# All Blacks v 2005 Lions

## An evaluation by Lee Smith

To identify the origins of the playing pattern currently employed by New Zealand during the recently concluded series against the 2005 British and Irish Lions, one must look back at the success of All Black teams last century. The pattern is quite simple: apply maximum pressure on the opposition continually, both during attack and defence. In defence this pattern denies the opponents time and space, reducing options and forcing the attack to choose an inferior alternative. In attack the team works as a unit to create space and then attacks this space, either laterally across the field or linearly down the field. To play to such a blueprint demands a team pattern and a very high level of individual skill regardless of the player's position.

The new brand of free-thinking player - New Zealand flyhalf Daniel Carter makes his mark on the All Blacks v Lions series.

# Mexico – Rugby in a new marketplace

## By Miguel Carner

The Mexican Rugby Union (MRU) was formed in 1972 by Walter Irvine and his English, French and Mexican friends. His son Andy Irvine followed in his footsteps and worked very hard for the following ten years, developing Mexican rugby to its then strength: 14 senior sides and 7 junior clubs. When Andy Irvine left the scene, the game took a nosedive and by 1999 only four teams were left in existence, all based in Mexico City. A new administration took over in 2000 and we decided to re-inject the missing passion and zest into the decaying game.

Historically, Mexican rugby has kept the country's sports authorities at arm's length. This time, it was obvious that if we wanted to build a lasting structure, we had to become the official body, governing and developing rugby in Mexico, and recognised as such by the Mexican government and the IRB. After four years of legal battles we can now call ourselves the Mexican Rugby Federation. We made numerous changes to our charter, pressurised the clubs into becoming legally constituted entities, got all the paper work done and called a General Meeting to get everyone to vote those changes into effect. I am pleased to report that we now have excellent relations with the Mexican Sports Confederation and the Mexican Olympic Committee and have become members of the IRB. We set up a little office in downtown Mexico City, with a PC, fax and telephone, serviced by our brave part-

Mexican Rugby - a brave new world.

time secretary, Dona Mary. We are present on the Internet, have registered with the tax authorities, have a bank account and a legal advisor. In other words we have a 'visible' existence and could start 'selling' the game in what is by all accounts a very crowded

sports marketplace. It helped that I myself was a 'rugby convert' from the age of 14. I am absolutely convinced that the easiest way to attract a kid to rugby is to show him some spectacular

## All Blacks v 2005 Lions – An evaluation by Lee Smith

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Historically the pattern has been based on forward power and, with some exceptions, it was forward domination that laid the platform for All Blacks' success. In many respects the application of such a pattern during the amateur era was possible because, with the exception of South Africa, New Zealand was the only international team with a professional outlook. Rugby provided the athletes with the greatest 'return' as well as national and international recognition if selected. As a result the country's best athletes were attracted to the game.

The professional era has created both an incentive and the resources for unions around the world to advance their standard of play. Unions in large countries with strong economies, where the game was well established and developed in depth, have seized the opportunity to progress their standard of play. As a result these unions - South Africa, England, Australia and France - have been able to challenge the All Black dominance, their forward platform in particular.

England, for example, built a playing pattern based on dominating possession, which meant they played for field positions from which they applied pressure, as they 'camped' in the opposition 22, scoring by any of the three methods. The pressure in the 22 was based on close support at the tackle, enabling them to both retain possession and move forward. That brought them success.

### Meeting the Challenge

It is a known fact that success does not create pressure for change – "if it ain't broke don't fix it" they used to say. But while the team at the top is going through a period of sub-conscious complacency, 'the pack' chasing them are working out means and ways to combat the successful pattern. This is what appears to happen in Europe, particularly to Wales and to a lesser degree Ireland, as this year's Six Nations indicates.

Finding alternatives when in difficulty has been part of the New Zealand rugby culture, borne out of geographical isolation. More by challenging themselves to move forward on a broad front, rather than addressing the decline in forward domination specifically, the NZ game has evolved considerably

without losing sight of the fact that possession is still 90% of the game. The point they emphasise is that in the case you only break even, it is what you do with the possession you win that matters. It was not an instantaneous process overnight.

Such a broad approach slowly developed the ability to apply pressure in attack at the point it would pay the greatest dividends. By overloading a particular point of the defence a pressure point was created, even if none seemed to exist earlier. As the defence adjusts to the attack small amounts of space are created elsewhere and, with the continuity of play, the amount of space available could be increased.

The most important skill required to play like that is the ability to 'read' the game, to create space and to know where and how to exploit it. In other words it implies that the players are given, within reason, the brief to think and choose the optimal option, basically to express themselves – i.e. giving the game back to players.

During the period of so-called 'possession uncertainty' in New Zealand rugby, the soul searching process led to the adoption of foreign models. Some were adopted with discrimination because they fitted with NZ rugby culture, while some were adopted indiscriminately simply because they were successful elsewhere. This was clearly wrong, as one model does not fit all teams. In two RWC semi-finals the team gained a fair share of possession, but played laterally across the field trying to find space in a defensive alignment which outnumbered the attacking one. When the line was attacked it was often done individually, isolating the ball carrier, delaying the re-cycling of ball and sometimes leading to turnovers. Out of frustration, possession was kicked away in the hope that it would produce something. As we are seeing now the solution is to attack the defensive line, collectively piercing it.

The other flawed model was sequential play, because it denied the player the ability to react naturally to developments in front of him. Besides, this type of game is very easily analysed by computer. A further flawed model was that emerging in the early days of professionalism, with professional team managements taking over, out of



The range of skills of the modern player emphasised by New Zealand's loosehead Greg Somerville.

insecurity, all aspects of a player's life.

Along with modern technology, the All Black team has developed options based on the need to use limited possession well, while giving themselves the ability to apply pressure on many more fronts. The French word 'polyvalence' comes to mind, the multi-skilled players who bring together a wide range of skills without sacrificing the specialised skills needed to get the ball. The use of the ball that can be sustained over many phases of play has reduced the number of set pieces, but it has magnified their importance because of the number of phases each set piece generates.

As a result of this, we have systems of play in which applying pressure is the key and this pressure creates options. The skill is in selecting and performing the option that is chosen by not just the ball carrier but by support that immediately tunes in to what is 'on'. This is the basis of the pattern. It is something that cannot happen in a short period of time.

### Some Specifics

In order to learn from the test series there are other aspects of play that can be looked at more closely:

*1. Grubber Kicking*
The first test could be called the 'Grubber Kick Test' because this was a

skill that could lead to an advantage, but which was performed badly. Going from right to left, the kick is made by a player who attacks the outside gap and, when the player is in the gap and there is space ahead, the kick is made with the left leg, the leg furthest from the inside defender. Going from left to right, the right leg is used.

*2. Exhausting the Channel*
By attacking the defensive line as a group down the same channel as the ball carrier, the channel can be progressively penetrated as the number of attackers multiplies while the number of defenders shrinks, as the defence will be reluctant to move out of their lateral formation.

*3. Off-loading*
The most secure of off-loads for the ball carrier are those that are closest to and on the opposite side to the tackler.

*4. The Flat Backline*
If the attacking line has the skills and acceleration to play flat i.e. close to the attack, then the slightest error by the defence enables the attack to go forward far enough for support to run forward towards the ball.

*5. Openside Flanker*
Teams must not compromise on the selection of a specialised openside flanker. In this position the amount of contact

## Corris Thomas' verdict

**The IRB Game Analysis Centre has evaluated the statistical aspects emerging from the Lions tour of New Zealand. We publish edited highlights of the report due to be published shortly. There was a danger in grouping all 11 tour matches into one category, due to the considerable variation in playing standards and experience of the opposition, which could have given a somewhat misleading picture of the profile of the tour, writes Corris Thomas. The report deals therefore with three categories of matches, a) the lead-up matches, b) the Maori match, c) the tests**

*a) Lead-up matches*

In winning all five lead-up games, the Lions averaged 30 points per game, while the opposition average was 15. All five matches had differentials that were close to this figure: 14, 12, 17, 11, 10. The relative closeness of the games indicates that the Lions did not dominate the scoring in these matches. Overall, the Lions had just 14% more possession than their opponents.

*b) Lions v Maoris*

The match against the Maoris proved to be noticeably different from the other lead-up matches and also proved to be an indicator of what was to happen in the ensuing test matches.
• the Maoris had 30% more possession than the Lions
• the Maoris made 85% more passes – 150 passes to the Lions 81
• the Maori back five made a total 34 passes, while the Lions made just 9.
• the Maoris made 65% more rucks/ mauls - 89 to the Lions' 54
• the Maoris rucked and passed at a noticeably higher rate.

*c) The tests*

The five lead-up matches to the first test, and especially the match against the Maoris, had suggested that the Lions would find it difficult to obtain and retain possession at test level. This proved to be the case, - New Zealand obtained 47% more possession than the Lions in the first test. In addition, New Zealand were considerably more effective at turning possession into points.

*After the first 2 tests:*
• New Zealand had obtained 30% more possession than the Lions
• New Zealand had outscored the Lions by 7 tries to 2.

*In the third test however:*
• the Lions had 28% more possession than New Zealand
• but New Zealand still outscored the Lions by 5 tries to one, extending the total try gap to 12 tries to 3
• In that game, New Zealand scored 1 try for every 2min 55 secs possession
• The Lions scored 1 try for every 18 min 38 secs possession.
Over the 3 tests, New Zealand scored a try for every 4.4 mins possession while the Lions required 16 mins possession to score a try (see pages 6-7 for a comparison between the 6 Nations and the Tri-Nations).

*The passing game*

Throughout the three match series, New Zealand were far more likely than the Lions to involve all 15 players in handling the ball.
• The New Zealand forwards received almost twice as many passes as the Lions forwards
• The New Zealand forwards made three times more passes
• New Zealand forwards made 24% of all new Zealand's passes
• The Lions forwards made 11% of Lions passes
• Of the 276 passes made by the Lions, their forwards made 31, an average of 10 per game – New Zealand's forwards made 90
• The Lions backline - excluding the scrum-half - made three and a half times more passes than the Lions forwards
• The New Zealand backline made just one fifth more.
Not only did New Zealand pass more, they passed, rucked and kicked at a higher rate than the Lions as well as being noticeably more successful at restarts.
What the data shows is that not only were New Zealand able to dominate possession and convert possession into points more effectively than the Lions, the level of activity and the overall pace of their game was far greater.

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takes its toll on players. Both in a game and over a number of games, any decline in the performance of this player has a greater effect on the team's performance than any other position.

*6. Avoiding Complacency*

A team cannot become complacent when they have had great success playing a particular style. The constant upgrading of a team's pattern of play is difficult to do when this occurs and few teams can sustain success because of this. What tends to happen as a team ages is that they seek to be even more competent within their original pattern of play. When they do this they frequently become less expansive and have difficulty moving from a more restrictive pattern to a more expansive one when the situation demands.

*7. 'Plan B'*

When a team that relies on 'dominating possession' as the foundation of their playing style and that domination does not eventuate, they need a plan 'B' and the skills to change.

*8. Polyvalence*

The game has become even more demanding, with all players having to be competent in a great range of skills in addition to their specialised positional skills. They are also required to identify roles in dynamic play and, as the play unfolds, perform them successfully.

## Conclusion

In conclusion, the New Zealand v 2005 Lions test series showed how quickly the game is changing. Great progress has been made in fitness, skill, management, game analysis, mental skills and administration. However, the improvement that can be gained from committing greater resources to them is diminishing. In some aspects, to do more may well have a negative return. Rugby is not a game in which variable quantities of the above ingredients, based on positional needs, are poured into a beaker, shaken up and then you tip out the players you need. The real challenge is to move into the difficult area of coaching, one that will generate a greater marginal improvement than those listed above, one that has been neglected. That aspect of the game is game sense, tactical thinking and decision-making. The challenge is to create these situations frequently at practice so that the ability to make the successful decision is enhanced. Many situations happen too infrequently in a game to make a marked improvement. It is in this that the challenge of 'Total Rugby' exists. *Lee Smith is IRB RDM for Oceania*

# Dealing with governments

**By Christopher A. Nascimento**



**Historically, governments consider the development of sport as a social obligation and as part of a country's educational and health development. Here, in the West Indies, cricket dominates over all other sport and attracts substantial government attention and funding, as it does commercial sponsorship, and is really the only sport which benefits from broadcasting sales and gate money.**

In the West Indies, for obvious reasons, rugby cannot at present be marketed to governments as a sport attracting large numbers of voters, anymore than it can be marketed to commercial sponsors as attracting large numbers of spectators or television audiences, though it can be marketed to some extent as a sport which attracts very large international audiences. Here television plays an important role. Rugby World Cup 2003 helped introduce rugby on television into homes in Guyana, which had never heard of rugby, and has helped the GRFU promote the sport. How then can we market a small but gradually growing sport that so far has extremely limited spectators, to government, which itself has limited budgets for spending on sport? There is obviously no

generally applicable formula to fit every country, but there are five basic rules which I recommend to attract government sponsorship and support.

### Rule 1: Administration & Financial Accountability

Ensure that your sport is efficiently managed and administered and that this is recognised by the government's sports administration. The IRB requires each union in membership to submit a strategic development plan with target goals we must meet in order to justify our trust grant.

