made within sixty changes from the beginning, and the second *extream* just sixty changes from the first. Upon six bells the first *extream* must be made within 360 changes from the beginning, and the second *extream* just 360 changes from the first. The easiest way in practice, is to make the *extremes* at the leadings of the *whole-hunt*; wherein it may be observed as a general rule, That in all peals upon six bells, where the *half-hunt* dodgeth behind at the *bobs*, there the first *extream* may be made either the first, second, or third time: the *half* and *quarter-hunts* dodg together behind, and then the second *extream* must be made the third time those two bells dodg again together behind, after the first *extream* is made. And also in all such peals upon six bells, where the *doubles* at the leadings of the *whole-hunt* are made on the four middle bells, there the first *extream* may be made either the first, second, or third time the *half* and *quarter-hunts* do make a change in the *2d* and *3d* places, and then the *2d* *extream* must be made the third time those two bells come there again to make a change after the first *extream* is made. The *singles* at all these *extreams* must be made by the *half* and *quarter-hunt*. The

first *extream* in any peal may also be made at any place, where two of the *extream* bells are in course to made a change according to the preceding general rule; and then the making of the second *extream* may be guided by observations taken from the changes at the leadings of the *whole-hunt*: for at the leadings of the *whole-hunt* the *half* and *quarter-hunts* always come together to make a change in one place, just at 120 changes distance from one another throughout each peal. Now as the second *extream* must be made just 360 changes from the first, so the making of it may thus be guided: Look how many changes, or else how many leadings of the *whole-hunt* the first *extream* is made after the *half* and *quarter-hunts* have made a change together, so many changes or leadings of the *whole-hunt* must the second *extream* be made, after the third following time that those two bells do made a change in the same place again. And likewise in all peals, where there are single and double *bobs*, the same observations will also hold good, in making the *extreams* either after the single or double *bobs* as before; there being likewise 120 changes distance between the single *bobs* and also between the double *bobs*: so that if the first *extream* is made at a single *bob*, the second must then be made at the third following single *bob*, and the like also at double *bobs*. And such kind of observations, according to the nature of the peal, will guide the making of the second *extream* in any peal, either upon five or six bells. Wherein 'tis observable, that the second *extream* must always be made by the same two bells, and in the same place where the first was made, which two bells will in course lie apt for that purpose; and the rest of the bells will also in course lie in the same places at the second *extream* where they lay at the first. After the making of the first *extream*, the method of the peal goeth on as if no *extream* had been made; and also after the making of the second *extream* if any remaineth, it also goes on, until in course the bells come round.

In all compleat peals of *doubles* upon six bells there may also moveable *extreams* be made, which are made according to this rule; wheresoever any two of the *extream* bells are together, and in course to lie still, those two bells by making a change will thereby make the *extream*, which is as effectual as the fixed *extream*, the reason and ground of both being one and the same. There are also two of these *extreams* in the peal, and the second always made 360 changes from the first, and the making of it guided by such kind of observations as

before. When moveable *extreams* are made, then there will be two triple changes in the 720; but when fixed *extreams* are made, then two *singles*.

The art of *cross-pricking* may receive a being from this consideration. As every compleat peal of plain changes upon one number comprehends the compleat peals on all lesser numbers; so likewise every compleat *cross-peal* must of necessity do the like, although their cross course permits it not to be done so regularly and demonstrably as the former. From whence may be inferr'd, that every note in a *cross-peal* must of necessity lie as many times in one place, as the rest of the notes are capable of making changes; and also that two or more of the notes must jointly lie in the same places as many times, as the remaining number are also capable of making changes: this being a certain touchstone to prove all *cross-peals* after they are prickt, and must be held as a principle on which to ground such methods of pricking, that the course of all the notes may demonstrably tend to produce those effects. And from hence it is, that the whole *hunt* immediately derives the manner of its uniform motion through the courses of each peal. And the changes in every course are as so many guides to conduct the rest of the notes in such sort, that they may be prepared to lie at the last change of the course in apt places for each succeeding course to receive them, and to perform the like. Now as the changes in all the courses of a peal are made alike, except as before; so in the composing of *cross-peals*, by pricking of one course may soon be discovered, whether or no a compleat Peal will from thence arise.

Cross Peals.

The Twenty four, Doubles and Singles on four Bells.

This peal consists equally of *double* and *single* changes; one change is *double*, the next *single*, and so throughout. 1 is here the *hunt*, and 2.3.4 *extream* bells. Every *double* change is made on the two first and two last bells, and every *single* on the two middle bells, except when the 1 leads, and then behind which is call'd *extream*. All the bells have a direct Hunting course up and down until 1 leads, and then the bell in the second place lyeth still, whilst the two hind-bells make a dodg; which being made, all the bells proceed again in their Hunting course. The three changes of (*a.b.c*) are the three *extream* changes.

~~1234~~
 2143
 2413
 4231
 4321
 3412
 3142
 1324
a 1342
 3124
 3214
 2341
 2431
 4213
 4123
 1432
b 1423
 4132
 4312
 3421
 3241
 2314
 2134
 1243
c 1234

There are three ways to make the *extream* changes. First, every time the *hunt* leads, as in the peal here prickt; secondly, every time it lies behind; thirdly, every time it leads and lies behind: in this last way there are six *extream* changes in the peal, but in the other two ways, only three *extreams*; the *extream* changes must always be made betwixt the two farthest bells from the *hunt*. Any bell may *hunt* at pleasure, and it may move either up or down at the beginning of

the peal. If the *1st* or *3d* do *hunt* down, or the *2d* or *4th* up at the beginning, the first change must be *single*, and made of the back-stroke (if 'tis rung at half-pulls) to prevent cutting compass; but if either of those bells do *hunt* the contrary way, then the first change must be double.

Old Doubles and Singles. 1 and 2.

One change is *double*, the next *single*, and so by turns. The treble hath a direct hunting course, as in plain changes. Every *double* change is on the four first bells, and the treble is one of the two bells that makes every *single* change, except when it leads, and then the *single* is in the *3d* and *4th* places; but when 2 lies next the treble, then the *single* is behind, which is call'd *extream*. Every time the treble leaves leading, the two first bells continue slow dodging, until the treble comes down and displaceth them. And when the treble moves down out of the *5th* place, the bell that comes into it lies still there, untill the treble comes thither again, except when the *extream* change is made behind. Every bell lies twice together in the *3d* and *4th* places, except when the treble leads, and also when it hinders them in hunting.

<u>12345</u>	51432	_____
21435	15342	12543
24135	15432	<i>Extre.</i>
42315	_____	12534
42351	13254	_____
24531	13524	13425
24513	_____	13245
42153	12435	_____
41253	<i>Extre.</i>	14532
14523	12453	14352
14253	_____	_____
41523	15324	15243
45123	15234	15423
54213	_____	_____
54231	13452	12354
45321	13542	<i>Extre.</i>
45312	14235	12345
54132	14325	

This old peal may be rung by a new course, which differs from the former only in the *single* changes that are made every time the *whole-hunt* leads, *viz.* every *single* may be made either in the *2d* and *3d*, or *4th* and *5th* places. If they are made in the *2d* and *3d*, then the *extreams* must be made when the *half-hunt* lies behind; but if they are made in the *4th* and *5th* places, then the *extreams* must be made when the *half-hunt* lies next the *whole-hunt*, the *extreams* being always made in the *3d* and *4th* places.

London Paradox. 1 and 2.

One change is *double*, the next *single*, and so by turns. The motion of the treble is after this manner; in hunting up, first, it makes a dodg in the *2d* and *3d* places, then it lies twice in the *4th* place, and four times behind; in which manner also it hunts down again, and then leads four times. The rest of the bells have a like course and motion with that of the treble, untill the treble leads. Now

'tis observable, that every *single* change is made in the *2d* and *3d* places until the treble leads, and then in the *3d* and *4th* places; but when 2 lies next the treble, then an *extream* behind. The changes at the leadings of the *whole-hunt* have an absolute dependency upon the course of the *twenty four* changes, *doubles* and *singles* upon four bells; and the *extreams* to be made as many ways as in that peal, which are here guided by the motion of the *half-hunt*.

<u>12345</u>	<i>Extre.</i>
21435	12453
24135	————
21453	14235
24153	14325
42513	13452
45213	13542
42531	————
45231	15324
54321	15234
53421	12543
54312	<i>Extre.</i>
53412	12534
35142	————
31542	15243
35124	15423
31524	14532
13254	14352
13524	————
15342	13425
15432	13245
————	12354
14523	<i>Extre.</i>
14253	12345
12435	

Phoenix 5 and 4.

One change is *double*, the next *single*, and so by turns. Every bell leads twice, and lies behind four times. Every *single* is made in the *2d* and *3d* places, until the *5th* comes behind, and then in the *3d* and *4th* places; but when the *4th* leads, (the *5th* being behind) the *single* is in the *2d* and *3d* places.

<u>1</u> 2345	54123
21354	51423
23154	15432
32514	14532
35214	41352
53241	43152
52341	34125
25431	34215
24531	43125
42513	41325
45213	

London *pleasure. 1 and 2.*

This peal in the former printing of it was prickt another way, but I have here transposed that Course, which in my opinion renders it more easie and practical.

12345	23154	35142	15432
21345	21354	35412	————
23145	12354	35421	14532
32145	13254	53421	14523
31245	13524	53412	14253
31425	13542	53142	12453
34125	31542	51342	————
34215	31524	15342	12435
34251	31254	15324	14235
32451	32154	15234	14325
32415	32514	12534	14352
23415	32541	————	————
23451	35241	12543	13452
23541	35214	15243	13425
23514	35124	15423	13245
			12345

Mr. Tendring's Peal, call'd Grand Paradox. 1 and 5.

One change is *double*, the next *single*, and so by turns. The motion of the *whole-hunt* is after this manner: first, it moves up into the *2d* and *3d* places, lying twice in each; then it moves up and makes a *dodg* behind, and then lieth still one change in the *5th* place; then it makes another *dodg* behind, and so moves down into the *3d* and *2d* places lying twice in each as before, and then leads four times. Every other bell hath a like course and motion with that of the treble until the leadings of the treble, and then observe, that every time the treble goeth to lead and leaves leading, the *double* change is made on the two first and two last bells, except when it goeth to lead if the *half-hunt* lies next it, and then not. Every bell leads four times, and every *single* is made behind. The change wherein each bell leaves leading, is always made on the four first bells, except as before.

<u>1</u> 2345	45321	21534	43152	13524	14523
21354	45312	25143	43125	13542	————
21345	54132	25134	41352	————	13254
23154	54123	52314	41325	12453	13245
23145	51432	52341	14352	12435	12354
32415	51423	53214	14325	14253	12345
32451	15243	53241	13452	14235	————
34215	15234	35421	13425	————	
34251	12543	35412	————	15432	
43521	12534	34521	15324	15423	
43512	21543	34512	15342	14532	

What you please, *Doubles and Singles*.

Every bell leads four times, and lies behind twice, except when the *extream* is made behind; and twice in the second place, except when the *extream* is made before: and note, when the treble is before the fourth stroke, the *single* is in the *2d* and *3d*, the next time the *single* is behind; but at other times the *single* is in the *3d* and *4th* places. When any bell leaves leading the *double* change is on the two first and two last, and the *extreams* are made by turns, first behind, then before, and so on to the end, for there are six *extreams*.

<u>1</u> 2345	34521	21435	45231	14352	14235
21354	34251	21345	54213	14532	14325
21534	43215	23154	54123	15423	13452
25143	43125	23514	51432	<i>extre.</i>	<i>extre.</i>
25413	41352	32541	51342	15432	13425
52431	41532	32451	15324	————	————
52341	14523	34215	15234	13254	12534
53214	14253	34125	12543	13524	12354
53124	12435	43152	<i>extre.</i>	15342	13245
35142	<i>extre.</i>	43512	15243	<i>extre.</i>	<i>extre.</i>
35412	12453	45321	————	13542	12345
				————	

Old Doubles. **1 and 2.**

The changes are all *double*, except one *single* every time the treble leads. The treble hath a perfect hunting course as in plain changes, and every other bell hath a like hunting course with that of the treble until the treble leads, and then a *single* is made in the 3^d and 4th places; but when the 2 lies next the treble, the *single* is behind which is call'd *extream*.

<u>1</u> 2345	13254	51432	12453	15234	14532
21435	13524	15342	————	————	14352
24153	31254	15432	14235	12543	————
42513	32145	————	14325	<i>extre.</i>	13425
45231	23415	14523	————	12534	13245
54321	24351	14253	13452	————	————
53412	42531	————	13542	15243	12354
35142	45213	12435	————	15423	<i>extre.</i>
31524	54123	<i>extre.</i>	15324	————	12345

New Doubles. **1 and 2.**

The changes are all *double*, except one *single* at every leading of the treble. The treble hath a perfect hunting course as in plain changes; and when it moves up from leading, the two first bells dodg untill it comes down again and displaceth them. Every bell that comes into the 3^d place lies there twice, and then moves up behind; but the bell which lies there when the treble leaves leading, moves down. Every bell lies twice behind, except at the changes wherein the treble goeth to lead and leaves leading. Every time the treble leads, a *single* change is then made in the 3^d and 4th places; but when the 2 lies next the treble, an *extream* behind.

<u>1</u> 2345	13254	51324	12453	———	14352
21354	13524	15342	———	12543	———
23145	31542	15432	14235	<i>extre.</i>	13425
32415	35124	———	14325	12534	13245
23451	53214	14523	———	———	———
32541	35241	14253	13452	15243	12354
23514	53421	———	13542	15423	<i>extre.</i>
32154	35412	12435	———	———	12345
31245	53142	<i>extre.</i>	15324	14532	
			15234		

Reding Doubles. 1 and 2.

The treble hath a direct hunting course as in plain changes, and when it moves up from leading the two first bells dodg until it comes down again and displaceth them; and whilst they dodg before, every bell that comes down into the *3d* place lies there twice, and then moves up again behind. But after the dodging all the bells go a direct hunting course up and down, until the dodging again hindreth them as before. Every bell lies twice behind, except when the treble leaves leading if the *2d* lies next it, and then the *double* is made on the two first and two last bells; by which means the two hind-bells then make a dodg, which happens in course once in twenty changes, that is, every second time the treble leaves leading. By this method it will go sixty changes, and then an *extream* must be made. The *extreams* in this peal may be made according to the preceding general rule set down in the *Introduction*. Here the first *extream* is made at the end of sixty changes, the bells lying 1 3 2; and when they come to lie so again, the second *extream* must be made; the *extream* is made behind, two of the *extream* bells lying there, and the *single* is made in the *2d* and *3d* place at both the *extreams*.

<u>1</u> 2345	12534	12354
21354	21543	————
23145	25134	13524
32415	52314	15342
23451	25341	————
32541	52431	14253
23514	25413	12435
32154	52143	————
31245	51234	14325
13425	15324	13452
14352	13542	————
41532	————	15234
45123	14235	12543
54213	12453	————
45231	————	15423
54321	14523	14532
45312	15432	————
54132	————	13245
51423	13254	<i>extre.</i>
15243	<i>extre.</i>	12345

Grandsire. 1 and 5.

The treble hath a direct hunting course as in plain changes, and every other bell hath also a like hunting course with that of the treble except when the *bobs* hinder. The *bobs* are double changes, and made on the two first and two last bells according to this rule, *viz.* every time the *treble* goes to lead and leaves leading, a *bob*-change is then made, except the *5th* lying next it makes a change there with it, and then not. Now 'tis observable, that once in twenty changes, that is, at every second leading of the treble, the *5th* lies next it, and consequently there is but one *bob*-change then to be made, but at other times two; so that at one leading of the treble there is but one *bob*-change made, at the next leading there are two, and so successively by turns, which for distinction may be call'd *single* and

double bobs, The two bells that dodg behind at a *bob* continue there dodging until the treble comes up and displaceth them, and at every *bob-change* the bell in the 3d place lieth still, and then moves down to lead. By this method it will go sixty changes; and to carry on the course *extreams* must be made, there being two in the peal. The manner of making an *extream* I have at large shewed in the *Introduction*, and the *extreams* may here be made in any place according to the general rule there set down. The easiest way in practice is to make them at the leadings of the treble; at any single *bob* it maybe made behind, two of the *extream* bells lying there, and to lie still whilst the bells in the 2d and 3d places do make the *single* change: at any double *bob* it may be made in the 2d and 3d places, so that the *single* must there be made behind. If the first *extream* is made at the single *bob*, the second must be made at the third following single *bob*; or if the first is made at a double *bob*, the second must be made at the third double *bob* following, as in this peal here prickt, where the first *extream* is made at a double *bob*, and the second also made at the third following double *bob*.

<u>1</u> 2345	52143	52431
21354	51234	25341
23145	15324	23514
32415	13542	32154
34251	31524	31245
43521	35142	13254
45312	53412	<i>extre.</i>
54132	54321	13245
51423	45231	————
15243	42513	15342
12534	24153	13524
21543	21435	————
25134	12453	14253
52314	14235	12435
53241	41253	————
35421	42135	15234
34512	24315	12543
43152	23451	————
41325	32541	13452
14352	35214	14325
13425	53124	————
31452	51342	15423
34125	15432	14532
43215	14523	————
42351	41532	12354
24531	45123	<i>extre.</i>
25413	54213	12345

This peal will go with any *hunts*, and to begin it on the four hind bells; but then in ringing it at half-pulls, the first change being made at back-stroke to prevent cutting compass, the bells at the end of the peal will come round at a fore-stroke change. Therefore the better way is to begin it on the four first bells, which may also be done with any *hunts*, excepting 1.3, 1.5. and 2.3, 2.4, 2.5, wherein the first change of each may be a *bob*. And observe, that in any way of beginning it, the bells must all proceed in such a perfect hunting

course as the first change directs them, until the first *bob* comes to be made.

