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## IS SCIENCE A CONTACT SPORT?



Hap McSween

My university plays (American) football—these are big-time contests, held in a stadium that seats more than a hundred thousand spectators and televised more often than not. Watching a game not long ago, I was taken aback by the crowd's vociferous reaction to a referee's ruling against the home team. Based on an instant replay projected onto a gigantic screen at the top of the stadium, the ruling seemed fair to me. The referee was close to the action and obviously had some experience in such matters. But the crowd around me, none of whom I assume actually had any experience refereeing, was furious at the call and roared its displeasure. Later in the game, a similar ruling against the opponent resulted in the crowd's jubilation. I doubt that this was their vocal affirmation of excellence and accuracy in officiating. A good call was, by definition, one that favored the home team. The loyal crowd just wanted their team to win, and any rulings by the guy in the striped shirt that did not further that cause were roundly booed. This is American football, but the same fan behavior (or worse) is a part of the other "football" played around the world.

We all understand this, of course. Sports are all about winning, for the players and for the spectators, and it is easy to get caught up in the game and lose track of the ideal of sportsmanship. The reason I bring this up is that science is sometimes described as a contact sport. In science, competing ideas often collide. We are obligated to champion our hypotheses, at least until they are proven wrong, and to marshal evidence against hypotheses with which we disagree. This is the way science works. Our contests are based on ideas rather than brawn, but sometimes they can get confrontational or even nasty.

Science, too, thankfully has its referees: reviewers who provide insightful criticisms of manuscripts, editors who adjudicate when reviewers don't agree, book reviewers who provide valuable insights into

new offerings, panel members who fairly decide which research proposals are most deserving of funding, members of advisory boards that thoughtfully set science priorities when everything can't be supported. Our referees ensure that we play by the rules, which for science means that truth and accuracy should ultimately win.

For the most part, being a referee is a difficult and thankless job, an uncompensated duty that we assume for the betterment of our shared scientific community. In science, virtually all of us, sooner or later, get to be referees. Few of us are actually trained for these responsibilities, though, and that is probably unfortunate. Those of us who teach need to share with our students the rules and techniques by which we referee, and instill in them an appreciation for the trust we place in referees and a sense of respect for its paramount importance to science.

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It is human nature to be loyal to the home team, to our colleagues and friends, and even to our scientific passions. Loyalty colors the way we respond to our pastimes, our politics, and our professions. It seems to me that in the past few decades, various factions of society have learned to express their loyalty in some angry and less-than-productive ways, such as rudely booing the opposing team and polarizing our political discussions. I don't sense that this societal hardening has spilled over into science yet. But we should guard against it. My hope, and my expectation, is that the community of scientists will continue to conduct their sparring contests with respect, and to value our referees and spare them the jeers that greet the guys in the zebra shirts on game day.

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Football referee signaling a touchdown. PHOTO YOBBRO10 | DREAMSTIME.COM