Share this with the National Sports Commission and the Ministry of Sport or the appropriate agency of government. Let them see and believe that your union has a plan and that you

West Indies celebrate - government support a key to success in the region.

are organised, that you have growth targets you are prepared to meet and, most of all, that you are serious about the administration of your sport.

Submit your plan and your budget and your audited statement of accounts at the beginning of each year to the government. Demonstrate that you are financially accountable and responsible. Let them see that the money you receive from the IRB, from the government and from commercial sponsors is productively invested and accounted for.

### Rule 2: Annual Elections

Ensure that you have regular (annual or bi-annual) elections, which are democratic, properly conducted and transparent and that the results are publicised. The union president should submit immediately to the government and to the press, a comprehensive annual report, which adequately and honestly reviews the union's performance for the year.

### Rule 3:
**Cultivate the Government**
Use every means at your disposal to cultivate the minister responsible for

# A practical view of fund raising

**By Richard Adams**



**I do not profess to be an expert in marketing but I have had some practical experience in raising funds, which might be of value to other small unions like ours. There are many well-off businessmen in the Cayman Islands, but clearly, they did not get wealthy by giving away money. So how best to convince these businesses, who had been turning down the union's requests for funding for years, to invest their hard earned dollars in rugby?**

To start with, I believe it is necessary to have a product to sell. Both development and the elite national sides have marketing potential. These programmes have to be clearly defined and publicised through the media (i.e. newspapers, email, Internet, television and the all too often forgotten radio). If you have someone willing to send in information or show up regularly, then most will give you time at no charge, as they are happy for the filler material. It may take a year before they realise that you are going to keep giving them information but once you have gained their trust you will get regular features.

**Step 1:** First we looked at potential advertisers – who was actually advertising and what product. This at least told us who had a marketing budget. We then investigated the cost of these ads as well as the products being advertised. Next, we looked at the demography of our members, parents and associates and decided which products best suited our membership. Armed with this information we developed a package that cost considerably less than their current advertising campaign and reached more of their target population, primarily through sponsorship of children.

Sponsorship of children costs considerably less and reaches more of the target population.

**Step 2:** We approached each potential sponsor armed with four important pieces of information:
- We know your product
- We know roughly what your advertisement cost
- We have a large contingent of our membership involved in your business

- We would like to offer you a chance to get involved at a much lower cost and reach all of these people who have an active interest in your business.

**Step 3:** We asked each of these sponsors how they would like to spend their money. They could:

sport and his/her senior staff and, if there is one, the chairman of the National Sports Commission and his/her staff.

Do your best to interest them in rugby. Make every effort to invite these dignitaries to major rugby tournaments and events and if possible, have them officiate at international tournaments hosted by your union. When your union receives financial support from the government, ensure that you give it full recognition in the media. This, of course, applies equally to support from the business community.

## Rule 4:
### Cultivate & Train the Media

Regular media coverage of your tournaments and activities and not just international tournaments is achievable by making contact with sports editors and reporters and introducing them to the game and by putting out regular press releases reporting the results of club games and tournaments. In Guyana, for instance, the sports media had little or no interest in rugby as recently as five years ago and not a single reporter knew enough to report a game. It is an educational process

that takes time and effort but it is well worth it. Today, we have at least three sports reporters who can report the game with knowledge. We have managed to persuade the government television station to carry a weekly half hour programme on rugby.

## Rule 5:
### Promote Sports Tourism

Increasingly, as previously observed, sports and tourism go hand in hand. International and even regional tournaments attract visiting supporters who may be attracted to spend some of their time exploring the country. Government ministries responsible for tourism are interested in exploiting this possibility. In Guyana, the Ministry of Tourism, as in other West Indian countries, will put major sporting events on their tourism calendars. Make certain that this includes rugby. Each country, of course, is different and must find its own approach to winning government support. In this paper, I've offered some thoughts and ideas, mainly based on our experience in Guyana, and I hope that these may be helpful to other unions in countries of similar size and circumstances.
*Christopher A. Nascimento is the President of Guyana RFU*

- Sponsor a tournament
- Sponsor a team
- Sponsor a competition or league
- Sponsor equipment
- Sponsor advertising boards, flags, post protectors

The secret has always been as much radio, TV and newspaper coverage as possible before and after the event, especially highlighting the wonderful work that is being done with the developing youth of the nation, province, town or village and the excellent values that are being passed on. Without these sponsorship dollars this would never happen. We have stuck with this programme for five years.

Our sponsorship budget has grown with our programmes. Five years ago we had less than one hundred and fifty players of all ages and an operating budget of some $150,000 annually. We now have

almost three thousand players and our junior budget alone cost more than $150,000. So while the IRB and government grants account for about 15% and memberships about 15% the other 70% comes through sponsorships.

Sponsorship of tournaments is often cheaper than other forms of marketing. One of our sponsors who deals in real estate spends $5000 a fortnight on advertising a full page spread in the local paper. For the same amount we held a tournament, gave each kid a T-shirt with the sponsor's name on it, a ball with the sponsor's name on it and all the media coverage they could handle. A few weeks on, the T-shirts are still everywhere in the schools along with the balls - now that is some kind of advertising.

*Richard Adams is Technical Director of the Cayman Rugby Union*

# Mexico
## Rugby in a new marketplace

action on TV, take him to a rugby ground, give him and his friends a ball and teach them the basics. In 80% of the cases the youngsters will be bitten by the 'rugby bug'. The Internet site has played its part, enabling any potential enthusiast to get in touch, and be offered a chance to play.

The biggest problem we face is that rugby is not on free-to-air Mexican TV. We do get rugby in Mexico on cable, on either ESPN Sur or Fox TV, but they schedule rugby late at night, or very early in the morning. Besides, buying a rugby jersey, or ball in Mexico was simply impossible. We have not made much progress with the Mexican free-to-air TV, but an independent sports producer at A&M Sports became interested in recording our league matches and a specialist Sky Sports Channel and PCTV, a regional cable channel in Mexico City, are broadcasting the games. Additionally, the increasingly large coverage afforded by rugby on Fox, ESPN and the French channel TV5, has helped tremendously.

Making enough balls to supply the budding Mexican market was another project. After a failed attempt with an artisanal craftsman, 'Don Pepe' from the provincial state of Guerrero, we were lucky to strike a deal with a big international company, Voit, who incidentally had an enterprising young Mexican as their CEO. They were very keen to help, as they were trying to develop products that could be competitive on the Argentine market, and soon we got 200 newly manufactured balls, made to specification in Pakistan. The same happened with the jerseys. Deportex, a leading Mexican sports textile manufacturer, developed a good quality synthetic fabric, that could dye easily in a variety of patterns and colours we needed for our clubs, and in the first year we sold more than 150 sets.

It is three and a half years since we commenced and we managed to bring back the game to the levels of the 1980s: 9 senior clubs, 4 junior teams, 5 women's teams plus a mini section with about 30-40 kids who gather every Sunday to play. The game has spread from Mexico City to Guanajuato, Celaya, Cordoba and Guadalajara and next season we aim to start mini sections in Puebla, Oaxaca, Monterrey, Merida and Cancun. We are aiming to get 'Total Rugby' and the next RWC on free-to-air Mexican TV, but more significantly, we plan to build our National Rugby Centre, near Mexico City, with grass-covered rugby pitches, as grass is a very scarce commodity in a city of 22 million perched high in the mountains. In order to make all our plans reality, we need to move up a gear. We need a full-time manager able to cope with the enormous workload likely to develop and, obviously, a great deal of financial support.

| MEXICAN RUGBY FEDERATION | |
| --- | --- |
| MIGUEL CARNER | President |
| PABLO SEPTIEN | Development Vice-President |
| EUGENIO ABURTO | Technical Vice-President |
| PASCALE MONIER | Women's Rugby |
| FRANCISCO ECHEGUREN | Media Comissioner |
| CARLOS DE LA CRUZ | Disicpline Commissioner |
| ROD DAVIES | Referees Commissioner |
| JAMIE JOHNSTON | National Team Manager |
| DIEGO GOMEZ | National Team Coach |
| ENRIQUE GOMEZ | International Relations |
| FRANCISCO GUERRERO | Children's Rugby |
| ALBERT HERNANDEZ | Children's Rugby |
| HERNAN BARBIERI | Children's Rugby |

# Tri-Nations 2004



Tri-Nation champions South Africa scored 1 try for every 4.5 minutes of possession.

**An interesting parallel between the two competitions suggests that there is not only a strong resemblance between the quantitative element evaluated and extrapolated by Corris Thomas of the IRB Game Analysis Centre, but an equally appealing similarity between the playing styles, which questioned some commonly held perceptions about the modern game. Indeed, in both Tri-Nations 04 and 6 Nations 05 there were many similarities with previous years: roughly similar scoring profiles and kicking success rates, ball in play, possession retained at set pieces were the same, and equally significant there were strong similarities between the profiles of the game played by the nine teams. Chris Thau has compared the two sets of data.**

In 6 Nations 05, in the 15 matches the six teams scored 671 points, an average of 45 points/game, while in the Tri-Nations 04 272 points were scored in the six matches, for an identical average of 45 points per match. The quantitative analysis of the two competitions provides uncannily similar figures:

| | **6N05** | **TN04** |
|---|---|---|
| **Av points per game** | 45 | 45 |
| **Av tries** | 4.7 | 4.3 |
| **Av penalty goals** | 4.4 | 6 |
| **Ball in play** | 44% | 43% |
| **Av passes per game** | 264 | 251 |
| **Av rucks/mauls** | 147 | 157 |
| **Av kicks per game** | 62 | 50 |
| **Av lineouts per game** | 34 | 32 |
| **Av scrums per game** | 20 | 21 |
| **Av penalties per game** | 20 | 23 |
| **conversion success rate was** | 66% | 65% |
| **penalty goal success rate was** | 65% | 69% |

**Similar factors emerge about the mode of play:**
The average length of a match in 6 Nations 2005 was 91 mins 24 seconds, while in 2004 Tri-Nations, 92 mins 15 seconds. In the 6 Nations 05 the longest match time was 96 mins 28 secs, while the shortest was 84 mins 54 secs; In Tri-Nations the times were 86 mins 32 secs for the shortest and 97 min 55 secs for

| 6 Nations 05 | | |
|---|---|---|
| 47 | converted tries | 329 |
| 24 | unconverted tries | 120 |
| 66 | penalties | 198 |
| 8 | drop goals | 24 |
| | **Total** | **671** |

| Tri-Nations 04 | | |
|---|---|---|
| 17 | converted tries | 119 |
| 9 | unconverted tries | 45 |
| 36 | penalties | 108 |
| 0 | drop goals | 0 |
| | **Total** | **272** |

the longest. In percentage terms, the 2005 6 Nations matches produced the following ball-in-play times 36%, 38%, 39%, 41%, 42%, 44%, 44%, 44%, 45%, 46%, 47%, 47%, 48%, 49%, 55%, to make an average of 44%, while in the Tri-Nations 04 matches 39% had the following ball in time percentages: 39%, 42%, 43%, 44%, 45%, 46% – an average of 43%. However, in one game this year – Scotland v Wales – the highest ball in play ever was recorded – 43 minutes 45 seconds or 55%.

| Ball In Play (BIP) | | |
|---|---|---|
| RWC 91 | 24m48s | 31% |
| RWC 95 | 26m43s | 33% |
| RWC 99 | 30m35s | 38% |
| TriNations 2004 | 34m33s | 43% |
| 6 Nations 2005 | 35m28s | 44% |

Six Nations 2005 was a tournament of contrasts and extremes – both from match to match but also from team to team. The tournament seems to confirm what Tri-Nations 04 had suggested, i.e. that possession was not a guarantee of success. 6 Nations 05 was a tournament where one team – Wales – showed a noticeably different pattern of play from the rest and confirmed that the domination of possession and greater activity was not a guarantee of success. The similarities between the playing styles of the two winners may indicate a certain shift in the game, and if the pattern is replicated this year however it could suggest that the game may well be moving in an interesting and exciting direction.

**In 6 Nations 2005, Wales:**
• in all but one game had less possession than their opponents
• made fewer passes than England, noticeably fewer rucks and mauls
• they put the ball into touch noticeably less than any other team and, unlike the other countries, kicked long at almost every restart.

**In Tri-Nations 2004, South Africa:**
• obtained far less possession than the other two teams
• created noticeably fewer rucks and mauls
• made significantly fewer passes and
• had a rate of rucking and passing that was markedly less than the other two countries.

Both the Welsh and the South Africans were however more efficient at converting possession into tries. New Zealand and Australia had more possession than South Africa by large margins. New Zealand had actually 40% more possession and Australia 11%. England had more possession than their opponents in all 5 matches. The average time in possession of the

| England | 21m 17s |
|---|---|
| Scotland | 18m 12s |
| Wales | 17m 14s |
| France | 17m 05s |
| Italy | 16m 33s |
| Ireland | 16m 04s |

ball by each 6 Nation team was: While these statistics are revealing and indeed exciting, their limitations are clearly exposed by the table below. While it shows a clear similarity in terms of usage effectiveness between the South Africans and Welsh (4.5 and 5 minutes respectively), it shows that in fact the efficiency of converting possession into points (Wales was some 30% more effective than any other 6 Nations team at converting possession into tries) is a relative factor, which has a limited value in the overall assessment. The fact that New Zealand scored a try for every 20.6 minutes of possession, which puts the All Blacks at the bottom of this table is definitely less relevant

# v 6 Nations 2005

than this quantitative analysis may prove if only because it includes only four New Zealand matches and those were just against two teams.

