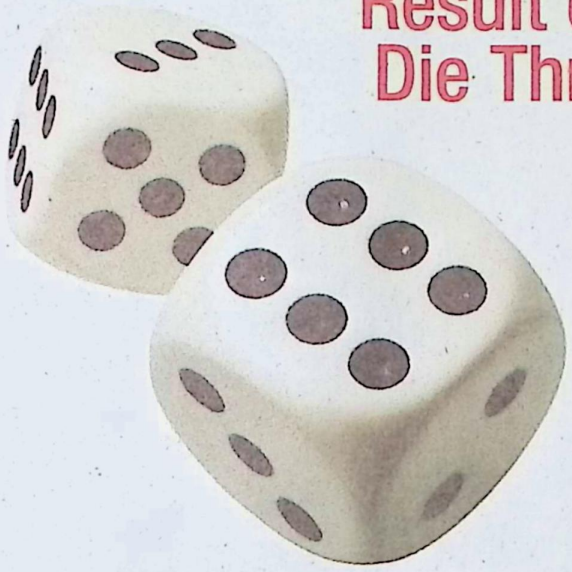
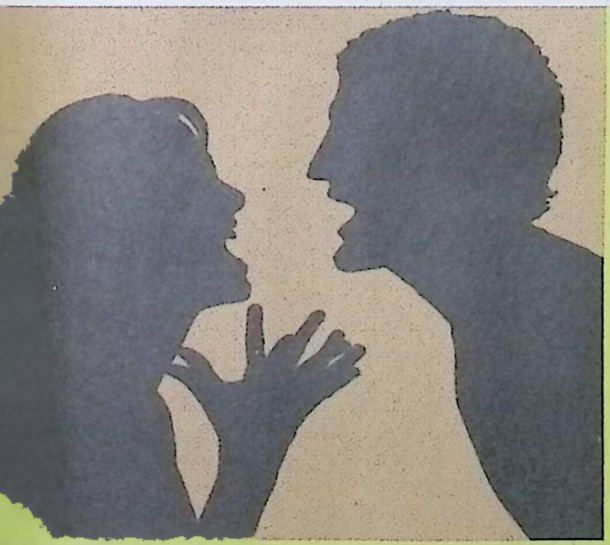
Predicting the Result of a Die Throw



By applying chaos theory and some high school level mechanics, researchers from the Technical University of Lodz, Poland, have spotted something predictable in the seemingly random throw of the dice.

They decided that if some external conditions such as the viscosity of the air, the acceleration of gravity, and the friction of the table are known it is possible to predict the outcome when rolling the dice.

The researchers created a 3D model of the die throw and compared the theoretical results to experimental observations. By using a high speed camera to track the die's movement as it is thrown and bounces, they found the probability of the die landing on the face that is the lowest one at the beginning is larger than the probability of landing on any other face. This suggests that the toss of a symmetrical die is not a perfectly random action.



the *Journal of Communication* found that people in long-distance relationships often have stronger bonds and deeper, communication than normal relationships.

Crystal Jiang of City University of Hong Kong and Jeffrey Hancock of Cornell University, asked dating couples in long-distance and geographically close relationships to report their daily interactions— face-to-face, phone calls, video chat, texting, instant messenger, and email. Over a week, they reported to what extent they experienced intimacy. They found that long-distance couples felt more intimate to each other, and this greater intimacy is driven by two tendencies: long-distance couples disclosed themselves more, and they idealized their partners' behaviours. These two tendencies become more manifested when they communicated in text-based,



asynchronous and mobile media because they made more efforts to overcome the media constraints.

Recent statistics show that 3 million married couples in the US live apart; 25-50 percent college students are currently in long-distance relationships and up to 75 percent of them have engaged in one at some point.