

Climato-economic habitats support patterns of human needs, stresses, and freedoms

Evert Van de Vliert

Department of Social and Organizational Psychology, University of Groningen, Netherlands, 9712 TS Groningen, The Netherlands
Department of Psychosocial Science, University of Bergen, Norway, N-5015 Bergen, Norway
e.van.de.vliert@rug.nl
<http://www.rug.nl/staff/e.van.de.vliert/index>

Abstract: This paper examines why fundamental freedoms are so unevenly distributed across the earth. Climato-economic theorizing proposes that humans adapt needs, stresses, and choices of goals, means, and outcomes to the livability of their habitat. The evolutionary process at work is one of collectively meeting climatic demands of cold winters or hot summers by using monetary resources. Freedom is expected to be lowest in poor populations threatened by demanding thermal climates, intermediate in populations comforted by undemanding temperate climates irrespective of income per head, and highest in rich populations challenged by demanding thermal climates. This core hypothesis is supported with new survey data across 85 countries and 15 Chinese provinces and with a reinterpretative review of results of prior studies comprising 174 countries and the 50 states in the United States. Empirical support covers freedom from want, freedom from fear, freedom of expression and participation, freedom from discrimination, and freedom to develop and realize one's human potential. Applying the theory to projections of temperature and income for 104 countries by 2112 forecasts that (a) poor populations in Asia, perhaps except Afghans and Pakistanis, will move up the international ladder of freedom, (b) poor populations in Africa will lose, rather than gain, relative levels of freedom unless climate protection and poverty reduction prevent this from happening, and (c) several rich populations will be challenged to defend current levels of freedom against worsening climato-economic livability.

Commentary: Cold climates demand more intertemporal self-control than warm climates
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George Ainslie

School of Economics, University of Cape Town, Rondebosch 7701, South Africa; Department of Veterans Affairs, Coatesville, PA 19320.
George.Ainslie@va.gov
www.picoeconomics.org

Abstract: A climate that is too cold to grow crops for part of the year demands foresight and self-control skills. To the extent that a culture has developed intertemporal bargaining, its members will have more autonomy, but pay the cost of being more compulsive, than members of societies that have not. Monetary resources will be a consequence but will also be fed back as a cause.

The target article reports the correlates – and putative causes – of the prevalence of five kinds of freedom, which Van de Vliert summarizes as the badge of advanced culture, autonomy: “Freedoms are defined here as opportunities to be able to make and implement autonomous choices of goals, means, and outcomes” (sect. 1, para. 2). In developmental literature, cultural advance is often equated with economic development and, as such, with specific historical factors, particularly investment, commercial expansion, scale effects, and technological knowledge (Mokyr 1990). There is obviously a considerable endowment effect in the geographical distribution of these factors, but from ancient times the assertion has been made that early endowments are related to coldness of climate, as in the “equatorial paradox” (no

developed countries in low latitudes – Parker 2000, pp. 1–15). The assertion that climate is or was a major influence on development has become known as environmental determinism and has been dismissed in some quarters as Eurocentric (e.g., Blaut 2000). “Neo-environmentalist” attempts to use some of its observations in more nuanced models have met with something close to outrage (e.g., Radcliffe et al. 2010). Thus, in trying to reintroduce climate as a factor in cultural advance, the Van de Vliert understandably distances himself from the older determinists.

Van de Vliert's angle is that wealth interacts with climatic extremes to motivate cultural advance: Rich countries are challenged to grow by climatic problems, whereas poor countries are intimidated by these problems. However, his use of “monetary resources” as an independent variable is debatable, because wealth would seem to be as much an outcome of cultural advance as a determinant. It is true that wherever Van de Vliert reports what variance in a freedom is attributable to climatic demands and monetary resources, money outweighs climate, often heavily. But money is not a given resource, and its interaction with climate and with itself (as in money making money) must be internally complex. The role of money as an outcome is neglected. It would have been good to know even how much of the variance in wealth was accounted for simply by climate, beyond the report that money and climate “are negligibly [sic] overlapping predictors of freedom” at $r = .37$ (sect. 3.3). In any case, the question of how countries might have been endowed with the monetary factor is left dangling.