Old Triples and Doubles.

One change is *triple*, the next *double*, and so by turns, except one *single* at the end of every sixty changes. Every *triple* change is made on the two first, the two middle, and two last bells; and every *double* is made on the four middle bells, except when the *hunt* leads and then on the four hind bells. Treble is here the *hunt*, and hath a direct hunting course up and down as in plain changes: the rest of the bells have also a direct hunting course up and down except when the treble leads, and then each bell that was hunting up (except that in the *2d* place) makes a dodge with the next bell below it, and then proceeds forward again in its course up; and each bell which at the same time was hunting down, makes a dodg with the next bell above it, and so proceedeth forward in its course down; which method will carry on the peal five *courses* of the *hunt*, that is sixty changes as they are here prickt.

In the 120 there is also a *half-hunt*; and when the *whole-hunt* leads and the *half-hunt* lies next it, a single change must then be made, either in the *3d* and *4th*, or *5th* and *6th* places; but observing when the *half-hunt* comes again to lie next the *whole-hunt*, another single change must be made in the same place where the first was made. These single changes are called *extreams*, there being two in every *sixscore*, and the last of them always falls out in course to be made just 60 changes from the first, that is, at the fifth leading of the whole *hunt* after the first *extream*.

<u>1</u> 23456	135264	156342	164523	142635
214365	312546	513624	615432	416253
241635	321456	531264	651342	461523
426153	234165	352146	563124	645132
462513	243615	325416	536214	654312
645231	426351	234561	352641	563421
654321	462531	243651	325461	536241
563412	645213	426315	234516	352614
536142	654123	462135	243156	325164
351624	561432	641253	421365	231546
315264	516342	614523	412635	213456
132546	153624	165432	146253	124365

In the 240 there is also a *half-hunt*; and when the *whole-hunt* leads, and the *half-hunt* lies next it, a single change being then made in the *4th* and *5th* places, will bring the bells round at *twelvescore*, there being four *singles* in the peal, one of which falls in the course at the end of every sixty changes.

In the 720 there is a whole, half, and quarter *hunt*, and every time the *whole-hunt* leads and the *half-hunt* lies next it, a single change must then be made in the *4th* and *5th* places as in the *twelvescore*; but when the *quarter-hunt* lies next the *half-hunt*, that is, when the three *hunts* come together before, (which always happen at the end of every *twelvescore*) then the *single* must be made behind, which is call'd *extream*, there being three of them in the peal.

The *sevenscore and four* triples and doubles are the same with the former except at the leadings of the treble, and then a *single* is always made in the *3d* and *4th* places; but when the 2 lies next the treble, an *extream* is made in the *4th* and *5th* places. This peal is grounded on the *twenty four* doubles and singles, the four middle bells making them at the leadings of the treble.

Grandsire Bob. 1, 2 and 4.

The general method of this peal is the same with that next before, but with this difference; whereas in that peal *singles* were

made at the end of every sixty changes to carry on the course, in this there are *double* changes made in their stead, which are called *Bob*-changes, and made when the treble leads in the *2d* and *3d* and the *5th* and *6th* places, whereas at other times the *double* is there made on the four hind bells.

The Practitioner may observe these rules in the ringing of it, *viz.* whatsoever bells he followeth when he hunteth up, he must follow the same bells again, and in the same order, the next time he hunts down, as in these changes here prick't; where the treble in hunting up first follows 2, then 4, and then 6; and when it comes behind, first it follows 2 again, then in its hunting down it follows 4 and 6 in the same order as when it hunted up; which is also observed in the ringing of any other bell, but with this difference betwixt the *whole-hunt* and the rest of the bells, *viz.* Every time the *whole-hunt* leaves the *treble's* place and hunts up, it followeth different bells from what it did in its former hunting up, as may be seen in this example: where in its first hunting up it first follows 2, then 4, then 6; whereas in the next hunting up it first follows 3, then 2, then 4. But the first time any other bell leads after a *bob*, whatsoever bells it then follows in its hunting up, it follows the same bells likewise and in the same order every time it hunts up, and consequently every time it hunts down unto the next *bob*; as in this example, where 2 in its first hunting up, first follows 4, then 6, then 5, and likewise when it next hunts up it follows 465 as before, &c. But when the *whole-hunt* is the second bell which he follows in hunting up, he must follow it again when he next lies behind.

~~1~~2345~~6~~
 214365
 241635
 426153
 462513
 645231
 654321
 563412
 536142
 351624
 315264
 132546
 135264
 312546
 321456
 234165
 243615
 426351
 462531
 645213

'Tis observable, that at every leading of the treble the two hind bells dodg; and whensoever the *half-hunt* dodgeth there, a *bob* must then be made, except the *quarter-hunt* dodgeth there with it, and then not; which is an infallible rule, by which he that rings the *half-hunt* may always give notice of the *bobs* as well when the peal is inverted, as in the ordinary way of ringing it. The *bobs* fall out in course single and double, the one single, the next double; and so by turns; there being three single *bobs* and three double *bobs* in the *eighteenscore*, and consequently six of each in the 720.

The aforesaid method being observed, will carry on the course of the peal to the end of *eighteenscore*, which is just half the 720, and then it terminates, as appears in the *eighteenscore* here prick't: but by making an *extream* that number may be doubled; for then *eighteenscore* changes more will go in course according to the former method; and another *extream* being likewise made at the end of the last *eighteenscore* will compleat the 720. The manner of making an *extream* I have shewed at large in the *Introduction*, page [90](#). where I have also set down a general rule for making them, to which I refer.

The first *extream* may be made either the first, second, or third time that the half and quarter *hunts* dodg behind; or else at the first, second, or third single *bob*; at either of which places the *single* must be made behind.

132546	165432	132465	421536	142563
<u>123456</u>	<i>bob.</i>	134256	412356	————
214365	156423	312465	143265	124653
241635	514632	321645	142356	126435
426153	453126	236154	<i>bob.</i>	————
462513	435216	263514	————	162345
645231	342561	625341	124536	163254
654321	324651	652431	125463	————
563412	236415	564213	————	136524
536142	263145	546123	152643	135642
351624	621354	451632	156234	————
315264	612534	415362	————	153462
135264	165243	461235	165324	<i>bob.</i>
312546	162534	143526	163542	135426
321456	615243	<i>bob.</i>	————	————
234165	651423	134562	136452	153246
243615	564132	315426	163425	152364
426351	546312	351246	————	————
462531	453621	532164	136245	125634
645213	435261	523614	132654	126543
654123	546321	256341	————	————
561432	342516	265431	123564	162453
516342	324156	624513	125346	164235
153624	231465	642153	————	————
156342	213645	416325	152436	146325
513624	126354	143652	154263	<i>bob.</i>
531264	123645	<i>bob.</i>	————	164352
352146	216354	134625	145623	————
541362	261534	316452	<i>bob.</i>	146532
325416	625143	361542	154632	<i>bob.</i>
234561	652413	635124	————	164523
243651	564231	653214	145362	————
426315	453612	562341	<i>bob.</i>	146253
462135	435162	526431	154326	142635

641253	341526	254613	_____	_____
614523	314256	245163	145236	124365

Here are *eighteenscore* changes wanting one, which one if it were made double as the former, would bring the bells round, therefore an *extream* must be made as in this change 123465, the two hind bells making the *extream*, and the bells in the 3d and 4th places making the *single*. Now in regard that this *extream* is made the second time the *whole-hunt* leads after a double *bob*, therefore the second *extream* must be made the second time the *whole-hunt* leads after the third double *bob* following.

This peal may be rung with any *hunts*, and to begin the changes *triple* and *double* as in this here prickt.

[Fleuron]

***Fifty three LONDON-Peals
upon Five, Six, Seven, and Eight
Bells, composed by F.S.***

Crambo.

The changes are all *single*; it hath a perfect course, and may be prickt many ways.

<u>1</u> 2345	45312	23514	35142	13254	41325
21345	54312	32514	35124	13245	14325
21435	54132	32154	53124	31245	14352
24135	45132	23154	51324	31425	14532
24153	45123	23145	51342	13425	41532
42153	54123	32145	15342	13452	41523
42135	54213	32415	15432	31452	14523
42315	52413	23415	51432	34152	14253
24315	52431	23451	51423	34125	41253
24351	25431	32451	15423	43125	41235
42351	25413	32541	15243	43215	14235
42531	25143	35241	51243	34215	12435
24531	52143	35214	51234	34251	21453
24513	52134	53214	15234	43251	12453
42513	25134	53241	15324	43521	21543
45213	25314	53421	13524	34521	12543
45231	52314	35421	13542	34512	12534
54231	52341	35412	31542	43512	21534
54321	25341	53412	31524	43152	21354
45321	23541	53142	31254	41352	12354
					12345

The Primrose. 1 and 2.

The treble hath a perfect course as in plain changes. And when it hunts up out of the *2d* place it makes two *singles* together, and the like when it hunteth down. When it leads, the *single* is in the *3d* and *4th* places, except when 2 lies next it, and then an *extream* behind. Every bell (except the treble) leads four times, and lies still behind untill the treble displaceth it, except at the *extream*.

<u>1</u> 2345	51432	15234
21435	15342	_____
24135	15432	12543
24315	_____	<i>Extre.</i>
23451	14523	12534
32541	14253	_____
35214	_____	15243
35124	12435	15423
31524	<i>Extre.</i>	_____
13254	12453	14532
13524	_____	14352
31254	14235	_____
32154	14325	13425
32514	_____	13245
35241	13452	_____
53421	13542	12354
54312	_____	<i>Extre.</i>
54132	15324	12345

Orpheus.

<u>1</u> 2345	14253	34125	54312	32541	52134
13254	41523	43152	53421	23514	51243
13245	41532	43125	53412	23541	51234
31254	45123	34215	35421	25314	15243
31245	45132	34251	35412	25341	15234
32154	54123	32415	53142	52314	12543
32145	54132	32451	53124	52341	12534
23154	51423	23415	51342	25431	21543
23145	51432	23451	51324	25413	21534
21354	15423	24315	15342	24531	12354
21345	15432	24351	15324	24513	12345
12435	14523	42315	13542	42531	
12453	14532	42351	13524	42513	
21435	41352	43215	31542	45231	
21453	41325	43251	31524	45213	
24135	14352	34521	35142	54231	
24153	14325	34512	35124	54213	
42135	13452	43521	53214	52431	
42153	13425	43512	53241	52413	
41235	31452	45321	35214	25143	
41253	31425	45312	35241	25134	
14235	34152	54321	32514	52143	

One change is *double*, the next *single*, and so by turns.

New Doubles and Singles. 1 and 2.

One change is *double*, the next *single*, and so by turns. The treble hath a direct hunting course up and down as in plain changes, and every time it goeth to lead and leaves leading, the change is *double* on the two first and two last bells, the rest of the *double* changes are on the four first. The treble is one of the two bells that makes every *single* change except when it leads, and then the *single* is made in the *3d* and *4th* places; but when the 2 lies next the 1, then an *extream* is made behind. When the treble leaves the two first bells, they continue slow dogding until treble comes down and displaceth them. Every bell (except the treble) lieth twice in the *3d* place.

<u>1</u> 2345	51324	15234
21354	15342	_____
23154	15432	12543
32514	_____	<i>Extre.</i>
32541	14523	12534
23451	14253	_____
23415	_____	15243
32145	12435	15423
31245	<i>Extre.</i>	_____
13254	12453	14532
13524	_____	14352
31542	14235	_____
35142	14325	13425
53412	_____	13245
53421	13452	_____
35241	13542	12354
35214	_____	<i>Extre.</i>
53124	15324	12345

The Morning Star. 1 and 2.

The treble hath a direct hunting course as in plain changes; and every time it hunts up, it makes two *singles* together, and the like when it hunts down: when it leads the *single* is behind, but when 2 lies next it an *extream* is made in the *3d* and *4th* places. Every time the treble goeth to lead and leaves leading, the double is on the two first and two last bells, and every bell except the treble leads four times together.

<u>1</u> 2345	51432	14523	15243	_____
21354	54132	14532	_____	14253
23154	54312	_____	13425	14235
23514	53421	12354	13452	_____
25341	35241	<i>extre.</i>	_____	15324
52431	32514	12534	12543	15342
54213	32154	_____	<i>extre.</i>	_____
54123	31254	14352	12453	12435
51423	13245	14325	_____	<i>extre.</i>
15432	13254	_____	13542	12345
15423	_____	15234	13524	

The Quirister. 1 and 2.

This peal consists most of *double* changes; the treble hath a direct hunting course as in plain changes, and every time it hunts up and down it makes a *single* in the *3d* and *4th* places; and when it leads, the *single* is behind, but when 2 lies next it an *extream* is made in the *3d* and *4th* places.

<u>1</u> 2345	32514	15234
21354	35241	15243
23145	53421	————
23415	54312	14352
24351	54132	14325
42531	51423	————
45213	15432	12543
45123	15423	<i>extre.</i>
41532	51432	12453
14523	54123	————
14532	54213	15324
41523	52431	15342
45132	25341	————
45312	23514	14253
43521	23154	14235
34251	21345	————
32415	12354	13542
32145	<i>extre.</i>	13524
31254	12534	————
13245	————	12435
13254	13425	<i>extre.</i>
31245	13452	12345
32154	————	

When the treble leaves the two hind bells, they continue dodging untill it comes up again and displaceth them, and then they hunt directly down; the first to lead, and the other into the *2d* place: that

which moves to lead, having lead four times, gives place to the treble; but when the Treble hath done leading it takes the treble's place again, and leads four times more and then hunts directly up; the other bell which moved down into the *2d* place lies there twice, and then the Treble in hunting down moves it into the *3d* place where it lies still, untill the Treble in hunting up moves it back into the *2d* place, where having lain twice it hunteth up. This Peal is as musical, easie, and practical as any of this kind that ever was prickt.

The Faulcon. 1 and 2.

This Peal consists most of *double* changes. The treble hath a direct hunting course as in plain changes, and every time it hunts up and down it makes a *single* in the *3d* and *4th* places, and when it leads a *single* is also made there, but when 2 lies next it the *extream* is made behind. When the treble leaves the two first bells they continue there until it comes down again and displaceth them, but observe, when the treble moves into the *5th* place, and again from thence, the *double* is on the two first and two last bells, by means of which the two first bells then dodg, but before and after they lie still. Every bell lies twice in the *3d* place and then hunts up, except that which lies there when the treble leaves leading.

<u>1</u> 2345	53241	————	15243
21354	35421	14235	15423
23145	53412	14325	————
23415	53142	————	14532
32451	51324	13452	14352
23541	15342	13542	————
32514	15432	————	13425
32154	————	15324	13245
31245	14523	15234	————
13254	14253	————	12354
13524	————	12543	<i>extre.</i>
31542	12435	<i>extre.</i>	12345
35124	<i>extre.</i>	12534	
35214	12453	————	

Merry Andrew.

1 and 2.

One change is *double*, the next *single*, and so by turns. The treble leads four times, lies behind four times, and twice in every other place. Every other bell leads four times. When the treble leaves the two hind-bells, they continue dodging untill it comes up again and displaceth them. Every *single* is made behind until the treble hinders, and then in the *2d* and *3d* places. When the treble leads and the *2d* lies next it, then an *extream* is made in the *3d* and *4th* places.

When the treble goes to lead and leaves leading, the *double* is on the two first and two last bells, and when every other bell goes to lead and leaves leading, the *double* in on the four first.

<u>1</u> 2345	51423	23514	15243
21354	15432	32154	15234
21345	15423	32145	12543
23154	14532	31254	<i>extre.</i>
23145	14523	31245	12453
32415	41532	13254	————
34215	41523	13245	13542
32451	45132	12354	13524
34251	45123	<i>extre.</i>	15342
43521	54213	12534	15324
45321	52413	————	————
43512	54231	14352	14235
45312	52431	14325	14253
54132	25341	13452	12435
54123	23541	13425	<i>extre.</i>
51432	25314	————	12345

May-day. 1 and 5.

One change is *double*, the next *single*, and so by turns. When the treble goes to lead and leaves leading, the *double* is on the two first and two last bells; and when every other bell goes to lead and leaves leading, the *double* is on the four first.

The treble hath a constant dodging course, for in its hunting up it first makes a dodg in the second and third places, and then another behind, and then it lies still one change in the *5th* place; then in its hunting down it makes another dodg behind, and also another in the *2d* and *3d* places, and then leads four times. So that the treble in one of the two bells that makes every *single* until it leads, and then 'tis made in the *2d* and *3d* places, except when the *5th* lies behind, and then an *extream* is made in the *3d* and *4th* places. When the treble leaves the two hind-bells they continue slow dodging, until it comes up again and displaceth them. Every bell leads four times.

<u>1</u> 2345	45132	12543
21354	41523	15234
23154	45123	12534
21345	54213	————
23145	54231	14352
32415	52413	13452
32451	52431	14325
34215	25341	<i>Extre.</i>
34251	25314	14235
43521	23541	————
43512	23514	15324
45321	32154	13524
45312	31254	15342
54132	32145	13542
51432	31245	————
54123	13254	12453
51423	12354	14253
15432	13245	12435
14532	<i>Extre.</i>	<i>Extre.</i>
15423	13425	12345
14523	————	
41532	15243	

St. Dunstan's Doubles. 1 and 2.

The changes are all *double* except one *single* every *2d* time the treble leads, there being six in the peal. The treble is a perfect *hunt*; and every time it goeth to lead and leaves leading, the *double* is made on the two first and two last bells, at which changes the bells in the *3d* place lie still and then move down, and the two hind-bells at the same time *dodg*: but at other times all the bells have a direct hunting course. When the treble leads, and the *2d* lieth either in the *2d* or *3d* places, then a *single* must always be made betwixt the two next *extream* bells to the *2d*.

