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Beyond the Lynn White Thesis: Congregational Effects on Environmental Concern

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An extensive literature has explored the effects of religion on opinions about environmental protection and action on environmental issues, but has largely concerned itself with the effects of theology as inspired by the Lynn White thesis. However, religion is multifaceted and any complete study should also incorporate the social dimensions of religious experience. In this article, we employ a unique data set to demonstrate the varied informational effects of church membership on environmental attitudes. We find that social sources of information in the church shape the dimensions of religious belief and exert much stronger effects on attitudes on the environment than do doctrinal or religiosity measures.

In his widely cited article, Lynn White Jr. (1967) theorized that Judeo-Christian religion has an inherently negative effect on environmental concern—environmental concern could only improve if Judeo-Christian religious institutions were rejected and if society converted to a "communion with nature" social structure. Since its publication, White's hypothesis has been tested many times, and most findings have supported White's thesis to some degree. While the topic of religious influence over environmental concern is hardly a new one, the resurgence of religious dialogue on the environment illuminates at least one flaw in the previous literature. Past studies have measured religion largely as a cognitive, doctrinal influence without considering the congregational context in which doctrine is communicated. By capturing the multifaceted nature of congregations, we are able to comment on whether doctrine plays an independent role on attitudes or whether doctrine is, in part, a byproduct of social and institutional communication that also affects political positions.

A Generation of Research on the Religion-Environment Connection

Though many scholars have written on the issue of religious influence on environmental attitudes, no article has affected the debate as much as Lynn White Jr.'s "The Historical Roots of our Ecological Crisis," published in a 1967 issue of *Science*. White lays out the argument that all modern ecological crises are a direct result of a social consciousness built upon Judeo-Christian beliefs that humanity has dominion over nature to exploit as people see fit. This belief arises out of the creation story in Genesis, in which God creates nature for the express purpose of being useful to humans, who are not part of nature, but were created in "God's image" (White 1967:1205). Thus, White theorizes that there can be no reversal of ecological destruction until a new value system relevant to humans' interaction with the environment is adopted.

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To date, many studies have put this assertion to the test. While most have reached conclusions that largely affirmed White's hypothesis to the extent that more religious conservatism undermines support for environmental protection (Biel and Nilsson 2005; Eckberg and Blocker 1989, 1996; Guth et al. 1995; Hand and Van Liere 1984; Kanagy and Nelsen 1995; Schultz, Zelezny, and Dalrymple 2000; Sherkat and Ellison 2007; Woodrum and Hoban 1994), others have found little significant or mixed associations between Christian religiosity and environmental disregard (Boyd 1999; Greeley 1993; Kanagy and Nelsen 1995; Sherkat and Ellison 2007; Wolkomir et al. 1997a). For instance, Boyd (1999) found that the frequency of prayer boosted environmental behaviors while attachment to a "fundamentalist tradition" reduced those behaviors. Still others have found a positive correlation between religiosity and environmental concern, especially once substantive religious views on Christians' stewardship duty toward the environment are specified (Kanagy and Willits 1993; Shaiko 1987; Sherkat and Ellison 2007; Wolkomir et al. 1997b; Woodrum and Hoban 1994).

In part, some of these effects are due to biblical literalism (Eckberg and Blocker 1989; Guth et al. 1993, 1995; Hand and Van Liere 1984), an indirect measure of a commitment to a belief in the human dominion over nature. On this basis, Wolkomir et al. (1997a, 1997b) attack previous findings concerning literalism as spurious. They find no effect from literalism once direct measures of dominion beliefs are included (for similar conclusions, see also Eckberg and Blocker 1996; Boyd 1999), perhaps because literalism has been found to affect such beliefs (Sherkat and Ellison 2007).

Still, there are competing predictions for how the religiosity variables should work. In this literature, few find significant relationships between religiosity measures and environmentalism especially once demographic variables and political orientations are controlled (Guth et al. 1993; Kanagy and Willits 1993). But, there are other perspectives. Those who developed and work with religious commitment scales suggest that commitment regulates exposure. Therefore, more religious commitment to a particular religious tradition should accompany the adoption of the predominant norms of the tradition (e.g., Green et al. 1996; Stark and Bainbridge 1985). For instance, mainline Protestants with greater religious commitment in the mainline should have attitudes consistent with the messages from clergy and denominations that overwhelmingly favoring environmental protection. Even Guth et al. do not find evidence confirming this general prediction (1995:376). On the other hand, religiosity may bring more conservative attitudes, which is by far the more consistent finding and only in part because evangelicals tend to have higher levels of religiosity in mass samples. As some have put it, greater religiosity signals deeper adoption of an anthropocentric view of human mastery over nature (e.g., Hand and Van Liere 1984).

A problem underlies this research, which the movement by the National Association of Evangelicals (NAE) to push for more environmental protection helps to point out (NAE 2004). Religious influence is not static—religious affiliation is not simply a marker of holding a particular set of religious beliefs and values and the interpretation of those beliefs and values varies across time and space. The existing perspective in the literature does not provide a mechanism for opinion change except as religious beliefs change over time, and there is no mechanism for changes in beliefs. Moreover, a static conception of religion has no explicit mechanism for the incorporation of communication or a change in interpretation coming from, for instance, the elites at the NAE, not to mention from clergy or fellow congregants. Since there is considerable evidence for shifting attitudes toward environmental protection by religious and nonreligious people (e.g., Kanagy, Humphrey, and Firebaugh 1994), a different perspective is called for.

