

Hawk-Eye's view of UDRS

Rightly or wrongly the way LBW is practically implemented at all levels is very different from the laws as defined by the MCC. I have been quite surprised when leading officials have explained a decision making process which doesn't follow a procedure of applying the laws in a scientific manner. As such, umpiring is more of an art than a science.

The referral system to date has suggested that players do not have accurate judgement of LBW. Elite panel umpires do an excellent job, but the reality is no human can accurately and consistently officiate LBW and certainly not within the roots of the sport. Therefore, the game has evolved over the years with a group of umpires' best guesses being judged by the less good guesses of players and even spectators 100 meters away. It has been quite amusing when Hawk-Eye has worked for 2 broadcasters at the same event – The Australian commentators have been convinced a ball was missing, whilst the Indian commentary team will be certain beyond doubt that the same ball was hitting.

It is therefore human nature for the role of umpiring to have evolved towards a path of least resistance or put another way to minimise the total number of *annoyed points* awarded by each team through out the course of the match. *Pleased points* are seldom awarded. The art of umpiring has evolved away from the science of applying the laws in the following examples:

A bowler bowls a peach of a delivery, pitches outside off and nips back sharply. The batsman shoulders arms and is beaten all ends up. The bowler feels fully deserving of a wicket having set him up perfectly with 3 preceding away swingers. The umpire sympathises with the bowler's plea for justice such that "was the ball hitting the stumps?" could be brushed over in the overall sales pitch of the appeal. Certainly an umpire will receive less *annoyed points* with an OUT decision. The disgruntled batsman will find little support in the dressing room who may assign primary blame on poor shot selection.

The same is true in reverse for a full length delivery pitching on middle and leg which should have been punished through mid wicket for 4, but is missed and would have gone on to hit the outside of leg stump. Far more "reasonable doubt" is given on leg stump than its favoured sibling - off stump.

Dickie Bird was regarded by many as the best umpire of his time. Were his decisions better than the next umpire? Or was his personality and rapport with the players the real reason his career average *annoyed points* were low.

There is great variation for how people think LBW should be officiating. At one end there is the scientist who would argue for the precise definition within the laws. At the other end there is the artist who thinks the umpire should award the decision to the most worthy team based roughly on the criteria defined in the laws.

Hawk-Eye's role in providing technology is to assist the umpire make the decision he would want to make without necessarily changing the compromise between subjectivity and definitive fact. There are many decisions over the course of a Test

series where the artist and scientist would agree that a mistake has been made and it is these decisions which are most important to use technology to correct.

Under the existing protocol a ball has to be hitting the stumps by approx 4.5cm to be definitely given out (assuming other elements are OK). This inner zone of the stumps – the “zone of certainty” is not there to account for inaccuracies in Hawk-Eye. Hawk-Eye is much more accurate than that, and I invite any sceptic to come and see how Hawk-Eye works before disagreeing. From independent tests conducted, pitching and interception points had an error of 2.6mm. The prediction was under 1cm in almost all cases. In the “extreme” cases where a batsmen is a long way down the wicket, or there is little data post bounce it would be under 2cm. Having a zone of certainty is there to maintain some of the art of umpiring and hence ensure that the use technology doesn't change the fabric of the game.

The ICC, and in particular David Richardson, have done a good job in listening to feedback and responding to issues which have arisen. The improvement in the protocol is a testament to that. The ICC meet again in May, when the topic will be discussed. Below is a list of issues which they may consider:

On field call area

Extend the “on field call” area beyond the stumps. This would enable an OUT decision to remain as OUT if Hawk-Eye shows it just missing the stumps. I think England assigned more “annoyed points” when Swann's successful LBW appeal to Morkel was over turned than South Africa would have done if the original decision was upheld. Equally the North decision in Australia. Jonathan Agnew suggested it should be extended above the stumps and to the off side, but not the leg side. One can understand the justification, but try explaining the reason to an American!

Losing a review

Should a fielding side lose a review when Hawk-Eye returns an answer of “on field call” ie they were correct to review, just not correct enough?

Sex it up

“Sex up” the review system by giving it a better name and showing the process on the big screen in the ground. Hawk-Eye has added an extra element of drama and entertainment to tennis, which cricket doesn't currently have. What is there to hide? A 3rd umpire shouldn't be influenced by crowd noise any more than a standing umpire or a TMO in rugby, where the replays are shown on the big screen.

Carry over unused reviews

Limit the number of unsuccessful reviews per innings, but allow any unused reviews from the 1st innings to be carried over to the 2nd. This prevents pointless reviews when sides are 9 wickets down.

Time taken to make a review

It is clear teams are already waiting for a signal from the dressing room. Some people think that this acceptable, but the majority appear to feel that this is wrong. On an operational level, the review process can be sped up. For example, it is not necessary to show 4 replays trying to determine if there has been an inside edge on a LBW appeal, if Hawk-Eye is available and is going to show a NOT OUT decision.

Communication

Communication of the review protocol so cricket fans fully understand it and the reasons for the decisions made. Currently I haven't seen a good explanation on any cricket website and many of the arguments against the referral system are made by people who don't understand it.

Sponsor

Finding a sponsor. Tennis now makes money from Hawk-Eye, and for the referral system to be viable long term, it can not be a drain on financial resources or entirely reliant on the broadcasters.

Take in to account the reason for the initial decision

The existing protocol is exposed to many *annoyed points* in the scenario when a batsman goes back to a ball which keeps a bit low and is clearly going on to hit the top of middle. The standing umpire gives a NOT OUT decision only because he thinks there has been an inside edge. The TV replays show conclusively that it was pad first, but the NOT OUT decision remains because the ball was hitting the stumps just above the zone of certainty.

Umpire vs player reviews

It appears that the only reason why the umpires are allowed to refer some decisions, but the players have to review others is historic. How would you explain the rationale to an American?

Other technical approaches to edges

The ICC puts out a request to tender to R & D companies to develop a touch sensitive tape which could be practically applied to the edges of a bat and would leave a mark for approx 30 seconds if a ball hits it. This approach could potentially be faster, cheaper and more reliable for detecting an edge. It would also work at all levels of the game. Hotspot is a brilliant technology, but most "annoyed points" with the referral system are on edges. Even if a material could not be found, it would be a good PR exercise for the ICC in being pro-active in finding technical solutions rather than being entirely reliant on the broadcasters.