Culture of honor reveals a violent streak

Many social scientists have theorized that strong families and stable communities dampen human aggressive tendencies. A new study suggests, however, that in regional cultures that condone certain types of hostility, social stability may promote violence and even murder.

This theory, which suggests the need for greater cultural sensitivity in violence-prevention efforts, gains support from population data comparing southern and western states to northern regions, says psychologist Dov Cohen of the University of Illinois at Urbana-Champaign. The South and West have "culture of honor" traditions that encourage aggressive responses to insults and threats to oneself, one's home, and family, Cohen asserts. Within those regions, areas with solid families and communities have the highest rate of honor-related homicides and the greatest support for violent social policies and hobbies.

In other words, Cohen speculates, well-socialized, upstanding folks in these regions are at least as capable of committing honor-related violence as those who don't know or care what society expects of them.

These results, with related field and laboratory experiments conducted by Cohen and Richard E. Nisbett, a psychologist at the University of Michigan in Ann Arbor, provide intriguing hints about how regional cultures can affect violence rates, comments psychologist Margo Wilson of McMaster University in Hamilton, Ontario.

"This type of behavior doesn't hold for everyone in the South and West all the time," Cohen remarks. "But there's an important cultural element of honor in these regions that gets strengthened and perpetuated through social cohesion."

Frontier conditions throughout the South and West for much of U.S. history fostered a culture of honor, argue Cohen and Nisbett. Without effective law enforcement and strong communities, men came to rely on themselves for protection of family and property. Personal honor acquired much social importance, as did violent responses to those who breached it even in minor ways, the researchers argue.

Cohen describes three tests of this hypothesis in the August JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY.

First, he examined federal homicide data from 1980 through 1983 for white males in 27 states in the South and West and 23 in the North. Overall, murder by whites is more common, per capita, in the South and West than in the North, particularly in rural areas. Cohen compared argument- and brawl-related homicides by white males, ages 15 to 39, with murders committed by the same group of males in the course of burglaries or other felonies. Murders resulting from brawls and arguments often involve insults and competition for status.

Many more argument-related homicides by white males occurred in southern and western counties that had strong families and communities, as measured by residential stability, the proportion of two-parent families, and related family data, than in counties with weaker social organization. In the North, counties boasting the most stability showed the lowest rates of such homicides. These findings held regardless of family income and education levels.

Cohen also found that areas with stable families and communities and regular religious participation in the South and West had the highest rates of legal violent pursuits, such as watching violent television shows and hunting. The opposite pattern held for communities in the North.

Finally, Cohen observed that in the South and West, areas of greater social organization elected representatives to Congress and the U.S. Senate most likely to endorse U.S. military actions, a strong national defense, and weak gun control laws. Again, the reverse held in the North. —*B. Bower*

Honor bound: A Union and a Confederate soldier duel to the death.

Sight unseen: Quantum errors found, fixed

Bits of information in a quantum computer suffer constant peril. Because mere atoms are the keepers of data in the rudimentary machines built so far, small amounts of random energy can easily change bits, sowing errors that are deadly to reliable computing.

Scientists have proposed various methods to repair such mistakes, but a team of scientists has now turned theory into practice by successfully demonstrating a specific quantum method to correct one type of error. The technique might never be practical itself, but it improves the outlook for useful quantum computers. Theorists predict that quantum computers can outperform conventional computers for certain types of calculations (SN: 6/14/97, p. 367).

Quantum computers derive their unique power, but also their fragility, from the rules of quantum mechanics. Quantum bits, or qubits, can represent not just 0 or 1, as in conventional computers, but also mixtures of 0 and 1.

In the past few years, theorists have proposed that quantum computers could surmount their error-prone nature by continually fixing errors as they crop up (SN: 2/21/98, p. 127). Toward that goal, they devised procedures for using numerous copies of a bit to both flag errors and indicate the correct settings. Although these extra bits contain the key to repairing errors, quantum mechanics won't allow the mingled states of the bits to be directly measured. Reading a qubit causes it to collapse into just one state, wiping out data, so theorists have proposed ways to indirectly observe a qubit's status.

Experiments described in the Sept. 7 PHYSICAL REVIEW LETTERS offer the first laboratory evidence that such quantum error-correcting schemes work in practice. A research team led by David G. Cory at the Massachusetts Institute of Technology used the simplest form of quantum error correction—a three-bit code—to find and fix errors in the qubit blend of 0s and 1s. Scientists from Harvard University, Los Alamos (N.M.) National Laboratory, and Bruker Instruments in Billerica, Mass., also participated in the experiments.

The group used strong magnetic fields and radio wave pulses to manipulate the nuclear spins of atoms in pencil-size test tubes of liquids, such as a solution of the amino acid alanine. The technique, called nuclear magnetic resonance (SN: 1/18/97, p. 37), is commonly used in medicine to reveal soft tissue structure. To avoid the pitfall of directly measuring qubits, the team gingerly probed for differences among the three error-correction qubits, which are identical in the absence of errors.

The researchers expect to achieve "full-blown" error correction in the next few months using 5-bit codes that also deal with a second type of bit error, says Raymond Laflamme, a Los Alamos member of the team. However, he warns, the error-correction scheme verified by the team ultimately falls short as a practical approach because it excessively weakens radio signals transmitted by the atomic nuclei qubits so it can't be used to continuously monitor for errors.

Nonetheless, "it's an important demonstration of the concept," says David P. DiVincenzo of the IBM Thomas J. Watson Research Center in Yorktown Heights, N.Y. —*P. Weiss*