Eckberg and Blocker (1996) lay out two conditions that they claim are necessary in order to confront Lynn White's cultural thesis. First, scripture must be known by and have meaning to individuals, and second, there has to be a relationship between the theological precept and their attitudes. This is what Converse (1964) famously described as having ideological constraint to attitudes, and encapsulates a largely cognitive, individualistic approach. However, this is not the only way for a cultural idea to impinge on the attitudes and behaviors of individual citizens.

Citizens without a sophisticated cognitive infrastructure in place may reach the same conclusion as someone with a highly developed ideology by instead relying on a system of "cognitive shortcuts" that can include anything from elites, to bumper stickers, to peers (e.g., Sniderman, Brody, and Tetlock 1991; Downs 1957; Huckfeldt and Sprague 1995). While the term "shortcut" appears to imply something simplistic, and it surely may be, such communication may be deeply considered and lengthy. Either way, this perspective situates individuals within information environments and focuses our attention on communication and how it is received.

Consonant with this approach, we argue that denominations might profitably be thought of as vast communication networks of which (at least) members, small groups, clergy, and denominational governance bodies are apart. In this dynamic conception of religious influence, communication coming from both vertical and horizontal sources is the most important variable. Information reaches an individual through a wide variety of sources within a denomination, but primarily from within a congregation through fellow congregants informally, small groups (such as adult education), the church organization (e.g., through a newsletter), and clergy. Wald, Owen, and Hill (1988:533) suggest what some of this might look like in a mainline Protestant church in Florida:

> [T]he sanctuary was festooned with posters promoting solidarity with Central American victims of rightist oppression, the minister's sermon lauded resistance of women to tyranny throughout history, the explanation of harvest symbols stressed the need to combat poverty and hunger, and the choice of hymns included folk songs from the civil rights era.

The information presented to individuals will vary, perhaps considerably, across space and time, thus helping to account for current attitudes and how they shift. This is why most clergy politics research focuses on their political actions and speech (e.g., Campbell and Pettigrew 1959; Djupe and Gilbert 2003; Hadden 1969; Quinley 1974; Stark et al. 1971), since unless clergy make their views known they have almost no role to play in generating a religious presence in politics.

It is a long standing finding in research on religious influences on politics that attitudes come to resemble the normative position of the congregation (Djupe and Gilbert 2009; Gilbert 1993; Huckfeldt and Sprague 1995; Jelen 1992; Lenski 1961; Wald, Owen, and Hill 1988). Though the dependent and independent variables vary across studies, the findings about church effects are in general agreement and hold in the presence of controls for religiosity. Wald, Owen, and Hill (1988) find that the theological conservatism of the congregation drives members' political conservatism on moral issues. Jelen (1992) takes a next step to find significant effects of the congregation's moral conservatism (Wald, Owen, and Hill's dependent variable) on member policy issue stances. Gilbert (1993) decomposes congregational effects by locating some of the influence in church-based social networks, while Huckfeldt and Sprague (1995) pit social networks against a blunt measure of clergy's policies and find evidence for the effects of the former. Djupe and Gilbert (2009) examine a more comprehensive model of congregational effects, providing explicit measures of the clergy's communication, social network ties running through the church, as well as small group and congregational opinions. They find that political attitudes and behaviors are shaped by the information that reaches members in church filtered through individual predispositions to the information and the source.

Specifically, in this article we build on Djupe and Gilbert's work to assert that social interactions within a religious context work in two ways to shape an individual's opinion. First, religious contexts serve as communication sources allowing individuals to gather information used in opinion formation from the denomination itself, clergy members, and other congregants (Djupe and Gilbert 2009; Gilbert 1993; Jelen 1992; Wald, Owen, and Hill 1988). Second, religious institutions shape opinion through normative diffusion. That is, members observe the behavioral and attitudinal cues of other members and reform their opinions to better match those of their peers (Djupe and Gilbert 2009; Wald, Owen, and Hill 1988).

But, social interaction in a religious context also provides persuasive information about normative levels of religious beliefs and commitment, suggesting that religious belief effects on environmental attitudes may be overdetermined. We focus our attention on the social determinants of biblical literalism, partly due to item availability, but also because it has featured prominently in studies of environmentalism. Despite the fact that literalism has been widely used as a religious predictor variable of a wide variety of political and social outcomes (e.g., Barker and Carman 2000; Kellstedt and Smidt 1993; Sherkat and Ellison 1997), very few studies have examined why people hold these views. In a sample of Anglicans, Village (2005) found literalism more likely among those with lower levels of religious or secular education and among those in evangelical Anglican churches, among whom higher education did not weaken literalism. Hoffmann and Bartkowski (2008) explore the reasons behind the higher rate of literalism among women (which Village also noted), finding evangelical women compensate for exclusion from leadership roles by adopting a scheme—biblical literalism—that legitimates their social position.

Others, to be sure, have argued that religiosity is a function of social location, though not as a result of power imbalances. Instead, following the argument that how religion is lived and interpreted depends on the congregation (Berger 1967), research has examined the effects of social disruption, such as migration, on religious involvement (e.g., Bibby 1997; Hadaway and Marler 1993). Welch and Baltzell (1984) found that mobility only affects religious involvement to the degree that social networks are disrupted (see also Bradley 1995), a finding reinforced by the work examining the effects of social ties on religious beliefs and commitment (Cavendish, Welch, and Leege 1998; Cornwall 1987; Welch 1981). The particulars of this research vary; for instance, Cornwall (1987) finds that religious socialization undergirds more proximate effects from networks. But, they all agree that religious beliefs and behaviors are largely endogenous to the social context of the congregation. On this basis, we might expect few independent effects of religious beliefs and behaviors on environmentalism once we have controlled appropriately for the communication of environmental views in congregations.