**South Africa: 1 try/4.5mins possession**
**Wales: 1 try scored/5 min 04s**
**France: 1 try/6 min 34s**
**England: 1 try/6 min 39s**
**Ireland: 1 try/6 min 42s**
**Australia: 1 try/7.2 min**
**Scotland: 1 try/11 min 22s**
**Italy: 1 try/16 min 33s**
**New Zealand: 1 try/20.6 min**

In addition to this, South Africa were, by a long way, the most heavily penalised team in the Tri-Nations. What South Africa did, however, was to defend – and what was noticeable – they kicked more. They not only made far more kicks than New Zealand and Australia in open play but they used the kicking option at a far greater rate. Unlike the other two countries, they also attempted almost every kickable penalty.

Regarding 6 Nations, what perhaps became of equal interest as the analysis of the games progressed, was that one of the commonly held perceptions of the modern game - that backs play like forwards and forwards play like backs – was somewhat wide of the mark.

| Average/match | North | South |
|---|---|---|
| Points | 52 | 40 |
| Ball in play | 42% | 46% |
| Penalties | 20 | 20 |

The assumption that rugby is now a 15 man passing game is simply not true – at least as far as 6 Nations is concerned. Forwards seldom pass the ball. Only 15% of passes made in the tournament were made by forwards and in several matches not even 15% was achieved. Forwards therefore, while being active throughout the game in recycling and tackling are not major ball handlers. They may receive many passes but frequently that's it. Their role appears to be to create the next phase of play and not to continue the existing phase

by passing the ball. It is interesting now to see whether this tendency continues or whether the different approach adopted by Wales this year is suggestive of what may happen in the future.

The average number of passes per game in Tri-Nations was 251 (max 324, min 229) while in 5 Nations it was 264 (max 428, min 175). New Zealand led the table with an average of 148 passes per game with SA at the bottom with 98 - South Africa never once reached the tournament average of 125 passes per game. In 6 Nations 05 the six teams scored 71 tries, while in Tri-Nations04 26 tries were scored. The teams scoring the tries obtained possession of the ball prior to the scoring of the try from a variety of sources. In 6 Nations lineout possession (27 out of 71) continued to account for most tries, while in Tri-Nations the scrum (10 out of 26) was the source of most tries.

| Possession source | 6N05 | TN04 |
|---|---|---|
| Penalty | 7 | 1 |
| Scrum - own | 7 | 10 |
| Lineout - own | 27 | 6 |
| Lineout - opposition | 3 | 0 |
| Opponent's kick | 11 | 1 |
| Opponent's handling error | 8 | 5 |
| Turnover | 4 | 1 |
| Opponent's restart | 2 | 2 |
| Own restart | 1 | 0 |
| Opponent's scrum | 1 | 0 |
| | 71 | 26 |

In Tri-Nations 2004, the average number of penalties awarded in a game was 23 compared with 20 in 2003 and 24 in 2002. In 6 Nations 2005, the average number of penalties and free kicks awarded in a game was 20, compared with 23 in 2004. In 6 Nations Italy conceded most penalties (including free kicks) 54, with France second with 53 and Ireland the most disciplined at 43. In Tri-Nations last year South Africa conceded 20% more penalties and free kicks than Australia and almost


6 Nation champions Wales scored 1 try for every 5 minutes of possession.

50% more than New Zealand – by far the most disciplined of the nine.

| Country | Pens conceded/ game |
|---|---|
| New Zealand | 6.2 |
| Australia | 7.1 |
| Ireland | 8.6 |
| South Africa | 9.2 |
| Wales | 9.8 |
| England & Scotland | 10.2 |
| France | 10.6 |
| Italy | 10.8 |

The penalty count in the ruck/tackle ground area was 43% or between 4 or 5 in every 10. This now appears to be the universally expected percentage. Of these, 28% were against the team in possession. Of the 15 6 Nations matches, six were refereed by Northern hemisphere referees, and nine by Southern hemisphere referees. They penalised the teams as the following table illustrates. In Tri-Nations 04 Southern hemisphere referees averaged 23 penalties per game in their three matches. Northern hemisphere referees also averaged 23 in their three. 58% of penalties were awarded in the first half – 42% in the second. Regarding the Tri-Nations matches – there was a noticeable difference in one particular area between the three matches refereed by Northern hemisphere referees and the three by the Southern. In the

| Categories of offences penalised % | | |
|---|---|---|
| | **6N05** | **TN04** |
| ruck/tackle: on ground offences | 43 | 43 |
| offside: backs/ forwards/open play | 15 | 18 |
| scrum | 16 | 14 |
| lineout | 8 | 7 |
| plus 10 metres | >1 | <1 |
| foul play | 2 | 4 |
| obstruction | 2 | 3 |
| tackle: early/ late/dangerous | 6 | 8 |
| maul: pulling down | 5 | 2 |
| miscellaneous | 3 | 0 |

Northern case, 38% of penalties went against the team in possession (39% last year) – in the Southern however it was only 22% (19% last year). There now appears to be hardening of a slight difference between Northern and Southern hemisphere referees. Northern hemisphere referees appear more likely to penalise the team in possession at the breakdown than referees from the Southern hemisphere. It will be interesting to see if this is reflected in future matches.

# Some thoughts on the modern game

**By Pierre Villepreux**

At the top levels of the modern game there is an increasing number of phases of play on the ground (rucks). The confrontation at the gain line between players from the attacking team and often an equal number of players from the defending team extends laterally across the width of the field. This forces the ball carrier to attempt to move the ball forward by attacking the defensive wall individually, and, in an effort to maintain possession, go to ground, giving time and opportunity to the defending side to reorganise quickly and effectively. It is becoming increasingly difficult for the attacking player(s) to draw in enough defenders to the point of tackle (breakdown), and create gaps (space) elsewhere on the field through which the ball can be moved forward more effectively.

## Situations in the game

**The two most common situations are as follows:**

**A.** The attackers succeed in partly disorganising the defence, but, in the majority of cases, the ensuing ruck allows enough time for the defenders to regroup effectively across the field, even when the ball is recycled quickly. The defending side will usually commit only two or three players to contest and, possibly, regain possession at the point of tackle. The attacking side has to commit more players to the breakdown than the defending side, in order to ensure that the ball is released quickly and the ball continues to move forward as quickly as possible. However, this means that there are then fewer attacking players available to keep the ball moving forward.

**B.** The attackers fail to disorganise the defence, so in this case the defending side is in an even better position to stop the ball moving forward. The attacking side is forced to commit more players than the defence at the point of contact, which limits their ability to attack elsewhere, especially laterally (out wide). Attacking options are limited to the area close to the ruck and the individual player is forced to attempt to attack the opposition in an area where there is usually great defensive pressure.

Some players and teams manage to avoid systematically falling into the trap of engaging in an endless series of crash-ball plays, with an increasing number of rucks.

When this is the case, the role of the ball carrier is crucial, as he must be able to find a supporting runner who is in a good position to receive the ball and continue the attacking movement forward, before or during the tackle. If the ball carrier goes to ground before releasing the ball, it is often too late to ensure that the attack will continue to move forward.

So the coach must attempt to instil in the players the concept of keeping the attack alive by releasing the ball before the tackle. This means finding ways to get the supporting players constantly running in close support of the ball carrier, in such a way as to enable them to respond quickly and effectively to whatever situation is unfolding in front of them, even if and when the defenders appear to have the upper hand.

## The modern game

In these situations, there are three groups of attacking players involved:
- players in close proximity to the ball, about to intervene in order to keep the ball alive (either to maintain continuity or to retain possession when there is a ruck (Group 1)
- players ahead of the ball, positioned laterally, and out wider (Group 2)
- players arriving late at the breakdown point (Group 3).
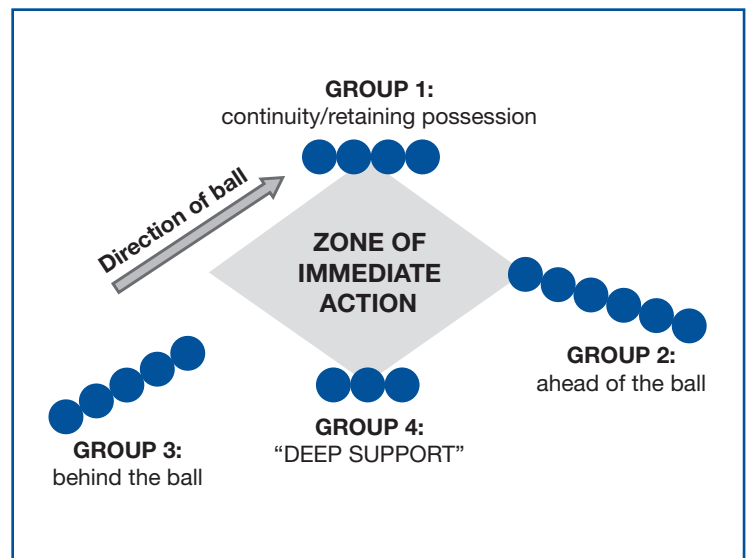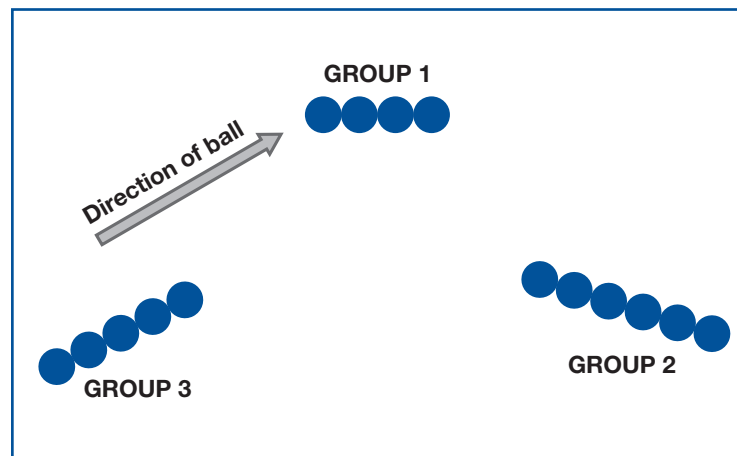


Depending on the effectiveness of the attacking side at setting up the next phase of play (whether they have disorganised the defence, or not), a certain number of players from among the three groups of attackers commit to supporting the ball carrier.

However, this kind of distribution of players will not overcome effectively enough the actions of the defending side, especially if and when the ball carrier is tackled in possession and a ruck situation occurs. To increase the chances of success for the attacking side by altering the balance of forces (which is more often than not tilted in favour of the defence), it is important to add depth to the attack by having the players closest to the ball from Group 3 move into the area located right behind the ball carrier (the so-called "deep support"), rather than relying on players from Group 1.

This "deep support" (group 4) may include 1 - 4 players depending on the location of the breakdown on the field of play and the specific situation. This does not imply that players should be assigned specific roles and responsibilities, or be given specific instructions about what to do in these situations.

Players must be given the opportunity to learn to assess how they can contribute most effectively to the continuation of the attack by recognising where they are in relation to the ball carrier and acting accordingly. Once players recognise this, they are able to participate effectively in the confrontation

between the attack and the defence, whatever the defensive pattern employed by the opposition.

## The three groups of players

**Players in Group 1 (players close to the ball carrier)**
• Keep the ball alive:
- Direct action: going forward, individually or by passing (direct retention of the ball, and support to the ball carrier)
- Indirect action: if the movement is stopped by a ruck or maul, securing quick release of the ball to enable rapid distribution (speed and appropriateness of the support play).

**Players in Group 2 (players ahead of the ball in the axis of the attack)**
• Positioned both laterally and in depth and in a position to observe the defensive alignment, where their team mates are moving, and the availability of the ball.

**Player(s) in Group 4 run in depth behind the breakdown**
• These are players of Group 3 who are behind the play, but closer to the ball. Their presence will become a real threat to the opposition.

**Late-arriving players from Group 3**
• They are the furthest from the ball because of their involvement in the previous phase of play. They move towards the ball in order to become part of the "deep support" if play moves towards the players ahead of them.

## How the system works

Initially, this is conditioned by what has just happened in the previous phase of play and more particularly by the extent to which the attacking players have been able to disorganise the defence; it comes down to three key factors:
• Continuing to move forward
• How quickly the ball is released
• The disposition of the defence.

Players in Group 1 must do everything they can to keep the ball moving forward by passing and running. The speed at which the support runners intervene is key, and when a ruck is formed, the ball should be released quickly using the least number of players required to do the job.

Players in Group 2 are ahead of the ball and should maintain their position covering the lateral spaces.

