The Feminist Paradox: An Index of Cultural Evolution

Ronald S. Immerman
Case Western Reserve University Cleveland, Ohio
Wade C. Mackey,[1]
Spring, Texas

The twentieth century witnessed a sea-change in cultural evolution. Effective and available reproductive technology was aligned with the ideology of gender egalitarianism, but ideological and moral systems remain a variable. As a consequence of that variability, gender complementarity as a worldview is placed in direct competition with gender egalitarianism. The argument is presented that over generations gender complementarity has a clear and decisive advantage over gender egalitarianism. However, increased autonomy and freedoms for one cohort of women will be systematically followed by decreased autonomy and freedoms for subsequent cohorts of women. No current community has managed to solve the paradox, and such a putative solution is still over the temporal horizon.

Key Words: Cultural evolution, gender roles, tertiary education

That cultures change over time is a given. Rome of the 20th century is quite different from the Rome of Caesar. The inhabitants of Manhattan, New York, have undergone a series of transformations since 1620. Chaucer's England is clearly distinct from Elton John's England. Since 1492, cultural traditions in both North and South America have been profoundly altered. Contemporary mainland Australia and Tasmania are both distinct from their cultural heritages of 1000 years ago.

The agricultural revolution was a sea-change from the world-view of hunters and gatherers. The industrial revolution again altered the perspectives about what was considered a normative world. It is argued here that the innovations of reproductive technologies – aligned with the emergence of an ideology of gender egalitarianism – have also shifted the trajectory of cultural evolution.

Such changes could be considered random with no predictability at all in terms of the direction of changes. On the other side of the conceptual coin, such changes could be considered to reflect patterns that are both detectable and predictable. This article attempts to profile one

[1] Address for correspondence: Waddmac@aol.com

of those changes that has arisen with the confluence of (i) innovations in reproductive technologies and (ii) the ideology of gender egalitarianism.

In the early development of Anthropology as a discipline, "cultural" evolution – across generations – was an important component to Anthropological debate and scholarship. The direction and speed and magnitude of cultural changes received a good deal of theoretical attention (e.g. Bachofen 1861, Carneiro 1973, Frazer 1958; Lowie 1920, Morgan 1963, Maine 1873, Steward 1955, Tylor 1851. See Harris 1971 for a review of the literature on macro-theories; cf. Goodenough 1999.) Impetuses of such changes have been conceptualized in the form of shifts in technology (White 1959, Childe 1951), economic structure (Harris 1979, 1998, Marx 1859; cf. Fischer 1996), communication efficacy and forms of media (McLuhan 1964, 1967, 1989). Recent contributions have focused more on modeling/simulations and non-human examples of "cultural" evolution (e.g. Nisbett 1990, Sereno 1991, and Takahasi 1998; cf. Agner 1999, Graber 1995, Pocklington and Best 1997). For theories and discussions on bio-cultural feedback loops across generations, see Barkow 1980, 1989; Durham 1979, 1982, 1991; Boyd and Richerson 1985, 1988 and Lumsden and Wilson 1982, 1985; cf. Brown's 1991 presentation of human universals.

However, the earlier enthusiasms waned. Part of the lessened interest was the lack of falsifiability to the macro-theories which were theoretically elegant, but difficult to hone down to testable hypotheses. In addition, when predictions could occur, there were too many counter-indicative cultures (Popper's "Black Swans" [Popper 1959, 1962]) which tended to invalidate the original model.

This effort attempts to make a contribution to the domain of cultural evolution. The attempt includes (1) constructing a testable hypothesis, (2) testing the hypothesis across cultures, and (3) interpreting the results in the context of a culture's competitive trajectory and viability across generations.

This inquiry proffers that the variable – access to tertiary education by gender – is systematically aligned, in a non-trivial manner, with the trajectory – across generations – of any given culture.

Given the importance of mating and reproductive strategies – writ small for families and writ large for the commonweal – the initial ques-

tion to be asked and addressed becomes: "Is enhanced access for women to tertiary educational institutions (educational institutions beyond "high school") related to reproductive histories?"

Method

The United Nations surveyed enrollment figures in tertiary educational institutions by gender (Unesco 1999). Data were also available, across countries, on the rate of natural increase (Central Intelligence Agency 2002). "Natural increase" is determined by subtracting "death rates" (number of deaths per 1000 population) from "birth rates" (number of births per 1000 population) for any given year. If the resulting number is positive, then the population is growing, if immigration and/or emigration is not considered. If the number is negative, then the population is shrinking. If the number is zero, then the population is in stasis. One hundred and sixty-four countries had data for both indices: (1) percentage of students, by gender, in tertiary institutions and (2) rate of natural increase.

It should be noted that "nation," although a coarse filter, will be the unit of analysis. We will use this as the unit even though the more coarse-grained the filter, the higher the probabilities of false negatives. However, if a pattern is found within this coarse-grained filter despite all the noise in the system, the found signal is probably of some potency. And, as visited below, patterns – signals – were found.

Results

Across 164 nations, the mean percentage of females – rather than males – in tertiary education was 41% (sd = 16). Across 168 nations, the mean percentage of natural increase was 1.4% (sd = 1.1%). The relationship between the two variables, wherein both variables were represented, was negative and significant ($r_p = -.514$; $p < .001$, $n = 164$)[2]

[2] A problem this type of analysis faces is that of the relationship between aggregate data and individual data. Framed differently, aggregate data are not equipped to isolate behaviors of an individual, and, thus, inferences from an aggregate, an ecological unit, are generally inappropriate when directed at any individual (see Robinson [1950] for an early discussion of the problem, and see Borgatta & Jackson [1980], Goodman [1959], Hanushek, Jackson & Kain [1974], King [1997], Langbein & Lichtman [1978], Pedhazur [1982] for subsequent discussions plus partial solutions to the problem of relating aggregate data to individual behavior). Suffice it to say that the analysis below is not construed to specify how any one individual would or would

That is, as the proportion of students that were women (compared to men) who were enrolled in tertiary education became higher, the rate of natural increase became lower. Approximately 25% ($-.514^2 = .264 = 26.4\%$) of the variance in the rate of natural increase could be attributed to changes in the proportion of women as students. Thus, the inverse relationship seems not only more real than merely apparent, but, given the potential for noise in the system, it is also fairly robust.