In what follows, we first explore the nature of the data, before turning to the determinants of one particular doctrinal belief—a literal view of the Bible—focusing on the social explanations. We then fold these findings into an analysis of opinions on environmental protection and the importance of environmental issues.

METHODS

The information necessary to explore a social component to religious influence on environmental issues is not typically collected in U.S. national surveys. To address the questions posed here, Paul Djupe and Christopher Gilbert undertook a two-stage study of clergy and congregations in two mainline Protestant denominations: the Episcopal Church and the Evangelical Lutheran Church in America (ELCA).[1] In the first stage (conducted in 1998 and 1999), they surveyed 2,400 clergy from the two denominations, asking detailed questions about their political activities and beliefs, as well as their perceptions of congregational political views and activism. The ELCA and Episcopal Church had not previously been included in recent research on the political activities of U.S. clergy (Guth et al. 1997). With a combined membership of 7.5 million, similar worship styles, and a formal agreement on aspects of theology and worship practices, the ELCA and Episcopal Church remain significant in U.S. mainline Protestantism (Djupe and Gilbert 2003).

Following the clergy surveys, beginning in 1999 they surveyed members in 60 congregations (38 ELCA) whose clergy had responded to their initial survey. Mail surveys were sent to a random set of members from each congregation; approximately 1,050 ELCA and 550 Episcopal

[1] We thank Djupe and Gilbert for making their data available to us.

congregation members responded. The congregation survey instrument paralleled the clergy survey, asking about a wide variety of characteristics of the person, congregation, clergy, and community.

These data are limited, in a sense, because they come from one shrinking slice of American religion—mainline Protestantism. Mainliners are more religiously liberal than most other religious people in America, are tremendously diverse in a variety of respects, have a tradition of social engagement from clergy and congregations, and have been shrinking in numbers for a generation. However, there are still differences among mainliners that are suggestive of how social and religious influence on environmental attitudes might work in any religious tradition. For instance, 11 percent of the sample believes in a literal interpretation of the Bible. Furthermore, they are the only data available with the necessary attributes to address our hypotheses.

Since the data are gathered by church, standard assumptions about the error term are assumed to be violated—they are not independent. There are several strategies for dealing with clustered data, including centering the variables to reduce correlation (e.g., Iversen 1991) and inflating the standard errors to reduce type II error (Gelman and Hill 2007). The intercorrelations among our independent variables are not high (results not shown) and there is no hard and fast rule for pursuing the relative (i.e., centered) effects model (Iversen 1991), so we take the second approach and employ robust standard errors adjusted for church clusters.

Results

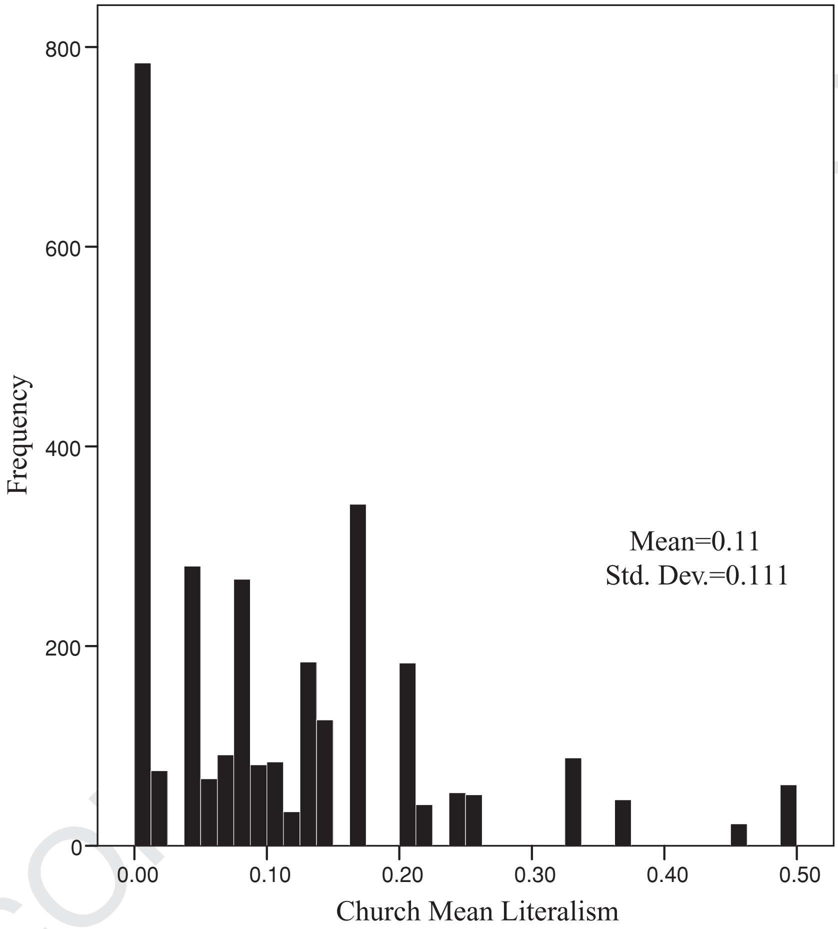
Determinants of Views on Biblical Literalism

Only 11 percent of the sample reported believing in a literal interpretation of the Bible ("The Bible is the actual word of God and is to be taken literally, word for word"), a lower figure than the quarter that Hoffmann and Bartkowski (2008) found for the broader category of mainline Protestants. Most everyone in the ELCA/Episcopal Church sample (about 87 percent) instead chose the second option, "The Bible is the inspired word of God but not everything in it should be taken word for word." Very few selected the other two options ("The Bible is a good book . . . " and "The Bible . . . is worth little today").