Late-arriving layers from Group 3 move towards the ball but remain available in space in order to pose another potential threat to the defence.

Players in Group 4 running in depth are available to support all the other groups:
• group 2, when play moves laterally, supporting the ball carrier or the players directly ahead of them in order to break the line of defence
• group 3, supporting the play
• group 1:
- to assist in getting the ball out
- straight from the scrum-half in the area near the breakdown where the ball is released.

Players in Group 4 require a high degree of adaptability in order to understand where, when and how to intervene, and must be ready to choose other options as the disposition of the defence changes.

To be most effective the deep support players in Group 4 should be seeing the same reference points as the players leading the play ahead of them – usually the scrum-half and the first player moving forward – who determine how play will evolve next.

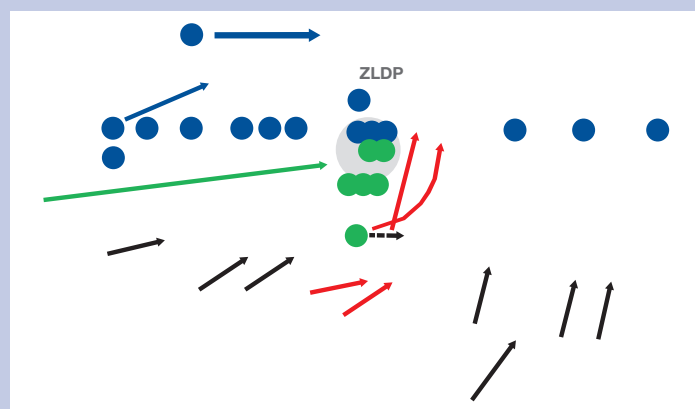## Situation 1: Ruck after the ball has been moved forward quickly.
• *Solution: Get the ball into the zone (ZLDP)*
The two players (in red) running from depth must support the lateral move.
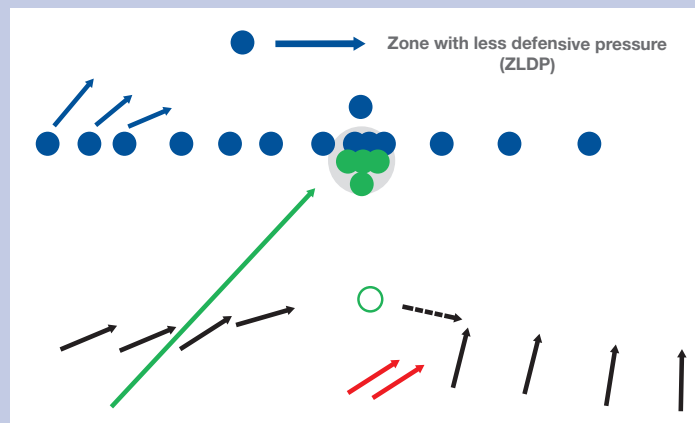


## Situation 2: ruck which has led to there being less defensive pressure on the side away from the initial direction of the ball.
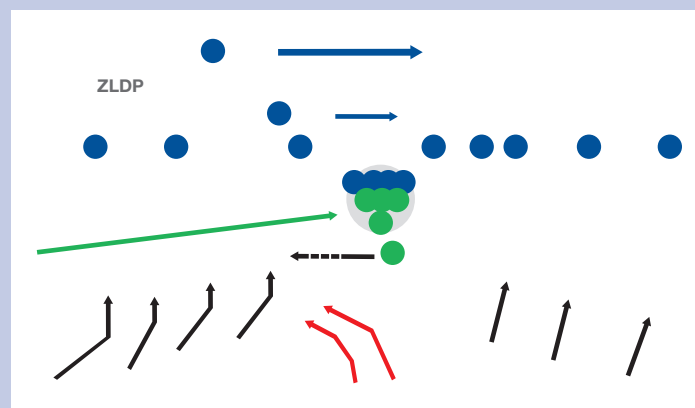


## Situation 3: the defence is weaker in the area near the ruck.





● defensive alignment

● attack

→ players

*All scenarios are possible, including parity between the attack and defence. This means that the player responsible for re-launching the attack will have to get players from deep support to run into a defensive gap (to break the defensive line), or kick the ball ahead if there is great pressure from the defence.*

*Translation Mike Luke*

# Decision Making in Rugby Football
# Revisited
## Ten years of change 1993–2003

### By Corris Thomas

**In an earlier issue of the Bulletin we presented a benchmark paper produced in1993 by the IRB RDO for Europe, Pierre Villepreux. The IRB training manager, Bruce Cooke, asked the IRB's Game Analysis Centre to evaluate the 1993 seminal document against the statistical data defining the game as it was played ten years later. The following five statements were scrutinised to investigate whether the 1993 assumptions still hold good in 2003/2004:**

• "The key factor in performance is the appropriate use of possession, rather than the amount of possession gained."

• "The most effective play (in terms of points scored: tries/penalties) is achieved when the team is capable of putting together at least 2-3 phases of play."

• "The majority of points are scored from ball won back from the opposition at the breakdown or in ruck or maul, or in broken play, e.g. producing counter attack, and much more often than from scrums and lineouts."

• "Few points are scored directly from set moves off scrum or lineout. Points are more likely to be scored from second or third phase play following these set moves."

• "The team that wins the game engages in less ruck/maul situations."

### Statement 1: "the key factor in performance is the appropriate use of possession, rather than the amount of possession gained"

Even ten years later such expressions as, "it's what you do with possession that counts not how much you get," are widely traded and there is undoubtedly a basis for such an assumption. It is not difficult to find matches where a team obtained noticeably more possession than its opponents but still lost the game. In many of these matches the winning team also lost all other aspects of the game and still managed to win. Nevertheless, more often than not it is a predictor of which team is likely to win. This can be illustrated by looking at 6 Nations 2004 and RWC2003.

In 6 Nations 2004, in 9 out of 15 matches (or 60%) it was the winning team that had most possession. In RWC2003, this difference was even more noticeable with the winner having most possession in 39 out of 48 matches (or 81%). In the last eight RWC03 matches the winning team had most possession in seven of the eight – or on 88% of occasions. Possession therefore proved to be an indicator of likely success.

### Statement 2: "the most effective play (in terms of points scored: tries/penalties) is achieved when the team is capable of putting together at least 2-3 phases of play"

This statement cannot be sustained on the evidence available. In 6 Nations 2004, 75% of all tries involved two or fewer ruck/mauls and 88%, three or less. This reflects the wider international picture. An examination of the build-up to tries of each of the participating countries in the 2004 Championship is even more revealing. The figures below show the number of tries scored by each country and the number that involved three or more ruck/mauls:

|          | Triesno. | involving 3 or more r/m |
|----------|----------|-------------------------|
| France   | 14       | 3                       |
| England  | 17       | 4                       |
| Ireland  | 17       | 3                       |
| Wales    | 14       | 4                       |
| Italy    | 2        | 1                       |
| Scotland | 4        | 2                       |

The above table shows that no team was noticeably more effective than any other team in scoring tries after continuous recycling. In fact, it was the bottom three teams in 6 Nations 2004 and not the top three that scored proportionately more tries with three or more r/m. While it is true to say that a team that can recycle effectively has an additional weapon in its arsenal, it is not true to say that the most effective scoring play is achieved when a team is capable of putting together at least 2-3 phases of play.

### Statement 3: "the majority of points are scored from ball won back from the opposition at the breakdown or in ruck or maul, or in broken play, e.g. producing counter attack, and much more often than from scrums and lineouts"

This statement has not been true for several years. In 6 Nations 2004 for example, the lineout was the major source of possession leading to tries, followed in turn by scrums and tap penalties. These three sources accounted for 60% of all tries scored. Tries scored from 'ball won back from the opposition at the breakdown in ruck or maul or in broken play (i.e. turnovers and errors)' accounted for just 23% of tries.

Such data matches that of RWC2003 where lineouts, scrums and tap penalties accounted for 62% of tries – only 17% came from opponents' errors and turnovers. It is set piece ball therefore that is the most likely


Statistically, the lineout was the major source of possession leading to tries in 6Nation 2004.

precursor of tries – not opponents' mistakes.

### Statement 4: "few points are scored directly from set moves off scrum or lineout. Points are more likely to be scored from second or third phase play following these set moves"

This statement was true in 1993 and remained so in 2004. In 6 Nations 2004, only six tries out of a total of 68 came directly from a lineout or scrum without any second phases included in the build-up to the try. Similarly in RWC2003, of the 30 tries scored during the knockout stage, only five came directly from a scrum or lineout.

### Statement 5: "the team that wins the game engages in less ruck/maul situations"

Such a generalisation cannot be made of the game in 2003/2004. While it was true in 6 Nations 2004 where the winning team created fewer ruck/mauls on nine of the 15 occasions, the reverse ratio was seen in RWC2003. There, the team that created most second phases won twice as often – 33 to 15. It was even more pronounced in the last eight matches where the winning team rucked/mauled the most in six of the eight games.

# Technical Round-Up

## Queensland Centre for Rugby Studies

### By Juanita Mottram



Centre for Rugby Studies staff: from left: Dr James Smeathers (Senior Lecturer, Unit Coordinator HMP383), Juanita Mottram (Marketing/Project Coordinator), Mr Bob Boyd (Lecturer, Unit Coordinator HMP385), Dr Michael McDonald (Lecturer, Unit Coordinator HMP389), Professor Tony Parker (Head of School of Human Movement Studies), Dr Graham Costin (Senior Lecturer, Course Coordinator), Mr David Keating (Director, Centre for Rugby Studies) and Dr Tom Cuddihy (Senior Lecturer, Curriculum Development & Special Projects).

For many rugby is just an interest, while for some it is a passion to pursue or a sport to play, but for the students, tutors and lecturers at the Centre for Rugby Studies of Queensland University of Technology (QUT), in Brisbane - located within walking distance of the historic Ballymore ground, home of Super 12 team, the Queensland Reds – the game they play in Heavens is now an academic pursuit.

Since its launch in 2001, with the support of the Australian Rugby Union (ARU) and the Queensland Rugby Union (QRU), the centre has established itself as a prestigious national and international centre of rugby learning committed to advancing Rugby Union through research, education programmes and consultancy.

Professor Tony Parker, the head of QUT's School of Human Movement Studies, has developed the initial concept for the centre, which has now established strong links with national and international sports science and medical organisations. The centre's unique Graduate Certificate can be completed through external distance education and attracts coaches, players, referees, administrators and trainers from all over the world. The course has attracted the likes of former Brumbies players Peter Ryan and Troy Jaques who are studying for the Graduate Certificate while still playing in Japan. Before being accepted at one of the centre's four units of study, participants are required to have an undergraduate degree or relevant work experience in the field of rugby.

''I was interested in doing the rugby course to expand my knowledge of the sport and in doing so I've increased my knowledge of the larger playing field, in the areas of human movement, biomechanics and sports psychology,'' said recent graduate, Leighton Higgo.

A growing number of research initiatives are nurtured at the centre, including that of Norikazu Yao, a student from Tokyo, Japan, who is working on a project on the impact of auditory perception and rugby passing skills.

During RWC2003, the centre hosted an 'International Conference on the Science and Practice of Rugby'. Speakers included ex-Wallaby greats, John Eales and Tim Horan, as well as former Australian coach, Rod Macqueen, Canada's former captain, Gareth Rees, IRB's Regional Development Manager for Oceania, Lee Smith, and Dr Preston Wiley of the IRB Medical Commission. *Juanita Mottram is the CRS Marketing Coordinator.*

# Law Experimentation

### By Bruce Cooke

**SA RUGBY**        **UAR**

A change in the law-making process of the IRB has allowed for proactive planning in the area of law changes. As a result of the November 2004 meeting of Council there were a number of proposed changes to law that necessitated experimentation. Some of these proposed changes came as a result of the conference on the playing of the game, and others from unions in membership of the IRB.

As a result of discussions with unions, a planned union-based approach to this process was implemented through the IRB's Rugby Services Department. This included a proper implementation process at an appropriate level of the game as well as agreed indicators and measurement which link to the playing charter. Coaches, players and referees involved in the experimentation trials, will all have input into the evaluation process. Unions who are in the process of experimenting with these proposed law changes, and the laws of the game with which they are working, are outlined below.

**(UAR) Argentine Rugby Union:** Law 8 - Advantage. The signalling and verbal indication of advantage is the area of experimentation. This was being undertaken in the Under 23 National Provincial Championship.

**(SARFU) South African Rugby Football Union:** Law 19 - Touch and Lineout. In summary the experimentation will revolve around:

when is the ball in touch?; kicking into touch from inside the 22m line after taking the ball back inside the 22m line; penalty kick into touch - who gets the throw into the lineout?; lifting in the lineout; numbers in the lineout. These law experimentations were taking place during the National Provincial Under 18 Academy Week in Upington. The outcome of these experimentations will be presented to Council in November. *Bruce Cooke is the IRB Training Manager*



SARFU to experiment on law 19 - Percy Montgomery kicking into touch.

# Coaching Defence and Attack
## The view of the practitioners

### John Mitchell's practical guide for coaching defence★

1. Statistical evidence shows that defence wins games and that, if time is pressing, it is better disproportionately spent on defence to get a result.
2. Patterns and individual roles should be planned for scrum, lineout and phase play. Phase play may be modified for those on the right and left sides of the field.