If the total fertility rate (TFR), total number of children born per woman, is used instead of the rate of natural increase, the relationship is also significant ($r_p = -.663$; $n = 164$). Over 40 percent ($-.663^2 = .440 = 44.0\%$) of the variance in the TFR is attributable to changes in the percent of women (rather than men) enrolled in institutions of tertiary education. Note that the TFR and the percent of natural increase were significantly correlated ($r_p = .823$, $p < .001$; $n = 168$).

Of course, anyone familiar with the field would not be surprised at the outcome. A discussion about the "demographic transition" is a mainstay in courses in the social sciences. The relationship between female fertility and education levels has been a cottage industry for decades with the same results and conclusions being reached. See Hirschman 1994; Hirschman, Tan, Chamrathrthirong and Guest 1994; Mason 1997; Robinson and Harbison 1995; Van De Kaa 1996; *inter alia*. Accordingly, this statistic is not presented as being new or innovative. What we are now adding are the consequences of such a statistic, not merely for the individuals involved at that time, but for the impact such patterns have upon cultural evolution. Such a putative impact has not been as extensively analyzed.

Of course, these two variables do not operate in a vacuum. Neither the composition of tertiary institutions nor fertility levels exist in isolation. As Figure 1 illustrates, there are a myriad of relationships aligned with the rate of natural increase. The model presented here suggests that as the *per capita* income within a cash economy increases, (i) the agriculture work force is lessened, (ii) the involvement of women in higher education and politics increases, and (iii) the percent of natural

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not behave. The analysis below is content to attempt to discover what – if any – behavior patterns are aligned with other behavior patterns.

increase is lowered. Figure 1 suggests a model of how the variables meld together. To wit: when the collective impact upon natural increase by (i) the percentage of females in tertiary educational institutions, (ii) the percentage of females in their national parliaments, (iii) the percentage of the labor force engaged in agriculture, and (iv) gross domestic product (GDP) *per capita* income are examined as an aggregate, the result is also significant ($R = .644$; $p < .001$; $n = 151$). These four (independent) variables account for over a third (adj. $R^2 = .399 = 39.9\%$) of the variance in the level of natural increase.[3] See Figure 1. Thus, it is argued that when women are able to (i) have a career and (ii) participate in political power structures, and (iii – iv) move from subsistence agriculture to a job for salaries/wages, then birth rates and rates of natural increase are systematically lowered.

Discussion

There are three sub-samples within the larger sample that seemed particularly interesting: Sub-Saharan Africa, Europe, and a Moslem swathe reaching eastward from Mauritania, crossing over northern Africa, through the Middle East to Pakistan.

Europe vis-a-vis Sub-Saharan Africa

When Europe ($n = 37$ countries) and Sub-Saharan Africa ($n = 32$ countries) are isolated and then examined in tandem, two rather separate groups emerge. The mean percentage of women in tertiary education in Sub-Saharan Africa was 24.0% (sd = 14.3%). This number was less than half the European figure (50.0%; sd = 5.5%). The two geographical areas had cleanly pulled apart from each other ($t = 106.3$; $df = 67$; $p < .001$). The rate of natural increase in the Sub-Saharan African sample (2.1%; sd = 0.9%) was more than 20 times (21.0) the rate of natural increase for Europe (0.1%; sd = 0.5%). Again, these two geographical areas had clearly separated from each other ($t = 124.2$; $df = 67$; $p < .001$).

When Europe and Sub-Saharan Africa are combined to form a sub-

[3] Note that if the total fertility rate (TFR), the number of live births a woman is expected to have over a lifetime, replaces the rate of natural increase, the (patterned) results remain the same. If percentage of females (rather than males) in institutions of secondary education replaces institutions of tertiary education, these (patterned) results remain the same. Data are available from the second author.

sample of 69, the resultant correlation between the rate of natural increase and percentage of women in tertiary education is significant (r_p = – .645; $p < .001$; df = 67). This relationship is also inverse. As the percentage of women in tertiary institutions rose, the rate of natural increase fell. A hefty 41% ($-.645^2 = .416 = 41.6\%$) of the variance in rates of natural increase can be attributed to changes in the level of female participation in tertiary education.

The Moslem Swathe.

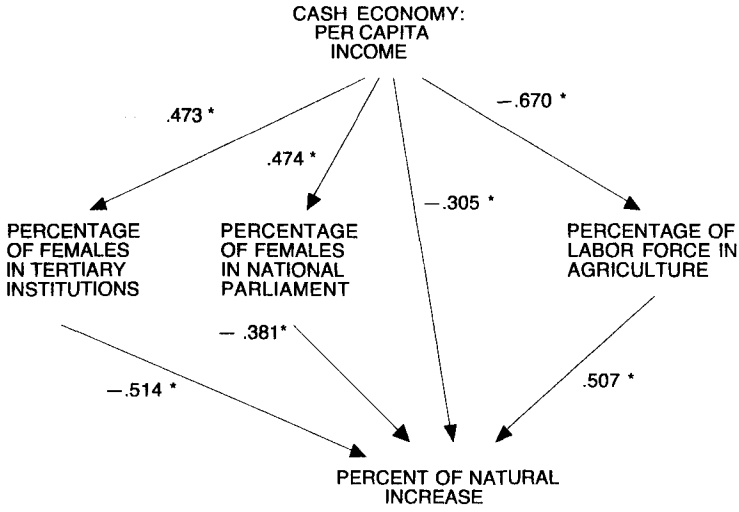
For the 25 nations in the Moslem swathe, as defined here, the correlation between rate of natural increase and percentage of women in tertiary education was *not* significant (r_p, n.s.). Knowledge of the percentage of women in institutions of higher learning had no predictive ability in divining the rate of natural increase. What was of additional interest was the average rate of natural increase for the sub-sample: 2.4% (sd = 0.8%). This figure of 2.4% was higher than the rest of the sample (n = 139) at 1.2% (sd = 1.0%) ($t = 29.6$, $p < .001$; df = 161).

