## 1* and the Symmetric Relay - Genetic Modifications

## Overview

One club is either strong (17+ balanced, most decent 16 s distributional) or 11-13 balanced or semi-balanced with exactly two spades.

Symmetric relays differ from 'step' or ordinary relays by the principle that it is the path that dictates the meaning of the sequence not its difference. For example we will see that for a long major, 3\% will always show a 5431 hand, were step relays employed, first the long suit would be shown then the identity and length of the second suit and so on but the bid that marked the end of the description (full disclosure) would be different depending on the precise suits held.

## Definition of Shape

The first consideration is the hand family. This is one of several distinct types, each of which is a set of hand patterns. The first family contains those that have four non-matching suit lengths such as 5431 or 7420 . Thereafter the family is named by the first file length that is repeated so D1 contains 5521, 5530 and D2, 5440, 6331 and D3, 5422, 6322.
The unique distributions (D0) and D1s are shown by one scheme, the D2s and D3s by another. D0s and D1s are shown simply by indicating the longest suit, the next longest, then the third, finally the pattern.

D2s and D3s are required only to show one element in their shape. This is always the second longest suit. For D3s there is clear no ambiguity here but what is the second length in a 5440 ? The answer is that with two equal lengths you show the higher of two touching (removing the longest) or the suit below the shortage which amounts to the same thing. Therefore with $7-3-0-3$, identify clubs, $0-5-4-4$, identify diamonds. In all cases the length of the longest suit is known from the initial response and the pattern completes the description.

The only other patterns are those such as 4441 and 7222 that are named after the triple, e.g. T2 is 7222. These are generally accorded special methods or responses. T0 and T1 are outside our concerns, T3 and T4 fall into the balanced hand treatments (or no five card suit at least). T2 appears in the standard relays.
Rather than delight the opponents with explanations such 'D1 higher' etc., I suggest we describe them,

- D0 - '4 suits, all different lengths'
- D1 - '55 or 66'
- D2 - 'Two second suits'
- D3 - 'Two short suits'

But if anyone can thing of something better...

## The Descriptive Schemes

There are three distinct schemes that describe hands, one each for the majors, minors and balanced hands (or no five card suit at least). In fact the major and minor schemes are more or less identical, differing only that the minor scheme is a level higher and has 'out-take', special responses that occur immediately. Each scheme is easily regarded as a contiguous sequence but it might not always be bid as such. To clarify take the major scheme;
2\& Second length in diamonds etc.
$2 . \quad$ Second length in clubs etc.
$2 \vee$
2. D0/1 family, lower ranking $3^{\text {rd }}$ suit

2N Special - actually 5332
3:... Start of shapes - actually 5431
These are the information bearing bids and it is easy to think of these as a single variation emanating from a bid of $1 \uparrow$, the relay being 1 NT - but it by no means essential that this is the case. The bids can be once or twice deferred. After $1 \wedge$, if another scheme point can be more usefully placed at 2 leaving 2 - onwards intact, all that remains is to find another 2* call 'spare' to repair the scheme. Indeed, if $2 *$ cannot be found but $2 \vee$ onwards is free, then that will suffice (twice deferred).
What we actually do is find a holder for the 2 .. variation in 1 NT and curiously invert the natural order. So all the hands that would bid 2 * or higher in an unmodified scheme, start with 1 NT . This applies to both spade positives $-1 \mathbf{~ - ~}$ $>1 N / 2$. and heart positives - an immediate 1 N or 2 *

This mechanism of re-splicing the schemes was discovered by Ed Colley in March 2001.

## Nomenclature and Memory Aids

Nomenclature: LS3 = lower 3rd suit, HS3 = higher 3rd suit. In the text, shapes shown in descending numerical order are generic, mixed order (or hyphenated) implies specific pattern or added emphasis.
Early information includes the length of the main suit already shown. In particular all D2 and D3s suits bid a trigger of $2 \boldsymbol{v}$. All hands with principal length in a minor bid 1NT.