Van de Vliert has taken some trouble to differentiate his other independent variable, “climatic demands,” from the equatorial paradox. However, although he describes these demands as arising on both sides of the “thermoneutral zone” (sect. 2.1, para. 1), all the countries that are named in the right-hand third of his Figure 2 or have positive climatic demand values in Electronic Supplement 1 are “demanding” because of cold seasons. He uses “temperate” oddly to describe such countries as Honduras, Somalia, and Equatorial Guinea (Fig. 2). If we accordingly take the main challenge of climate to be cold, there is a simple hypothesis that makes this challenge a factor in both economic and cultural advance: A climate that is too cold to grow crops for part of the year demands foresight and self-control skills, which then serve as resources for other development. Van de Vliert recognizes that the stress of cold is different from that of heat – a need for “heating and eating” versus tropical diseases (sect. 2.3, para. 1) – but does not point out that, until recently, self-control skills have had very little effect on the latter. In other words, climates that impose stress with limited growing seasons punish lack of foresight. Those that impose stress with endemic parasites and diseases have not done so until recently.

Van de Vliert’s unique invention is to discern three clusters of cultures, rather than the conventional continuum: cold countries may be rich or poor, with a middle cluster of countries, rich and poor, unlike the countries at either extreme in that they are easygoing and “laissez faire.” He relates the middle phenomenon to a lack of climatic demands, because “comfort appraisals will not motivate people much to give primacy to working...” (sect. 2.4.2, para. 1). This model has people simply adjusting their effort according to caloric need, which might not in itself be a great inducer of cultural development.

I would argue that it is the alternation of seasons that demands self-control, a quantum leap in adaptation. Examination of the means of self-control evoked by climatic demand – that is, the challenge/threat of cold seasons – roughly supports the author’s three-fold division, at least for cultures’ historical roots when most people were subsistence farmers: a farmer who faces cold seasons must not only foresee their recurrence, but take steps to invest current effort in preparing for them. Conventional economics has always assumed that the foresight itself will evoke the necessary motivation, but motivational science has now caught up with common sense to discredit that belief (Ainslie 1992; Laibson 1997; Ross 2005). People innately overvalue the near future (as do nonhumans, whose long-term welfare depends on instincts). We do so not only for short periods of emotional arousal, but also in procrastinating and in many kinds of failure to invest (Ainslie 2012). In climates where long-term comfort – or survival – requires foreseeable periods of discomfort, a poor farmer must protect his seed corn from what he can expect to be dominant impulses to consume it. Foresight alone will not provide this protection; he must bring additional incentives to bear on his future self to oppose the foreseen impulses.

The simplest but least flexible means is for the farmer to submit to the authority of his “collectivistic ingroup agency” (sect. 2.4.4, para. 3), that is, to surrender much of his independence to external powers, as the climatically threatened poor are said to do. However, if his culture has taught him how to interpret individual choices as test cases predicting series of his own future choices, he may recruit the needed incentive by intertemporal bargaining: He can perceive his long-term prospects to be at stake at each move in a variant of a repeated prisoner’s dilemma game with his future selves. He can thus develop personal willpower, the key component of autonomy. I have argued elsewhere that this is also the mechanism of the Protestant ethic (Ainslie 1992, pp. 203–205), which has been said to promote that powerful developmental force, market capitalism (Weber 1904/1958).

The intertemporal bargaining solution is not without cost. To the extent that people make choices on the basis of their self-signaling value, they will become lawyerly with themselves, dry, rule bound, compulsive. People who have not encountered a great need for self-control – such as Van de Vliert’s climatically unstressed group – may experience adepts at willpower as cold and socially distant, not models they want to emulate. Granted, winters are less dangerous now than they were in historical times. It may still be that “families in richer nations spend up to 50% of their household income on climate-compensating goods and services [and 90% in poor ones]” (sect. 2.2, para. 2), but these goods have a large component of roominess, privacy, taste, and style. Nevertheless, winters still punish the unprepared, a risk that denizens of warm climates can afford to ignore. The climate factor must certainly still be added to the multifarious other incentives that bear on self-control and determine peoples’ “cultural syndromes” (sect. 2.4.2, para. 4).

NOTE

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