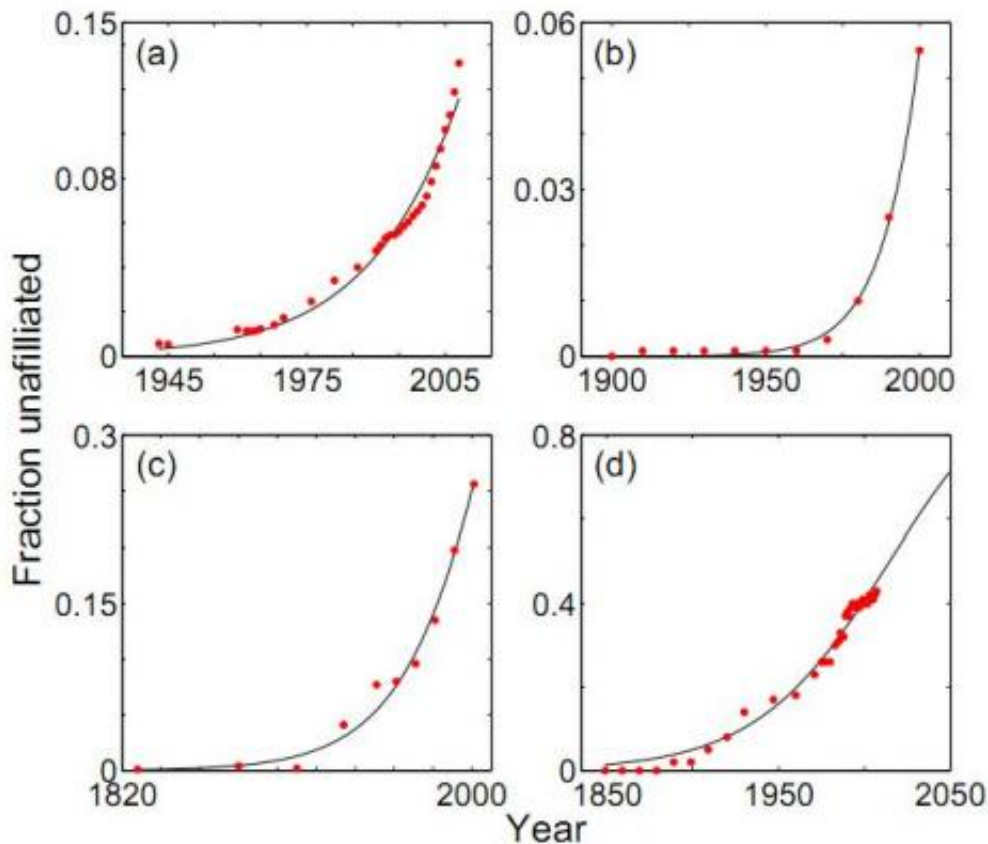


Religion on the verge of extinction in many countries: math study

March 23 2011, by Deborah Braconnier



Percentage religiously unaffiliated versus time in four regions: (a) the autonomous Aland islands region of Finland, (b) Schwyz Canton in Switzerland, (c) Vienna Province in Austria, (d) the Netherlands. Image: arxiv.org/abs/1012.1375

(PhysOrg.com) -- A study recently released by a team from

Northwestern University and the University of Arizona shows that religion and religious affiliations may be on the verge of extinction in the nine countries studied. Utilizing a mathematical model of nonlinear dynamics, the team analyzed data from censuses taken in nine different countries dating as far back as a century.

The team studied Australia, Austria, Canada, the Czech Republic, Finland, Ireland, New Zealand, Switzerland, and the Netherlands because these countries had gathered census information on religious affiliations for as long as a century.

Results came back from the data analyzed that these nine countries were showing an increase in responses by individuals categorizing themselves as non-affiliated with religion. Data shows that the non-affiliation percentage in the Netherlands is 40 percent and the highest number seen was in the Czech Republic with 60 percent.

The team took those percentages and applied the nonlinear dynamics model they created, with parameters adjusted for the merits of membership in a non-religious category. The theory behind this non-affiliation increase boils down to something similar to [social networking](#). Groups with larger numbers and more members offer more attraction to be a part of. The bigger a group, the more members they are able to draw in.

With people perceiving a greater benefit from not being affiliated with a religion, the idea that they will draw in more people of the same belief leads to the idea of religious [extinction](#) in the countries studied.

One of the team's members, Daniel Abrams of Northwestern University, used a similar [mathematical model](#) in 2003 to show the reasoning behind the decline in certain world languages being spoken. It shows that the decline in such languages as Welsh could be connected to the societal

gain given to speaking a language such as English over the more regional Welsh language.

The paper also suggests that this basic theory could be used and applied to any social system, suggesting things such as smokers versus non-smokers. With this idea in mind, one can see a similar idea. With the laws changing worldwide to ban smokers, and the stigma placed on them, the social benefit is no longer there, leading many to quit and the draw for new smokers no longer there.

The researchers believe that by using the mathematics of dynamical systems and perturbation theory, the ability to better understand and make assumptions in human behavior will be possible.

More information: A mathematical model of social group competition with application to the growth of religious non-affiliation, arXiv:1012.1375v2 [physics.soc-ph]. arxiv.org/abs/1012.1375

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