There are no relays for shape above $3 v$ except in the $1 *-2 N$ sequence

## The Later Auction

After shape is out, if $3 \boldsymbol{A}$ is available, then this is a 'puppet-ask'. Partner responses 3 N unless he has significant extras, in which case he replies with Roman Controls ( $4 *=0-2$ etc.). Elsewhere $3 N T$ and $4 *$ are always to non-forcing/end signal respectively except in the $1 *-2 N$ sequence when we have surplus values.
After the balanced scheme, $3 N$ is to play and $3 \boldsymbol{A}$ is suit setting. If the last call was 3 N then the 4 end signal applies.
The remaining calls set suits and are RKCB with a first step of 'bad hand for slam'. Responses are normal RKCB except that a 'good' hand will have at least the trump queen with a single key card. After a bad hand response the next bid (including 3 NT and $4 *$ ) is RKCB, any other call is to play.
After the RKCB response, step 1 is spiral scan trumps first then highest plain suit. Step 2 and above are SABs, lowest plain suit.

## The Auction After One Club

## Immediate Responses

The immediate response falls into one of four categories, Negative [1\&], Positive (note not balanced if long minor or min.) [1v-1N], balanced [2*-2*], and special [2レ...].

1. Negative, 0-7
2. Positive in $\uparrow$ (any) or Balanced 8-13
3. Positive in * (any) or - single suited or second length in a black suit
$1 \mathrm{~N} \quad$ Positive in $\downarrow$ - single suited or second length in a black suit

| 2. | Positive in $\downarrow$ - single suited or second length in diamonds |
| :---: | :---: |
| 2, | Positive in - - single suited or second length in hearts |
| 2* | Positive in $\%$ - either $6 * 331$ or $6 * 511$ |
| 2. | Positive in *- either 6 * 331 or $6 \leqslant 511$ |
| 2N | 14+ balanced |
| 3. | ART Solid 6 card suit |
| 3** | TRF 5-8 7 card major. |
| 3. | ART Solid 7 card suit. |
| 3N | ART one loser seven card major |

## Intervention by Second Hand

When the auction takes up no space we try to utilise extra bids and ignore if no disruption has been caused. Thus second hand needs to bid at least 1 A , we break-even after $1 \vee$ and gain with $X$ and $1 *$. It remains to describe what these extra bids show

| X | Pass | 0-4 |
| :---: | :---: | :---: |
|  | 1* | 5-7 |
|  | XX | 14+ Balanced |
|  | 2N | 5-5 Minors |
| 1* | Pass | 0-4 |
|  | X | 5-7 |
|  | 2. | ?? Extras |
| 1* | Pass | 0-7 |
|  | X | Spades or Balanced |
|  | 1N | ?? |
| 1. | Pass | 0-7 or penalty spade positive |
|  | X | 8+ take out |

## Catering for the Weak No-Trump

Over $1 *$ to 1 N and 2 to 2 N , the next call always (potentially) shows the strong hand. The responses that signal a WNT are

| 1 * | Pass | OK |
| :---: | :---: | :---: |
| 1 * | 1v | NF - WNT with $4 \cup$ or passable strong in hearts |
| 1 | 1. | F1 - WNT with 4\% or strong without hearts |
| $1 *$ | 1 N | All weak hands |
| 1* | 2m | Natural, PC |
| 1N | 2v | To play |
| 2\% | 2v | To play |
| 2, | 2^ | 4 hearts |
| 2. | 3. | 3. |
| 2v | 3* | Min WNT, responder either bids 3N, or passes |


| 2 | 2N | Max WNT, responder either bids 3\%, or passes |
| :---: | :---: | :---: |
| 24 | 3 | Min WNT, responder either bids 3 N , or passes |
| 24 | 2N | Max WNT, responder either bids 3*, or passes |
| 2N | 3...N | WNT that relays out, 24(34)/24(52), 2335, 2353, 2344/22(54) |
| 3\% | 3N | WNT |
| $3 * / v$ | 3-4 | NF |
| 3N | 4 | Pass / Correct |

## The Negative Response



## Positive Responses

Ambiguous spade / balanced response

| 1* | 1 |
| :--- | :--- |
| 1~ | Relay |
| 1N | WNT |
| 2* | Strong hand short spades, principally 3 3-suited, natural bidding for the <br> time being |