Alignment is a crucial factor for successful defence (3)

3. Align in relation to team mates, not getting ahead of those inside and opponents, being in a position to move up and across into the tackle.
4. Get off the line quickly to close down time and space.
5. Go directly forward after positioning in the channel between two attackers.
6. After closing down most of the space use "reactive agility" to keep moving at a slower speed so that adjustments can be made to the behaviour of the attack.
7. Tackle to contest the ball based on the situation. This may depend on the 'match-up' with the relative strengths of the ball carrier and the tackler being taken into account. The overall aim is to regain possession, but this may take some time, so initially the aim is to stop forward movement and contest the ball. This may be by the tackler or the tackler and support players. In this second example the tackler stops the forward movement by taking away the legs and the support player contests the ball.
8. If a pass is made, the defender maintains the line for at least two further passes to defend cutback moves.
9. The quality of tackles can be graded and points allocated based on effectiveness. The highest mark can be given for a turnover, the next for preventing forward movement and delaying the recycling of the ball, the next for preventing forward movement, the next for completing a tackle and no marks given for a missed tackle.
10. Players should move into tackles with their arms in the ready position. Players with their arms down react by raising them, causing high tackles.
11. As play continues it becomes more and more important not to infringe because, in infringing, the player negates the effort of all those in the preceding play.
12. As a guide at the post-tackle our shoulders must be under theirs.



Danger of high tackle! (10)

### Aussie McLean's practical guide for coaching attack★

1. The defence gives the attack its options in time and space. It is therefore important that when a player is tackled the tackler is noted to give the attack a signal as to what the defence is doing.
2. Defenders who drift give the ball carrier more time on the ball and more time to manipulate the defence.
3. Players should avoid ball watching, as by doing this they don't see the options available, especially those wide out.
4. Under current practice the No8 taking the ball from scrums merely creates the opportunity for a defensive screen unless a substantial advantage is created.



"The No8 taking the ball from scrums merely creates the opportunity for a defensive screen unless a substantial advantage is created."(4)

5. The skills of attack apply to all players just as the skills at the tackle and post tackle do. This is emphasised by the number of phase plays that exist in the game.



"The skills of attack apply to all players." (5)

6. Decisions are made based on the following criteria:
   a. Attacking numbers compared with defensive numbers
   b. Mis-matches at a particular place in the defensive line
   c. The use of the width of the field
   d. The grouping of players at points across the field.
7. Decision-making will be further helped by recognising the characteristics of individual defenders:
   a. The type of tackle they most likely make
   b. The defender looking in
   c. The defender who rushes across the field in the drift
   d. The defender who rushes up out of line
   e. The defender who is a ball watcher
   f. The defender who lacks pace and stands wide to compensate for this.

★ Notes taken by Lee Smith

# Practice for the thinking backs

## By Ian Foster


"Accuracy in doing the simple things, like passing well under pressure."


"Use support players to continue the attack."

## Performance Goals

• Accuracy in doing the simple things well under pressure.
• Reacting to the positioning of the opposition.
   – Are the numbers in the line equal to, greater than or less than ours?
   – Are they spread across the field or are they bunched?
   – Are they flat and close to us, flat and back a bit?
   – Are they aligned or are there dogleg gaps in it?
• What are the cues that enable us to recognise where opportunities lie? What are the controllables and how can we use them to overcome the things we have less control over i.e. the opposition.

## Controllables/ Checklists

### Key Factors of Attack

1. Stand sufficiently far apart to isolate each defender.
2. Align to give sufficient time to pass the ball along the backline.
3. Retain the alignment as the backline moves forward.
4. Draw an opposition defender before passing.
5. Pass in front of the next back in the line so that the ball is easy to catch and peripheral vision is retained.
6. Create a gap just before the tackle line for the extra player to run through the initial line of defence.
7. Enter the gap to ensure the defence has insufficient time to tackle the extra player.
8. Use the disorganisation in the defence to pass to an unmarked player.
9. Accelerate through the gap.
10. Use support players to continue the attack.

### Functional Roles in Backline Attack

1. Distributor
2. The Playmaker
3. Decoy
4. Penetrator
5. Support Players

## Queries You Need to Resolve in Your Own Mind

• Is it the role of the backs to keep the forwards going forward?
• Is a flat backline more likely to cause drift than a backline entering play from depth?
• Does the time that depth gives an attacking line encourage drift, or does it give time to create composure and pressure on the defence so that success is more likely?
• Is this all a function of the ingrained skills of the players you have got? How changeable are they? Up to what age can they be changed? If you want change how do you overcome insecurity that results from playing outside the comfort zone?

### Defensive Cues

• Numbers – more players in attack than in defence, or vice versa?
• Where are they and where is the available space?
• Where are the mis-matches that are in our favour?
• Do we need every member of the line to handle the ball or just a few?

### Practising Attack

• Practising without opposition is only practising the technique of passing and not the skill of attack.
• The opposition need not be contact, all it need do is restrict the time and space to run, catch and pass so that it is as close as possible to that in a game.
• Drill the players by completing passing the ball along the line before breaking the line from which No9 made the original pass and then reverse the attack back the other way.
• The coach stands aligned to any of the players and that player must be given enough time tand space to pass the ball before making contact. Vary the player and the depth.
• Identify what can be varied should the space be reduced:
   – Greater depth and/or
   – Slower feet and/or
   – Faster hands and
   – A pull-back pass to re-create space.

• The pass to the penetrator must be made with sufficient time to get the pass away but with insufficient time for the defender to drift onto the penetrator i.e. just before the tackle line but remember that this point varies based on the relative depths of the attack and the defence as simulated by the positioning of the coach.

### Progression

• Vary the depth of the defender.
• Add in more defenders to:
   – Spread the defence isolating each defender
   – Create 'dog-leg' gaps in the defence.
• Start with the players lying down on the 5-metre line. On the call they align from 5-metre line to 5 metre line in sufficient depth to run onto their pass and put the ball through the line before the tackle line is reached. Get width first to spread the defence before worrying about receiving the ball. Go wide first and come in to catch the ball rather than stand too close and drift.
• Add a pressure point where the defence may be able to stop the attack and have the players read the signs and avoid the situation. Probably it is better to hold the line or run forward more slowly to create enough time and space to react, so that the defence doesn't take the man and the ball.
• React to the numbers in defence being greater than those in attack by exhausting a channel at a mis-match.
• Blow the whistle to indicate a tackle/post tackle/ ruck/maul and have the attacking line re-align.
• In re-aligning overload another attacking pressure point.
• Vary the defence so that the players play what is in front of them.
• Drill the attacking line so that they are making many more decisions than they would make in a game under pressure, increasing their success rate.

*Ian Foster is the "Chiefs" Head Coach.*

# Heat and Hydration - a guide for players*

## Dr. Mike Wilkinson

**In scientific jargon, heat illness – heat 'exhaustion' or heat stroke – is defined as an elevation of the core body temperature to 38°C or more, where the cause is due to environmental conditions or internal heat production secondary to activity. Basically, this simply means the rise of a player's body temperature above normal (36.7°C) due to the intensity of play or playing conditions. Heat production during exercise results from continued muscle activity or contraction. (Studies have shown that up to 75% of the energy produced by these cycles is wasted as heat.)**

Heat loss to the environment occurs primarily through sweating (the evaporation uses heat) as well as conduction / convection (skin blood vessels dilate and transfer heat to the environment) and, to a lesser extent, breathing (heated moist air is expelled and cooler dry air inhaled). The body will normally adjust blood flow around the body to optimise flow to the working muscles and to the superficial vessels to optimise heat loss vs. muscle contractions. If heat loss (known as dissipation) is less than production, then the net effect is an increase in body temperature. The factors that affect this ability to dissipate heat (or accumulated energy) are discussed below. The risk factors can be divided between environmental factors and player related factors.

## Environmental Factors

### Temperature and Direct Sun
If the ambient temperature is higher than the body's normal temperature, there will be a net gain of heat from the environment to the player. In well conditioned, acclimatised and hydrated athletes, and except in extremely hot conditions, this heat gain is controlled to within +/- 5°C through sweat. Direct sunlight will further compound the problem of heat gain through the obvious increase in convection heating.

### Humidity
It is not only high temperatures, but also the combination of heat and humidity that will affect the body's cooling ability. Conditions of high humidity seriously adversely affect the ability of sweat to evaporate and thus transfer heat away from the skin. Without this cooling mechanism, the rise in core temperature becomes exponential. Reports of heat stroke have occurred with a combination of relative humidity of 40% and temperatures of only 26°C.

### Wind
Wind will increase the rate of sweat evaporation and have a direct cooling effect on players. From the above it is clear that the conditions with the highest risk for heat exhaustion or heat stroke are most common in the mid afternoon - sunny, hot, humid and wind-still days. Organisers of sports events and training sessions beware.

## Player Factors

### Fitness and Acclimatisation
Although higher levels of fitness do not prevent heat stroke, all else being equal, the lack of fitness significantly increases the risk of it occurring. Players that have had time to acclimatise to the hot humid conditions are at far less risk of heat stroke as their bodies adapt temperature regulation to the more difficult environment.

### Dehydration
Apart from the deleterious effect of slight (< 2%) degrees of hydration on performance, the effect on temperature regulation is significant. This is due both to the inability of the body to sweat sufficiently and the changes that result in heart rate and blood flow. Depending on size, level of effort and playing conditions, players can lose1-2 litres of sweat per hour or if this fluid is not replaced during the game, up to 4% dehydration of an 85kg (190lbs) player.

### Equipment
The traditional rugby jersey's ability to reflect sun and help wick sweat away from the skin is poor. If possible, teams should use their lighter, short-sleeved strip when conditions are risky.

## Prevention

### Acclimatisation
It takes 5 – 10 days for a player to acclimatise to both heat and humidity.



Above: Players rehydrate during a break
Right: Phil Waugh of the Waratahs teaches the youngsters the importance of rehydration on a hot day.

The body becomes more efficient in sweating (with an earlier onset and greater level), fluid absorption from drinking, and work levels. With acclimatisation, blood volume increases, thus increasing the ability of the heart to pump blood (and oxygen) to where it is needed. Players need to gradually increase their length and intensity of exercise in the heat prior to arriving at the camp.

### Hydration
As should be obvious from the preceding discussion, proper hydration is essential. There is no magic formula for X ml per hour that is appropriate for every player in all conditions, but a general guide is approximately 150 – 200 ml of cool fluid every 15 min for an 85kg player. Each player will lose fluids at a different rate and essentially fluid intake must match sweat loss. Players can monitor their hydration status and sweating rates through regular weighing before and after games or practices during the season. Fluid replacement must be a combination of water and electrolyte-containing sports drinks to avoid developing a low blood sodium or electrolyte level.

### Environmental
Ideally games and practices should be scheduled during the cooler, less humid times of the day. Before the game players should avoid sitting in the sun and seek shade. Shady areas in the form of a tent or shelter should be provided for players on the bench and those waiting for their game to start. Ice and ice water should be available to the players before, during and after games or practices and cooling fans should be considered.

### Pre – Cooling
One of the more visible technologies seen during the 2004 Athens summer games was the increased use of pre-cooling by many countries. Pre-cooling of the body's core temperature is achieved through cooling vests / hoods or suits worn up until the start of the event and again at half-time. The beneficial effect on performance in hot and humid environments has been well documented in numerous scientific studies.

## Treatment

The best form of treatment is obviously prevention through avoiding the risk factors discussed above. Players should be monitored by the coach, training staff and referee for developing signs of heat illness such as sluggishness, irritability, confusion, lack of coordination, vomiting or dizziness. Once recognised, treatment speed is essential to prevent death.

The rule is to cool as quickly as possible. The most effective method is submersion of the player in an ice bath. If an ice bath is not available then cover the player with ice and wet towels in the shade near a fan or in cold water. Players must be encouraged to drink cold fluids and their temperature monitored regularly. Once cooled, only then is transport to a medical facility for further treatment and monitoring appropriate.

* edited version of the original article. *Dr. Mike Wilkinson is a specialist in sport medicine. He was the Canadian team doctor in RWC 2003.*

# The Scrum

Although on average there are now fewer scrums in a match than there were some ten years ago, the scrum remains a critical element in the game, arguably the distinctive feature of the game of rugby. Moreover, scrummaging differs in terms of technique and approach, depending on the quality and size of the opposition, the weather conditions and the own team's capabilities and characteristics. A number of variables make certain techniques, in certain circumstances, more effective than others. The IRB Rugby department has commissioned former Wallaby prop Andrew Blades, now a well-respected specialist forward coach, to produce a DVD presentation on scrummaging, which has been received with considerable interest by the various constituencies in the game. The following papers, authored by some of the game's most respected practitioners, though not necessarily a prescriptive scrummaging methodology, contain some fundamental principles that apply to all teaching, coaching and practice of scrummaging.

"Possession from scrum is often more difficult to defend against..."

