

Politics can interact with evolution to shape human destiny

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Politics can have unintentional evolutionary consequences that may cause hastily issued policies to cascade into global, multigenerational problems, according to political scientists.

"Most western democracies look at policies as if they are bandages, we fix what we can and then move on," said Pete Hatemi, associate professor of political science, Penn State. "But we need to consider generational policies so that we can fix what we can now, but also be prepared for what comes next."

The researchers said that there is an interaction between political and cultural forces and evolutionary results. Genes can shape [culture](#) and [political institutions](#), which in turn can shape biology and physiology, passing on certain traits to future generations. The environment's influence on adaptation and how it changes biology is better known and often easier to observe, said Hatemi, but the way culture can affect gene expressions in future generations is often harder to show and may take longer to reveal itself.

One more obvious way to see how culture affects natural selection is the effect that politically inspired atrocities—for example, Communist purges in China and USSR and the Nazi Holocaust—have on genetic diversity, according to the researchers, who released their findings in a recent issue of *Advances in Political Psychology*.

Other examples are just beginning to be studied. For example,

researchers are starting to investigate whether, in certain conflicts, such as the Sudan, children who endured violence as soldiers, or mothers who suffered stress and malnutrition during famines, experience shifts in gene expression.

"Biology is affected by culture just as culture is changed by human biology," the researchers write.

Hatemi, who worked with Rose McDermott, the David and Marianna Fisher University Professor of International Relations, Brown University, said this interaction between culture and biology could explain why some troubled hot spots remain troubled over many years. People who are born in aggressive environments may pass on traits that make it more likely that [future generations](#) react to certain situations violently, he added.

"These changes, then, may have a long-range effect on children and on who those children become when they grow up," said Hatemi. "Those who grow up in a violent culture may have more of a tendency to respond with aggression in the future."

Another problem is that politicians typically create policies in a one-size-fits-all approach, Hatemi said, but there are considerable differences among groups.

"Education is a good example," said Hatemi. "We try to create educational policies to benefit the greatest number of people, but we also know that not everyone responds to education in the same way."

A similar dynamic may be at work in the creation of policies that guide health care and foreign affairs. Not all groups respond to diets in the same way, for example, and reproductive health varies across populations.

"We suggest that one of the reasons for the common failure of well-designed, well-intentioned social programs lies in the implicit 'one size fits all' assumptions, as well as the mismatch between modern intentions and older psychological drives and incentives," the researchers write.

While genetics is often seen as a rigid blueprint for destiny, the researchers suggest that humans are extremely adaptable and capable, to some degree, of molding evolutionary forces for good and bad. Humans have managed their environment by developing everything from tools and weapons to medical technologies, from crutches to vaccines.

"Evolution and genetic influence are, of course, important, but that doesn't mean it's fixed," Hatemi said. "We can shape policies that can shape evolution."

Provided by Pennsylvania State University

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