<u>12345</u>	13245	<u>12453</u>
21354	<u>15423</u>	<u>13542</u>
23145	14532	15324
32415	<u>12354</u>	<u>14235</u>
34251	<i>extre.</i>	<i>single.</i>
43521	12534	14253
45312	<u>14352</u>	<u>13524</u>
54132	13425	15342
51423	<u>15243</u>	<u>12435</u>
15432	<i>single.</i>	<i>Extre.</i>
14523	15234	12345
41532	<u>14325</u>	
45123	13452	
54213	<u>12543</u>	
52431	<i>extre.</i>	
25341		
23514		
32154		
31245		
13254		
<i>single.</i>		

Church Doubles. 1 and 2.

The changes are all *double* except six *singles* as the former. The treble is a perfect *hunt*; and every time it moves up into the *5th* place, and also out of it, the *double* is then made on the two first and two last bells, at which time the bells in the *3d* place do lie still and then move up; and the two first bells at the same time *dodg*. When the treble leads, and the *2d* lieth either in the *2d* or *3d* places, then a *single* must always be made betwixt the two next *extream* bells to the *2d*.

<u>1</u> 2345	13254	14325
21435	<i>single.</i>	_____
24153	13245	12543
42513	_____	<i>Extre.</i>
24531	14532	12453
42351	15423	_____
24315	_____	15324
42135	12354	13542
41253	<i>Extre.</i>	_____
14523	12534	14235
15432	_____	<i>single.</i>
51342	13425	14253
53124	14352	_____
35214	_____	15342
53241	15243	13524
35421	<i>single.</i>	_____
53412	15234	12435
35142	_____	<i>Extre.</i>
31524	13452	12345

In this and the former peal the *singles* may be made in another manner, *viz.* when the *whole-hunt* leads, and the *half-hunt* lieth either in the *4th* or *5th* places, a *single* must then be made betwixt

the two next bells to the *half-hunt*; but at other times a *double* change to be made when the *whole-hunt* leads, as in the former way.

Stedman's *Principle*.

The changes are all *double*, two *singles* excepted. One *double* is made on the two first and two last bells, the next on the four last, and so by turns successively; excepting every sixth change, which is *double* on the four first bells, and for distinction is called a *Parting* change. All the bells have a like course. The general method is this; the three first bells go the *six* changes, and the two hind-bells in the mean time dodg; then a *Parting* change is made which parts the two hind-bells, moving that in the fourth place down into the *3d*, and that in the *3d* place up into the *4th*, and then the three first bells go the *six* again, the two hind-bells in the mean time dodging as before; and then another *Parting* change is made, and so successively on. Every bell that comes behind continues there dodging six changes with one bell and six with another, and then in course the *Parting* change brings it down. One *six* cuts compass, the next doth not, and so by turns successively. In the *six* which cut compass the two first bells of the three makes the first change of it, but in the other the two last of the three. By this method the peal will go sixty changes, and to carry it on farther *extreams* must be made. An *extream* is made by the lying still of two bells when in course they should make a change, as before I have shewed more fully in the *Introduction*, page [90](#). but withall observing, that whereas in this peal the bells have all a like course, therefore they may all be termed *extream* bells, and consequently the *extreams* to be made according to this general rule, *viz.* the first *extream* may be made by any two bells that are in course to make a change within the compass of the first sixty changes of the peal; and the second *extream* must be made according to this rule. Whatsoever two bells are dodging behind at the first *extream*, when the same two bells come to dodg there again, is a certain warning for the second *extream* to be then made. And observe, how many changes the first *extream* is made from a *parting* change; so many likewise must the last *extream* be made after a *Parting* change also. And the *single* and *extream* comes in course each of them to be made in the same place and by the same bells at the last *extream*, as they were at the first. Here the *singles* are made

behind, and the *extreams* in the *2d* and *3d* places; and as the *4th* and *5th* bells do dodg behind at the first *extream*, so likewise when they come to dodg there again, the second *extream* is then made, the treble leading at both of them, as appeareth in the peal here prickt.

<u>12345</u>	42135	52431	24513	51324
21354	41253	25341	42153	15342
23145	14523	52314	24135	13524
32415	41532	53241	21453	31542
23451	45123	35214	12435	35124
24315	54132	32541	14253	53142
42351	51423	23514	41235	35412
43215	15432	32154	14325	34521
34251	51342	31245	13452	43512
43521	53124	13254	31425	45321
45312	35142	<i>extre.</i>	34152	54312
54321	31524	13245	43125	53421
53412	13542	31254	41352	35241
35421	15324	32145	14532	53214
34512	51234	23415	41523	52341
43152	15243	32451	45132	25314
34125	12534	34215	54123	23541
31452	21543	43251	51432	32514
13425	25134	42315	15423	23154
14352	52143	24351	51243	21345
41325	25413	42531	52134	12354
14235	24531	45213	25143	<i>extre.</i>
12453	42513	54231	21534	12345
21435	45231	52413	12543	
24153	54213	25431	15234	

The first *Parting* change is here made the third change at the beginning, and that *six* cuts compass.

In all the several ways of ringing this peal, if the *Parting* changes are made at the fore-stroke, as in course they are in this here prickt, then cutting compass is always on the same *sixes*, as in this peal: but when the *Parting* changes are made at back-stroke, then the contrary *six* always cuts compass to what doth here.

Peals upon Six Bells.

The single Method.

The changes are all *single*, and treble is the *hunt*. When the treble moves up out of the *2d* place, the two first bells continue slow dodging untill the treble comes there again. And when the treble moves down out of the fourth place, the two hind-bells likewise continue slow dodging until the treble comes there again. When the treble leads, (if 'tis rung at half-pulls) the *fore-stroke change* (that is, at the third stroke of the treble's leading) is made in the *3d* and *4th* places, the rest of the changes there are made behind. By this method it will go *sixscore* changes.

<u>123456</u>	135264	164253
213456	————	164235
213465	153642	————
231465	153624	146352
231456	————	146325
321456	135624	————
324156	135642	164325
234156	————	164352
234516	153426	————
324516	153462	146523
324561	————	146532
234561	135462	————
235461	135426	164532
325461	————	164523
325416	153264	————
235416	153246	146235
235146	152346	146253
325146	152364	142653
321546	————	142635
312546	125643	————
312564	125634	124356
132564	126534	124365
132546	126543	123465
135246	————	123456
	162435	
	162453	

To ring 240. When the *whole-hunt* leads, and the *half-hunt* dodgeth behind; the *fore-stroke change* must then be made in the *2d* and *3d* places, as in this here prickt, where the *2d* is the *half-hunt* and there are little marks set at the *fore-stroke changes*.

To ring 360. When the *whole-hunt* leads, and the *half* and *quarter-hunts* dodg behind, the *fore-stroke change* must then be made in the *2d* and *3d* places as before.

To ring 720. When the *whole-hunt* leads, and the *half-hunt* dodgeth behind, the *fore-stroke change* must then be made in the *2d*

and 3d places as before, except the *quarter-hunt* dodgeth there with the *half-hunt*, and then in the 3d and 4th places as at other times. The 2d an 4th, or the 2d and 6th may be the *half* and *quarter-hunts*, or others at pleasure.

“*Note*, in all the following peals upon six bells, the *bobs* are double changes, and always made at the leadings of the whole hunt (except *No-nsuch Bob*, for there the Bobs are made at the change wherein the whole-hunt goeth to lead, and not when it doth lead.) And whereas in the following peals the directions for calling *bob* runs thus; *viz. Every time the half-hunt dodgeth behind, a Bob must then be made, &c.* ’tis there implied, That whereas every time the whole-hunt leads, the two hind-bells then dodg; therefore when the half-hunt dodgeth there at the leading of the whole-hunt, a *bob* must then be made. And in like manner also must all the *bobs* in the following peals be made at the leading of the whole-hunt. He that rings the half-hunt may best call *bob* in all peals.”

A Cure for Melancholly.

Doubles and Singles. The Treble is the *whole-hunt* which leads four times, lieth behind as many, and twice in every other place. When it moves up out of the fourth place, the two bells in the third and fourth places continue dodging until it comes down there again, and then the two hind-bells dodg until the Treble displaceth them. The Treble is one of the bells which maketh every *double* change, except when it lieth still behind, and then the *double* is on the four first, and also when it leads the *double* is on the four last. Every *single* is made in the fifth and sixth places, except when the Treble lieth there, and then in the third and fourth places. Every bell except the Treble lieth four times in the second place. By this method it will go *sixscore* changes, but by making of *bobs* it will go 240, 360, or 720. The *bob* is a *double* change at the leading of the Treble, wherein the bell in the fourth place lieth still.

123456	134625
213465	_____
213456	162345
231465	162354
231456	163245
234165	163254
234156	_____
243516	125634
245316	125643
243561	126534
245361	126543
423561	_____
425361	154263
423516	154236
425316	152463
452136	152436
452163	_____
451236	143526
451263	143562
415236	<i>bob</i>
415263	134526
145236	134562
145263	_____
142536	156423
142563	156432
_____	<i>bob</i>
156423	165423
156432	165432
<i>bob</i>	_____
165423	132654
165432	132645
_____	136254
143652	136245
143625	_____
<i>bob</i>	124365

134652	124356
	123465
	123456

To ring 240. Every time the *half-hunt* dodgeth behind, a *bob* must then be made as in this here prickt, where 2 is the *half-hunt*.

To ring 360. Every time the *half* and *quarter-hunts* dodg together behind, a *bob* must then be made.

To ring 720. Every time the *half-hunt* dodgeth behind a *bob* must then be made, except the *quarter-hunt* dodgeth there with it, and then not.

2 may be the *half* hunt, and 4 the *quarter* hunt, or others at pleasure.

The Morning Exercise.

Doubles and singles. The treble is the *whole hunt*, and hunteth up into the *2d*, *3d* and *4th* places, lying twice in each; then having made a dodg behind, it lyeth still in the sixth place, and then makes another dodg behind, and so hunts down in the same manner as it hunted up, and then leads four times. When the Treble moves down out of the fifth place, the two hind-bells dodge untill it comes up there again; during which time the bell in the *4th* place lieth still. And when the Treble moves up out of the second place, each bell that comes there lieth four times, until the Treble comes down there again. Every *single* is made behind. By this method it will go 120 changes; and by making of *bobs* it will go 240, 360, or 270. At the *bobs* the bell in the *2d* place always lieth still.

<u>123456</u>	<u> </u>	142365
213465	164352	142356
213456	164325	<u> </u>
231465	<i>bob</i>	146532
231456	163452	146523
234165	163425	<i>bob</i>
234156	<u> </u>	145632
243516	165243	145623
243561	165234	<u> </u>
245316	156243	143265
245361	156234	143256
254631	<u> </u>	134265
254613	154326	134256
256431	154362	<u> </u>
256413	<i>bob</i>	136524
265143	153426	136542
265134	153462	<i>bob</i>
261543	<u> </u>	135624
261534	152643	135642
216543	152634	<u> </u>
216534	125643	132465
126543	125634	132456
126534	<u> </u>	123465
162543	124365	123456
162534	124356	

To ring 240. Every time the *half-hunt* dodgeth behind, a *bob* must then be made, as in this here prickt, where 2 is the *half-hunt*.

The warning for the *bobs* in the 360 and 720, is the same with that in the peal next before: 2 may be the *half-hunt*, and 4 the *quarter-hunt*, or others at pleasure.

The City Delight.

Doubles and Singles. Treble is the *whole-hunt*, and lieth four times before, four times behind, and twice in every other place. When it moves up out of the third place, the *singles* are made in the second and third places until it comes there again, and then behind until it moves up again out of the third place. When it moves down out of the fourth place, the two hind-bells dodg until it comes up there again, during which time the bell in the fourth place lieth still. By this method it will go 120, and by making of *bobs* it will go 240, 360, or 720. At the *bobs* the bell in the second place always lieth still; and the warning for them is the same with that in the two last peals. In the 240 here prickt, 2 is the *half-hunt*; and in the 360 or 720, the 2 and 4 may be the *half* and *quarter-hunts*, or others at pleasure.

<u>123456</u>	265143	153462	126534	143256
213465	256143	————	126543	134265
213456	251634	156234	————	134256
231465	251643	156243	124365	————
231456	215634	165234	124356	135642
234165	215643	165243	142365	135624
243165	125634	————	142356	<i>bob</i>
234165	125643	164352	————	136542
243615	152634	164325	145623	136524
246351	152643	<i>bob</i>	145632	————
264351	————	163452	<i>bob</i>	132465
246531	154326	163425	146523	132456
264531	154362	————	146532	123465
265413	<i>bob</i>	162534	————	123456
256413	153426	162543	143265	

London Nightingale.

Doubles and Singles. Treble is the *whole-hunt*, and lieth four times before, four times behind and twice in every other place. When it moves down out of the *5th* place, the two hind-bells continue dodging until it comes there again, during which time the bell in the fourth place lieth still. And when the two hind-bells leave dodging

then the two first bells dodg until the hind-bells dodg again, and then they cease. By this method it will go 120; and by making of *bobs* it will go 240, 360, or 720. At the *bobs* the bell in the second place always lyeth still; and the warning for them is the same with that in the preceding peals. In the 240 here prickt, 2 is the *half-hunt*; and in the 360 or 720, the 2 and 4 may be the *half* and *quarter-hunts* or others at pleasure.

<u>123456</u>	<u> </u>	163245
213465	126543	163254
213456	126534	<u> </u>
231465	162543	125634
231456	162534	125643
234165	<u> </u>	152634
234156	153624	152643
243516	153642	<u> </u>
423516	<i>bob</i>	164523
243561	156324	164532
423561	156342	<i>bob</i>
245361	<u> </u>	165423
425361	134562	165432
245316	134526	<u> </u>
425316	<i>bob</i>	143652
452136	135462	143625
452163	135426	<i>bob</i>
451236	<u> </u>	146352
451263	142356	146325
415236	142365	<u> </u>
415263	124356	132465
145236	124365	132456
145263	<u> </u>	123465
154236	136245	123456
154263	136254	

The Evening Delight.

Doubles and Singles. Treble is the *whole-hunt* and leads four times, lies behind four times, and twice in every other place, except in the *2d* and *3d* places where it makes a *dodg* every time it hunts up and down. Every other bell hath the same course with the *whole-hunt*; but observing, when they come down and have made a *dodg* in the second and third places, they lie still one change in the second place, and then make another *dodg* there, and so hunt up as the Treble did. But note, when the Treble goeth to lead and leaves leading, the bells in the third and fourth places lie still. Every *single* is made in the second and third places, and every bell lieth four times behind. By this method it will go 120, and by making of *bobs* it will go 240, 360, or 720. At the *bob*-change, the bell in the *4th* place always lieth still.

<u>123456</u>	_____	153642
213465	146253	135642
231465	164253	_____
213645	<i>bob</i>	136524
231645	146235	163524
236154	164235	<i>bob</i>
263154	_____	136524
236514	162453	163542
263514	126453	_____
265341	<i>bob</i>	165324
256341	162435	156324
265431	126435	<i>bob</i>
256431	_____	165342
254613	124653	156342
245613	142653	_____
254163	124563	153624
245163	142563	135624
241536	_____	153264
214536	145236	135264
241356	154236	_____
214356	145326	132546
124365	154326	123546
142365	_____	132456
124635	153462	123456
142635	135462	

To ring 240. Every time the *half-hunt* dodgeth in the second and third places a *bob* must then be made, as in this here prickt, where 6 is the *half-hunt*.

To ring 360. Every time the *half* and *quarter-hunts* dodg together in the second and third places, a *bob* must then be made.

To ring 720. Every time the *half-hunt* dodgeth in the *2d* and *3d* places a *bob* must then be made, except when the *quarter-hunt* dodgeth there with it, and then not.

In the 360 or 720, the 6 and 5 may be the *half* and *quarter-hunts*, or else 2 and 4, or others at pleasure.

Colledge Doubles.

Treble is the *whole-hunt*, and hath a direct hunting course. When it moves down out of the *5th* place, the two hind-bells dodg until it comes there again; during which time the bell in the fourth place lieth still: but otherwise the five hind-bells have a direct hunting course. By this method it will go *sixty* changes; and by making of *bobs* it will go 120, 180, 360. At the *bob*-changes the bell in the second place always lieth still.

<u>123456</u>	156234
213465	165243
231456	_____
234165	164352
243615	<i>bob</i>
246351	163425
264531	_____
265413	162534
256143	126543
251634	_____
215643	124365
125634	142356
152643	_____
512634	145623
521643	<i>bob</i>
526134	146532
562314	_____
563241	143265
536421	134256
534612	_____
543162	135642
541326	<i>bob</i>
514362	136524
154326	_____
<i>bob</i>	132465
153462	123456

To ring 120. Every time the *half-hunt* dodgeth behind, a *bob* must then be made; as in this here prickt, where 2 is the *half-hunt*.

To ring 180. Every time the *half* and *quarter-hunt* dodg together behind, a *bob* must then be made.

To ring 360. Every time the *half-hunt* dodgeth behind a *bob* must then be made, except when the *quarter-hunt* dodgeth there with it, and then not.

In the 180 or 360, 2 and 4 may be the *half* and *quarter-hunts*, or others at pleasure.

By making of two *extreams* the 360 may be doubled. They are to be made according to the rules in the *Introduction*, page [90](#).

Non-such Bob.

Doubles. Treble is the *whole-hunt*, and hath a direct hunting course. When it moves up out of the third place, the bell that comes there lieth still until the Treble comes down there again; during which time the two first bells dodg. When the Treble leaves the two hind-bells, they dodg until the change wherein the Treble goeth to lead, and then one of them moves down; but as soon as that change is made, the two hind-bells dodg again until the Treble moves up and parts them. Every time the Treble leads, the *double* is made on the four hind-bells throughout the peal. By this method it will go *sixty* changes; and by making of *bobs* it will go 120, 180, or 360. The *bob* is always made at the change wherein the Treble goeth to lead, the two first and two last bells making it.