# The Scrum in the modern game

## By Brian O'Shea

The scrum provides a situation where all of the opposition forwards are grouped and therefore creating space to run the ball. Possession gained from the scrum is often more difficult to defend against than possession gained from a lineout. Scrum law has created a change in the relative importance of players in the scrum. It has gradually created a shift from TH dominance to LH dominance. Unless a scrum today has a strong and technically proficient TH to counter LH dominance, it cannot perform. Although a lot of emphasis is placed on the contribution of players in general play it is essential that the TH prop can scrum adequately. The first part of this two-part paper deals with the coaching aspects of scrummaging.

## Developing Scrummaging Skills

It is more productive to develop the individual technical skills required for each position than to spend most of the time on the assembled scrum. Practice emphasis should be placed on the development of good body position, power generation from the legs and stability necessary to control the delivery of the power generated. If the individual parts of the scrum are up to scratch skill wise, the assembled scrum will quickly fit together. The starting point for coaching scrummaging is to understand the individual body position required of all participants.

Essentially they need to have:

• A stable base, which is provided by placing the feet at approximately shoulder-width apart. If the feet are placed too close together the player will lack stability and if the scrum moves sideways, at best they will be unable to push effectively and more than likely they will be in danger of injury caused by falling over. If the feet are placed more than 10 cm wider than shoulders, there is a drastic reduction on the capacity to generate or resist force and this causes a similar risk of injury. It is essential that both feet are always behind the hip joint or the players are unable to generate the forward component in their push.

• A bend at the knees, which provides an angle of approximately 110-115°, which permits power generation by the legs. This position is a 'trade-off' between the generation of dynamic power and the length of push that can be achieved. If the bend at the knees is not adequate the distance gained by the push is hardly worthwhile. If the bend at the knees is too great the loss of mechanical advantage makes it difficult to be dynamic.

• High hips, which facilitate the use of the powerful gluteus muscles. For people in the front row and the locks this is very important because it also ensures that the players behind them have a near vertical surface on which to push.

The hips should not be higher than the shoulders.

• A straight, flat back to transmit force from the lower body, where it is generated, to the opposition scrum. This is achieved by adjusting both ends of the spine slightly. The chin should be kept up and the pelvis tilted to the back.

This body position is fundamental to all aspects of contact and is essential for success in tackling, ruck and maul. It is recommended that considerable time be devoted to mastering the adoption and use of this technique, and exercises involving 1v1 will give

much better long-term results than practicing a full scrum with players who have not yet mastered individual body shape.

## Common Faults

• Players over-extending. This means that they have placed their feet too far back and are in danger of collapsing. Players must be encouraged to adjust their feet position with short steps whenever a scrum moves.



• Failure to squeeze down with the hips when pushing with the legs. Unless a substantial effort is made in this regard the force generated by the legs will not be transmitted into the opposition scrum.
• Failure to keep the body square to the line of force. As a rule front row players are better off pushing into a force than by trying to avoid it by moving away from it.
• Failure to keep the chin forward and through.

Below: The Irish pack ready to engage, a clear demonstration that body position is a crucial factor for stability and control in the scrum.

# Activities on the Scrum Machine

**All scrum practice should be highly specific with players knowing precisely what is to be achieved in the session. Scrum machines can provide considerable assistance in developing scrum technique, coordination and endurance. They do not provide the reality of live scrummaging and for this reason, the more experienced and skilful a scrum becomes, the more emphasis should be placed on opposed scrummaging. A coach should not rely totally on scrum machine practice.**

• **Individual players 'hit and stick'** emphasising body position and abdominal muscle control.
• **Units of 3 on Machine (1,4,6) (3,5,7)** Places the props under more pressure and ensures body shape preparation prior to engagement.
• **Three on Machine (1, 2, 3)**
  - Coordination of shove
  - All push chest and chin through
  - Keep shoulders flat.
• **Five on Machine** (1, 2, 3, 4, 5)
  - Repeat above exercise
  - 4 and 5 bind on each other's shorts
  - Push elbow through on engagement and when pushing
  - Drive down on props on engagement and lock the prop's hips in position.
• **Seven on Machine** (1, 2, 3, 4, 5, 6, 7)
  - Repeat above exercise with emphasis on middle 4 throwing the front row into the engagement.

• **Eight on Machine**
  - Repeat above exercise with emphasis on snap shove.
**Note**
'Chasing the weight' is important in all the above exercises to ensure that a powerful body shape is maintained.

## Live Scrum Practice

All opposed activities must be carefully supervised and be specific in what is to be achieved. If an 8v8 situation is used then the engagement must be controlled carefully and scrum should replicate match conditions by being short and having recovery time in between scrums. The recovery time can be provided by moving to a new spot for the next scrum.

### A. Utilising Individuals and Units

1v1 activities with emphasis on maintaining body position:
a) Back packing or moving backwards whilst maintaining body shape
b) Forward packing or moving forwards whilst maintaining body shape

c) Lateral packing or moving sideways whilst maintaining body shape.
  - 2v2 activities and 3v3 activities as per 1v1 but emphasising bindings and coordination
  - 1v1 (1v3 with emphasis on upper body activity)
  - 3v3 (front row units)
  - 3v3 (1, 4, 6 v 3, 5, 7)
  - 4v4 (1, 2, 4, 6 v 3, 5, 7, 8).

### B. Utilising Full Scrum

*On Own Ball*
**1. Practice control/reaction to opposition:**

• LH (1) keeps firm bind on H (2) and inside hip thrust forward.
• H (2) must not let opposition under either shoulder. Keep shoulders down and through.
• TH (3) avoids angling by opposition LH (1). Keep both shoulders low and transfer opposition pressure onto opposition H (2).
• If opposition attempts a wheel – TH (3) calls and scrum moves to the right. TH (3) slips head under opposition prop before moving to the right.
• Role of right side flanker in keeping scrum stable.

**2. Practice delivery options:**

*On Opposition Ball*
**1. Attacking Quarter Wheel and Drive:**
• After strike TH + H keep inside shoulder down and step forward left (45°).
• LH keeps inside hip in and steps forward.
• Scrum then settles and drives (45°) to right.
• This squeezes the opposition TH and makes it easy to destroy their scrum.
**2. Shove and Delayed Shove:**
• Timing and coordination are essential.

Scrummaging - a combination of skill, strength and stamina.

# Functional Roles for Scrum Positions

## No.1.

**Own ball primary role:** ensure hooker is not under pressure and can channel ball.

**Opposition ball primary role:** dislodge opposition No3. That is, don't permit them a tighthead lead.

*Key Points Sequence on Own Ball*
• Take a grip quickly on opposition during engagement and pull him out and towards you.
• Keep hips square by bending inside knee and forcing hips down and in.
• Draw head under opposition's chest in a quick action involving both arms. Right arm pulls hooker to No1 and prevents the opposition from escaping under the hooker. Left arm pulls head under chest with quick aggressive action.
• Chase weight with quick short steps to prevent over-extension of self or collapse by opposition

## No.2.

**Own ball primary role:** hook in channel without destabilising scrum.
**Opposition Ball primary role:** pressure opposition hooker or work with loosehead to dislodge opposition tighthead. Hooker should have a chin focus.

*Key Points Sequence on Own Ball Scrums*
• Pull chest through on crouch so opposition hooker or tighthead cannot get under shoulders during engagement.
• During engagement drive the right shoulder at the opposition hooker. Use left foot to help drive. The further the hooker can drive his shoulders through the opposition scrum, the more easily his role is performed & his body position is safer.
• On strike turn hips but not shoulders which must be kept in low position.

• After strike square off shoulders and hips and pull chest through. This will help lower the scrum height and resist opposition pressure until the ball is delivered to the half-back.

## No.3.

**Own ball primary role:** achieve right side lead on engagement to assist scrum stability.
**Opposition ball primary role:** attack the hooker and split the hooker/loosehead prop bind. Tighthead should focus on chest and chin. In particular the tighthead should work into opposition pressure & not go with it, otherwise his body shape is easily destroyed.

*Key Points Sequence on Own Ball*
• Set up with feet in advance of No1.
• Get low arm bind on opposition loosehead at the touch.
• Immediately prior to engagement drop body height about 5 cm by

bending knees.
• Push the right arm down and through on engagement to weaken the grip of the opposition No1.
• When weight comes on rotate the left wrist forward, slip under hooker and keep both shoulders low.

*Notes For All Front Row Positions*
• Set up from the bottom. Inside foot, then hips, and lastly binds.
• All height adjustment to be made at the knees.
• Work hard on own ball scrums.
• Have correct foot and hip position before taking bind as it is difficult to adjust after the locks have entered the scrum.

## Middle 4

**Primary roles:**
1. To generate speed of engagement for the front row.
2. To provide downward and forward pressure to stabilise the front rows'

hips & to enable the front row to use their upper body strength effectively.

**Note:**
- On no account should the middle 4 place forward pressure on the front row prior to engagement. It is essential that the front row have their weight as far forward as possible prior to engagement.
- The middle 4 should operate as units of two behind each prop. The binds between the two locks are of lesser importance than the positioning on the front row and should be done after positioning shoulders on the front row. The No8 will hold them together. If the two locks bind tightly before joining the scrum they are unlikely to attain a strong shoulder position. Also if the scrum wishes to set the tighthead side in advance of the loosehead side the locks need to operate independently.

### Key Point Sequence
- Set up on feet (not knees) with lock's shoulder directly under the tip of the prop's spine.
- Drive forward on engagement with a slightly downward direction.
- Minimise foot movement during set up and engagement.

**Note:**
All players in scrum should have abdominal muscles on and chin and chest through when pushing.

## No.8.

### Primary Roles:
1. To push
2. To control the ball.

### Key Points
- The No8 is the last to engage and therefore has the opportunity to view the positioning of opposition players.
- The No8 must have shoulders in contact with the locks prior to engagement.

### Own Ball Scrum Sequence
1. The hooker should be first to the scrum and set the height by bending his knees, with the right foot approximately 20cm in front of the left foot.
2. Props set up quickly, starting with the inside foot, then squaring the hips and finally the binds. No1 binds on the hooker at chest level and No3 binds on the hooker at


No8 will hold the two locks together.

the waistband of the shorts. Hips together and square.
3. Front row prepares for engagement on crouch by sighting target area, pushing chest and chin through. The engagement should be short and firm and all players must have their chins up and abdominal muscles on. A scrum should 'hit and stick' on engagement i.e. there must be no bounce or disruption to the structure.
4. Middle 4 anticipates the engage signal and provides speed for engagement by driving the front row into opposition and wedging their hips.
5. On the call "ready" tighten the binds and sink the knees forwards.
6. On the call "now" drive the hips through and extend the legs. Chase the weight with small steps.
7. Repeat the ready/now sequence if called for.

### Post Engagement Problem Solving
In relation to post-engagement problems and their causes, the following may be useful guidelines:
- If the scrum collapses on engagement, check the squareness of the front row and that they are engaging with shoulders at least as high as their hips.
- If the scrum is collapsing subsequent to engagement, check that the players have a stable spread of feet and that they are not over-extending.
- If the scrum is unstable and tends to wheel on your own ball, check that

the tighthead prop has led in, that is, the shoulders are in front of the shoulders of the loosehead prop.

### How To Counter A Wheeling Scrum
- The most important counter to opposition wheeling your scrum is achieved on set-up & engagement. If the tighthead side is set up slightly in advance of the loosehead side and on engagement the tighthead props' shoulders are in front of the loosehead props' shoulders, it is extremely difficult for the opposition to achieve a wheel before the ball can be won and distributed. The margin required for a tighthead lead depends on the strength and technique of the individual prop, and the two players immediately behind him. A strong

unit can achieve stability from a square position but a weaker unit may need a lead of some 10cm over the loosehead side.
- If the opposition attempts to wheel it can be defeated by prompt reaction. The tighthead prop gives a pre-arranged call and the entire scrum steps right until stability is achieved. In order to keep the scrum structure during this movement, the players on the left hand side of the scrum must force the movement to the right and the flanker on the right hand side keeps pressure on his side of the scrum. The step right reaction is more effective if the tighthead prop drives his head under the opposition prop before moving to the right.


Any attempt to wheel the scrum can be defeated by prompt reations

# The Mechanics of the Scrum   By David Docherty PhD

## The implications for the role of the tight head prop, right lock and right flanker.

Scrum wheeling: the primary responsibility is with the tighthead prop.

The way the front row players pack down against each other produces asymmetrical forces that cause the scrum to move forward on the loosehead side, producing the natural or clockwise wheel (usually the loosehead prop LH moving forward and the tighthead prop TH going backwards).



Figure 1: The normal setting of the scrum with the No8s binding between the locks

The problem (see figure 2) is exacerbated by:

• the hooker H binding more on the LH on the team throwing in the ball, which displaces the wheeling forces further towards the LH side and puts more pressure on the opposition TH, forcing him/her to go backwards.
• the No8 of the team throwing in the ball binding in the channel between the left flanker LF and left lock LL for channel one ball.
• the opposition LH and H double-teaming the opposition tighthead to put additional forces on him/her to go backwards and, therefore, disrupt or destabilise the opposition ball.
• the opposition TH pulling (illegal) the LH of the team throwing in the ball forward or stepping back.