$2 \bullet / \varphi / \wedge$ As above but short $\varphi / \boldsymbol{\omega} / \bullet$
2NT Undefined!
3. Own suit

Responder shows a minor

| $1 *$ | $1 *$ |
| :--- | :--- |
| $1 N$ | Relay |

2m Pass or correct
2•/^ Own suit
2NT Undefined!
$3 \mathrm{~m} \quad$ Own suit
Responder shows hearts (1)
1* 1 N
2. Relay

2• Undefined!
$2 \boldsymbol{*} \wedge \quad$ Normal and good WNT raises?
2NT Heart splinter!
3* Own suit
Responder shows hearts (2)
1* 2*
2. Relay

2v/^ Normal and good WNT raises?
2NT Heart splinter!
3. Own suit

Responder shows diamonds (2)
1* 2 -
2v Relay
2. Diamond SPL?

2NT WNT
3L Own suit
Responder is balanced and strong

1. 2 N

3* Relay - see balanced hand relays
3L Opener's response to relay
Responder show six clubs
1* 2 -
2. Relay

2NT Max WNT
3; min WNT
3L Own suit
Responder show six diamonds
1* 2a
2NT Max WNT
3* Relay
3. Min WNT

3L Own suit

## Re-Splicing the Relay Schemes

The definitions of the schemes are documented as if they are a contiguous list of possible responses but as it was indicated earlier, this is not the case in practice. Some parts of the sequence may have a placeholder for a larger chunk, typically two bids below the sequence is holds. These are the place holders and their routes into the contiguous lists.

Spades
1* 1 -
1^ 1N Holder for major scheme 2•...
2* First response in the major scheme
Hearts
1* $\quad 1 \mathrm{~N} \quad$ Holder for major scheme 2...
and
1* 2* First response in the major scheme
Diamonds
1ヵ $\quad 1 \boldsymbol{a}$
1N 2* Holder for minor scheme 2•...
and
1* 2. First response in the minor scheme
Clubs
1* 1 -
1N 2*... The minor scheme proper - clubs don't have a split scheme

## The Relay Schemes

## Majors

## Majors - Initial Responses

Over the composite $1 \vee$ response $1 \uparrow$ is a relay, responder's 1 N is a heart positive, 2\& and upwards take us into the major scheme. Over 14 , the NT relay leads solely into the major scheme. The first thing to recognise is whether your suits lengths are unique, D0, (like 5431 or 6430) or have a tie for second or third suit length (like 6331, D2, or 5422, D3).
2* D0 or D1 or $\mathbf{5 3 3 2}$ diamonds next longest or any D2 or (62)32
2. D0 or D1 or $\mathbf{5 3 3 2}$ clubs next longest

2v Any D3 or T2
2A... Other major next longest, D0 or D1 or 5322
The bid of $2 v$ is a trigger for a non unique. Over $2 \&$, the 2 relay leads into the unique scheme or $2 \downarrow$ showing a duplicate length. Over $2 \downarrow$, the next step relay invokes the duplicate scheme.

Note: Minors always shown in reverse.
Majors - D0, D1 and 5332
On entry the two longest suits are known, the scheme starts at $2 \boldsymbol{A}$

| 24 | LS3. Then relay to 3 |
| :---: | :---: |
| 2N | Balanced 5332 |
| 3* | (HS3) 5431 |
| 3 | (HS3) 6421 |
| 3 | (HS3) 5521 or 5530 |
| 3. | (HS3) 7321 |
| 3N | (HS3) 6430 |

## Majors - D2, D3 and T2

On entry the major is known and the type - D2 or D3 - all that remains is to indicate the 'odd' suit in the remainder of the distribution.

| 2N | Clubs |
| :---: | :---: |
| 3* | Diamonds. |
| 3-1. | Other major and start of shape signifiers |
| 3 | 6322 or 7222 |
| 3 | 5440 or 5422 |
| 34 | 6331 or 6511 |
| 3N | 7330 or 7411 |

There are four ways of bidding $3 *$ via $2 v$;

1. $2 \boldsymbol{m}->2 \boldsymbol{*}->2 N->3$
2. $2 *->2 v->3$ -
3. $2 v->2 N->3$ -
4. $2 v->3$.