<u>123456</u>	532641	165324	543162
213465	352614	163542	453612
231456	532164	613524	543621
234165	531246	631542	453261
324615	513264	635124	543216
234651	153624	365214	453126
324561	156342	635241	451362
234516	516324	365421	415326
324156	561342	635412	145236
321465	563124	365142	142563
312456	653214	361524	412536
132546	563241	316542	421563
135264	653421	<i>bob</i>	425136
315246	563412	136524	245316
351264	653142	135642	425361
352146	651324	315624	245631
532416	615342	351642	425613
352461	<i>bob</i>	356124	245163
		536214	241536
		356241	214563
		536421	124653
		356412	126435
		536142	216453
		531624	261435
		513642	264153
		153462	624513
		154326	264531
		514362	624351
		541326	264315
			624135
			621453
			612435
			<i>bob</i>
			162453
			164235
			614253

		641235
		642153
		462513
		&c.

To ring 120. Every time the *half-hunt* dodgeth before, is a warning for a *bob* to be made the next time the *whole-hunt* goeth to lead; as in this here prickt, where 6 is the *half-hunt*.

To ring 180. Every time the *half* and *quarter-hunts* dodg together before, is a warning for a *bob* to be made when next the Treble goeth to lead.

To ring 360. Every time the *half-hunt* dodgeth before, is a warning for a *bob* to be made the next time the Treble goeth to lead, except the *quarter-hunt* dodgeth there with it, and then not.

In the 180 and 360, the 6 may be the *half-hunt* and 5 the *quarter-hunt*, or others at pleasure.

By making of two *extreams* the 360 may be doubled; they must be made according to the rule in the *Introduction*, page [90](#).

The *bobs* in this peal may also be made at the leadings of the *whole-hunt* as in other peals, and the bell in the fourth place to lie still at every *bob-change*. The warning for them in the 120, 180, and 360 being the same with that in the *Colledge Doubles*, page [143](#).

London *Doubles*.

The Treble is the *whole-hunt*; and hath a direct hunting course. When it moves down out of the fifth place the two hind-bells dodge until it comes there again, during which time the bell in the fourth place lieth still. When the Treble is behind, the two first bells make a change; but at other times the leading bell lieth still. By this method it will go *sixty* changes, and by making of *bobs* it will go 120, 180, or 360. At the *bob-changes* the bell in the second place always lieth still. The warning for the *bobs* in the 120, 180, and 360, is the same with that in *Colledge Doubles*, p. [143](#). By making of two *extreams* it will go 720. The *extreams* must be made according to the rule in the *Introduction*, page [90](#).

In the 120 here prickt, 2 is the *half-hunt*; and in the 180 and 360, 2 and 4 may be the *half* and *quarter-hunts*, or others at pleasure.

<u>123456</u>	541263	156342	_____
213465	542136	_____	164523
231456	524316	134562	<i>bob</i>
234165	523461	<i>bob</i>	165432
243615	253641	135426	_____
246351	256314	_____	143652
426531	265134	142356	<i>bob</i>
425613	261543	124365	146325
452163	216534	_____	_____
451236	126543	136245	132465
415263	162534	163254	123456
145236	_____	_____	
154263	153624	125634	
514236	<i>bob</i>	152643	

Triples, Doubles, and Singles.

<u>123456</u>	153462
214365	<i>bob</i>
241635	135426
<u>246135</u>	<u> </u>
264315	153246
623451	152364
<u>632541</u>	<u> </u>
365214	125634
356124	126543
<u>351624</u>	<u> </u>
315264	162453
132546	164235
<u>135264</u>	<u> </u>
312546	146325
321456	<i>bob</i>
324156	164352
<u>342516</u>	<u> </u>
435261	146532
453621	<i>bob</i>
546312	164523
<u>564132</u>	<u> </u>
561432	146253
516342	142635
<u>153624</u>	<u> </u>
<i>bob</i>	124365
135642	123456
<u> </u>	

Triples, Doubles, and Singles dodging behind.

<u>1</u> 2345 <u>6</u>	162345
214365	126354
241356	_____
243156	156423
234516	<i>bob</i>
325461	154632
352641	_____
536214	134256
563124	143265
561324	_____
516342	163542
153624	136524
135642	_____
316524	126435
361542	<i>bob</i>
365142	124653
356412	_____
534621	154326
543261	145362
452316	_____
425136	165243
421536	<i>bob</i>
412563	162534
145236	_____
<i>bob</i>	132465
142563	123456

Doubles, and Triples.

<u>123456</u>	152364
214365	125346
241356	_____
243165	165432
234615	<i>bob</i>
326451	164523
362541	_____
635214	134256
653124	143265
651342	_____
615324	153624
163542	135642
136524	_____
315642	125463
351624	<i>bob</i>
356142	124536
365412	_____
634521	164352
643251	146325
462315	_____
426135	156234
421653	<i>bob</i>
412635	152643
146253	_____
<i>bob</i>	132465
142635	123456

Single Bob.

1 2345 6	134562
214365	135426
241635	_____
426153	125634
462513	<i>bob</i>
645231	152643
462531	_____
645213	142356
654123	143265
561432	_____
516342	163542
153624	165324
156342	_____
513624	125463
531264	<i>bob</i>
352146	152436
325416	_____
234561	132654
325461	136245
234516	_____
243156	146532
421365	<i>bob</i>
412635	164523
146253	_____
<i>bob</i>	124365
164235	123456

London *Bob*.

<u>123456</u>	<u> </u>
214365	162534
241356	126543
423165	<u> </u>
432615	145623
346251	<i>bob</i>
436521	146532
345612	<u> </u>
354162	135642
531426	<i>bob</i>
513462	136524
154326	<u> </u>
<i>bob</i>	125634
153462	152643
<u> </u>	<u> </u>
164352	146253
<i>bob</i>	164235
163425	<u> </u>
<u> </u>	132465
124365	123456
142356	
<u> </u>	
153246	
135264	

City Bob.

<u>123456</u>	163425
214365	<i>bob</i>
241635	136452
426153	—————
462513	163254
645231	162345
465321	—————
643512	126543
634152	125634
361425	—————
316245	152436
132654	154263
136245	—————
312654	145362
321564	<i>bob</i>
235146	154326
253416	—————
524361	145623
254631	<i>bob</i>
526413	154632
562143	—————
651234	145236
615324	142563
163542	—————
<i>bob</i>	124365
136524	123456
—————	

These six peals will each of them go *sixty* changes without any *bob*, and by making of *bobs* each of them will go 120, 180, and 360. In three of them, *viz. Triples Doubles and Singles, Single bob, and City bob*, at the *bob-changes* the bell in the fourth place always lyeth still; whereas at the rest of the changes which are made at the leadings of the *whole-hunt*, the bell in the second place lieth still. And in the other three peals, *viz. Triples doubles and singles dodging behind, Doubles and Triples, and London Bob*, at the *bob-*

changes the bell in the second place always lieth still, whereas at the rest of the changes that are made at the leadings of the *whole-hunt*, the bell in the fourth place lieth still. The warning for the *bobs* in the 120, 180, and 360, in each of these six peals is the same with that in the 120, 180, and 360 in *Colledge Doubles*, p. [143](#). Each of these peals will go 720 with two *extreams*, which must be made according to the rule in the *Introduction*, page [90](#).

In the 120 of each there prickt, *viz.*, in *City Bob*, *London Bob*, and *Triples doubles* and *singles*, the 2 is the *half-hunt*, and in the other three peals the 3 is the *half-hunt*.

In the 180 and 360 of each peal, the 2 and 4 may be the *half* and *quarter-hunts*, or others at pleasure.

New Bob.

Triples and Doubles. The general method of this Peal is the same with *Grandsire Bob*, and the *bobs* also made as in that peal. It will go 120, 180, or 240, and by making of two *extreams* it will go 360 or 480; and with six *singles* it will go 720.

To ring 120. Every time the *half-hunt* dodgeth behind a *bob* must then be made.

To ring 180. Every time the *half* and *quarter-hunt* dodg together behind, a *bob* must then be made; and by making of two *extreams* it will go 360. The first *extream* may be made at the first, second, or third *bob*; observing to make the second *extream* at the third following *bob* from the first *extream*, where the *singles* in both must be made behind.

To ring 720. The *bobs* throughout the peal are made by the same rule as in the 120, but farther observing, when the *whole* and *half-hunts* come together before, if the *quarter-hunt* lieth either in the third or fourth places, then a *single* must be made betwixt the two next *extream* bells to the *quarter-hunt*.

The 2 may be the *half-hunt* and 4 the *quarter-hunt*, or others at pleasure.

Colledge Little Bob, dodging behind.

Triples and Doubles. The Treble is the *whole-hunt*, and hath a direct hunting course. When it moves down out of the fifth place, the two hind-bells dodg until it comes there again. All the bells have a direct hunting course, but observing, that when any bell moves up into the fourth place, if the Treble is then any where below it, it lies there twice, and then moves down again. By this method it will go *sixty* changes; and by making of *bobs* it will go 120, 180, or 360. At every *bob-change* the bell in the second place lieth still. The warning for the *bobs* is the same with that in *Colledge Doubles*, page [143](#). And the two *extreams* in the 720 must be made according to the rule in the *Introduction*, page [90](#).

<u>123456</u>	162345
214365	126354
241356	————
423165	156423
432615	<i>bob</i>
346251	154632
364521	————
635412	134256
653142	143265
561324	————
516342	163542
153624	136524
135642	————
316524	126435
361542	<i>bob</i>
635124	124653
653214	————
562341	154326
526431	145362
254613	————
245163	165243
421536	<i>bob</i>
412563	162534
145236	————
<i>bob</i>	132465
142563	123456
————	

In the 120 here prickt, 3 is the *half-hunt*; and in the 180 or 360, 2 and 4 may be the *half* and *quarter-hunts*, or others at pleasure.

This peal in practice will be found very plain and easie, and also good Musick.

Colledge Little Bob, dodging before and behind.

Triples and Doubles. The Treble hath a direct hunting course, and when it moves up out of the second place, the two first bells dodg until it comes there again; and also when it moves down out of the 5th place, the two hind-bells dodg until it comes there again. Every bell that moves up into the fourth place, if the Treble is any where below it, lies there twice and then hunts down; and also every bell that moves down into the third place, if the Treble is any where above it, lieth there twice, and then hunts up behind. By this method it will go *sixty* changes, and by making of *bobs* it will go 120, 180, or 360. At every *bob-change* the bell in the second place lieth still. The 2 is the *half-hunt* in the 120 here prickt, and 2 and 4 may be the *half* and *quarter-hunts* in the 120 and 360, or others at pleasure.

<u>123456</u>	<i>bob</i>
214365	156342
241356	————
423165	134562
243615	<i>bob</i>
426351	135426
246531	————
425613	142356
245163	124365
421536	————
412563	136245
145236	163254
154263	————
512436	125634
521463	152643
254136	————
524316	164523
253461	<i>bob</i>
523641	165432
256314	————
526134	143652
251643	<i>bob</i>
215634	146325
126543	————
162534	132465
————	123456
153624	

The warning for the *bobs* is the same with that in the *Colledge Doubles*, p. [143](#). And the two *extreams* in the 720 must be made according to the general rule in the *Introduction*, page [90](#).

Court Bob.

Triples and Doubles. The Treble hath a direct hunting course. Every bell that comes before and behind makes a *Dodg*, then lieth still, and so moves away, except the bell that lieth still behind when the treble leads, and also that bell which leads when the Treble lieth behind, both which do dodg before and after their lying still, and then move away. When the treble leads and lieth behind, the *double* is made on the four middle bells. By this method it will go *sixty* changes; and with *bobs* it will go 120, 180, or 360. At the *bob-changes* the bell in the fourth place lieth still.

<u>123456</u>	165324
214365	156234
241356	_____
423165	143265
243615	134625
426351	_____
462531	152643
645213	<i>bob</i>
465123	125634
641532	_____
614523	143652
165432	134562
156342	_____
513624	126543
531642	<i>bob</i>
356124	162534
536214	_____
352641	143526
325461	134256
234516	_____
324156	165243
231465	156423
213456	_____
124365	132465
<i>bob</i>	<i>bob</i>
142356	123456

To ring 120. Every time the *half-hunt* maketh a change next the *whole-hunt*, a *bob* must then be made, as in this here prickt, where 2 is the *half-hunt*.

To ring 180. Every time the *half* and *quarter-hunts* make a change together next the *whole-hunt*, a *bob* must then be made.

To ring 360. Every time the *half-hunt* maketh a change next the *whole-hunt* a *bob* must then be made, except when a *quarter-hunt* makes a change there with it, and then not.

In the 180 and 360 2 and 4 may be the *half* and *quarter-hunts* or others at pleasure. The two *extreams* in the 720 must be made according to the rule in the *Introduction*. The first *extream* may be made either first, second, or third time that the *half* and *quarter-hunts* make a change together in the second and third places at the leading of the *whole-hunt*; and then the second *extream* must be made the third time following that those two bells make a change there again, the *extreams* being there made in the fourth and fifth places, and the *singles* in the second and third places.

Every time the Treble leads, the *double* may as well be made on the four hind-bells, and the *bobs* to be made as before; but the warning for them the same with *Colledge Doubles*.

Five Colledge Bobs.

In these five peals, the Treble is the *whole-hunt*, and hath a like dodging course in all of them. The general method of the five peals is as follows: *viz.*

Colledge Bob the first. When the Treble moves down out of the fifth place, the two hind bells dodg until it comes there again. Every bell leads twice, and then hunts up into the fourth place, unless the dodging course of the Treble hinders it, where it lieth twice and then moves down again; except the bell that dodged with the Treble before, and also that which leads when the Treble lieth still behind, both which hunt directly up. When the Treble moves down from dodging in the third and fourth places, the bell that dodged there with it continues in those two places, lying twice together in each by turns until the Treble comes to dodg there with it again.

Colledge Bob the second. Every bell when it comes to lead makes a dodg before, then it lyeth still one change, then it makes another dodg, and so moves up into the fourth place where it lieth still twice, and then down again; except it dodgeth with the Treble in the fourth place, and then it hunts up behind. But when the Treble moves down out of the third place, the two bells in the third and fourth places continue there until the Treble comes up there again, during which time the two hind-bells dodg.

Colledge Bob the third. When the Treble leaves leading, the two first bells dodg until it comes to lead again; except when the Treble dodgeth behind, for then the two first bells lie still. When the Treble leaves the two hind-bells, they lie still one change, dodg the next, and so by turns until the treble comes there again. The two middle bells always dodg until the Treble hindereth them.

Colledge Bob the First.

<u>123456</u>	435216
214365	&c.
124356	163542
213465	<i>bob.</i>
231456	165324
324165	————
321456	123564
234165	<i>bob.</i>
243615	125346
426351	————
462315	143526
643251	134562
634521	————
365412	165432
356421	156423
534612	————
543162	124653
451326	142635
453162	————
541326	136245
514362	<i>bob.</i>
153426	132654
513462	————
154326	156234
145362	<i>bob.</i>
413526	152643
143562	————
415326	146253
451362	164235
543126	————
541362	132465
453126	123456

Colledge Bob the Second.

<u>123456</u>	543216
214365	&c.
124356	153624
213465	<i>bob</i>
231645	135642
326154	_____
231654	153462
326145	<i>bob</i>
362415	135426
634251	_____
364215	153246
632451	152364
623541	_____
265314	125634
625341	126543
263514	_____
236154	162453
321645	164235
236145	_____
321654	146325
312564	<i>bob</i>
135246	164352
315264	_____
132546	146532
135264	<i>bob</i>
312546	164523
132564	_____
315246	146253
351426	142635
534162	_____
351462	124365
534126	123456

Colledge Bob the Third.

<u>123456</u>	462513
214365	&c.
123465	165432
214356	<i>bob</i>
241365	156423
423156	_____
241356	143526
423165	<i>bob</i>
243615	134562
426351	_____
423615	152364
246351	153246
423651	_____
246315	126543
243651	125634
426315	_____
246135	164235
421653	162453
246153	_____
421635	143652
412653	<i>bob</i>
146235	134625
412635	_____
146253	165324
142635	<i>bob</i>
416253	156342
142653	_____
416235	132546
461253	135264
642135	_____
461235	124365
642153	123456

Colledge Bob the Fourth.

<u>123456</u>	462513
214365	&c.
124356	165432
213465	<i>bob</i>
231456	156423
324165	_____
321456	143526
234165	<i>bob</i>
243615	134562
426351	_____
246315	152364
423651	153246
246351	_____
423615	126543
243651	125634
426315	_____
462135	164235
641253	162453
642135	_____
461253	143652
416235	<i>bob</i>
142653	134625
412635	_____
146253	165324
142635	<i>bob</i>
416253	156342
146235	_____
412653	132546
421635	135264
246153	_____
241635	124365
426153	123456

Colledge Bob the fourth. When the Treble leaves the two hind bells, they dodg until it comes there again; and then the two first bells dodg until the Treble gives way for the two hind bells to dodg again, and then the two first bells cease dodging.

Colledge Bob the Fifth.

<u>1</u> 2345 <u>6</u>	632514
214365	&c.
124356	163542
213465	<i>bob</i>
231456	136524
324165	————
321456	163425
234165	<i>bob</i>
324615	136452
236451	————
234615	163254
326451	162345
234651	————
326415	126543
324651	125634
236415	————
326145	152436
231654	154263
236145	————
321654	145362
312645	<i>bob</i>
136254	154326
316245	————
132654	145623
136245	<i>bob</i>
312654	154632
132645	————
316254	145236
361245	142563
632154	————
631245	124365
362154	123456

Colledge Bob the fifth. When the Treble leaves the two hind bells, they dodg until it comes there again. And when it leaves the two first bells they lie still one change, dodg the next, and so by turns

until it comes down there again; during which time the bells in the third and fourth places dodg except when the Treble hindereth them.