While there is not much variance among individuals, there is variance among churches as shown in Figure 1. There, we can see that literalism is organized by church, with several churches showing concentrations of literalists nearing 50 percent. Most members of the ELCA and Episcopal Church do not hold a literal interpretation of the Bible, of course, but those who do tend to be surrounded by others who believe the same. Our analysis, therefore, focuses on how a clear minority viewpoint is able to survive in congregations full of people who do not share the same belief. We believe that literalism is most likely when it is socially insulated, consistent with Granovetter's (1973) understanding of social networks. The larger the supply of literalists in a congregation, having a clergyperson who holds the same view, the exercise of choice in selecting social interaction, remaining insulated from other religious viewpoints by not church shopping, and the absence of higher education to question literal interpretations should all promote literalism.

For the analysis in Table 1, we dichotomize the dependent variable such that 1 is a literal view of the Bible and 0 is any other view (see also Hoffmann and Bartkowski 2008 for a similar scheme). Because of the dichotomous variable, we estimate a logit model (with cluster-corrected standard errors). The effects of church involvement measures reinforce the importance of the social setting for holding particular religious views. The church proportion of those with literalist views has the strongest effect in the model, increasing the probability of holding literalist views by about 8 percent. The average degree of religiosity in the congregation also has a positive effect on holding literal views, boosting the likelihood of such views by a few percent. Remaining in the

Figure 1
The distribution of church mean biblical literalism



Source: 1999–2000 ELCA/Episcopal Church Study.

denomination over the life span (brand loyalty) seems to provide some insulation supportive of biblical literalism, boosting the probability of holding a literal interpretation by about 4 percent.

Week to week social interaction matters nearly as much—involvement in church small groups (just outside of significance) as well as feeling similar to a church small group generate a lower probability of holding a literal view of the Bible, the dominant position in these congregations. On the other hand, having a political discussant connected with the church serves to slightly increase the probability of holding a literal view. Together the signs point to the importance of social interaction and insulation to support a particular set of religious beliefs. The more the member is networked with the congregation, the more they share the congregation's beliefs; the more they exercise individual choice in constructing their society (through discussant choice), the more supportive it is of holding a minority view: literalism.

Literalists also tend to have a pastor who likewise holds an inerrant view of the Bible—19 percent of ELCA and Episcopal clergy held such a view in 1999. Clergy may be loathe to impose that specific view on their mainline congregations, but having a clergy person with a literal view of the Bible increases the member's likelihood of holding a literal interpretation by about three percent.

Table 1: Determinants of biblical literalism (logit with standard errors corrected for church clustering)

	Coeff	(S.E.)	Δ Pred. Prob.
Church-level effects			
Church mean biblical literalism	7.318	(1.220)***	.077
Church mean religious commitment	.890	(.526)*	.023
Church belief isolation	.377	(.493)	
Clergy effects			
Clergy biblical literalism	.668	(.254)***	.034
Clergy public speech index	.075	(.187)	
Partisan similarity with pastor	−.622	(.441)†	−.026
Opinion distance from clergy on environmental protection	−.068	(.256)	
Church involvement			
Loyalty to denomination	.997	(.399)**	.039
Church small group activity	−.132	(.108)	
Similarity with church small group	−.661	(.432)†	−.021
Similarity with congregation	−.499	(.568)	
Discussion partner from church	.269	(.146)*	.014
Personal attributes			
Education	−.404	(.127)***	−.044
Religious commitment	.213	(.144)†	.025
Female	.165	(.364)	
South	.284	(.315)	
Age	−.002	(.011)	
Constant	−5.822	(2.316)**	

Source: 1999–2000 ELCA/Episcopal Church Study.
Model statistics: $N = 1928$, pseudo $R^2 = .197$, log pseudolikelihood $= -494.889$.
$^{***}p < .01$, $^{**}p < .05$, $^{*}p < .10$ (two-tailed tests), $^{\dagger}p < .10$ (one-tailed test).
Note: the change in predicted probabilities in the final column shows the change in probability produced by a move of 1 standard deviation less than the mean to 1 standard deviation more.

We also tested three variables to see if the degree of clergy politicking in a church and disagreement with clergy position taking might help to drive the congregant toward a distinctive and insulating religious belief (see Hoffmann and Bartkowski 2008 for a similar approach). More clergy speech on political issues has no effect on literalism, nor does a difference of opinion specifically on environmental protection. However, there is statistically marginal evidence that partisan difference with the clergy is related to holding a literal view of the Bible. What is not immediately clear is if this is simply a reflection that literalists are unlikely to be Democrats, which clergy in these two denominations overwhelmingly are (Djupe and Gilbert 2003:36), or if holding literal views is a safe haven for those with minority viewpoints.

Some further analysis helps to confirm the view that holding a literal view in the mainline does provide an alternate source of authority from the clergy. The survey also asked respondents whether they agreed with the statement, "Ministers have great capacity to influence the political and social views of their congregation." Sharing the same partisanship with the clergyperson boosts agreement with the statement, while having a literalist minister and holding a literal view of the bible decrease agreement. There is statistically marginal evidence of an interaction effect, in which agreement with the "great capacity" statement is high only among nonliteralists who share the same partisanship as their clergyperson; literalists have lower levels of agreement with the statement and those levels do not climb because of partisan similarity with their clergy (results not shown). Thus, the evidence suggests that political marginalization in a particular church does not drive the adoption of a minority religious belief, but that literalism promotes a measure of distrust of the clergy across the board in the mainline.[2]

Few individual attributes predict holding literal views, but some of the likely candidates stand out. The more highly educated are less likely to be literalists, reflecting the skepticism that higher education breeds. Those with greater religious commitment are more likely to hold literal views, which is suggestive of the "evangelical" nature of the commitment measure as constituted (Leege 1996; the measure is described by Kellstedt et al. 1996). Once other measures are controlled, gender, age, and living in the south have no systematic effects in this sample.