• the opposition LH trying to dislodge (force up, or into a shoulders below hips position) the TH of the team throwing in the ball.
• the angle of the push of the LH is angled in towards the TH, which also contributes to the natural wheel of the scrum.
In other words it is not difficult to wheel a scrum in a clockwise direction.
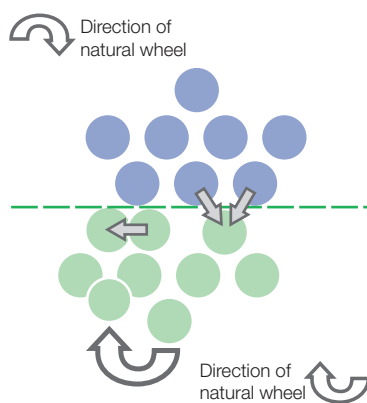


Figure 2: The tendency for the scrum to wheel in a clockwise direction is exacerbated by the positioning of the H as close as possible to the LH and the No8 of the team throwing in the ball as well as the opposition H and TH applying joint forces on the TH

The challenge to controlled scrummaging is to resist and counteract the natural (and some unnatural) forces that make the scrum wheel in a clockwise direction. The important technical concerns centre around the tighthead being able to hold his/her position and shape. This requires considerable individual strength and technical ability, as well as the focused commitment of the right flanker RF

and right lock RL. The TH, RL and RF are considered a unit within the scrum and need to work in a coordinated manner (see Figure 3). The effective commitment of this group of three is critical for stable scrummaging.

The primary responsibility, however, is with the TH prop because if he/she is unable to hold his/her shape or technical position the scrum will be wheeled. If the TH holds his/her scrumming position and the scrum wheels the problem is more likely because of lack of support he/she is getting from the RL and the RF. (Note that it is possible for a clockwise wheel to occur when the TH is stable, going back and, although unlikely, going forward. So it does not always follow that a wheel is a result of the TH, RL and RF not doing their jobs.) In order to benefit from the contributions of the RF and RL the TH must maintain his/her optimal pushing position. This is often difficult due to the natural forces with which the TH must deal and
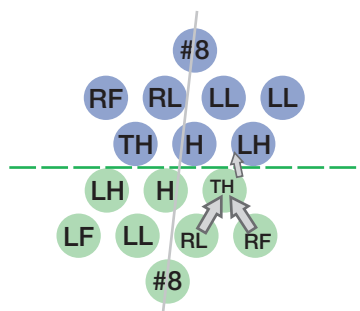


Figure 3: The coordinated effort required by the TH, RF and RL to counter the natural wheel

the actions of the opposition LH who is trying to move him/her out of the optimal pushing position. The optimal position for a TH on his/her own put in the scrum is a flat back, the knees behind the hips so that body weight contributes to the forward pressure, and the feet behind the knees (see Figure 4). Most LH props will attempt to drive up and in on the TH and take him/her out of the optimal position which disrupts the stability of the scrum and will cause it to wheel. The TH must anticipate the pressure, keep the pressure through the right shoulder and prevent themselves from being pried out of his/her optimal shape and technical position. In addition the TH should make sure his/her weight is evenly distributed on both feet and the shoulders stay square and horizontal to the ground. It is relatively easy for a coach to see if the TH is under pressure by observing the scrum from his/her own TH side and looking to see if the weight comes off the right foot and the right shoulder starts to rise. From my perspective the TH of the team throwing in the ball cannot be too low as long as they do not compromise their own position.)
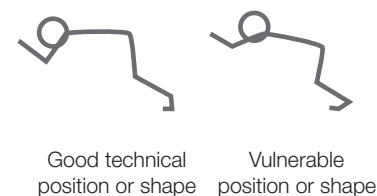


Good technical position or shape     Vulnerable position or shape

Figure 4: Optimal and vulnerable body position or shape of the tight head prop to resist the natural tendency of the scrum to wheel.

The coach can also see the relationship of the knees to the hips and the feet to the knees. It is common practice to have the TH lead the engagement of the front rows as this also helps the initial force to be directed down the TH side to counteract the natural forces and offsetting of the scrum. The TH needs to crouch as low as possible and engage with a flat back making sure he/she does not 'fold' into the setting position (Figure 5). If they do fold or bend into the setting position the opposition LH will be able to get under the TH with his/her head in the sternum which provides a mechanical (and painful) advantage if the LH wishes to dislodge the TH and drive him/her back. The contribution of the RF and

# Safety Aspects of Coaching the Scrum

Scrum injuries tend to occur either at engagement or at a scrum collapse subsequent to engagement. Engagement can be made safer by:

- Ensuring that the front row set-up opposite their engagement slot rather than be directly in front of their opposition (offsetting).
- Ensuring that the scrum can hold a crouched position with front row weight forward, chins up and eyes on the engagement slot. This leads to a short, well-supported engagement.
- Ensuring that the members of the scrum only have to move forward and that there is no vertical component in the engagement.
- Ensuring that players have an appropriate physique to be selected in the front row and are properly trained in the requirements of the position before playing in a match. Avoid placing players with long necks in front row positions.
- The coach should be aware of the total volume of opposed work and that injuries are more likely to occur when players become tired. The coach should restrict inexperienced players to no more than ten opposed scrums at any one session. These should be done in groups with some advice from the coach after each 2-4 scrums.

**Scrum collapses can be minimised by:**

- Ensuring that players have correct boot studs for the conditions.
- Avoiding over-extending by practicing 'chasing the weight'. This means that players must become skilled at adjusting their feet if the scrum moves forward.

If the 'mayday' procedure is applied, force will immediately be relieved from the player's neck and even if the opposition continues to push, they will slide over the top of the collapsed scrum. It should be emphasised that a 'mayday' procedure cannot be implemented unless all players have both feet behind their hips. This is a crucial safety requirement for scrummaging.

*Brian O'Shea*

RL are critical if the TH maintains his/her shape. It is common to have the RL focus on getting his shoulder as tight as possible to the spine of the TH prop (shoulder bone of the RL to the tail bone of the TH). This usually requires the RL to bind tightly under the TH first rather than with the LL. The recommended strategy is to bind under and across to the left hip of the TH and once in position bind to the LL. In the crouch and hold position the RL pulls the TH onto his/her
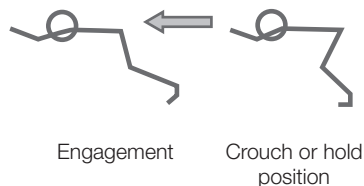


Engagement     Crouch or hold position

Figure 5: The crouch and engage position and dynamics of engagement for the TH prop. Once in the optimal position it is critical the TH prepare for the pressures as the ball comes in, resist the tendency to be moved up and back, and maintain his/her shape and position so the RL and RF can effectively apply their efforts.

shoulder so at the time of engagement the TH is being driven forward by the RL. Although difficult, the TH should be on his/her toes to meet the LH as quickly as possible once the referee says "engage". The RL should also be squatting and not kneeling to respond quickly on the signal to engage with the feet shoulder width apart and weight equally distributed on both feet. The now common directive of "chest push through" helps to establish the flat back and maximize the transmission of force through to the TH.

The RF has a key role to contribute.

Prior to the recent law change he/she was able to contribute to the TH by underbinding (i.e. left arm through the legs of the TH and shoulder tightly against the right glute of the TH). However, this is now illegal but if it is allowed at some time in the future it does contribute greatly to counteracting the natural wheel. (Aside: the law was changed because it was thought to destabilise the scrum. It is my opinion that it does not destabilise the scrum but actually contributes to stability by helping to prevent the natural wheel which many teams use to destabilise the scrum and disrupt opposition possession. So I hope this law change is revisited. I have not seen any evidence that this technique actually caused any problem and in talking to many TH props they feel much more stable when supported by the RF underbinding.)

Regardless of the way in which the RF binds he/she should push in a forward direction (not at an angle) in order to work optimally with the TH in resisting the natural forces. It is not common for the TH to be split out so there seems little need for the RF to push on an angle and is more effective by pushing parallel to the touchline. He/she should assume an effective pushing position, similar to the shape of the TH but slightly lower (i.e. flat back and appropriate angles at the hip and knee). It is critical that the RF maintains the push until the ball is out of the scrum. Given the importance of this three-person unit they should practice together on a scrum machine so they recognise the role they need to play and develop good technique based on

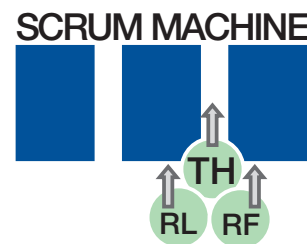the principles that have been identified (Figure 6).



Figure 6: Practice for the three player pod.

The focus of this paper has been on the role of the TH, RL and RF on preventing the natural wheel and providing a stable platform. The other forwards in the scrum should also be aware of the mechanics/dynamics of the scrum and adjust their effort accordingly. The LH in particular must be aware of the effect he/she has in preventing (or inadvertently contributing to) the natural wheel and the strategies that the opposing TH may use to take advantage of the natural forces.

An additional practice to help the players appreciate the dynamics of the scrum is to have the team throwing in the ball pack down as a full scrum without a RF against a full pack (which would include a LF). The scrum needs to be controlled at the engagement and the pressure/push from the opposition slowly built up so the TH and RL of the team throwing in the ball feel the forces they need to resist.

*Dr. David Docherty is professor at the School of Physical Education, University of Victoria, Victoria, BC, Canada.*

## Scrummaging with Andrew Blades!
### a new IRB Technical Resource
### By Bruce Cooke

**Former Australian RWC winning prop forward. Andrew Blades has been an integral part of the development of a DVD and video on the technical aspects of scrummaging. Divided into modules, the topics covered include: what are the players trying to achieve; front row working units; scrum engagement; wheeling the scrum; scrum collapses; scrum-half and back row binding.**

The overlying theme throughout the resource is one of safety in this area of the game. The philosophy for producing such a resource was to better inform the rugby world about one of the most intricate aspects of the game. The resource targets players, coaches and match officials, as well as the media and the public in general. The resource was compiled using examples from international games, two skilled forward packs for demonstrations, explanations by

Andrew Blades and information in the form of summaries of various technical and refereeing aspects of the scrum which are interspersed throughout the hour long presentation. All unions in membership of the IRB have received copies of the resource in both DVD and video formats. The unions have been encouraged to make copies of the resource and make it available to all those who may require it within their union.

*Bruce Cooke is IRB Training Manager*



Andrew Blades

# Refereeing the Collapsed Scrum
## Making the logical call

**By Tom Jones**

This paper is intended to demystify actions and events that lead to a collapsed scrum and in this context to provide a logical framework to assist a referee to make appropriate decisions. The scrum collapse situation must be handled correctly – by the players, who must know what to do to minimise the risk of injury; by coaches, who have a duty of care to ensure that players have practiced what to try to do in this and all game situations; and by referees who must "…apply the laws fairly". But what happens if the scrum collapses nevertheless?



The scrum - the referee must "apply the laws fairly."

Law 20 provides – in 88 paragraphs – a detailed account of everything that deals with a scrum: Forming a scrum, positions, binding, the throw in, the start and finish of a scrum, wheeling, general restrictions, and offside…and it instructs the referee as follows, that he/she must: whistle immediately if the scrum collapses; award the throw-in to the same team when there is no penalty; penalise front row players who twist or lower their bodies, or pull opponents, or do anything that is likely to collapse a scrum; penalise any intentional collapsing, or kneeling or falling.

It is often said that unless you have played in the front row you will never understand. Well I agree with this to the extent that you can never know what it feels like to be in there. But understanding is different. In this respect there is no mystery to front row play. There are no secrets. Everything happens for reasons predicated upon:
• the requirements of law
• what the players are going to try to achieve, with each team having different goals, and
• the mechanics and forces acting arising from what the players are trying to achieve.

It is important within this context to recall the pure competitive nature of propping – the desire of a front row player to physically (and subsequently psychologically) dominate the man in front. A dominated front row player can undermine the confidence of the entire front row, then the rest of the pack, which in turn will eventually rattle the whole team. Sometimes the need for a prop to attain such dominance, or the opportunity to do so, transcends the laws and any other game logic.

Hence: Question: "Why did he/she do that there? Answer: "Because the opportunity arose."

Referees need to know:
a) WHAT are the players trying to achieve?
b) HOW are the players trying to achieve it?
c) Also, the collapse might have been accidental, caused by a slip.
d) To SEE and correctly interpret the visual input.

This information is gathered by studying the laws and videotapes of matches, by attending seminars and discussions with fellow referees and players, and by refereeing. It is basically the backbone of what refereeing is all about, developing a sound understanding of law and playing practice and its objectives in all areas of the game. However, having developed an understanding for what players try to achieve and the various means of achieving it, it is what the referee sees that ultimately indicates that there might have been a breach of law that led to a collapsed scrum.