As 6322 is a D3, by rights the first move should be an immediate $2 v$ over the relay and according to the rest of the scheme above, (3) shows clubs (6-2-2-3) and (4) shows the other major (6-3-2-2). So let's nominate (2) to show diamonds - odd sequence to 3 , to show diamonds - and (1) to show 7-2-2-2.

## Minors

## Minors - Initial Responses

The long minor is known by 1 N . The plan is much the same as over a major a level higher, there are some differences.
2. D0 or D1 or $\mathbf{5 3 3 2}$ hearts next longest or any D2 or 23(62)

2v D0 or D1 or $\mathbf{5 3 3 2}$ spades next longest.
2. Any D3 or T2

2N... Other minor next longest, DO or D1 or 5332.
Note: Majors always shown by transfer.

## Minors - D0, D1 and 5332

On entry the two longest suits are known, the scheme starts at 2 N

| 2N | LS3. Then relay to $3 * \ldots$ |
| :--- | :--- |
| $3 *$ | Balanced 5332 |
| $3 *$ | (HS3) 5431 |
| $3 *$ | (HS3) 6421 |
| $3 *$ | (HS3) 5521 or 5530 |
| $3 N$ | (HS3) 7321 |
| $4 *$ | (HS3) 6430 |

Minors - D2, D3 and T2
On entry the minor is known and the type - D2 or D3 - all that remains is to indicate the 'odd' suit in the remainder of the distribution.

| 3. | Hearts |
| :---: | :---: |
| 3. | Spades. |
| 3v... | Other minor and start of shape signifiers |
| 3 | 6322 or 7222 |
| 3^ | 5440 or 5422 |
| 3N | 7330 or 7411 |

After the 2 N compound response, the relays lead to the same descriptions as other minor but when spades are indicated, there definitions emerge a level higher.

## Balanced Hands

These occur after 1ヵ-1 $->2 \downarrow$..The relay scheme is exactly the same one used over the Rutabaga 1* from $2 \wedge$ upwards (balanced hands bid $2 \star$ there too) but with a few range definitions.

```
2. 3+ spades 8-10 - then as 24...
2v 2 spades 8-13
2^ 3 spades exactly 11-13, now,
    3^ 3^(433), 3^\ldots= 4^/\bullet/\downarrow
    3.... CRO.
```

2N 4 spades $8-13, ~ ' 33-23 '$ (33 or doubleton outranks tripleton) then 4-3-
3-3, CRO
3. 4 spades $8-13$, ' 32 ', then CRO
3.... 4441, CRO

After the wide range $2 v$ response,

| $2 N$ | $11-13$ |
| :--- | :--- |
| 3* | $1-4-4-4,8-13$ |
| $3 \cdot .$. | $2 \wedge 443$, CRO, $8-10$ |

Notice that responder only ever gets to bid 2 N quickly if he has a maximum. I think that opener ought to be able to capture the NT declaration without sending messages.
Opener gives definition after a 2 N response ( $14+\mathrm{Bal}$ ) and this begins at 3 for $4 v$ then 5 linked minor, $3 N=2-3-4-4 / 2-2-4-5 / 2-2-5-4$
If opener relays after a 2 N response, responder bids as above but a level higher. This sequence (16+ opposite $14+$ ) is forcing to 4 N and so 3 N is a relay.

## Asking Bids

## Slam Asking Bids (SLABs)

Slam Asking Bids (SLABs) set the suit and ask for key cards. The responses are as usual except for two provisos. The first step indicates a minimum / bad hand for slam and there is an stipulation that a non-minimum has at least a key card and the trump queen. In that particular sequence (immediate 1 key card) the next step is a DCB start with the highest ranking suit.

## Step1 Minimum

Step2 0 / 3 Key cards
Step3 1/4 Key cards
Step4 2 Key cards
Step5 2 Key cards + trump queen
After a minimum response opener can ask again, any other bid by opener is a natural sign-off. The cheapest bid after the key card response is a DCB request, starting with the highest ranking suit. Other bids (not in the agreed trump suit) are SABs.