All told, the evidence indicates important social influences on holding particular religious beliefs. It would be quite difficult to self-select a church in these denominations that would be friendly to one who takes the Bible as the literal word of God. There is not one church in the sample that has a majority of believers in the literalism of the Bible, though some have literalist clergy. Further, it would be even harder to self-select a small group supportive of literalism within a congregation since such groups tend to reflect the diversity of the congregation. So, individuals who do get involved in small groups are likely to be exposed to nonliteralists and their views should tilt away from literalism, which they do. But members are clearly not helpless in the face of opposition and can select small portions of their church experience to sustain their views. We can see this in the selection of a political discussant, but also buried in the effect of the church context, especially since no church has a majority of literalists to interface with. Probabilistically, members of all ELCA and Episcopal churches are likely to encounter nonliteralists, however, Huckfeldt, Johnson, and Sprague (2004) emphasize that it only takes one confederate to maintain a disagreeable view.

The implications are that religious beliefs and practices are not independent of the social context, a finding in agreement with several studies (e.g., Cavendish, Welch, and Leege 1998; Cornwall 1987; Ellison and Sherkat 1995; Welch and Baltzell 1984). While some studies have extrapolated that religious beliefs reflect the same forces that structure opinions on political issues (e.g., Djupe and Gilbert 2009; Gilbert 1993; Johnson and White 1967; Wald, Owen, and Hill 1988), few have tested that proposition explicitly. Thus, analyses that focus solely on the effects of religious beliefs and behaviors on political attitudes are missing a good deal of the explanation, which should have a strongly social bent. We turn to assess this notion next.

Environmental Protection Attitudes and Importance

What sort of effects do religious institutions have on the environmental attitudes of their members? The literature is far from clear about how religion matters, in part because of the wide range of independent and dependent variables used, but has focused on a particular range of religion variables to test. That range includes religious involvement (attendance), religious behaviors (e.g., prayer), denomination/religious tradition, and religious beliefs (belief in God, biblical literalism, and environmental stewardship/dominion—the classic ingredients of religious commitment.

We find significant, if weak, bivariate correlations between our two dependent variables and four measures of religiosity—prayer, religious guidance, church attendance, and Biblical literalism. Just as Guth et al. (1995) find, there are mostly significant and expected relationships between the religiosity variables and environmental protection attitudes. Greater reports of religiosity are related to opinions less favorable toward protecting the environment and finding environmental issues less important. The strongest relationship is between literalism and environmental attitudes ($r = -.175$). These relationships may hold in multivariate analysis, but we suspect that the social sources that shape beliefs in the bible's authority and the normative levels of religious guidance also inform the political views of congregants.

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[2] This pattern should be understood in comparison to the distribution of the agreement with the "great capacity" statement in other traditions—agreement is much higher among evangelicals and black Protestants, among whom clergy-member partisan and theological agreement is presumed to be much higher (see Djupe and Gilbert 2009).

We investigate a broader conception of religious influence that is specifically concerned with the social context of religious experience. Since our focus is on the conveyance of information in church, clergy are natural and necessary to consider. Because of the design of these data, they include the clergy's actual reported public speech on environmental issues as well as the respondent's perception of the amount of speech on the issue. One would think that they are too highly collinear to include simultaneously, but the correlation is in fact quite low ($r = .099$). The actual information clergy provide, almost all favoring environmental protection in these denominations, should move member opinions in a positive, proenvironmental direction, but the image that members hold in their minds about clergy speech on the issue should drive their sense of importance.

As noted above, there are a number of ways that the views of congregants may reach a particular member, including through discussion in formal (i.e., small group) and informal settings (e.g., coffee hour) and observation of such things as bumper stickers in the church parking lot. To capture the diverse and perhaps diffuse nature of congregational information flow, we include the church mean value of the dependent variable (minus the respondent's own opinion). It should exert a strong and positive effect.

We also consider the availability of adult education sessions on the environment and member involvement in those sessions, another important way in which political information is introduced in church. Fully half of clergy noted that an adult education session on the environment was held in their church, though just 10 percent of church member respondents reported attending such a session. We suspect that involvement in adult education will not be related to environmental protection opinions in a systematic way because of the structure and function of such sessions—especially in the mainline, they tend to be informational and deliberative and not geared toward indoctrination. But, if adult education initiates wider conversations about the environment among members, then the dominant opinion of the congregation should come to bear on individuals, moving opinions in a pro-protection direction in this sample.

In the first column of results in Table 2, we provide estimates from an ordered logistic regression model of the determinants of an individual's opinion on whether the government should protect the environment at the expense of jobs. Higher values signify a proenvironmental position—holding jobs to be less important than environmental protection (see Appendix for full variable coding). The distribution of the variable shows a decided lean toward favoring environmental protection: 3 percent strongly disagreed that "More environmental protection is needed, even if it raises prices or cuts jobs;" 15 percent disagreed, 31 percent were neutral, 36 percent agreed, and 15 percent strongly agreed. That evidence itself suggests the weakness of White's thesis, but our focus is trained on the determinants of those opinions, specifically on the effects of clergy, the congregation, and religious doctrine and religiosity. If our theory of social influence has merit, the results should show the congregational communication measures to be significant and more influential than the religiosity and doctrinal measures included.