By these methods each of them will go 120 changes, and by making of *bobs* they will go 240, 360, or 720. In the first of them the bell in the second place lieth still at the *bob*-changes, and in the other four the bell in the fourth place always lieth still.

To ring 240. Every time the *half-hunt* dodgeth behind a *bob* must then be made, as in these peals here prickt; where, in the first peal the 4 is the *half-hunt*, and in the other four peals the 2 is the *half-hunt*.

To ring 360. Every time the *half* and *quarter-hunts* dodg together behind, a *bob* must then be made.

To ring 720. Every time the *half-hunt* dodgeth behind a *bob* must then be made, except when the *quarter-hunt* dodgeth there with it, and then not.

In the 360 or 720 of each peal the 2 may be the *half-hunt*, and 4 the *quarter-hunt* or others at pleasure.

The Experiment.

Triples and Doubles. The Treble is the *whole-hunt*, but never hunteth up farther than the fourth place, for the four first bells go *Doubles and Singles*; and every time the Treble leads an *extream* is made in the third and fourth places, according to the common course of *doubles* and *singles* upon, four bells; which course of *doubles* and *singles* must be continued, the two hind bells in the mean time dodging, until the making of the first *Parting* change, which will separate the two hind bells; and then the four first bells go the same course of *doubles* and *singles* again, the two hind bells dodging as before, until the making of the second *Parting* change, and so successively. The *Parting* change is a *double* change on the four middle bells, and made at the leading of the Treble. The first *Parting* change may be made either at the first second or third leading of the *Treble*, observing, that whatsoever bell in the first *Parting* change moves down to the Treble, when the Treble leads and that bell lieth next it again, the second *Parting* change must then be made. And whatsoever bell in the second *Parting* change moves down to the

Treble when the Treble leads, and that bell lieth next it again, the third *Parting* change must then be made, and so successively. There being five *Parting* changes in the Peal, and as many *half-hunts*, each of the bells (the Treble excepted) taking that place one after another; and consequently, the five persons that ring them must call the *Parting* changes one after another as their turn comes, according to the aforesaid rule.

Changes upon Seven Bells.

The methods upon *five* may be prickt upon *seven*, observing but the true difference of proportion in the changes; that is, *doubles* upon *five* bells must be *triples* upon *seven*; *doubles* and *singles* upon *five* must be *triples* and *doubles* upon *seven*, &c.

Plain Triples.

All the bells have a direct hunting course. All peals upon six bells wherein half the changes are *triples*, will go upon *seven* according to this method here prickt; two of the changes upon six being always made at the leadings of the Treble, the six hindmost bells making them: the first is a *triple* change brought in by the course of the bells, and the next must either be *double* or *single* according to the method of the changes upon six.

1234567
2143657
2416375
4261735
4627153
6472513
6745231
7654321
7563412
5736142
5371624
3517264
3152746
1325476

Dodging Triples.

Triples and *Doubles* upon *six* may also go upon *seven*, according to this method here prickt, but in the same manner as the former.

1234567
 2143576
 2415367
 4251376
 4523167
 5432617
 4523671
 5432761
 4523716
 5432176
 5341267
 3514276
 3152467
 1325476
 1352746

Colledge Bob Triples.

<u>1</u> 2345 <u>6</u> 7	6745312
2135476	7654132
2314567	7561423
3241657	5716243
3426175	5172634
4362715	1527364
4637251	1253746
6473521	

Every time the Treble leaves leading, the bell in the third place lieth still, whilst the four hind bells dodg; but otherwise all the bells have a direct hunting course as Plain *Triples*. By this method it will go *seventy* changes, and by making of *bobs* it will go 350. The rule for the *bobs* is this; when the Treble goeth to lead, if the *half-hunt* lying before gives it place, then a *bob* must be made at that change, wherein the bell in the third place lieth still, and the four hind bells dodg; so that at every *bob* the four hind bells make two dodges

before they part. By making of two *extreams* it will go 700, and with four *extreams* it will go 1400. But by making of intervening *bobs* it will go 700 compleat *triples* without any *extream*; 1400 with two *extreams*, and 2800 with four *extreams*. Any bell may be made a *half-hunt*.

Colledge Bob, Triples: the second way.

<u>1</u> 2345 <u>6</u> 7	4536271	7162534	7326145
2135476	5463721	1726354	3762415
2314567	5647312	1273645	3674251
3241576	6574132	2176354	
3425167	6751423	2713645	
4352617	7615243	7231654	

When the Treble leaves leading, the two hind bells dodg until Treble parts them; but in all other respects 'tis the same with the former, and the *bobs* made in the same manner, and by the same rule as in that peal, and it will go as many changes also as that.

Colledge Triples, dodging behind.

<u>1</u> 2345 <u>6</u> 7	5346271	7165324	3675124
2143576	3564721	1756342	6357214
2415367	3657412	1753624	6532741
4251376	6375142	7135642	
4523167	6731524	7316524	
5432617	7613542	3761542	

Colledge Triples, dodging before and behind.

<u>1</u> 2345 <u>6</u> 7	2436571	4126753	4726153
2143576	4263751	1462735	7462513
2415367	2467315	1467253	4765231
4251376	4276135	4176235	
2453167	2471653	4712653	
4235617	4217635	7421635	

Each of these two peals by the method here prickt will go *Eighty four* changes; and then when the Treble leads, and the *half-hunt* lieth next it, a *Parting* change being then made, they will go 420. And by making of *bobs* they will go 5040. 2 may be the *half-hunt*, or any other at pleasure. The *Parting* change is a *double* on the four middlemost of the six hind bells.

'Tis plainly demonstrable, that the *Principle* upon *five* may go 420 *triples* upon *seven*, which is a twelfth part; 840, which is a sixth part; or 1260, which is a fourth part of the whole, and the utmost period of *triple* changes. And then by making of four *extreams* it may go 5040, the compleat peal.

Great variety of peals may be prickt upon seven: as *Triples*, *Triples and Doubles*, *Triples Doubles and Singles*; *Doubles*, *Doubles and Singles*, &c. But changes upon *seven* being seldom practised, I will therefore forbear to wast more paper in pricking down examples, and proceed to the changes on *eight*.

Changes upon Eight Bells.

Sixscores upon *five* bells are commonly rung upon *eight*, three bells lying behind. The most musical to lie behind are 218, 418, 148, 248, 348, 468, 648, 548, 864, 241, 321, and 135 to be laid behind, and then 1 and 3 to dodg throughout the peal. And also 184 to be laid behind, and to go the six changes thus, 814. 841. 481. 418. 148. 184. 814. &c. and so on to the end of the *sixscore*. They may go the *sixes* either at whole or half-pulls. Peals upon *six*, as *Triples* and *Doubles*, &c. make exceeding good musick upon *Eight*, 48. 68. 41. or 18. lying behind. Or else *Triples* and *doubles* upon the six middle bells, the Treble leading, and the Tenor lying behind. And also *Triples* upon *seven*, the Tenor lying behind. But for such as have not yet attain'd the skill to ring these compleat peals, *Sett-changes* are very proper for them, being easie and rung with little difficulty.

Colledge Grounds.

The *grounds* of these *sett-changes* are of two kinds. First, placing of the bells *Fifths*, or secondly *Thirds*. To place them *fifths*; the 4 must hunt up behind the 7, the 3 behind the 6, and the 2 behind the 5. Or else the 5 may hunt down under the 2, the 6 under 3, and the 7 under 4. Or otherwise, first a *single*, then a *double*, and then a *triple* change to be made on the middlemost bells, all which are to one effect; for then the bells will lie *fifths* thus, 15. 26. 37. 48. Here are four *Concords* to be chiefly regarded in the peal. The first is 15. the second 26. the third 37. and the fourth is 48. These four *Concords* may go the methods of any changes upon four bells; 1.5 being taken for the Treble, 2.6 for the Second, 3.7 for the Third, and 4.8 for the Fourth; and the *Concords* to change places with each other at pleasure. Wherein 'tis observable, that the two notes of every *Concord* must constantly attend each other in their motion; that is, whensoever one of the two notes moves, the other must follow it. For example: admit they were to go the *twenty four* changes, and that 1.5 were to hunt up over 2.6, 3.7, and 4.8. first therefore it must move up

over 2.6, wherein it makes four changes: for first, the 5 moves up over the 2 thus, 12563748, the 1 must follow it thus, 2156.37.48. Then the 5 moves up over 6. 2165.37.48. the 1 follows it again 26.15.37.48; here the two *Concords* have made a change. In which manner also 1.5 must move up over 3.7. and 4.8. And in this manner are the *Concords* to move and change places with each other throughout the peal. Or secondly, to place the bells *thirds*, the 64 and 2 must hunt up, or else the 357 down; or otherwise a *triple*, a *double*, and a *single* change to be made on the middlemost bells; all which are to one and the same effect, for then the bells will lie *thirds* thus, 13.57.24.68. Here are also four *Concords* principally to be regarded in the peal: the first is 1.3, the second 5.7, the third 2.4, and the fourth 6.8. These four *Concords* may also go the methods of any changes upon four bells, 1.3 being taken for the *treble*, 5.7 for *second*, 2.4 for the *third*, and 6.8 for the *fourth*, and they must move in the same manner as before I have shewed. By these *Grounds* great variety of excellent and Musical changes are to be rung. If they go the *twenty four*, then the peal will consist of four times that number, that is, *ninety six* changes. But they may go only the first eight changes of the *twenty four*, and then the peal will consist of *thirty two*. Or else the first eight changes of a *twenty four* doubles and Singles, which will consist of *forty eight* if the double changes of the *twenty four* are singled, otherwise but *thirty two* as before. Any *Concord* may be made a *hunt* and to move either up or down at the beginning: so that these *Grounds* afford great diversity. In the ringing of these *Sett-changes* the notes will lie sometimes *fifths*, sometimes *thirds*, and sometimes *thirds* and *fifths*, and then 'tis pleasant Musick to *Clam* them, that is, the two notes of each *Concord* to strike together; and if they are *clam'd* true, the eight bells will strike as if they were but four, but with far greater harmony. They may *Clam* two or three bouts, and then strike open as many, and so alternately; or else they may *Clam* one pull, open the next, and so on. To reduce the notes of the *fifths* to their right places again at the conclusion of the peal, either 234 must hunt down, or else 765 up; or otherwise a *Triple double* and *single* change to be made on the middlemost bells, all which are to one effect, and will bring the bells round. To reduce the *thirds* either move down 246 into their places, or else move up 753 into theirs; or otherwise make *single*, *double*,

and *triple* change on the middlemost bells; all which are to one effect, and will bring the bells again round.

The methods of all peals upon six bells may be prickt upon *eight*, observing but proportion in the changes, according to the difference in the number of bells, *viz.* *Triples* and *doubles* upon six must be *quadruples* and *triples* upon *eight*. *Doubles* upon six must be *Triples* upon *eight*, &c.

Bob-Major.

12345678
21436587
24163857
42618375
46281735
64827153
68472513
86745231
87654321
78563412
75836142
57381624
53718264
35172846
31527486
13254768
13527486

Plain Quadruples and *Triples*. All the bells have a direct hunting course until the Treble leads, and then the six hindmost bells dodg. By this method it will go 112. And by making of *bobs* it will go 224, 336, or 672. The *bob* is a *triple* change at the leading of the Treble, wherein the bell in the *4th* place lieth still.

To ring 224. Every time the *half-hunt* dodgeth behind, a *bob* must then be made.

To ring 336. Every time the *half* and *quarter-hunts* dodge together behind, a *bob* must then be made.

To ring 672. Every time the *half-hunt* dodgeth behind, a *bob* must then be made, except when the *quarter-hunt* dodgeth there with it, and then not. The 2 may be the *half-hunt*, and 4 the *quarter-hunt*, or others at pleasure.

By making of two *extreams* it will go 1344, and with four *extreams* it will go 2688.

All peals upon six bells wherein half the changes are *triples*, will go upon *eight* according to the method before prickt, but after this manner. If it is a peal upon six, which consists of 360 or 720 changes, then in the ringing of it upon *eight* there must be five *hunts*. The Treble may be the first *hunt*; 2 the second &c. Now the method of the peal must go on according to that before prickt until the Treble leads, and the 2 lie next it, and then two of the changes upon six are always made, the six hind bells making them: the first is always a *triple* change brought in by the course of the bells thus, 12436587, and the second either *double* or *single* according to the method upon six; and the *third fourth* and *fifth* Hunts in eight, are the *whole half* and *quarter-hunts* in the changes upon six. By this method it will go 40320 compleat, but then every *112th* change will be a *double*, and sometimes *single* in some peals. The bells may be brought round at 672 in some peals, but in others not till 1344.

Colledge Bob-Major.

<i>The first.</i>	<i>The second.</i>	<i>The third.</i>	<i>The fourth.</i>
<u>1</u> 2345 <u>6</u> 78	<u>1</u> 2345 <u>6</u> 78	<u>1</u> 2345 <u>6</u> 78	<u>1</u> 2345 <u>6</u> 78
21436587	21436587	21436587	21436587
24163578	24163578	24135678	24135678
42615387	42615387	42316587	42316587
46251378	24651378	43261578	24361578
64523187	42563187	34625187	42635187
65432817	24536817	36452817	24365817
56348271	42358671	63548271	42638571
53684721	24385761	65384721	24368751
35867412	42837516	56837412	42637815
38576142	24873156	58673142	24367185
83751624	42781365	85761324	42631758
87315642	24718356	87516342	24613785
78136524	42173865	78153624	42167358
71863542	41237856	71856342	41263785
17685324	14328765	17583624	14627358
16758342	13482756	15786342	16423785

Quadruples and Triples. The *first* hath single dodging behind; the *second* single dodging before and behind; the *third* double dodging behind; and the *fourth* double dodging before and behind. It may also be prickt a *fifth* way, *viz.* with single dodging before, and double dodging behind. And likewise a *sixth* way, *viz.* with doubled dodging before, and single dodging behind. The dodging is without intermission except when Treble hindreth, and also betwixt two bells until Treble parts them. By this method each of them will go 112, and by making of *bobs* they will go 224, 336, or 672. The *bobs* are *triple* changes at the leadings of the Treble; in the *first second* and *sixth* the bell in the *4th* place lieth still at the *bobs*, and in the *third fourth* and *fifth* the bell in the *2d* place lieth still. The warning for the *bobs* is the same with that in *Bob-major* next before. And the *extreams* made as in that peal, 2 may be the *half* and 4 the *quarter-hunt* in the four first, or others at pleasure.

Colledge Triples, dodging before and behind.

<u>1</u> 2345 <u>6</u> 78	42587613
21435687	24578163
24153678	42571836
42513687	24517863
24531678	42157836
42536187	41275863
24563817	14725836
42568371	17452863
24586731	

By this method it will go 112, and by making of *bobs* it will go 224, 336, or 672. The *bob* is a *triple-change* at the leadings of the Treble, wherein the bell in the *4th* place lieth still. The warning for the *bobs* is the same with that in *Bob-major*, and the *extreams* also the same as in that peal. The 2 may be the *half-hunt*, and 4 the *quarter-hunt*, or others at pleasure.

The Wild-Goose Chase.

12345678
 21536784
 25163748
 52613784
 56231748
 65327184
 63572814
 36752841
 37625481
 73265418
 72356148
 27531684
 25713648
 52173684
 51237648
 15327684
 13572648
 31752684
 37125648

73215684
72351648

Triples. The *fourth* bell must first hunt up into the *7th* place and then the 4 and 8 continually dodg behind throughout the peal, except when the Treble hindreth them. The bell that moves up into the *6th* place when the Treble moves down from thence, lieth still there until the Treble displaceth it; during which time the two hind bells dodg, and the five first go a perfect hunting course. And also when the Treble moves up out of the *5th* place, the five first bells go a hunting course until it comes down there again. By this method it will go *eighty* changes, and by making of *bobs* it will go 160, 240, or 480. The *bob* is a *triple* change at the leading of the Treble, wherein the bell in the *4th* place lieth still.

To ring 160. Every time the *half-hunt* maketh a change in the *2d* and *3d* places, a *bob* must at the same time be made.

To ring 240. Every time the *half* and *quarter-hunts* make a change together in the second and third places, a *bob* must then be made.

To ring 480. Every time the *half-hunt* maketh a change in the second and third places, a *bob* must then be made, except when the *quarter-hunt* makes a change there with it, and then not. The 2 may be the *half-hunt*, and 6 the *quarter-hunt*, or others at pleasure.

Colledge Triples, dodging behind.

<u>1</u> 2345 <u>6</u> 7 <u>8</u>	62345178
21435687	26431587
24153678	24613578
42513687	42163587
45231678	41236578
54326187	14326587
53462817	13462857
35642871	31642875
36524781	36124857
63254718	63214875

The method of ringing this peal is the same in all respects with that next before, with this only difference. Every time the *whole-hunt* leads, the *triple* change is here made on the six middle bells, which parts the two hind-bells, and so introduceth them by degrees into the body of the peal. By this method it will go 112, and by making of *bobs* it will go 224, 336, or 672. The *bob* is a *triple* change at the leading of the Treble, wherein the bell in the 6th place lieth still. The warning for the *bobs* in the 224 is the same with that in the 160 next before. In the 336 'tis the same with that in the 240 next before. And in the 672 'tis the same with that in the 480 next before. 2 may be the *half-hunt* and 5 the *quarter-hunt*, or others at pleasure.

The Grand Experiment.