Thus, this group of Moslem nations was not following the more general trend of an inverse relationship between women's fertility and educational options. This lack of consonance will be addressed in a subsequent section.

Women's Roles and Fertility.

For the entire sample (n = 164 countries) and both the European and the Sub-Saharan African sub-samples (n = 69), it is clear that, as women's participation in tertiary education increased, there was a concomitant decline in the rate natural increase. The questions to be addressed are (i) Why would there be any relationship at all between education and fertility? and (ii) Why did the Moslem swathe not follow the larger trend?

It is argued here that, across generations, any roles that conflict with the role of motherhood tend to be precluded systematically from women. Furthermore, this preclusion is self-generating. Said a little differently, Brown's (1970) thesis, primarily based on a sample of agrar



* $p < .001$; (n's range from 155 to 168)

$R = .644$; $p < .001$; $n = 151$

adj. $R^2 = .399$ or 39.9%

Figure 1. Demographic parameters of natural increase

ian, peasant societies, was that if a job or task interfered with mothering, that task was given to men. If a task needed concentrated attention, over time, men would be given that task; e.g., metallurgy, hunting large mammals, plowing. If a task could be stopped or started at will, with no loss of the quality of the product, that task was often given to women; e.g., grinding, water gathering. (See White, Burton and Dow [1981] and White, Brudner and Burton [1977] for refinement of the Brown thesis). Cross-cultural surveys have clearly noted that primary child-caretaking, especially of infants, is a female task (Barry & Paxson 1971, Hewlett 1992, Mackey 1985, 1996, Murdock & Provost 1973, Weisner & Gallimore 1977). Usually the mother will rear the child, but, if not the mother, then female siblings or aunts or grandmothers fulfill the child caretaking role.

While it is arguable that the role of student is in conflict with the role of mother, tertiary education would be finished by the woman in her low or middle twenties. Approximately two decades of fecundity would be available to the educated woman for her to have an extended reproductive history. Such a cultural tactic seems to be the one exercised by some countries in the Moslem Swathe. That is, high levels of education, as well as low levels, were also associated with high levels of fertility

On the other hand, if a completed tertiary degree is envisioned by the women as a means to a career, then a very different set of expectations applies. A (woman's) career can last across her reproductive years. A career certainly can be in conflict with the expectations of the status role-complex of mother. If the conflict does occur or is strongly portended for the future, the woman has choices to make.

(1) She can maximize her career trajectory by remaining childless, or

(2) she can jettison her career totally by adopting the mother-role and, thereby, experience no conflicts that would stem from occupational demands, or

(3) she can strike a balance of sorts. She can bear a restricted number of children and also pursue her career. The demands of child-rearing, with few children, would not be zero, but would be of limited duration. Such a tactic certainly seems to be the route taken by many European women. The average number of children per female is consistently

below two, and the entry of women into the paid labor force is quite substantial. See Table 1 for examples of the relationship between education beyond primary/ secondary levels and fertility for six countries.

The Moslem Swathe

The Moslem Swathe data indicated no relationship between the education index and the level of natural increase. Plus, the rate of natural increase was comparatively high. However, there was a strong relationship, within this sub-sample, between the level of income in the country (measured by per *capita* income based on the gross domestic product (Central Intelligence Agency 2002) and the proportion of women in tertiary education ($r_p = .829$, $n = 25$, $p < .001$). The relationship was positive: the more the income, the higher the proportion of women in tertiary education. However, the richer Moslem countries (invariably from oil wealth) that had a higher percentage of women students in tertiary education also had high levels of natural increase. This anomaly seems contradictory to the general trend examined in this paper: women's enhanced education lowers those women's fertility.

The contradiction may be more apparent than real. Authors, including feminist ideologues, who have written ethnographic accounts of the relevant Moslem countries invariably refer to the strongly patriarchal character of the political and economic structures. The question is never "*Is* the country patriarchic?" The theses revolve around how the patriarchy developed and how is it maintained. For example, Ahmed (1992) writes: "The subordination of women in the ancient Middle East appears to have become institutionalized with the rise of urban societies and with the rise of the archaic state in particular..." and, as Islam crystallized its theology, "Implicit in this new order was the male right to control women and to interdict their interactions with other men. Thus the ground was prepared for the closures that would follow." See Kadioglu (1994) for a parallel argument for women's role in Turkey. Toubia (1988, pp. 2-3) makes the case quite clearly: "Arab women are dominated by men in every area of life in the patriarchal family system: state, political party, trade union and public and private institutions of all types." She noted that over 97% (97.2%) of the Yemeni women, as late

TABLE 1

Number of births and number of expected births for women across six countries (Bianchi & Spain 1986, Smock 1981, U.S. Bureau of the Census 1995)

Country	*Completed Education*	*Completed fertility*	*Births to date*	*% Expecting no further births*
U.S.A.[a]	Less than high school degree	-	1.7	8.7%
(1982)	High school: 4 years	-	1.2	10.3%
	College: 1 to 3 years	-	0.8	13.1%
	College: 4 years	-	0.6	15.7%
	College: 5 years or more	-	0.6	18.7%
U.S.A.[a]	Less than high school degree	-	1.8	7.6%
(1992)	High school: 4 years	-	1.3	9.0%
	College: 1 to 3 years	-	0.8	10.0%
	College: 4 years	-	0.7	10.3%
	College: 5 years or more	-	0.6	12.0%
Mexico[b]	None	7.8		
	1-3 years	7.5		
	4-6 years	6.3		
	Secondary+	1.6		
Ghana[b]	None	6.6		
	Primary	5.7		
	Middle	5.4		
	Secondary	4.4		
	University	1.4		
Kenya[b]	None	7.4		
	1-4 years	7.9		
	5-7 years	8.7		
	8-11 years	5.3		
	12-13 years	2.5		
Pakistan[b]	None	5.9		
	1-10	6.1		
	10+	6.8		
	Special education	3.2		
Philippines[b]	None	5.6		
	1-4 years	6.5		
	5-7 years	6.4		
	8-12 years	5.9		
	University	4.5		

