

ON MY MIND

YANEER BAR-YAM ON PREDICTING AND PREVENTING ETHNIC VIOLENCE

Violent conflict between ethnic groups has crippled humanity for millennia. But an emerging scientific understanding of the problem's roots may yield new ways to promote and maintain peace.

Ethnic and religious violence has been a major cause of suffering and unnatural death in the world. In just the past two decades, Yugoslavia, Rwanda, India, Sudan, Iraq, and Kenya have seen hundreds of thousands, if not millions, of deaths, and the social dislocation and suffering of many millions more.

In recent years preventive efforts have focused on social factors that can cause violence, including political power, economic conditions, mobilization by elites, extremism, grudges, and other aspects of human behavior. All of these may contribute to the immediate causes or conditions of violence. However, this insight has not led to policies effectively enabling its sustained prevention.

My colleagues and I have shown that the geographical arrangement of ethnic groups itself is capable of predicting where ethnic violence will occur. The nature of the interactions between

groups depends on these geographical conditions. When groups are well mixed or well separated, they don't tend to fight. But violence can erupt when groups are distributed in patches of a size where people feel they have (or wish to have) dominion—and others are impinging on their space.

Using census data from India and the former Yugoslavia, we predicted the locations of violence in these two very different contexts with surprising accuracy. Despite the differences between the groups and the reasons for conflict, the same computer model with the same parameters was able to pinpoint regions within these two countries where violence would be likely to take place.

The significance of this success transcends the ability to simply identify locations of violence to reach a better understanding of how to create conditions enabling peace. The model helps us

recognize what conditions we should avoid, and how to establish better policies.

Our model suggests multiple ways to prevent the eruption of violence, and different approaches will be effective in different places. In some places it may be possible to encourage the mixing of groups; in other places it may be more practical to create clearly defined boundaries. While some may find a particular approach undesirable, the important step is to discuss policy options in view of the best scientific information.

Just as policy on global warming has been informed by science, policy in other domains can be aided as well. With the right steps, 2009 could be the year when the surging tides of ethnic violence begin to ebb, diminishing into a nightmare of the past.

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