The results for environmental attitudes show limited effects from the religious belief and religiosity measures. None of the four variables are close to statistical significance; half have positive signs (prayer and literalism) while half are negative (attendance and guidance). Instead, we see much greater effects from social sources. The more clergy speak out on the environment, the more pro-environmental are the member's views. These clergy strongly support environmental protection (see Djupe and Gilbert 2003), so most if not all of their pronouncements on the environment will favor greater environmental protection. One of the stronger effects in the model, however, comes from the average environmental view in the congregation. A standard deviation from the sample mean generates a 6 percent likelihood of a shift in environmental protection

Table 2: Estimates of individual views on environmental protection and the importance of environmental issues (ordered logit/logit with standard errors corrected for church clustering)

	Environmental Protection (Ordered Logit)			Importance of the Environment (Logit)		
	Coeff	(*S.E.*)	Δ Prob.	Coeff	(*S.E.*)	Δ Prob.
Religious communication						
Clergy environmental speech	.169	(.099)*	.030	−.077	(.128)	
Perceived clergy environmental speech	.019	(.091)		.246	(.118)**	.117
Church mean of dependent variable	1.233	(.411)***	.060	1.758	(.536)***	.183
Religious television use	−.090	(.227)		−.330	(.287)	
Church adult education on environment	.324	(.208)†	.032	.055	(.236)	
Involved in adult education on environment	−.036	(.366)		.164	(.533)	
Religiosity						
Prayer frequency	.027	(.092)		−.050	(.095)	
Religious guidance	−.074	(.112)		.460	(.154)***	.156
Church attendance	−.104	(.098)		−.071	(.151)	
Biblical literalist	.310	(.314)		.028	(.424)	
Secular communication						
Environmental interest group member	1.312	(.259)***	.118	1.586	(.319)***	.374
Discussant ideology	−.050	(.044)		.005	(.063)	
Individual Attributes						
Environmental protection opinion	—			1.101	(.160)***	.456
Partisanship	−.224	(.053)***	.102	−.008	(.067)	
Political ideology	−.280	(.124)***	.052	−.060	(.157)	
Political interest	−.047	(.073)		−.089	(.098)	
Female	.384	(.162)**	.038	.075	(.219)	
Education	.111	(.072)†	.023	−.269	(.124)**	−.119
Age	.001	(.007)		−.003	(.008)	
Constant	—			−11.613	(2.487)**	

Source: 1999–2000 ELCA/Episcopal Church Study. $^{***}p < .01$, $^{**}p < .05$, $^{*}p < .10$ (two-tailed tests), $^{\dagger}p < .10$ (one-tailed test).

Model statistics (environmental protection): $N = 1692$, pseudo $R^2 = .117$, log pseudolikelihood = −2060.361; cut points: 1) −.316 (1.681), 2) 1.960 (1.576), 3) 3.892 (1.588), 4) 6.147 (1.630).

Model statistics (importance): $N = 1692$, pseudo $R^2 = .266$, log pseudolikelihood = −814.554.

Note: The changes in the predicted probabilities are generated from values +/− one standard deviation from the mean except on dummy variables (e.g., literalism).

attitudes.[3] Furthermore, while personal involvement in adult education on environmental issues has no effect on attitudes, whether the *church* has had such a session has a statistically marginal, positive effect (increasing the probability of holding proenvironmental attitudes by about

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[3] The predicted probability shifts reported for this ordered logit model are average effects—, they are the average probability of attaining the next highest value of the dependent variable due to a one standard deviation from the mean shift in the independent variable.

3 percent). Adult education, we suspect, initiates a conversation in the congregation, helping to diffuse the dominant perspective of the group (which tends to favor environmental protection in this sample).

Of course, people bring their own predispositions to church, and several of those are significant influences here. Republicans and conservatives are more likely to favor jobs over the environment—typical stances from each group—showing the close relationship between environmental issues and partisan politics around the 2000 election. In contrast to previous work, we find a gender effect. Women are a few points more likely to favor environmental protection than men. Higher education also exerts a statistically marginal, positive effect on environmental attitudes. The only other force at work here is environmental group membership, which boosts holding a proenvironmental view by about 12 percent, a few points stronger than partisanship.

Importance of Environmental Protection

We also explore the social roots of the importance of environmental protection. Using our collapsed measure, 39 percent of the sample found environmental problems to be "very important" while the remaining 61 percent believed them to be less so. Most studies of issues importance, also known as personal agendas, look to the mass media (e.g., Entman 1989; McCombs and Shaw 1972), but some studies have found evidence that social contacts and contexts can play a role as well (Erbring, Goldenberg, and Miller 1980). Churches would seem to be ideal places to look for agenda setting since political information flows on a regular basis and it is often conveyed with the authority bound to the institution. We suspect that members will pick up on the myriad cues provided and match the sense of importance granted to issues by their fellow members—the very fact that an issue is discussed should positively impact citizen agendas. Furthermore, clergy explicitly attempt to raise the profile of certain issues on their agendas. However, it may not be the actual amount of clergy speech that matters, but the amount that respondents perceive. After all, it is this perception that respondents hold in their mind when answering the survey question.

We use essentially the same model as with environmental attitudes to estimate the importance granted to "environmental problems" (see the rightmost columns of Table 2). We also include the previous dependent variable—environmental protection attitudes. Whether a proenvironmental protection attitude drives importance or the reverse, it is useful to establish this baseline before assessing church communication effects on importance using cross-sectional data.