[a] For women 18 – 34 years of age; [b] For women who are at least 35 years of age

as 1975, were illiterate. Badran (1995, p. 5) notes that "the woman was perceived as essentially or exclusively, a sexual being, unlike the man who was only partly understood in terms of his sexuality". Gerami (1996, p. 157.) views the current version of Islamic fundamentalism as "...nipping a very young feminist movement in the bud and under the banner of nature's mandate, pushed women further into the family. They managed to cast woman's individualistic identity as a perversion of her nature plotted by Western imperialists". Obermeyer (1995, p. 370) observes that the "Islamic emphasis on complementarity rather than equality in gender roles" makes dialogue with a worldview predicated on equality rather than complementarity extremely difficult. Inhorn (1996) writes that: "In a society (Egypt) where the patriarchal fertility mandate is emphatic, the social and psychological consequences of 'missing motherhood' – of being a woman unable to deliver a child for her husband, family, affines, community, faith, nation, and not inconsequentially her – are nothing if not profound". It is germane to this argument that, in general, Moslem men can initiate divorce far more easily than the Moslem women. The Koran gives some theological basis for this asymmetry, and local interpretations have intensified the gender differences (Ansari 1973, Caner and Caner 2002, Hekmat 1997, Kamali 1984), (cf. Barlas [2002] who specifically argues that the interpretations of the Koran, rather than the Koran itself, result in high levels of patriarchy). For reviews of the literature, see Al-Qazzaz (1977), Meghdessian (1980), Mernisse (1991), Raccagni (1978), and Tucker (1993). For theoretical overviews, see Caner and Caner (2002), Lerner (1986), Orens (2003), and Walby (1990).

A survey of women in legislatures found that women in the 18 Moslem nations, which were included in the survey, averaged 4% (4.0%, s.d. = 3.9%) of the legislators. This figure is contrasted to the average of women legislators of 17.7% (sd. = 10.6%) in the European nations [$t = 28.0$; $p < .001$; $df = 52$] (United Nations 2001). Thus, even though Moslem women in some countries were afforded relatively easy access to higher education, their subsequent entry into professions and occupations and power structures wherein they could use their knowledge seems as equally as restrictive as if they did not have the advanced degree.

A Suggested Causal Relationship.

Correlation coefficients (such as $\underline{r}_p$), of course, cannot demonstrate causality. And there are three basal interpretations available to the significant correlations presented here: (1) changes in rates of natural increase are driving women's educational achievements, or (2) changes in educational levels are driving rates of natural increase, or (3) a third variable is driving both of the other two variables: natural rate of increase and educational levels. The likelihood of each of the three is examined below.

The first option – changes in natural increase are driving educational achievements – seems, at face value, implausible. Functional sterility would not be a reasonable explanation why women would increase their pursuit of higher levels of education. The second – changes in education levels are driving rates of natural increase – has a ring of common sense to it. However, as mentioned earlier, students generally achieve a terminal degree in tertiary institutions by their low or middle twenties. Nearly two decades of fecundity are still available to such women.

Accordingly, a third variable – occupational and income mobility – is suggested to be the operant variable. Higher education is certainty a conduit to enhanced occupation and income mobility. And, indeed, other surveys have documented that when women do have an opportunity to enter into a cash occupation, they do just that. For examples and discussion, see Caldwell (1982), Easterlin and Crimmins (1985), Handwerker (1986), Fawcett (1983), Day and Mackey 1986), cf. Aghajanian (1979, 1988), Bradley (1984), Nag, White and Peet (1978), and Ross and Harris (1987).

Thus, it is suggested that the drive-wheel for the inverse relationship between rates of natural increase and the levels of women to be involved in the educational process is the expectations by the women for a higher income via a skilled profession. The apparent anomaly from the Moslem swathe data can, thereby, be explained by the lack of translation of educational attainment into occupational opportunities in a patriarchic society.

In the world-wide survey, a similar predictability was found in the (negative) relationship between the level of natural increase and the percentage of females – rather than males – in national parliaments

(United Nations 2001) ($r_p = -.381$; $p < .001$; $df = 153$). In other words, as the opportunity for a career in political leadership becomes more available to women, the rate of natural increase falls (below replacement value in many cases (see Lesthaeghe and Willems [1999] for relatively current examples from Europe). Also note that the percentage of females in tertiary education was significantly related to the percentage of females in national parliaments ($r_p = .276$; $p < .001$; $n = 151$).[4] Thus, the notion that both variables are markers for enhanced career, not just educational, opportunities is given support.

The U.S. as a Test-tube

Under the rubric of the notion that occasionally a reminder will trump inspiration, it is useful to note that it is a mother who gives birth to a child. No child exists without being birthed by a woman. A woman can exist without bearing a child, but no child can exist without being borne by a woman. In the middle of the 20th century, improved reproductive technologies to optimize women's ability to efficiently regulate their own fertility became fairly widespread, if not universal. Thus, a woman, if she foregoes chastity, could decide to be a mother or not. A mother could decide to have one child or more than one child. The technology that would help allow her to exercise that option became widely available and relatively inexpensive. The value systems or moral codes that allowed, if not encouraged, the utilization of that technology also emerged in various areas of the world, but were concentrated initially in highly industrialized nations such as Japan or those in Western Europe and its extensions (e.g., Canada, Australia, the U.S.). Thus, in the mid-20th century, efficient and affordable technology became (theoretically) available to everyone; i.e., a constant. The moral or value systems that would embrace or reject such technologies became a variable.