Quadruples and Triples. The Treble is the *whole-hunt*, but never hunteth up farther than the sixth place; for the six first bells go *triples* and *doubles*, it matters not of what sort, provided that the *double* changes at the leadings of the Treble are always made on the four hindmost of the six bells; which course of *triples* and *doubles* must be continued, the two hindmost of the eight bells in the mean time dodging until the first *Parting* change is made, which will separate the two hindmost bells; and then the six first bells go the same course of *triples* and *doubles* again, the two hindmost bells in the mean time dodging as before, until the second *Parting* change is made, and so successively. The *Parting* change is a *triple* change on the six middle bells, and made at the leadings of the *whole-hunt*. The first *Parting* change may be made either at the first second third fourth or fifth leading of the Treble; observing, that whatsoever bell in the first *Parting* change moves down to the Treble, when the Treble leads and that bell lieth next it again, the second *Parting* change must then be made. And again, whatsoever bell in the second *Parting* change moves down to the Treble, when the Treble leads and that bell lieth next it again, the third *Parting* change must then be made, and so successively; there being seven *Parting* changes in the peal, and as many *half-hunts*, each of the seven bells taking that place one after another. So that the seven persons that ring the 2^d, 3^d, 4th, 5th, 6th, and 7th bells, must call the *Parting* changes one after another, according as the aforesaid rule directs them: or else he

that rings the Treble may do it, but not so well as the rest. To ring it with such peals upon six bells which consist of single courses, it will go 420; with double courses 840. This peal may also be rung *triples*, that is, the six first bells to go *doubles*, the two hind bells in the mean time dodging, and the *Parting* changes to be made as before. But in ringing it with such Peals of *Triples* and *Doubles*, or else *Doubles* upon six bells, where the *double* change at every leading of the Treble is made in the *2d 3d 5th* and *6th* places, there, whatsoever two bells lie next the Treble at the first *Parting* change, the same two bells will lie next it at every *Parting* change, which will be a rule for calling them, there being only five *Parting* changes in it, which are *triples* as before. The first *Parting* change may also here be made either the first second third fourth or fifth time the Treble leads. If it is rung with peals upon six bells, consisting of single Courses, it will then go 300, with double Courses 600. This peal may also be rung by *Concatenating* of divers kinds of methods. For as the peal consists of several parts, *viz.* from one *Parting* change to the next, being accounted a compleat part; so each part may be rung by a different method from the rest. For any peals upon six bells, whether *doubles*, or *triples and doubles*, consisting either of single or double Courses, may indifferently be rung together in this peal, succeeding each other in the several parts of it, and at every *Parting* change a new method to begin. Or else any two of them to succeed each other alternately throughout the parts of the peal, or more or less at pleasure. But still observing, that all that are rung together in one peal must be such, where the *doubles* at the leadings of the Treble are made on the four hindmost of the six bells; or else all of them such, where the *doubles* at the leadings of the Treble are made in the second and third, and the fifth and sixth places. If they are of the first kind, then there will be seven *Parting* changes in the peal, and as many *half-hunts*; and the *half-hunts* must successively call the *Parting* changes as before I have shewed: if of the later kind, then but five *Parting* changes, which must be call'd by the same rule as before I have shewed in ringing it with one peal of this kind. And also observing, if the first *Parting* change is made at the first second third or fourth leading of the Treble, then whatsoever method it goes at first, it must also go the same again after the last *Parting* change is made. But in ringing it with peals of the first kind, the second being made the first *half-hunt*, and to call the first *Parting* change; and with peals of the later,

the *3d* likewise: then the last *Parting* change in either of them will conclude the peal.

This peal may go the method of the *Experiment* upon six bells, page [162](#), that is, the four first bells to go the *Twenty four* Doubles and Singles as in that peal; and the four hindmost bells in the mean time to dodg double. The *Parting* changes are *triples* on the middle bells, and the same rules observed in making and calling them, as in that peal: but here are seven of them in this, and 168 changes.

The *Experiment* upon six may also be rung *Comprehensively* herein. The six first bells to go that compleat peal, the two hindmost of the eight bells in the mean time dodging; and every time the *3d* bell comes to call the *Parting* change on six, then instead of it a *Grand* change must be made, that is, a *triple* on the six middle bells: and then the six first bells to go the compleat peal again, the two hindmost bells in the mean time dodging as before, untill the third bell calls another *Grand* change, and so successively; there being three of them in the peal, and 360 changes. If the bells are placed 23567148 at the beginning, the 4.8 will dodg behind the first *sixscore* of it, 4.1 the second, and 1.8 the third, and then the *5th* may call the *Grand* changes in the place of the *3d*; or any other three bells may be laid behind at first, for the sake of Musical dodging. The first *Grand* change may be made either at the first second third fourth or fifth *Parting* change, observing, that whatsoever bell at the first *Grand* change should then in course have call'd a *Parting* change, every time that bell comes to call a *Parting* change, it must call a *Grand* change in the place of it: or else any one of the six first bells (the *whole-hunt* excepted) may be appointed beforehand to attend the calling of the *Grand* changes, observing, that every time that bell comes to call a *Parting* change, a *Grand* change must be call'd in the place of it.

Imperial Bob.

Quadruples and Triples. The Treble hath a dodging course. The two first and two last bells always dodg until the Treble hindreth them, and in the mean time the two next bells to those dodging bells do lie still one change, dodg the next, and so by turns until the Treble

also hindreth them. And the two bells in the fifth and sixth places whilst the Treble is behind, and those in the *3d* and *4th* places when 'tis before dodg, until Treble likewise hindreth them. By this method it will go 224, and by making of *bobs* it will go 448, 672, or 1344. The *bob* is a *triple* change at the leading of the Treble, wherein the bell in the fourth place lieth still.

<u>12345678</u>	42361875	16847253	14283675
21436587	24368157	16482735	_____
12346578	42631875	_____	18645273
21435687	24613857	18765432	18462537
24136578	42168375	<i>bob</i>	_____
42315687	24618357	17864523	16587432
24135678	42163875	_____	<i>bob</i>
42316587	41268357	16573824	15684723
24361578	14623875	<i>bob</i>	_____
42635187	41263857	15678342	18753624
24631578	14628375	_____	<i>bob</i>
42365187	14263857	17352648	17856342
24635817	41628375	17536284	_____
42368571	14268357	_____	15372846
24365817	41623875	13274586	15738264
42638571	46128357	13725468	_____
24365871	64213875	_____	13254768
42638517	46123857	12438765	13527486
24635871	64218375	12347856	_____
42368517	46281357	_____	12436587
24638157	&c.	14826357	12345678

To ring 448. Every time the *half-hunt* dodgeth behind a *bob* must then be made, as in this here prick't, where 2 is the *half-hunt*.

To ring 672. Every time the *half* and *quarter-hunts* dodg together behind, a *bob* must then be made.

To ring 1344. Every time the *half-hunt* dodgeth behind a *bob* must then be made, except when the *quarter-hunt* dodgeth there with it, and then not. The 2 and 4 may be the *half* and *quarter-hunts*, others at pleasure.

NOTTINGHAM *Peals.*

Nottingham *Mixt Peal*.

1.6.2.

123456
214365
241635
426153
462513
645231
654321
563412
536142
351624
315264
132546
132564

The Changes are plain *Trebles* and *Doubles* until the Treble leads, and then a *single* change is always made. The Peal called *Old Doubles and Singles* upon five bells is the ground of this Peal, every *single* in this peal being the *single* in that. For as in that peal the *whole-hunt* is one of the two bells that make every *single*; so likewise in this, the 6 being the *half-hunt*, is one of the two bells that makes every *single* change herein, except when it lieth next the *whole-hunt*, and then the *single* is behind; but when 2 lieth also next the 6, then *extream* in the fourth and fifth places.

Nottingham *Trebles and Doubles.*

1.2.3.

123456
214365
241356
423165
432615
346251
364521
635412
653142
561324
516342
153624
135264
312546
321564

The ordinary course is to move directly, except when the *whole-hunt* passes either out of or into the *second's* place, and then constantly dodg behind. There are single and double *bobs*; the *bob* is a *double* change at the leading of the Treble, wherein the bell in the *4th* place lieth still. When the third *hunt* dodges behind, the second *hunt* then leading, is a warning for the single *bob* to be made at the next leading of the Treble. And when the second and third *hunts* dodg together behind, is a warning for the double *bob* to be made at the two next leadings of the Treble. The two *extreams* in the 720 must be made according to the general rule in the *Introduction*, p. [90](#).

Nottingham *Single Bob*.

1.5.2.

<u>1</u> 2345 <u>6</u>	341265
214365	314625
241635	136452
426153	<i>bob</i>
462513	163425
645231	614352
654213	641532
562431	465123
526413	456132
254631	541623
245361	514263
423516	152436
432156	154263

One time the Treble hunts quite up, the next time only up into the fourth place, and so by turns, as in the example here prickt. The bells observe the course of the Treble, and also dodg it being before; and once in 120 changes *bob*, when that bell which is nominated for the second *hunt* lying behind twice, meets with the third *hunt* when the first *hunt* is going to lead. The second and third *hunts* are both one.

The first <i>single</i>,	The second <i>single</i>.
124365	123465
124356	123456

Nottingham *Bob*. 1 and 2.

The Treble hath a dodging course, and every time it leads, the *double* is on the four middle bells, except the *bobs* which are made in the *2d* and *3d*, and the *5th* and *6th* places. The *bobs* are single and double. When the *whole-hunt* leads and the *half-hunt* lieth behind, is a warning for a double *bob* to be made at the two next leadings of the Treble, there being but three changes betwixt the two *bobs*. And when the *half-hunt* lieth in the first and second places for twenty changes together, is a warning for a single *bob* to be made the second time the Treble leads. The *extreams* must be made according to the general rule in the *Introduction*, page [90](#).

<u>123456</u>	523614	412635	562314	162453
214365	526341	146253	653241	126543
241635	253614	<i>bob</i>	635421	215634
426153	235164	164235	364512	216543
421635	321546	612453	365421	125634
246153	325164	621543	634512	152364
264513	231546	265134	643152	513246
625431	213456	261543	461325	
624513	124365	625134	463152	
265431	142635	652314	641325	
256341	416253	563241	614235	

Redding *Bob*.

<u>1</u> 2345 <u>6</u>	324516
214365	234561
124356	325416
213465	235146
231456	321564
324165	235164
231465	321546
324156	312564
234516	135246
325461	315264
235416	132546
324561	135264
235461	

The treble hath a dodging course, and when it moves up out of the *2d* place the two first bells dodg until it comes there again; and when it moves down out of the *5th* place, the two hind bells dodg until it comes there again, except only whilst it dodgeth in the *3d* and *4th* places, and then the two hind bells lie still. When the Treble lieth behind the *double* is on the four first bells; and when it leadeth on the four last. By this method it will go 120, and by making of *bobs* it will go 240, 360, or 720. At the *bobs* the bell in the *4th* place lieth still. The rule of calling the *bobs* is the same with that in the *Colledge Bobs*, page [162](#).

Redding *Bob* according to the Cambridg way.

123456

214365

124356

213465

231456

324165

321456

231654

236145

321654

312645

136254

316245

132654

136245

This is the same with the former, excepting only the *double* changes which are made when the Treble dodgeth in the *3d* and *4th* places, both in hunting up and down; which are here made on the four hind bells, whereas in that they were made on the four first bells: so that here the two hind bells dodg without intermission until the Treble hindreth them. This will also go 240, 360, and 720, and the *bobs* made by the same rule as the former.

[Fleuron]

Fifteen OXFORD Peals.

Adventure. 1 and 2.

<u>1</u> 2345	35142	12453	15243
21435	31542	————	15423
24135	35124	14235	14532
21453	31524	14325	14352
24153	13254	13452	————
42513	13524	13542	13425
42531	15342	————	13245
45213	15432	15324	12354
45231	————	15234	<i>Extr.</i>
54321	14523	12543	12345
54312	14253	<i>Extr.</i>	
53421	12435	12534	
53412	<i>Extr.</i>	————	

Doubles and singles. Every bell leads four times. The Treble hath a dodging course; and is one of the two bells which makes every *single* change except when it leads, and then 'tis made in the *3d* and *4th* places; but when the 2 lieth next it, an *extream* behind.

Camelion. 1 and 2.

<u>1</u> 2345	45213
21354	45123
23145	41532
23415	14523
24351	14253
42531	_____

Every time the Treble hunts up and down, it makes a *single* in the third and *4th* places, and when it leads the *single* is there also; but when 2 lies next it, then an *extream* behind. Every bell except the Treble leads four times.

Medley. 1 and 5.

<u>1</u> 2345	54132
21354	54123
21345	51432
23154	51423
23145	15243
32415	15234
34215	12543
32451	12534
34251	————
43521	14352
45321	14325
43512	13452
45312	13425

Doubles and Singles. The treble leads four times, lieth behind as many, and twice in every other place. Every other bell leads four times. Every *single* is made behind, except when the Treble is either in the fourth or fifth places, and then in the second and third places. Every time the Treble goeth to lead and leaves leading, the *double* is on the two first and two last bells, except when the treble goeth to lead if the *5th* gives it place, and then the *double* is made on the four first bells.

Oxford Paradox. 1 and 5.

<u>1</u> 2345	54312
21435	54132
21345	45312
23154	45132
23514	41523
32154	41253
32514	14523
35241	15423
35421	14532
53241	15432
53421	

Doubles and singles. Every bell leads four times, and lieth behind as many. Every *single* is made in the third and fourth places until the Treble leads, and then in the second and third places: but when the Treble leads and the fifth lieth behind, then the *extream* in the third and fourth places.

Halliwell. 1 and 2.

<u>1</u> 2345	54312
21354	45312
21345	54132
23154	54123
23145	51432
32415	51423
23415	15432
32451	15423
34251	14532
43521	14523
45321	_____

Treble leads four times, lies behind as many, and twice in every other place. When it leaves the two hind bells, they dodg until it comes there again, except when it leads and 2 lies next it, for then an *extream* is made in the third and fourth places.

Oxford Sixscore.

<u>1</u> 2345	32514
21345	32154
23145	31254
23415	13254
23451	13524
32541	

The Treble hath a direct hunting course, as in plain changes; and the changes are all *single* except when the Treble lieth behind, and then a *double* is made on the four first bells; and when it leads, the *single* is in the third and fourth places, but when 2 lieth next it an *extream* behind.

Fortune. 1 and 2.

<u>1</u> 2345	13254
21354	_____
23145	14523
32415	14532
34251	_____
43521	12354
45312	<i>Extr.</i>
54132	12534
51423	_____
15432	14352
15423	14325
_____	_____
13245	&c.

Doubles. The Treble is a perfect hunt, and when it leaves the two hind bells they dodg until it comes there again. Every bell leads twice, and then hunts directly up, unless the aforesaid dodging hindreth them. Every time the Treble leads, a *single* is made behind, except when 2 lieth next it, and then an *extream* in the third and fourth places.

Oxford Single Bob.
Triples, Doubles, and Singles.
1. 2. and 3.

123456
214365
241356
423165
432615
346251
364521
635412
653142
561324
516342
153624
156342
513624
531642
356124
365214

The Treble hath a direct hunting course; and when it leaves the two hind bells they dodg until it comes there again. Every bell leads twice, and then hunts directly up, unless the aforesaid dodging hindreth them. When the Treble leads, the *double* is on the four hind bells. By this method it will go *sixty* changes, and by making of *singles* it will go 120, 240, 360, or 720. The *singles* in the 120, 240, and 720, must be made by the same method with those in *Old Triples and Doubles*, page [109](#). And to ring 360, every time the 1.2 lie together before, the *single* must be made behind; and when 1.2.3 lie together there, then the *single* in the fourth and fifth places.

Oxford *Double Bob*.
Triples, Doubles, and Singles.

<u>1</u> 2345 <u>6</u>	246135
214365	421653
241356	412635
423165	146253
243615	142635
426351	416253
243651	461235
426315	

When the Treble leaves the two first bells, they dodg until it comes there again; but in all other respects 'tis the same with the former. And the *singles* in the 120, 240, 360, and 720, to be made as in that Peal.

Oxford Single Bob.

The method of this Peal is the same in all respects with *Oxford Single Bob*, *Triples Doubles and Singles*, excepting the *bobs* in this peal, which are made in stead of the *singles* in that. By making of *bobs* it will go 180 or 360. The *bob* is a *double* change at the leading of the Treble, wherein the bell in the fourth place lieth still.

To ring 180, there must be a *whole* and *half-hunt*; and when the *whole-hunt* is before and the *half-hunt* behind, the next change is to be a *bob*.

To ring 360, there must be a *whole*, *half*, and *quarter-hunt*, viz.

First, when the *whole-hunt* comes to lead, and the *half-hunt* to fall behind, the next change is a *bob*: and

Secondly, when the *whole-hunt* leads before the *quarter-hunt*, and the *half-hunt* is in the fifth place, the next change is also a *bob*.

The 1 and 5 may be the *whole* and *half-hunts* in the 180, and 1.5.3 the *whole*, *half*, and *quarter-hunts* in the 360, or others at pleasure.

Oxford *Double Bob*.

The method of this peal is the same in all respects with *Oxford double Bob* before, excepting the *bobs* in this peal, which are made instead of the *singles* in that. The *bobs* are here made in the same manner, and call'd by the same rule in the 180 and 360, as in *Oxford single Bob* next before; and the two *extreams* in the 720, both in this and the last peal, must be made according to the general rule in the *Introduction*.

Oxford *Triple Bob*.