Of the religiosity variables, biblical literalism does not differentiate respondents, which accords with Sherkat and Ellison's (2007) finding, and neither prayer frequency nor attendance has systematic effects. However, admitting more guidance from religion pushes up the probability (by 16 percent) of finding environmental issues important. In the context of few other religiosity effects, we are wary to making too much of this isolated finding.

Instead, there are clear and consistent effects from social variables. The sense of importance granted to the environment by the congregation has a predictably strong effect on individual views, moving them in a consonant direction. Actual speech by the clergy on the environment has no effect, but the degree to which members perceive their clergy to address the environment has a significant effect. More perceived speech drives up importance, though one could plausible argue that the reverse is true—more importance drives the perception of clergy speech. This relationship at least suggests that respondents finding the environment to be important will be open to persuasive information coming from clergy.

It is essential to note that the church effects are found amid strong personal predispositions and secular sources of information. Not surprisingly, those who favor stronger environmental protections are more likely to find the issue important (the strongest effect in the model), as do members of environmental interest groups, who are 37 percent more likely to find environmental problems important. Though these effects are not generalizable to the U.S. population, they do help to reassure us that the effects due to the congregational context are real and not proxies for preexisting attitudes and affiliations.

DISCUSSION AND CONCLUSION

Our goals in this article were twofold, to revisit the validity of Lynn White's famous thesis as well as add a new perspective to this literature. First, we found little support for the White thesis on a number of fronts—members hold fairly pronounced proenvironmental views, communication from clergy is overwhelmingly in favor of environmental protection, and religious beliefs have little to no effect once social communication is controlled. The lesson from these results is clear: a Christian worldview is not incompatible with holding proenvironmental views. Second, proposing a view of denominations and congregations as communication networks, we found that religious organizations act as a social nexus to convey political information as well as establish and interpret religious norms and values. This is to say that reasoning about the implications of religious beliefs occurs within a dynamic social environment—the congregation.

Most previous work on the religious effects on environmentalism treat religious beliefs as fixed priors, while we argue that religiosity is the partial product of social location that is partly dictated and partly constructed. The results we found are indicative of a social influence upon religious beliefs—members who had interacted more regularly and openly with other congregants were more in-step with the average view of the congregation. Conversely, we also saw that individuals could select, to a point, their own social spaces to insulate their minority viewpoints. The explanatory power of these findings is not overwhelming as it probably should not be in a cross-sectional data set. However, we believe the evidence is strong enough to acknowledge that religious beliefs are shaped by the same information sources that also affect the content of political opinions.

In these denominations, there are significant, if weak, bivariate relationships between religiosity variables and environmental opinions, but those effects largely dissipate once the policy views of clergy and congregants are considered. Though many recent works have found little religious influence on environmental opinions (Boyd 1999; Guth et al. 1995; Wolkomir et al. 1997a, 1997b; though see Sherkat and Ellison 2007), we find a considerable amount, though not from the usual sources. For instance, the influence of the congregation on environmental policy views and importance is about half as strong as belonging to an environmental interest group. Combined, religious influences rival the effect of environmental interest group membership. However, they often do not combine easily.

One of the motivations for pursuing a new approach was the NAE's 2004 statement encouraging more environmental stewardship and the possibility for a wholesale change in American public opinion. Though our data do not involve members of evangelical denominations, our results do address the possibility of opinion change. There are clearly a number of pathways for transformative information to reach congregants and in these denominations many of those sources have been providing arguments for a long time about the merits of protecting the environment. However, in most circumstances churches appear to be tradition-maintaining institutions because of the momentum of the social distribution of opinion.

One of the potentially prophetic influences on church member opinions is the clergy and the results show that the clergy have a significant, if small, effect. Yet, the congregation's opinion swamps clergy effects. Moreover, members' sense of the importance of environmental problems is not related to actual clergy communication but members' perception of it, and the two measures of clergy speech are only weakly correlated. Furthermore, involvement in a conduit of denominational communication with members, adult education sessions, does not directly affect opinion. Instead, hosting adult education initiates a conversation in the church that moves opinion in the direction of the majority. In fact, with a different opinion distribution in the church, the effects of clergy initiating discussion may work against the clergy's favored position. It seems that significant change is only likely in the long run as the result of deliberate and sustained effort by elites or perhaps more quickly in conjunction with significant pressure from outside of the church.

Thus, our account casts doubt on explanations in the literature that rely heavily on religious beliefs. In our view, it is not enough to know whether individuals hold dominion or stewardship beliefs. Instead, we need to know why they have come to hold those beliefs because the various routes to holding an opinion dictate different persuasion strategies. Are beliefs truly intermediaries between social communication and opinion change or are members beliefs reformulated to correspond to shifts in their opinions due to social communication? Should elites communicate with the goal of reshaping beliefs about the meaning of religious texts or can they speak directly about the nature of environmental problems? The answers to these questions are not yet completely clear, but they are essential to consider.

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APPENDIX—VARIABLE CODING

Age: In years.

Biblical literalism: "Which view comes closest to your view of the Bible?" Equals 1 if "The Bible is the actual word of God and is to be taken literally, word for word" and equals 0 if "The Bible is the inspired word of God but not everything in it should be taken word for word." Extremely few selected the other two options ("The Bible is a good book . . . " and "The Bible . . . is worth little today") and were combined with the 0s.

Church adult education: Asked of clergy: "Has your church held adult education sessions about any of the following topics? Circle all that apply." 1 = "environment," 0 = did not.