Test-tube U.S.A.

The United States, with its polyglot admixture of cultures and subcultures and communities, thereby becomes an interesting test-tube to examine cultural evolution. That is, within the context of available

[4] When acting in tandem, the two independent variables' ([i] percent of tertiary students who are female and [ii] the percent of females in national parliaments) impact upon the dependent variable (rate of natural increase) is significant ($R = .624$; $p < .001$; $n = 151$).

means to tamp down the number of births, the question becomes: Would all of the U.S. communities equally avail themselves of those means and reduce their birth rates (and thus rates of natural increase)? In addition, if differences in demographic changes were to be found, then would there be any meaningful theory that could synthesize or cohere the disparate data and be instrumental in generating useful predictions?

Three Time Frames

Three time frames were selected for examination: (i) the mid-1920s, (ii) the mid-1960s, and (iii) the mid-1990s. See Table 2. Two other times are also presented, but only for context – the mid-1940s and the mid-1980s. Data from these two time frames will not be further analyzed.

A pair of changes in the level of population will be examined across two time intervals. First, changes from the 1920s (after which European immigration was much attenuated) to the 1960s and from the 1960s to the 1990s. By the 1960s, the mainstream U.S. culture experienced a number of trends: (i) the post-war "baby boom" had ended and the centuries-long decline in reduced birth rates resumed, (ii) the contraceptive "pill," *inter alia*, had become readily available, (iii) a newly energized "women's movement" had gained momentum, and (iv) the notion of individual rights and entitlements had gained momentum. It should be noted that, in 1972, U.S. women, as a collective, dropped below replacement value of 2100 children per 1,000 women and have stayed below that figure until 2000 (Center for Disease Control 2002, p. 1).

Different communities could embrace these changes to a greater or lesser degree. The argument here is that the more embracing that occurs, the lower the rate of natural increase, and the less embracing that occurs, the higher the rate of natural increase. Second, the population-changes from the 1960s to the 1990s could then be analyzed to see if differential incorporation, by the various communities, would be reflected in level of natural increase.

Selection of Communities

Given that moral/value systems are inherent in religious groups, different religious denominations were surveyed – across generations – to see if rates of natural increase were also different. Those religious

groups were selected that were not known for a heavy emphasis on recruiting converts within the U.S., and, thus, changes in church membership were probably more dependent upon rates of natural increase than upon converts. Episcopalians, Lutherans, Unitarian-Universalists,[5] Non-Hasidic Jews, and the Reorganized Church of the Latter Day Saints (currently The Community of Christ) were selected as religious denominations that more reflected the ascendancy of the individual – irrespective of gender.

The Mennonites – which included the Old Order Amish and the Hutterite Brethren – and the Latter Day Saints (the Mormons) were selected as examples of denominations that are more focused on the group, and less influenced by the thrust of enhancing individualized self-fulfillment and that more emphasize gender complementarity than gender egalitarianism. The Shakers are also noted, and their inclusion will be discussed in a later section. See Table 2. See Appendix I for citations that provided guidance on the selections.[6]

Results

Changes from the 1920s to the 1960s

All of the groups – even in the context of relatively high rates of infant mortality – increased their populations substantially. The lowest increase was for the Jews, but, even then, their population grew by more than a third. See Table 2.

The 1960s to the 1990s

However, from the 1960s to the 1990s, two separate trajectories became clear. One trajectory illustrated near stasis. The Episcopalians, the Unitarians-Universalists, the Jews, the Reorganized Church of the Latter Day Saints, and the Lutherans all illustrate relatively minor fluctuations in population growth. Two groups, the Episcopalians and the Unitarian-Universalists experienced drops in their populations. The Lutherans had the greatest increase of this cohort of just over a quarter.

All of the other groups – Mennonites, Old Order Amish, the Hutterite Brethren, and the Latter Day Saints – more than doubled their populations. See Table 3 for a more detailed profile of the Amish

[5] The Unitarians and the Universalists merged in 1961.

[6] A more detailed analysis of selection criteria is available from the first author.

TABLE 2

Growth of selected religious groups from the 1920s to the 1960s and from the 1960s to the 1990s

(Yearbook of American and Canadian Churches, 1925-2001).

GROUP	YEAR:						
	Mid 20s (000)	*Mid 40's (000)*	*Mid 60s (000)*	*Mid 80's (000)*	*Mid 90's (000)*	*60s/20s*	*90s/60s*
Episcopalians	1,164.9	2,155.5	3,410.7	2,775.4	2,317.8	**292.8%**	**68.0%**
Reorg LDS	89.5	116.9	168.4	192.4	137.1	**188.2%**	**81.4%**
Judaism[7]	4,081.2	4,641.0	5,600.0	5,817.0	6,061.0	**137.2%**	**108.2%**
Presbyterians	1,828.9	1,986.3	3,279.2	3,122.2	3,561.2	**179.3%**	**108.6%**
Mennonites	36.6	51.8	77.3	110.3	92.0	**211.2%**	**119.0%**
Lutherans	2,546.1	4,731.9	6,507.2	7,932.8	8,270.8	**255.6%**	**127.1%**
Unitarian-Universalists	117.7	112.3	164.5	169.2	216.9	**139.8%**	**131.9%**
Southern Baptists	3,611.6	5,367.1	10,393.0	14,178.1	15,851.8	**287.8%**	**152.5%**
Latter Day Saints	535.7	911.3	1,789.2	3,601.0	5,113.4	**334.0%**	**285.8%**
Old Order Amish	7.6	13.4	20.4	34.0	80.8	**268.4%**	**396.1%**
Hutterites	0.7[8]	0.3	7.6	4.0[9]	42.8	**1085.7%**	**563.2%**
Shakers	0.3	—	—	—	—	—	—
					Mean	**307.3%**	**194.7%**
					(sd)	**266.1%**	**156.4%**

[7] Importantly, these numbers do not include the ultra-orthodox Hasidim.
[8] These 700 are reported to have moved to Canada.
[9] An additional 27,200 are reported to have lived in Canada.

increase.