123456
214365
124356
213465
231456
324165
321456
234165
243615
426351
423615
246351
264531
625413
624531
265413
256143
521634
526143
251634
215643
126534
216543
125634
152364
513246
153264
512346
521364

The Treble is the *whole-hunt*, and hath a dodging course. When it leaves the two hind bells, they dodg until it leads, and then a *double* is made on the four middle bells, which parts the two hind bells; but then the two hind bells dodg again until the Treble displaceth them. Every bell leads twice (except when the Treble

dodgeth there) and as they hunt up and down do make a dodg in the third and *4th* places. When the Treble moves up from dodging before, the bell that dodged there with it continues in the first and *2d* places, lying twice together in each, until the Treble comes down to dodg there with it again. By this method it will go 120, and by making of *bobs* it will go 360. At the *bobs* the bell in the fourth place lieth still. The warning for them is this, When the *half-hunt* leads, and the Treble moves down, and dodgeth there with it, a *bob* must then be made at that leading of the Treble. The 3 may be the *half-hunt*, or any other.

Oxford Triple Bob, the second way.

<u>1</u> 2345 <u>6</u>	254613
214365	245163
124356	421536
213465	425163
231645	241536
326154	214356
321645	123465
236154	213456
263514	124365
625341	142635
623514	416253
265341	146235
256431	412653
524613	421563
526431	245136

This peal is in all respects the same with that next before, except the *double* change which is made when the Treble moves up out of the second place, and also down into that place again, which is here made on the four middle bells, and consequently parts the two hind bells, which in the former peal continued dodging together. This will also go 360, the *bobs* being made, in the same manner, and also the warning for them the same, as in the former peal.

Oxford Riddle, or the Hermophrodite.

Treble is the *whole-hunt*; whilst 'tis hunting up the two last bells dodg, and whilst

<u>1</u> 2345 <u>6</u>	341652
214365	314562
241356	135426
423165	134562
432615	315426
346251	351462
432651	534126
346215	543216
436125	

'tis hunting down the two first. Every time it leads and lieth behind, the *double* is made on the four farthest bells from it. Every bell leads twice and lieth behind twice, except the dodging hinder. By this method it will go *sixty* changes *triples* and *doubles*, and then by making of *singles* as in *Old triples* and *doubles*, it will go 120, 240, or 720.

My Lord. 144.

123456
213465
231456
324156
342516
432561
423651
243615
234165
321465
312456
132465
123645

Doubles. Treble is a perfect Hunt. Every bell leads twice, and then moves up into the third place where it lieth twice, and then moves down again except the motion of the Treble hindreth. When the Treble goeth to lead and leaves leading, the *double* is on the two first and two last bells; and when it leadeth, 'tis on the four middle bells. But when it leadeth, and the 6 lieth behind, then a *single* in the third and fourth places.

If a *double* be made on the four hind bells, at every third leading of the Treble it will go 180 compleat *doubles*; and then by making of two *singles* it will go 360, or with four *singles* 720.

Seventeen Peals composed at
CAMBRIDGE, by Mr. S.S.

My Honey. 1 and 2.

<u>1</u> 2345	31254	54321
21354	31245	45231
21345	13254	54231
23154	————	45213
23145	13524	54213
32415	15342	45123
23415	————	45132
32451	15432	41523
23451	51423	41532
32541	51432	14523
23541	54123	————
32514	54132	14253
23514	45312	12435
32154	54312	————
32145	45321	12453

In this peal there is a *whole-hunt* and an *half-hunt*. The *whole-hunt* lieth always four times before, and four times behind, and twice in every other place. The two hindmost bells always dodg 'till the *whole-hunt* hindreth, except when the *whole-hunt* is before, at which time there are four changes made of a four and twenty *doubles* and *singles*; the first of which is a double change brought in by the course of the bells (as in the following peal appeareth) 13254; the second is a *single* in the third and fourth places (13524); the third is a *double* on the four last (15342), and the fourth a *single* again in the third and fourth places (15432), except when the *half-hunt* is with the *whole-hunt* before, then it is to be an *extream* behind. When the *whole-hunt* leaves the *third's* place hunting up, the two foremost bells dodg till it returns into the same place again.

The Whirligigge. 1 and 5.

In this peal, first the bells dodg behind (and not before) till the *whole-hunt* hindreth them; and the next course they dodg in like manner before (and not behind) till the *whole-hunt* hindreth them; and so by turns throughout the whole peal. When the *whole-hunt* is before, if the bells were dodging behind before it came to lead, single behind; if they were dodging before, single in *second's* and *third's* place; and when the *whole-hunt* leads, and *half-hunt* is in *Tenor's* place, there is always an *extream* to be made in *3d* and *4th* place, which is every fourth time the *whole-hunt* leads.

21354	51243	31245	41352
23145	52134	32154	43125
32415	25314	23514	34215
34251	52341	25341	43251
43521	25431	52431	34521
45312	52413	54213	43512
54132	25143	45123	34152
51423	21534	41532	31425
15432	12354	14523	————
15423	13254	14532	13425

Jack-on-both-sides. 1 and 5.

21354	45132	52143	32514	23451	53421
23145	54312	25413	23541	32541	35412
32415	45321	52431	32451	23514	53142
34251	54231	25341	34215	32154	51324
43521	45213	52314	43125	31245	15234
34512	54123	25134	41352	13254	—————
43152	51432	21543	14325	13524	15243
41325	15342	12534	14235	31542	51423
14352	—————	12354	41253	35124	
14532	15324	21345	42135	53214	
41523	51234	23154	24315	35241	

In this peal the bells always dodg both before and behind, till the *whole-hunt* hindreth them; except when both the Hunts are together either before or behind; for then the two farthest bells from the Hunts do leave dodging for the next change onely which is always a *double* made by the two Hunts and the two next bells to them. The *singles* and *extreams* are made as in the *Old Doubles*.

Winwick *Doubles. 1 and 3.*

In this peal, first, the two hindmost bells dodg till the *whole-hunt* hindreth them, till the first *single* is made: and then the two formost bells dodg 'till the *whole-hunt* hindreth them, until there be made another *single*, and so they continually dodg successively throughout the whole peal. There are six *singles* which are made in the same manner as in St. *Dunstan's Doubles*, page [127](#).

21354	41532	31254	41523
23145	45123	32145	45132
32415	54213	23415	54312
34251	52431	32451	45321
43521	25341	23541	54231
45312	23514	32514	45213
54132	32154	23154	54123
51423	31245	21345	51432
15432	13254	12435	15342
14523	————	14253	————
	13524		15324

Non-such. 1 and 2.

In this peal the bells always dodg both behind and before till the *whole-hunt* hindreth them, except when both the Hunts are together either behind or before: for then the bells omit dodging for the next change, as in *Jack-on-both-sides*. There are four *singles* which are all made in the *3d* and *4th* places every third time that the *whole-hunt* leads.

21435	25134	32415	53214	54231	34521
24153	52314	23451	35241	45321	35412
42513	25341	32541	53421	43512	53142
24531	52431	23514	54312	34152	51324
42351	25413	32154	45132	31425	15342
24315	52143	31245	41523	13452	—————
42135	51234	13254	14532	14325	15432
41253	15243	—————	15423	41352	
14235	12534	13524	51432	43125	
12453	21354	31542	54123	34215	
21543	23145	35124	45213	43251	

Cambridg *Delight. 2 and 4.*

In this peal the two hindmost bells always dodg till the *whole-hunt* hinders them. When the *whole-hunt* leaves the *thirds* place hunting up, the two foremost bells dodg till the *half-hunt* hinders them, whose course is the same with the course of the *half-hunt* in *Grandsire*. There are two *singles* which are made by the same rule as in *Grandsire*.

13254	15243	14235	45231
31524	12534	41325	42513
13542	21543	43152	24531
31452	25134	34512	25413
34125	52143	35421	52431
43215	51234	53241	54213
42351	15324	52314	45123
24315	51342	25341	41532
23451	15432	23514	14352
32415	14523	32541	13425
34251	41253	35214	31245
43521	42135	53124	32154
45312	24153	35142	23145
54132	21435	53412	—
51423	12453	54321	23154

**Cambridg *Delight*, another way.
1 and 4.**

21354	51234	31524
23145	52143	35142
32415	25413	53412
34251	24531	54321
43521	42351	45231
45312	43215	42513
54132	34125	24153
51423	31452	21435
15432	13425	12453
14523	14352	14235
41532	41325	41253
45123	43152	42135
54213	34512	24315
52431	35421	23451
25341	53241	32541
52314	35214	23514
25134	53124	32154
21543	51342	31245
12534	15324	13254
15243	13542	13245

In this peal the two hindmost bells always dodg till the *whole-hunt* hinders, as in the former Peal. When the *half-hunt* leaves the *3ds* place hunting up, the two foremost bells dodg till the *whole-hunt* hinders. It differeth from the former peal in this; That whereas in that the bells always begin to dodg before when the *whole-hunt* leaves *third's* place, and are parted by the *half-hunt*; in this they begin to dodg before when the *half-hunt* leaves the *third's* place, and are parted as well before as behind by the *whole-hunt*. It differeth also, in that the *half-hunt* in this peal always bobbeth behind on the

contrary stroke to what it doth in the former peal; there are two *singles*, which are made as in the former peal.

The Dream, upon five bells. 1 and 2.

In this peal the two hindmost bells always dodg till the *whole-hunt* hinders, except when the two Hunts are together before. Or it may be rang by making the two foremost bells dodg always, except the Hunts be together behind. There are six single changes which are all behind every other time the *whole-hunt* leads, the *half-hunt* at every *single* lying either in the *2d* or *3ds* places.

21435	51342	41235	53142
24153	53124	42153	35412
42513	35214	24513	34521
45231	32541	25431	43251
54321	23451	52341	42315
53412	24315	53214	24135
35142	42135	35124	21453
31524	41253	31542	12543
13542	14235	13524	————
15324	————	15342	12534
	14253	51324	&c.

The Contention upon five bells. 1 and 2.

In this peal, the two hindmost bells dodg as in the former peal till the Hunts are together before for twenty changes; and then for the next twenty changes the two formost bells dodg, except the Hunts are together behind. There are six *singles* which are made as in the former peal.

21435	51342	41523	41235
24153	53124	45132	42153
42513	35214	54312	24513
45231	32541	53421	42531
54321	23451	35241	24351
53412	24315	53214	42315
35142	42135	35124	24135
31524	41253	31542	21453
13542	14235	13452	12543
15324	————	14325	————
	14253		12534
			&c.

The Cheat. 1 and 3.

In this peal the two hindmost bells always dodg 'till the *whole-hunt* hinders, and the two foremost bells dodg 'till either the *whole* or *half-hunt* hinders. Or on the contrary, the two foremost bells may dodg 'till the *whole-hunt* hinder, and the two hindmost 'till either the *whole-hunt* or *half-hunt* hinder. Or it may be rang a third way, by joining both these courses together, ringing twenty changes of it one way, and the next twenty changes the other way throughout the peal. There are six *singles* which are all made behind, every second time the *whole-hunt* leads; or at pleasure it may be rang with twelve *singles*, which are likewise all made behind.

21354	41532	31542	51243
23145	45123	35124	52134
32415	54213	53214	25314
34251	45231	52341	23541
43521	54321	25431	32451
45312	53412	52413	34215
54132	35142	25143	43125
51423	31524	21534	41352
15432	13542	12543	14325
14523	————	15234	————
	13524		14352
			&c.

Topsie-turvie. 1 and 2.

21354	41532	31542	21453
23145	45123	35124	24135
32415	54213	53214	42315
34251	45231	35241	24351
43521	54321	53421	42531
45312	53412	35412	24513
54132	35142	53142	42153
51423	31524	51324	41235
15432	13542	15234	14325
14523		12543	
	13524		14352
			&c.

Jumping Doubles dodging before.

<u>1</u> 2345	31254	54132	24513	53241	43521
21534	23145	45213	42351	35421	34215
52143	32514	54321	24531	53214	43152
25314	23451	45231	42315	35142	31425
52431	32541	54312	24153	51324	13254
25341	23415	45123	41235	15432	—————
52413	32154	51432	14352	14523	13245
25134	21345	15243	13425	41352	&c.
51243	12453	12534	31542	34125	
15324	14235	21453	53124	43512	
13542	41523	42135	35412	34251	

In this peal every change is a jumping change (in which one bell leaps over two bells at once,) except when the Treble is either behind or before, for then there is always a plain *double* change made, or else a *single* at the end of each sixty changes. Treble is a perfect Hunt; the two foremost bells always dodg until the Treble hinder. When the Treble is hunting up, the jumping changes are all made by the bell in the Tenor's place, jumping into *third's*, except only that one when Treble goeth out of *second's* place into *third's*; for then the bell in the *3ds* place jumps into Trebles, where it dodgeth with the bell in the *2ds* place till Treble hinder. When Treble is hunting down every jumping change is made by the bell in the *3ds* place jumping into Tenor's, except when it goeth out of *third's* place into *second's*, for then the bell in Treble's place jumps into *3ds*. And observe always, that when Treble is going to lead the first time, the bell in Tenor's place jumps into *third's*, and the next time the bell in the *third's* place into Tenor's throughout the peal. There are two *singles* which are made, as in *Grandsire*.

Jumping Doubles dodging behind.

In this peal Treble is a perfect Hunt, as in the former. The two hindmost bells always dodg till Treble hinders. When Treble is hunting up the bell in *thirds* place always jumps into Treble's, excepting only when Treble goeth out of *third's* place into *fourth's*; for then the bell in Tenor's place jumps into *3ds*. And observe, that every second time the Treble goeth out of *4th* into *5ths* place, the bell in Treble's place jumps into *3ds*; whereas at other times at the same change the bell in *3ds* place jumps into Treble's. When Treble leaves the *5ths* place hunting down, the bell in the *3ds* place jumps into Treble's; when she leaves *4ths* place the bell in *3ds* place jumps into Tenor's. When she is either in the *2d* or *3ds* places hunting down, the bell in the Treble's place jumps into *3ds*. There are two *singles* made, as in the former Peal.

<u>12345</u>	31425	52143	24513	25341	34251
31254	43152	25314	45231	52431	23415
23145	34215	32541	54321	45213	32154
32514	42351	23451	35412	54132	21345
53241	24531	42315	53124	41523	13254
35421	52413	24153	31542	15432	—————
43512	25134	41235	15324	14523	13245
34125	51243	12453	13542	51432	&c.
41352	12534	14235	51324	45123	
13425	15243	21453	35142	54312	
14352	21534	42135	53214	43521	

Symphonie, upon six bells. 1. 2. and 3.

In this peal are 720 changes, all *doubles* except twelve *singles*, which are made as in plain *Trebles and Doubles* on six bells. The two hindmost bells always dodg till the *whole-hunt* hinders them, except when a *single* is made in the *4th* and *5th* places. When the *whole-hunt* leaves the *4ths* place hunting up, the two foremost bells dodg till it leaves the same place again hunting down: but it may be rang at pleasure to make the bells dodg perpetually before as well as behind, by making in every twelve changes two Trebles, one of them when the *whole-hunt* leaves the *3ds* place hunting up, and the other when it leaves the *4ths* place hunting down; so that there will be in the whole peal Sixscore *Treble-changes*. When the *whole-hunt* is behind, the four foremost bells dodg; when the *whole-hunt* is before, the four hindmost dodg.

213465	316254	615342	514623	412536
231456	361245	651324	541632	421563
234165	362154	653142	546123	425136
324615	632514	563412	456213	245316
234651	362541	653421	546231	425361
326451	635241	564321	452631	243561
236415	365214	654312	542613	423516
326145	635124	564132	452163	243156
321654	631542	561423	451236	241365
312645	613524	516432	415263	214356
132654	163542	156423	145236	124365
136245	165324	154632	142563	124635
				&c.

Grandsire upon Symphonie. 1. 2. and 6.

This peal of *Symphonie* may be rang with but two single or two treble changes at the end of either *Eightenscore*, by ringing it with single and double *bobs* as in *Grandsire Bob*. The rule for calling the *bobs* in this peal is the very same as in *Grandsire Bob*, but when the *bob*-changes are to be made, the Hunts do not lie in the same order as in *Grandsire Bob*; for in this peal at a single *bob* the *whole-hunt* leads, the *half-hunt* in the 5th place, and the *quarter-hunt* in the 4th place. And at the first *bob* of a double *bob* the *half-hunt* is in Tenor's place, and *quarter-hunt* in 2ds place; and at the later *bob* the *half-hunt* is in the 5th place, and *quarter-hunt* in 2ds place, just contrary to what it is in *Grandsire Bob*. I have prickt this peal with two Treble changes in every twelve; so that if you make two Trebles more at the end of either *Eightenscore* (which must be made when the *whole-hunt* is going to lead just two changes sooner than if you should have made a *single*) there will then be in the whole 720 just Sixscore and two Treble changes.

213465	316254	316542	316425	612354
231456	361245	361524	361452	621345
324165	632154	635142	634125	263154
234615	362514	365412	364215	623514
324651	632541	635421	634251	263541
236451	365241	364521	362451	625341
326415	635214	634512	632415	265314
236145	365124	364152	362145	625134
321654	631542	631425	631254	261543
312645	613524	613452	613245	216534
132654	163542	163425	163254	126543
136245	————	————	162345	125634
	136524	136452		&c.

***Trebles and Doubles on six Bells with six Singles. 1.
2. and 3.***

214365	321456	153462	164352	<i>sing.</i>
241635	234165	_____	_____	
426153	243615	135426	146532	
462513	426351	_____	145623	
645231	462531	153246	_____	
654321	645213	152364	154263	
563412	654123	_____	152436	
536142	561432	125634	_____	
351624	516342	126543	125346	
315264	153624	_____	_____	
132546	<i>bob.</i>	162453	125364	
135264	135642	164235	&c.	
312546	_____	_____		
		146325		
		<i>bob.</i>		

This peal is taken out of the *Dream upon five bells*. Every time the *whole-hunt* is before, there being two changes of that peal made in this. Every bell is a perfect Hunt, when the *whole-hunt* is before dodg on the four hindmost, except the *half-hunt* be either in the 5th or Tenor's place, then always *bob* as in *Grandsire Bob*, except the *quarter-hunt* lieth next to the *half-hunt*, for then it is always to be a dodg on the four hindmost. Every other time that the *whole-hunt* and *half-hunt* come together before, there is *single* which is always made behind.