## Suit Asking Bids (SABs).

These ask about specific holdings. The order is:

Cheapest SAB
Next SAB
Next SAB

Lowest ranking longest side suit.
Next lowest ranking longest side suit.
Shortest suit.

Last SAB
Trumps.
The responses are:
Step 1 KQ or no honour.
Step 2 K or AQ .
Step 3 Q or AK.
Step 4 A.
Step 5 AKQ.
This is really first step is ace or complement, next is king or complement etc. but with no-honour replacing ace for the first step.
After a SAB responder may terminate as before or employ another SAB. Any suit skipped over remains on the list SS style but the previous ask is deleted.

Relay Breaks and Trump Asking Bids

## Observations

## Background

| Shape | Proportion per <br> Million Hands |
| :--- | ---: |
| D1 4-4-3-2 | 215512 |
| D2 5-3-3-2 | 155168 |
| D0 5-4-3-1 | 129307 |
| D3 5-4-2-2 | 105797 |
| T3 4-3-3-3 | 105361 |
| D3 6-3-2-2 | 56425 |
| D0 6-4-2-1 | 47021 |
| D2 6-3-3-1 | 34482 |
| D1 5-5-2-1 | 31739 |
| T4 4-4-4-1 | 29932 |
| D0 7-3-2-1 | 18808 |
| D0 6-4-3-0 | 13262 |
| D2 5-4-4-0 | 12433 |
| D1 5-5-3-0 | 8952 |
| D3 6-5-1-1 | 7053 |
| D0 6-5-2-0 | 6511 |
| T2 7-2-2-2 | 5130 |
| D3 7-4-1-1 | 3918 |
| D0 7-4-2-0 | 3617 |
| D2 7-3-3-0 | 2652 |


| Shape | Proportion per <br> Million Hands |
| :--- | ---: |
| D2 8-2-2-1 | 1924 |
| D3 8-3-1-1 | 1176 |
| D0 8-3-2-0 | 1085 |
| D0 8-3-2-0 | 1085 |
| D1 6-6-1-0 | 723 |
| D0 8-4-1-0 | 452 |
| D3 9-2-1-1 | 178 |
| D0 9-3-1-0 | 100 |
| D2 9-2-2-0 | 82 |
| D3 7-6-0-0 | 56 |
| D3 8-5-0-0 | 31 |
| D0 10-2-1-0 | 11 |
| D3 9-4-0-0 | 10 |
| T1 10-1-1-1 | 4 |
| D3 10-3-0-0 | 2 |
| D2 11-1-1-0 | 0 |
| D3 11-2-0-0 | 0 |
| D3 12-1-0-0 | 0 |
| T0 13-0-0-0 | 0 |

## Examples

From Australian Bridge 'Bidding Challenge':
Hand 2

| J64 | A75 |
| :--- | :--- |
| AQ7 | K10863 |
| AKQ72 | J1094 |
| A6 | 7 |

1\% 2\& Hearts and diamonds
2. $3 \approx \quad$ Higher fragment - so 3541

3• $3 \vee$ Min (3* agrees hearts, $3 \vee$ diamonds and $3 \uparrow$, spades)
3. 4. 2KC

Hand 7

| A752 | KQJ103 |
| :--- | :--- |
| A2 | KQJ |
| A | KQ6 |
| AQ9873 | J2 |
| $1 \approx$ | $1 \backsim$ |
| $1 \uparrow$ | $1 N$ |


| 2. | 2N | Long hearts, therefore $5-3-3-2,11+$ |
| :--- | :--- | :--- |
| 3. | $3 \uparrow$ | 1 KC, non minimum, therefore trump queen as well. |
| 4* | 4. | No club control ( $3 N T$ would start denial cues with $\varphi$ ) |
| 6. |  |  |

Hand 8

| KJ | AQ87652 |
| :--- | :--- |
| K853 | 764 |

A72
AKJ10 Q3
1* 1 -
$1 \wedge$
2.
4.

5*
6 N
1 N
3. Long hearts, short diamond, 7321
4. non-min (?) 1KC and so +SQ (judgement still...)
5. $\quad$ CQ (or AK, opener's $4 \mathrm{~N}=$ start DCB so $5 *=\operatorname{SAB}(*)$ )

NB also be possible to play spades from west.