At this point, a minor digression is called for. The clearest difference between any two groups/tribes/communities/religions seems to be between the Hutterites and the Shakers. In the mid-1920s, there were approximately 300 Shakers and approximately 700 Hutterites in the U.S. Neither group had as many as 1,000 members. The Shakers had a philosophy that included chastity, which, by definition, would preclude children. Thus, any Shaker growth would be due to recruitment from other groups that did not practice celibacy or chastity. By the 1960s, the Shaker culture was gone. The Shakers had become an historical footnote. By the mid-1960s, the Hutterites – traveling back and forth between the northern Midwest and Canada – had approximately 7,600 members in the U.S. By the mid-1990s, there were 41,600 Hutterites in the U.S., or an increase of over 500% since the mid-1960s. In 1880, there were 443 Hutterites in Canada. By 1972, there were 21,521 Hutterites in Canada or a 48-fold increase. How much the census data are influenced by the Canadian-U.S. shuttle is unknown, but under any circumstance and by any measure of analysis, the growth of the Hutterite Brethren is impressive. Although the birth rate among the Hutterite Brethren has decreased within the last few decades, the crude birth rate in 1990 of 35.2 was more than twice the national average in the U.S. (Kraybill and Bowman 2001). In terms of cultural evolution, high fertility would seem to have an enormous advantage – across generations – when compared to sterility. As self-evident as this notion seems to be, its dynamics invariably fails to be acknowledged in discourses within the behavioral sciences.

Caveat

It should be emphasized and re-emphasized that the numbers in Table 2 are not amenable to a microscopic one-to-one analysis or correspondence per denomination. The lack of amenability stems from a number of sources. First, the figures are not census numbers surveyed by the Department of Commerce. In general, various officials of the various religions were simply asked: "How many people are in your denomination?" Some officials seem to have specific figures for the relevant year at their finger-tips. Some officials were more "in the (large)

TABLE 3

AMISH POPULATION GROWTH,

NORTH AMERICA (1900 – 1992) (KRAYBILL 1994)

YEAR	ESTIMATED POPULATION	PERCENT GROWTH FROM PREVIOUS DECADE
1900	4,800	–
1910	6,550	136.5%
1920	12,450	190.1%
1930	16,500	132.5%
1940	23,100	140.0%
1950	30,300	131.2%
1960	40,350	133.2%
1970	55,050	136.4%
1980	85,350	155.0%
1990	134,700	157.8%

ballpark" for a recent, but not current year. Some denominations ignored the question, and their numbers are simply unknown. Fissions and fusions, especially in the Protestant churches, may have over-counted or under-counted some denominations across the decades. Our theological leaders may possess great skills in faith and in shepherding their flocks, but demographic precision is not an arrow in their quivers. Nonetheless, without drawing too fine a point, the data in Table 2 probably represent a valid, but not fine-grained, filter.

The question then becomes: "Is there a coherent theory that could explain at least part of the divergence in population growth between the two different trajectories?" Such a coherence is attempted below.

A Theory from J. K. Brown

As mentioned earlier, J. K. Brown (1970) wrote a short, simple, and elegant note in the *American Anthropologist*: "A note on the division of labor." In essence, the note reflected Brown's analysis of the division of labor by gender across the world's community of societies. In her abstract, she wrote: "Women are most likely to make a substantial contribution when subsistence activities have the following characteristics: the participant is not obliged to be far from home; the tasks are relatively monotonous and do not require rapt concentration; and the work is not

dangerous, can be performed in spite of interruptions, and is easily resumed once interrupted" (pp. 1073-1074). It is argued here that Brown's theory is as valid in industrialized societies of the 21st century as in peasant and agrarian societies in the 20th century. See Murdock (1949) and Murdock and Provost (1973) for examples of gender-specific tasks that support Brown's thesis.

A Synthesis

There are four universals that are germane to this argument which, when taken together with the preceding data, would suggest the following. The current relationship between individual choice per woman and the viability of the community – across generations – in which the women reside is not unrelated. As individual autonomy per woman increases, the viability of her community – across generations – is threatened.

The four universals include:

> Universal #1: Each individual who is alive at Time 1 will be dead at some point Time 2. Said less prosaically, everyone is mortal.
>
> Universal #2: While everyone currently alive is guaranteed to have had ancestors, no one is guaranteed to have descendants.
>
> Universal #3: Inhabitable lands do not remain empty. Farmlands of deceased celibate farmers do not stay fallow for long. Cottages of dead, childless couples do not remain empty for long.
>
> Universal #4: Humans are intensely bio-cultural beings. Wherever a human decides to move, he or she carries along a biological heritage and a socialization heritage.

The four universals, currently, seem fairly immutable. Each one will be briefly examined.

Universal #1: Everyone is mortal

This item is, hopefully, intuitively obvious, if somewhat unpleasing to contemplate, and needs no further elaboration.

Universal #2: Everyone has ancestors,
But not everyone will have descendants

By being born, any given person is guaranteed to have had ancestors

who (a) were attractive enough to the other gender to result in sexual intimacy, (b) were fertile, and (c) were willing to spend sufficient amounts of finite time and energy to rear the next generation to independence. Given the altricial nature of humans, the time and energy is measured in years or decades rather than mere moments. However, if an individual is born and does survive to maturity, that individual is not similarly guaranteed (a) attractiveness, (b) fertility, and (c) self-sacrifice. That is, merely because a person has had parents and grandparents, that person is not necessitated to have children and grandchildren. There is no imperative of symmetry between past and future generations. Although individuals have no choice on whether to be born or not, people can choose to mate or not. People can choose to bring children to term or not. People can choose to invest – lightly, moderately, or heavily – in their children or not.