A Twelvescore Trebles and Doubles. upon Six Bells.

214365	234165	261453	156423
241356	324156	216435	165243
423165	231465	124653	_____
243156	213456	214635	615234
421365	124365	126453	165324
412356	_____	162435	_____
143265	142635	614253	163542
142356	416253	612435	136452
413265	461235	164253	_____
431256	642153	146235	316425
342165	641235	412653	136245
432156	462153	142563	_____
341265	426135	_____	132654
314256	241653	145236	123564
132465	421635	154326	_____
134256	246153	_____	213546
312465	264135	514362	123456
321456	621453	154632	_____
	624135	_____	

In this peal the four foremost bells go a four and twenty *Doubles* and *Singles*, observing always, That for one Four and Twenty the bell in the Treble's place is the hunting bell, and for the next the bell in the *4ths* place throughout the peal, the two hindmost bells always dodging till the end of the Twenty Four; at which time there is a *double* made (if the bell in the Treble's place was the Hunt in the Twenty Four) on the four middlemost; but if the bell in the *4ths* place was the hunting bell, the double is to be made in Treble and *2d* and *4th* and *5th* places.

Cambridg *Bob*.

<u>1</u> 2345 <u>6</u>	325416
214365	352146
123465	531264
214356	532146
241365	351264
423156	315246
421365	132564
243156	315264
234516	132546
325461	135264
324516	312546
235461	135246
324561	312564
235416	321546
234561	&c.

The Treble hath a constant dodging course; and when it leaves the two hind bells, they dodg until it comes there again, except when the Treble dodgeth before, and then they lie still. The two middle bells always dodg until the Treble comes there. When the Treble leaves dodging before, every bell leads twice, except when the Treble lieth still behind, and then the two first bells make a dodg. *Bobs* are made as in *Grandsire Bob*, and the warning for them the same also with that.

Fourteen more Peals, composed at CAMBRIDGE.

Doubles and Singles on five Bells.

The Parasite. 1 and 5.

In this peal the Bells behind always dodg, except the Treble prevents them. When Treble is leaving the 3^{ds} place hunting up, the bells before dodg at whole pulls, if Tenor be not one of them, until it parts them. The course of the bells in hunting is the same with *Tendring*.

<u>1</u> 2345	35241	31524	42531
21354	35214	31542	42513
21345	53124	35124	24153
23154	53142	35142	24135
23145	51324	53412	21453
32415	51342	53421	21435
32451	15324	54312	12453
23415	15342	54321	12435
23451	13524	45231	14253
32541	13542	45213	14235
32514			&c.

The Tulip. 1 and 2.

21354	51423
21345	51432
23154	54123
23145	54132
32415	45312
32451	45321
23415	54312
23451	54321
32541	45231
32514	45213
23541	54231
23514	54213
32154	45123
32145	45132
31254	41523
31245	41532
13254	14523
13524	14253
15342	12435
15432	12453
	&c.

In this peal Treble hunteth as in *Tendring*. When Treble is in *third's* place hunting up, the bells dodg before at whole-pulls, till it comes and parts them. When it is in *third's* place hunting down the bells behind always dodg, except it leadeth, till it parts them. When Treble is before there are four changes of twenty four *doubles* and *singles*; whereof the first is brought in by the hunting of the bells. All the *singles* in the Twenty four are made in the *3d* and *4ths* place, except 1–2 before, then *extream* behind.

The Honey-suckle. 1 and 2.

In this peal every bell leads four times. While every bell but Treble is leading, the bells behind always dodg: every *4th* change is

made by the four foremost bells. When Treble is leading there are four changes of Twenty four *doubles* and *singles* made as in the former peal. The first change is on the four bells before.

21435	53421	51342	24351	
21453	53412	51324	24315	
24135	35142	53142	42135	
24153	35124	53124	42153	
42513	31542	35214	41235	
42531	31524	35241	41253	
45213	13254	32514	14523	
45231	13524	32541	14253	
54321	15342	23451	12435	
54312	15432	23415	12453	&c.

Peals on 5 bells, with twelve Singles.

Blunderbus. 1—2.

In this peal every bell is a Hunt. When Treble and *2d* are together either before or behind, the farthest bells from them dodg till either of them part, excepting the *extreams*. When the Treble is before a *single* in *3d* and *4th* place, which is unmade the next time except 1—2; for then the Hunts being together before, the bells behind must dodg according to the rule forementioned.

21354	14325	13452	51234	23154
23145	41235	13542	15324	21345
32415	42153	31452	15234	12354
34251	24513	34125	51324	12534
43521	25431	43215	53142	—
34512	52341	42351	35412	21543
43152	53214	24531	53421	25134
41325	35124	25413	35241	&c.
14235	31542	52143	32514	

Hudibras. 1 and 2.

In this peal every bell is a Hunt. When Treble is before a *single* always in *3d* and *4th* place which is unmade the next time, except it be 1—2, for then the bells behind dodg until Treble parts them.

21354	15423	14532	31245	25143
23145	51243	14352	13425	21534
32415	52134	41532	13245	12354
34251	25314	45123	31425	12534
43521	23541	54213	34152	—
45312	32451	52431	43512	21543
54132	34215	25341	45321	25134
51423	43125	23514	54231	&c.
15243	41352	32154	52413	

Weston Doubles. 1 and 5.

In this peal Treble is a perfect Hunt. Every other time Treble is leaving the *3ds* place hunting up, the bells before dodg till it comes and parts them: the bells behind dodg but when Treble hinders them, except the *extremes* which are in *3d* and *4ths* place when it is 1—2 before; all the other *singles* are made behind when Treble is leading. It may be rang by making all the *singles* behind, by making the change before it is 1—2 on the bells before.

<u>12345</u>	13254	51432	45123	32514
21354	13245	15423	41532	23154
23145	31254	15432	14523	21345
32415	32145	51423	14532	12354
23451	23415	54132	41523	—
32541	24351	45312	45132	12534
23514	42531	54321	54312	&c.
32154	45213	45231	53421	
31245	54123	54213	35241	

Peals on five bells with 10 singles.

The Antelope.

In this peal the bells hunt as in *Grandsire*. When Treble is before, a *single* is always made by the Tenor, and the bell which followeth it, except two *doubles* which are made as the *singles* in *Grandsire*. It may be rang like *Cambridg delight* either way by observing the same method if like *Cambridg delight* the common way; and by making the *singles* by the *half-hunt* and the bell before it, if like *Cambridg delight* the other way.

21354	15243	34152	24531	53214	41253
23145	12543	31425	25413	52341	————
32415	21534	13452	52143	25431	15432
34251	25143	13425	51234	24513	14532
43521	52413	31452	15324	42153	————
45312	54231	34125	13524	41235	12354
54132	45321	43215	31542	14253	<i>Extr.</i>
51423	43512	42351	35124	14235	13245

The Maremaid.

13254	12435
31245	21345
32154	12354
23145	21534
21354	12543
12534	15234
15243	51243
51234	15423
52143	51432
25134	15342
21543	51324
21453	53124
	&c.

In this peal behind dodg twelve changes, excepting the sixth which is made on the bells before, and the twelfth which is a *single* in the *3d* and *4ths* places; and twelve changes before, excepting also the sixth, which is made by the bells behind, and the twelfth which is a *single* in *2d* and *3ds* places. When they dodg behind, every odd change is on the last bells, and every even one a *bob*, excepting these two changes. When they dodg before, every odd change is a *bob*, and every even one on the four first bells, excepting likewise those two changes which are made according to the forementioned rule.

The Checkquer. 1 and 5.

21354	31254
23145	13524
32415	15342
34251	51432
43521	54123
45312	45213
54132	42531
51423	24351
15432	42315
14523	24135
41532	42153
45123	24513
54213	25431
52431	52341
25341	53214
23514	35124
32154	31542
31245	13452
13254	31425
13245	13425
	&c.

In this peal the Treble is *whole-hunt*, and Tenor the *half-hunt* for twenty changes; and then Tenor the *whole-hunt* and *treble* the *half-hunt* for the next twenty, and so they hunt by turns throughout the peal. When Treble is the *whole-hunt* the bells behind always dodg, except it hinders them; and when Tenor is the *whole-hunt*, the bells before, except that hinders them; when Treble is before and Tenor dodging behind, a *single* made by the Tenor and the bell which dodged with it; when Tenor is behind and Treble dodging before, a *single* made by the Treble and the bell which dodgeth with that.

21354	12543
23145	21453
32415	24135
34251	42315
43521	43251
45312	34521
54132	35412
51423	53142
15432	35124
14523	53214
41532	35241
45123	53421
54213	54312
52431	45132
25341	41523
52314	14532
25134	15423
21543	51243
12534	15234
21534	15243
	&c.

This peal may be rang by hunting the Treble and Tenor as before, and it differeth from it only in this; when it is 1—5 behind in the hunting of the Treble, the bells before dodg till Tenor parts them; and when it is 1—5 before, in the hunting of the Tenor the bells behind dodg till Treble parts them: and then when Treble is the *whole-hunt* and Tenor *half*, it is plain *Cambridg delight* inverted. It may be rang by hunting the *half-hunt*, as in *Cambridg Delight the other way*, in either of those ways of ringing it, but then the *single* is always made by the hunting bell.

An example in that like *Cambridg Delight the other way*.

Gogmagog. 1. 5.

21354	34512	12543
23145	43152	21534
32415	41325	25143
34251	14352	52413
43521	————	54231
45312	14325	45321
54132	41352	43512
51423	43125	34152
15243	34215	31425
12534	32451	13452
21543	23541	————
25134	25314	13425
52314	52134	31452
53241	51243	34125
35421	15234	&c.

In this peal the bells hunt as in *Grandsire*, and it differeth from it in this, That there is not every other time a single *bob*, but in stead of a single one every other time a double one: so that only once in four times there is a single *bob*; when Tenor is dodging behind there is always a *single* made by it, and the bell which dodgeth with it if Treble leadeth, otherwise not.

1—4.

This peal may be rung like *Cambridg Delight*, if every other time the dodging before be omitted; or it may be rang by dodging constantly as in *Cambridg Delight*, by making double *bobs* and single *bobs* as in *Grandsire*: it may likewise be rang by making the course of the *half-hunt* in all the ways of ringing it the same with *Cambridg delight the other way*; observing in all of them to make the *singles* as before directed.

An example of that like *Cambridg Delight the other way*, in which the dodging before is every other time omitted. 1—4.

21354	14523	12534	34152	25314
23145	41532	————	31425	52134
32415	45123	12543	13452	51243
34251	54213	21534	14325	15234
43521	52431	25143	41352	————
45312	25341	52413	43125	15243
54132	52314	54231	34215	51234
51423	25134	45321	32451	52143
15432	21543	43512	23541	

Cambridg *Marigold. 1. 2. and 3.*

214356	312564	165432
241536	321654	164523
425136	236154	————
452316	263514	146253
453261	265341	142635
542361	623541	————
543216	625314	124365
534126	652134	124635
351426	561234	&c.
315246	516324	
132546	153624	
135264	156342	

In this peal are 720 changes, which are all *doubles* except 12 *singles* which are made as in Plain *trebles* and *doubles*. *Treble* is a perfect Hunt, and except the *dodges* (which are the same as in *Oxford double Bob*) every double change is made by the *treble* and the three next bells to it: observing always that the bell in *Tenor's* place lieth still 'till it giveth place to the *Treble*, or be removed by a dodg behind when the *Treble* is before. When *Treble* leaveth *3ds* place hunting up, the bell that then comes before, leads thrice, and likewise the next bell after it till *Treble* cometh back into *3ds* place again; at all other times every bell leads twice. The bell in *Tenor's* place lieth five times behind, (and when the *single* is made in the

middle *ten* times) till *treble* remove it; and when *treble* comes back it lieth five times more behind, and then is displaced by a dodg behind and hunts down at whole-pulls. This peal may be rang by making *bobs* single and double as in *Grandsire Bob* with but two *singles* or two *trebles*, which must be made just Eighteen score changes one from the other.

The Nightingall. 1. 2. and 3.

In this peal are 720 changes, which are all *doubles* except twelve *singles*, which are made as in the former peal; and if you ring *Grandsire Bob* upon it, there may be but two *singles*, or else two *trebles*, as in the *Marigold*. *Treble* is a perfect Hunt: the bells in *4th* and *5th* places dodg till *treble* parts them, and then the two foremost bells do the like for eight changes together till *treble* hinders them, and gives way to the other two bells to dodg again in the *4th* and *5th* places, which is always for three changes and no more, except when the *single* is made in that place, and then they dodg six times. When *treble* is behind, dodg the four first; when it is before on the four last, as in *Marigold*.

123456	356241
213546	536214
231456	356124
324156	531624
234516	513264
324561	153624
235461	156342
325416	_____
235146	165432
321546	164523
312456	_____
132546	146253
135264	142635
315624	_____
351264	124365
532164	<i>sing.</i>
352614	124635
532641	_____

FINIS.

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Page	Changed from	Changed to
<u>14</u>	1564364160	1744364160
<u>14</u>	29554290720	29654190720
<u>14</u>	2446144	2496144
<u>14</u>	99728079819200	99638080819200
<u>14</u>	1402645824276320	1402556105125320
<u>15</u>	561058329	561022442
<u>15</u>	140564582	140255610.5
<u>18</u>	one Load, consistng of five hundred	one Load, consisting of five hundred
<u>18</u>	rate of thrteen shillings and four pence the	rate of thirteen shillings and four pence the
<u>21</u>	I have therefoae penn'd the following Treatise	I have therefore penn'd the following Treatise
<u>34</u>	cannot soon attain, are therefore much puzled	cannot soon attain, are therefore much puzzled
<u>47</u>	which we will imagine so be made at the	which we will imagine to be made at the
<u>59</u>	2d. 3d. 4.	2d. 3d. 4th.
<u>59</u>	3134 1243 2134	2134 1243 2134
<u>64</u>	course, threfore an extream	course, therefore an extream
<u>70</u>	123459 ----- a 213456	123456 ----- a 213456
<u>83</u>	13257 15342 14523	13254 15342 14523
<u>86</u>	the motion of the Hunt, (which a little further	the motion of the Hunt, (with a little further

<u>88</u>	hapens to be single, it must be made at the	happens to be single, it must be made at the
<u>97</u>	those bels do hunt the contrary way, then the	those bells do hunt the contrary way, then the
<u>97</u>	of the peal. If the 1 or 3d do hunt	of the peal. If the 1st or 3d do hunt
<u>98</u>	12345 ----- 21435 24135 42315 32351	12345 ----- 21435 24135 42315 42351
<u>100</u>	12345 ----- 21354 23154 32513	12345 ----- 21354 23154 32514
<u>102</u>	13254 23245 12354 12345	13254 13245 12354 12345
<u>104</u>	single exery time the treble leads. The	single every time the treble leads. The
<u>106</u>	51423 15243 12534 31543	51423 15243 12534 21543
<u>120</u>	31245 23254 13524	31245 13254 13524
<u>131</u>	54231 52413 52134 24513 42153	54231 52413 25431 24513 42153
<u>132</u>	third change at the heginning, and that six	third change at the beginning, and that six
<u>133</u>	the rest of the changes there are made hehind	the rest of the changes there are made behind
<u>134</u>	the 2d and 3d places as hefore	the 2d and 3d places as before
<u>134</u>	he made in the 2d and 3d places as hefore	be made in the 2d and 3d places as before
<u>137</u>	treble is the whole	The treble is the whole

<u>138</u>	times hehind, and twice in every other place.	times behind, and twice in every other place.
<u>140</u>	making of bobs it will	making of bobs it will go
<u>145</u>	next time the whole-hont	next time the whole-hunt
<u>149</u>	153624 135642 135652 ----- 125463 bob	153624 135642 ----- 125463 bob
<u>156</u>	165432 156342 513634 531642 356124	165432 156342 513624 531642 356124
<u>156</u>	165243 156423 ----- 132495 bob	165243 156423 ----- 132465 bob
<u>168</u>	'Tis plainly demonstrable, that he Principle	'Tis plainly demonstrable, that the Principle
<u>181</u>	peal, succeding each other in the several	peal, succeeding each other in the several
<u>182</u>	change; and with peals of the later, the 3d	change; and with peals of the latter, the 3d
<u>185</u>	42361875 24368157 42631865 24613857 42168375	42361875 24368157 42631875 24613857 42168375
<u>189</u>	four middle hells, except the bobs which are	four middle bells, except the bobs which are
<u>192</u>	42513 42531 45214 45231 54321	42513 42531 45213 45231 54321
<u>193</u>	45213 45123 41532 14523 14251	45213 45123 41532 14523 14253

205	dodg till the whole- hunt dindreth them, till	dodg till the whole- hunt hindreth them, till
206	together either hehind or before: for then	together either behind or before: for then
212	42315 24153 41231 14352 13425	42315 24153 41235 14352 13425
223	24531 25413 42143 51234 15324	24531 25413 52143 51234 15324
223	31245 13425 63245 31425 34152	31245 13425 13245 31425 34152
225	25143 52413 54131 45321 43512	25143 52413 54231 45321 43512
225	as the singles in Gransire. It may be rang like	as the singles in Grandsire. It may be rang like
229.	54231 45321 43521 34152 31425	54231 45321 43512 34152 31425
229.	————— 146253 142645 —————	————— 146253 142635 —————

1. Corrected the [Errata](#) faults.
2. Typos fixed; non-standard spelling and dialect retained.

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