## WHAT might you see?

**Defending Team: engagement phase**
• Movement before or after 'Crouch, Pause' ('Crouch and Hold') intended to crowd or stretch the opposition and force them to have to move their feet prior to engagement. Either prop can cause the necessary minute sideways action. This will normally happen on the side of the scrum that the referee is not standing! Look for an unusual delay in the throw-in and watch the feet of the hooker with the throw-in. He/she won't want to be adjusting foot position. If the

hooker's feet are moving, they are probably moving sideways.
• Shoulders below hips by the tighthead and/or the hooker.
• A pincer movement by the tighthead and hooker on the opposition hooker. In this case you will see the tighthead spine angled in, with wide foot placement. In some countries this is referred to as 'boring in'.

**Attacking Team: (throwing in): after engagement**
• Before the throw-in a player who has failed to secure a strong position, and who has been forced into a weak or vulnerable stance, may collapse to force a re-set and have a second chance at engaging.
• Ball won, going forwards… beware a wheel with a pulling action by a prop.
• Ball won, going backwards… watch for the head of the opposition front row emerging, being popped by an upward force, or for an intentional downwards collapse by the team going backwards, indicated by shoulders below hips and/or pulling

down on outside binds.
• Ball won, wheeling motion … a collapse caused by the tighthead if the loosehead succeeds in angling in and under, often causing a quick wheel.

**Defending Team: after engagement**
• Before the throw-in, a player in a weak scrummaging position may collapse to force a re-set, for the same reason just as his/her opponents, as above.
• Ball lost… beware a wheel with a pulling action by a prop.
• Ball lost… watch for a step out by the loosehead in an attempt to get in on the tighthead, often causing a quick wheel. The wheel can cause the legs of the locks to cross, and with a sharp forward drive the scrum can dangerously collapse. Of course, this step out is often hard to detect because the referee is generally on the side of the throw-in. But a referee who understands the mechanics will look and identify the stepping out motion.

# Refereeing the Collapsed Scrum

- Ball won, going backwards… watch for the head of the opposition front row emerging, being popped by an upward force, or for an intentional downwards collapse caused by the team going backwards, as above.

### General points

After engagement, it is virtually impossible for a player to be the cause of a downwards-collapsed scrum if all four props, once packed down:

- retain 'spine-in-line' with
- a 'horizontal-arm-bind', and
- their upper bodies remain parallel with the touchlines and
- horizontal with the ground.

Any breach of these four points (in italics), might lead to an early penalty, and prevent a collapsed scrummage. Or at a collapsed scrummage they could be identified as the cause.

A player who wishes to exert downward force will often be seen to have:

- Feet well back. (Foot positioning can tell you a great deal about all aspects of players' intentions. It is difficult to move shoulders and hips without first having the feet in a position to permit it.)
- A low elbows bind, pulling.

Having seen, noted and acted, the referee will have to be aware of the tactical considerations of the situation leading up to the scrum.

### Tactical considerations?

If a player (or a team) decides to collapse a scrum, they have done so for a reason. What was the context in which the scrum collapsed?

- Has there been a pattern of collapsing?
- What was the score?
- Was the scrum within kicking distance of goal?
- Was a try likely to be conceded?
- Did a team have difficulty establishing a strong scrummaging position?
- Was the loosehead having difficulty coping with downward force by the tight head?
- Was the hooker under too much pressure?

Or the 'double bluff' - A superior scrum unit has collapsed many a scrum because it wanted the referee to penalise the weaker team for collapsing by making it look as if the weaker team had intentionally collapsed for the tactical reasons listed above. And there is always the possibility of the accidental slip. Keep an eye on the feet. Why not assume that a slip is deliberate, as in collapsing over a ruck?

### What call to make: The importance of logic

This paper has addressed a logical framework that will help referees get it right if there is a collapsed scrum. But sometimes the referee will get it wrong. Players will be frustrated if the referee penalises the wrong team. But it is much worse if the referee makes the wrong call, and the call is at the same time illogical. This leads to flash points, because the penalised players will feel that they have an ignorant referee on their hands - so the only way they are going to be able to deal with the situation is by themselves, illegally.

By the same token, if a referee gets it wrong, but the players know – they will always know – that the referee has made the correct logical decision, it leads to respect. They know that they are being refereed by a person who knows the game, knows the front row, and has spent time learning about and understanding what players are trying to achieve within the tactical context. How strong must the logic be if the outcome of the decision is five points, or three, or the outcome of a match? Very strong. Respect leads to good rapport. Good rapport and good game management. Good game management leads to good game: good rugby.

So the advice is:
- Know your law
- Develop an understanding
- Observe player actions carefully
- Interpret, in context
- Manage
- Penalise the identifiable player, or
- If you are not certain, make the logical call.

*The full version of this feature may be obtained by emailing* **tom.jones@irb.com.** *Tom Jones is the IRB RDM for NAWIRA*

# Amateur v
## Wasps and Rosslyn Park
### By Andy Ripley PhD

**The objective of this paper (from which we publish edited highlights) – the PhD thesis of one Dr. Andrew Ripley of Rosslyn Park, England and British and Irish Lions fame – was to review, at the date of writing (1998), the changes in the structure, attitudes, behaviour and motivation of the players, shareholders and stakeholders in two rugby union clubs that have dealt in different ways with the opportunities and threats of the 'open' game. The thesis, in fact a perceptive essay about the growing pains of professional rugby and the slow death of the 'old game', is without doubt a profound analysis of a period of intense turmoil in the game that followed the 'open' declaration of 1995. The clubs considered were Rosslyn Park RFC, a club which decided to stay amateur, and Wasps FC that has embraced professionalism.**

## Rosslyn Park Rugby Football Club

In 1879 a cricket club was formed called Rosslyn Park C.C. Rosslyn is a district in Haverstock Hill in Hampstead. The members thought it would be a good idea for the friends in the club to meet in the winter and play Rugby Football. The first match was played on 10th October 1879 against Belsize Sefton. The club grew and clubs like Richmond, Blackheath, London Scottish, London Welsh, Harlequins, London and Guy's Hospital were on the fixture list by the 1890's. Before the end of the century, provincial teams, Bath, Bristol, Northampton and Bedford had been added.

## Wasps Football Club

Wasps FC was founded in 1867, prior to the formation of the RFU (1871). The club was created to provide members with the facilities and services incidental to the playing, promotion and enjoyment of rugby. Its history is similar to that of Rosslyn Park, probably a little grander and it would have had more members as international players. But up until the introduction of leagues in 1987, all matches prior to this date were friendlies. The 10 or so Wasps teams would have had block fixtures against the 10 or so teams from Rosslyn Park, playing half the fixtures at their ground in north west London in Sudbury and half away. The 300 or so participants usually staying at the clubhouse for a 'do'.

It all started in 1893, "when the Yorkshire committee, proposed that players 'be allowed compensation for bona fide loss of time'. It was felt by the RFU that if this was agreed to, professionalism would inevitably follow. The Yorkshire delegation were outvoted and in 1895 broke away from the Rugby Football Union to form the Northern Football Union, which ultimately became the Rugby League, making amendments to suit their own requirements."



Running with the ball, a pleasure shared by the amateurs of Rosslyn Park, above and the professionals, the Wasps.

# Professional



The joy of winning matches and trophies is shared by professionals; the Wasps (above) and the amateurs of Rosslyn Park.

100 years later – the crucial date was 26th August 1995 – the IRFB declared the game 'open' at its Paris meeting. The IRFB's announcement was a shock, moving from the position that no player should profit directly or indirectly from Rugby Union to each union being able to make whatever arrangements it chose. The Argentine RU decided to remain amateur. The New Zealand, Australian and South African unions, who had already tacitly approved of at least indirect profit for players, were as a consequence better prepared to deal with the change. This was not the case with the home unions, particularly the RFU, who had staunchly defended the amateur principle.

"In September 1995 the RFU set up a commission to establish new principles for the game in England. The committee presented its report in February 1996 and the resulting changes were in force for the 1996/97 season. Although a season's moratorium was declared by the RFU, from 26th August 1995 the leading English clubs were positioning themselves for the open challenge that the future presented. This meant securing the services of the best players. The clubs and the players had little guidance. The ethos of rugby changed overnight. The dramatic change from a game based on trust, tradition and, it should

be added, a fair degree of hypocrisy, to the open game, for which no one had made any preparations, meant there was always going to be a culture clash between the German poet's dream and the legally contracted business entities driven to maximise shareholders' wealth.

"The introduction of the open game has paradoxically resulted in the game becoming much less open in terms of human relationships, but has dramatically improved the game as a spectacle.

"Relationships are routinely tested in the workplace, since choices frequently arise in which self-advancement comes at someone else's expense. The ease of relationships between players, coaches and members, in which there were few taboos or secrets, has been replaced by workplace relationships. Not necessarily better, not necessarily worse, but different. There has been a shift in power and control but to pinpoint by and to whom is tangled up in the archaeology of the human condition.

"The knowledge that a player can get a £50 win bonus by playing for a particular club has probably done more to change the spirit of the game than the high profile and well reported conflicts of owners and the RFU representatives battling for control of

the game and ultimately its revenues. Neither are there any villains, the owners are successful venture capitalists, probably not dissimilar to the original 1870's founders of the game, possibly trying to find some sort of self-definition. The leading players have been presented with a tremendous lifestyle opportunity and have quite rightly, at a price, seized that opportunity. Firstly, which is well known, many clubs have spent beyond their means and are now insolvent. Drastic and painful cost cutting needs to be undertaken and the premier clubs must allow the RFU to be a credible financial lifeboat.

*The thesis has five chapters:*
*Section One: A brief history of Rugby Football, the advent of the open game and the current issues in the public domain*
*Section Two: A brief history of Rosslyn Park Football Club and Wasps Football Club, a rugby club governance model; and the current entity structure, financial standing and ownership of the two clubs, relative to that model*
*Section Three: Consideration of the motivation and attitudes of the players and their relationships with the coaches, chief executives and other players*
*Section Four: The benefits to an owner/shareholder of owning a rugby club*
*Section Five: Summary.*

## The change of Japanese rugby

### By Chris Thau

**Japanese rugby – a reflection of the society's intricate rules and customs – has undergone major changes during the last three decades. The last 10 years, as the game embarked on its most traumatic journey (the transition from amateurism to the professional game) were probably the most significant.**

The University of Canterbury (NZ) thesis in sports sociology, 'The influence of foreign players on the transformation of Japanese rugby over the last three decades' by Hiroshi Sakata, a young academic and son of Yoshihiro 'Demi' Sakata, arguably Japan's greatest player, is a most revealing and profound analysis of this phenomenon. Using his father's career as a starting point and the influence of foreign players as a decoy, Sakata has produced a paper of remarkable insight into the evolution of Japanese rugby.



Yoshihiro 'Demi' Sakata scoring one of his three tries against All Black Juniors - still regarded as Japanese rugby's finest hour.

The century long traditions of the Japanese game based on high school and university rugby lasted until the 1980s, when company (corporation) rugby rapidly took over. The emergence of foreign players in the domestic league was a natural conclusion and Sakata's thesis, while describing their influence on the Japanese rugby culture and playing style, looks at trends in migration, labour relations and eligibility rules, using Yamaha Motors RFC as the case study.

# Tier Two "Take-off"
## Asia Pacific Tournament on the Drawing Board

### By Greg Thomas



The four Tier Two unions: Samoa, Tonga, Japan and Fiji (above) are earmarked for the Asia-Pacific Tournament, also involving the four Australian Super 14 franchises.

**One of the key goals of the IRB strategic plan is to "increase the number and competitiveness of unions at tier one". That means ensuring that the major unions remain competitive with each other, and that the tier two unions – Fiji, Tonga, Samoa, Canada, USA, Romania and Japan – can step up to the highest level. Existing management structures, high performance programmes and facilities within the tier two unions, have been reviewed by Daniel Collins, a former Australian Olympian and high performance expert. He has visited all of the tier two unions and his report will be tabled at the IRB executive committee in August when a decision will be made on the distribution of the £30 million.**

*"there was agreement on all the fundamental issues that allows us to take the concept to the next level"*

Mark Egan (left), IRB Rugby Services Manager

Three main elements have been looked at for IRB investment: union infrastructures; union high performance units/strategies and cross-border competitions. In addition to the audit, last month a meeting was convened in Brisbane by the IRB, about the feasibility of a Pacific cross-border competition. The IRB sponsored meeting in Brisbane has concluded with broad agreement on the way forward for an Asia Pacific Rugby tournament. The discussions involved the IRB, the Australian Rugby Union, the Japanese Rugby Union, the national unions of Fiji, Samoa and Tonga, plus Australia's four Super 14 provinces. IRB Rugby Services Manager, Mark Egan, said there was a positive approach from all the parties and the meeting's deliberations will now go before the IRB's executive committee.
"While this group today is not a decision-making body, there was agreement on all the fundamental issues that allows us to take the concept to the next level. There does however remain a range of issues to contend with before such a concept becomes a reality. There is IRB funding available for the development of high performance infrastructure and cross border competitions for tier two countries, such as Japan, Fiji, Samoa and Tonga. Importantly this group showed a good understanding of each other's circumstances and reached agreement on some key issues:"

- The critical need for an Asia Pacific tournament to support the development of tier two unions
- A June /July tournament window
- A six to seven week timeframe, evolving to a longer tournament
- A residential playing roster from each of the participants
- Played mainly in Australia with games also in the unions.

*Greg Thomas is the IRB Communications Manager*