Universal #3: Good land does not remain barren of people

If governments, climate, and accessibility are not prohibitive, people will move into lands that are otherwise unoccupied by other people. The more prime the land, the more numerous and more exuberant are the individuals who would settle the opened territory. Migrants crossed the Bering Strait thousands of years ago to occupy North and South America. Europeans crossed the Atlantic Ocean hundreds of years ago to settle (what to them were) unoccupied continents. As soon as watercraft were sufficiently improved, the islands of the Pacific were populated by sailors and their descendants. With the exception of Antarctica, people have squeezed into virtually any ecological nook and cranny that could sustain life.

When the last Shaker died, New England did not become depopulated. When the last aboriginal Tasmanian died, Tasmania was not without a citizenry. Whatever the fate of the Mbuti pygmies, the Capoids, the San, or the Yanomamo, their homelands will not be without homesteaders. Reverting back to Universal #2, across generations, all homelands will be peopled by groups who had both ancestors and descendants.

Universal #4: Humans are bio-cultural beings

Whatever the mix of genes – nature – and socialization traditions –

nurture – , every human is a product of both forces. For any given behavior, there are those who may argue, with both heat and light, on the dominance of nature over nurture or the reverse. The argument here is simply that both forces are extant, and extant to some degree, at least, for virtually any important behavior or trait imaginable. Every adult reflects both (i) the genetic package that allowed his or her ancestors to survive and propagate, plus (ii) the socialization traditions that successfully reared that adult to maturity. To the extent organization inhibits reorganization, childhood inculcations will bias adult psycho-social behaviors; i.e., as the sapling is bent, so grows the tree.

With these four items as a background, the foreground is discussed below.

Unfettered extrapolation of demographics has been, is, and will be a bane of the behavioral sciences. Nonetheless, a patterned trend does present itself. Women's equal access to an education that would translate into career opportunities seems to be at loggerheads with population maintenance. When multiple options of life-style are available to women, they take them. Thus, when competition to the mother-role is extant, the mother-role is, by definition, constricted. Fertility decreases.

Two models present themselves to help give context to this pattern. One is a cyclical model, and the second is a replacement model.

Cyclical model

It is a logical category that there is some type of demographic thermostat that triggers greater fertility if replacement values are not met by a society's women. However, no such thermostat has been presented in the literature. In addition, no demographic data have been presented that would suggest that such a thermostat, in fact, exists. There is no evidence of cyclicity.

Replacement model

It is also a logical category that (sub)groups of women with greater numbers of children would replace (sub)groups of women with fewer numbers of children. That is, lands would not remain empty if children-grown-to-adulthood fail to be conceived or to be raised. If a barren lineage disappears, its geographical space would be filled by a more fertile lineage. This explanatory category seems promising. The ethnographic

literature is replete with examples of "tribes" or "groups" that have gone extinct. Caesar's Rome, the Tasmanians, scores of North and South American Indian tribes, and the Shakers are all gone. However, Rome is not depopulated. Tasmania is peopled. North and South America have millions of citizens. New England is teeming with New Englanders.

The European versus Moslem swathe samples again prove illustrative. The European sample with fertility levels below replacement value and an ideology biased toward gender egalitarianism is geographically situated next to a Moslem sample with fertility levels well above replacement value and an ideology biased toward gender complementarity, wherein the woman is constricted toward the mother role. In terms of cultural evolution, the inertia would seem to be with the Moslem swathe's bio-cultural formula – with the emphasis on "-cultural" – and its displacement by that of the Europeans. Below is empirical support for the reality of such a displacement.

In an example of cultural diffusion, emigrants from the Moslem swathe tend to flow from high fertility, lower income areas to low fertility, higher income areas; i.e., to Western Europe. In the context of this article, emigrants from the Moslem swathe would be expected to gravitate toward (Western) European nations. When they enter and settle into their new homeland, they bring with them the world-views, expectations, and traditions that had successfully lead to their own socialization. This cultural package includes an anticipation of relatively high fertility. For example, Turkish immigrants into Austria average 4.43 children per woman. This figure is more than twice the figure for Austrian nationals (1.64 children per woman). Moroccan immigrants into Belgium average 5.7 children, and Turkish women average 5.0 children. Both of these averages are more than three times the mean number of children per Belgian nationals (1.6). Pakistan immigrants into Great Britain average 5.3 children per woman. This figure is more than triple the figure for Great Britain's average of 1.7. French nationals average 1.82 children per woman, which is less than half of immigrants from Algeria (4.24), Morocco (4.47), Tunisia (4.67), and Turkey (4.55). German women average about 1.3 children each, whereas Turkish immigrants average more than twice that number (2.9 children). Dutch women average 1.6 children, but Turkish women who immigrate into the

Netherlands average 3.1 children and Moroccan immigrants average 4.7 children. Finally, Swedish women average 2.1 children, but Turkish immigrants average 3.45 children (Coleman 1994). See White (1997) and see Morris (1997) for discussion. Thus, each of the two demographic

TABLE 4.

Highest (top 10) and lowest (bottom 10) fertility rates (mean number of children per woman) by country and geographical area

(Central Intelligence Agency 2000).

Highest Ranked:				Lowest Ranked:			
Rank	Area	Country	No. of children	Rank	Area	Country	No. of children
1	Africa	Somalia	7.18	1	Europe	Latvia	1.13
2	Africa	Niger	7.16		Europe	Bulgaria	1.13
3	Africa	Ethiopia	7.07	3	Europe	Spain	1.15
4	Asia	Yemen	7.05	4	Asia	Singap.	1.16
5	Africa	Uganda	6.96	5	Europe	Czech Rep.	1.18
6	Africa	Dem. R. Congo	6.92		Europe	Italy	1.18
7	Africa	Mali	6.89	7	Europe	Estonia	1.19
8	Africa	Western Sahara	6.64	8	Europe	Belarus	1.25
9	Africa	Chad	6.63		Eurasia	Russia	1.25
10	Asia	Gaza Strip	6.55		Europe	Hungary	1.25
		Mean =	6.91			Mean =	1.19
		sd =	.23			sd =	.05

profiles (Europe and the Moslem swathe) is not isolated from the other, and their relationship illustrates a dynamic wherein cultural mosaics with higher fertility will displace or replace cultural mosaics with lower fertility. The dynamic of the cultural inertia of Islam versus the speed of cultural assimilation into Western European life-styles should be interesting to track over generations. See Table 4 for examples of the TFR gap between least and most fecund nations of the world.

Conclusion

Thus, independent of desirability, intent, plans, plots or conspiracies on the part of political and social leaders, a social dynamic does seem to be in place and operative. To wit: a cultural formula that presents to its women the availability of options that conflict with the mother-role is a cultural formula that is simultaneously non-competitive with the alternative. The reverse of this dynamic is that a cultural formula that presents its women virtually no other role than that of mother is a cultural formula that is competitive and prone to replace alternatives.

In sum, cultural evolution is occurring now, as it has in the past, and as it will in the future. It is argued here that the inertia of this cultural evolution must be with those societies whose women give birth to more children (who survive to maturity). This demographic of "more children" is not evenly or randomly dispersed around the world. There is a strong relationship between restricting women's roles toward motherhood and fertility: more restriction yields higher fertility.

Thus, a cultural dynamic – a feminist paradox – has evolved wherein an increased scope of women's choice in one generation reverberates in a decreased scope of women's choices in subsequent generations. That is, women with low fertility and a broad range of options must be systematically replaced with women of higher fertility and a narrower range of options. And this reduced range of choices is the milieu in which the daughters (as well as the sons) are raised. Accordingly, fertility levels above replacement value will systematically displace or replace fertility levels below replacement value. The only variable to this constant is time: time measured in generations rather than days or years. The three keys to the dynamic are (i) women, when exercising life-style choices wider than the mother role, will often choose a life-style that eventuates in two or fewer children per women, (ii) regardless of the life-style any individual leads, the individual will eventually die, and (iii) children are heavily influenced by their parents as they – the children – are socialized to independence. Women with more children will simply have greater influence on the next generation than women with fewer children. Given these three keys, it must be the case that – across generations – those cultural traditions that strive for gender equality or equity are under systematic pressure to be supplanted by those cultural traditions that

wedge women into a worldview that strongly emphasizes the mother role at the expense of alternative roles. To date, no socio-cultural formula has been instituted, or is at least easily findable, that results both in equal opportunity by gender and population replacement value or higher.

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Appendix

Citations for characteristics of religious denominations in reference to gender complementarity vis-a-vis gender egalitarianism

Citations more biased toward:	*Denomination:*	*Citation:*
Gender Complementarity	Old Order Amish	Driedger 1988, Hostetler 1980, Kraybill 1993, 1994, Kraybill & Olshan 1994, Nonaka, Miura & Peter 1994, Nonaka, Miura & Peter 1994, Olshan & Schmidt 1994, Umble 1994, 1996, Wasao & Donnermeyer 1996.
	Hutterite Brethren	Hostetler 1983, Nonaka, Miura & Peter 1994 Peter 1987, Van den Berghe & Peter 1988
	Latter Day Saints	Gallup & Castelli 1989, Kosmin & Lachman 1993. Mormon Gospel Principles 1978
	Mennonites	Bush 1998, Chalfant, Beckley & Palmer 1994, Driedger 1988
	Conservative (Hasidic) Judaism	Belcove-Shalin 1995, Dershowitz, 1997, El-Or 1995, Landau 1993, Melton 1993, Rabinowicz 1970
Gender Egalitarianism	Episcopalians	Chalfant, Beckley & Palmer 1994, Gallup & Castelli 1989, Kosmin & Lachman 1993
	(Reform) Judaism	Gallup & Castelli 1989, Jacobson 1995, Kosmin & Lachman 1993,
	Reorganized Church of Jesus Christ of Latter-day Saints	Mead 1995, Melton 1993
	Lutherans	Chalfant, Beckley & Palmer 1994, Gallup & Castelli 1989, Kosmin & Lachman 1993
	Unitarian-Universalists	Chaves 1997, Mead 1995

Book Review

The Savage Nation:
Saving America from the Liberal Assault on Our Borders, Language, and Culture
Michael Savage
WND Books, 2002

The "Michael Savage Show" has grown to become one of today's major talk shows in the United States, featured on over 300 stations and heard by between three and five million listeners each week. Michael Savage, the grandson of an immigrant from Russia, is highly educated, with two masters degrees and a Ph.D from the University of California-Berkeley. As with so many others, he has made the switch from a leftward orientation as a young man to what has been described as "independent conservatism."

Despite his education, his appeal to his audience is in his stridency. Conservatives in the United States have long found a considerable appetite among Americans for a "red meat" presentation that points with alarm in a rising crescendo of anger and disillusionment. It is in satisfying this demand that Savage finds his niche. Those of any persuasion who wish to convince others are well advised to welcome voices that will make the appeal at a variety of levels – voices that will carry to the lowest common denominator as well as those that are articulated in nuanced fashion to the most thoughtful. Savage does not attempt to do this.

Savage skillfully selects issues of current importance. He decries the growing decadence and the clamor for false causes; assesses that "our borders, our language, and our culture are under siege"; criticizes the gay rights movement as a "celebration of sodomy," and speaks of feminist fanatics; opposes the "developing mandarin class" that now, as an oligarchy, rules America and finds willing spokesmen in both political parties; and would stop the tax funding of degenerate artists. At the same time he opposes both abortion and the cloning of embryos; supports Israel, and praises Martin Luther King, Jr., as a "great leader of