Church attendance: "How often do you attend church services?" 6 = more than once a week, 5 = every week, 4 = almost every week, 3 = 1–2 times a month, 2 = a few times a year, 1 = never.

Church belief isolation: (clergy data) "We would like your perceptions of how YOUR CONGREGATION compares to other congregations (of any faith) in your community. How similar or different is YOUR CONGREGATION on the following items? Leave an item blank if you don't know." Index measure; one point for each clergyperson report that her church has different theological beliefs, political beliefs, worship and music styles, levels of church activity, or more racial/ethnic minorities than other churches in the same community. This index is averaged and ranges from 0 to 1; higher scores indicate more isolation from the community.

Church small group involvement: "How many special activities, programs, committees, or small groups are you currently involved with in your church?" Ranges in value from 0 to 10.

Clergy Biblical literalism: (clergy data) "The Bible is the inerrant word of God, both in matters of faith and in historic, geographic, and other matters." Replies are coded 1 = strongly disagree to 5 = strongly agree.

Clergy environmental speech: (clergy data): "How often have you addressed the following issues publicly in any way in the last year? Environmental problems." Coded 1 = never, 2 = rarely, 3 = seldom, 4 = often, 5 = very often.

Clergy public speech and index: (clergy data): "How often have you addressed the following issues publicly in any way in the last year?" "environmental problems" 1 = never, 2 = rarely, 3 = seldom, 4 = often, 5 = very often. We also created an index, which is an average of clergy responses to sixteen issues they may have addressed in the past year (coded the same as the environmental measure): hunger and poverty, environment, education, civil rights, women's issues, unemployment/economy, gay rights, government spending/deficits, family problems, gambling laws, homosexuality, current political scandals, capital punishment, abortion, prayer in public schools, national defense.

Discussant is a church member: 1 = respondent's political discussion partner belongs to the same congregation as the respondent; 0 = does not.

Discussant political ideology: "Previously we asked you to rank yourself using the familiar political terms liberal, moderate, and conservative. Using this same 1 to 5 scale, where 1 is the most liberal position and 5 is the most conservative position, where would you rank these three friends when you think of their general political views?" 1 = most liberal, 3 = moderate, and 5 = most conservative.

Education: "What is the highest level of education that you have received?" 1 = less than high school, 2 = finished high school or GED, 3 = some college or associate's, 4 = four year college degree, 5 = more than four years of college.

Environmental protection opinion: Respondents were asked to "indicate how strongly you agree or disagree with the following statements . . . More environmental protection is needed, even if it raises prices or cuts jobs." 1 = strongly disagree, 2 = disagree, 3 = not sure/neutral, 4 = agree, 5 = strongly agree.

Environmental importance: "How important or not important are the following issues to you personally?" "Environmental problems" Coded 1 if "very important" and 0 otherwise (combining response items important, neutral, not important, and not at all important).

Environmental interest group member: "Are you a member or do you attend meetings of any of the following group types?" 1 = "Environmental (e.g., Sierra Club)," 0 = was not.

Female: 1 = female, 0 = male.

Involved in adult education: "In the past year, have you attended any church adult education groups held about one of the following topics?" 1 = "environment," 0 = did not.

Loyalty to denomination: Is an index composed of summed responses of "yes" (=1) to "Were you raised in a Lutheran/Episcopal church?," and "No" (=1) to the following questions: "Have you ever regularly attended a NON−Lutheran/Episcopal church?" and "Have you ever stopped attending any church for more than six months?" Responses are then averaged, meaning a range of 0 to 1, with 1 indicating high brand loyalty.

Opinion distance from clergy on environmental protection: Identical items for each were compared (the same as the opinion-dependent variable), with the absolute value taken of the difference. The variable ranges in value from 0 to 4.

Partisan similarity with pastor: Partisanship measures for each were collapsed to Democrat, independent, or Republican and then compared—1 = they share partisan affiliation, 0 = they don't.

Partisanship: We use the traditional two question construction of partisanship. "Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an independent?" "If (Republican/Democrat), would you call yourself a strong (Republican/Democrat) or a not so strong (Republican/Democrat)?" If independent or no preference, do you think of yourself as closer to the Democratic party or closer to the Republican party?" The resulting scale is coded 1 = Strong Democrat, 2 = Not so strong Democrat, 3 = Independent, leaning Democrat, 4 = Independent, 5 = Independent, leaning Republican, 6 = Not so strong Republican, and 7 = Strong Republican.

Perceived clergy environmental speech: "How often have you heard your pastor discussing (preaching or not) the following political and social issues in the past year? Environmental problems." Uses the same coding as the clergy public speech variable.

Political ideology: "Many people use the terms liberal and conservative to describe different political opinions. On a scale from 1 to 5, where 1 is the most liberal position and 5 is the most conservative position, where would you rank yourself on this scale when you think of your general political views?" 1 = most liberal, 3 = moderate, and 5 = most conservative.

Political interest: “Some people don’t pay much attention to political campaigns. How about you: Were you not much interested (=1), somewhat interested (=3), very much interested (=5) in the 1998 political campaigns?”

Prayer frequency: “How often do you generally perform the following activities? Pray on your own.” 1 = rarely or never, 2 = monthly, 3 = weekly, 4 = almost daily, 5 = daily.

Religious commitment: Index based on the measure used in Green et al. 1996, chapter 10. The index combines religious guidance (religious salience), ritual observance (church attendance), and religious activities (frequency of prayer). We omit literalism because it is the dependent variable. The scale ranges in value from 1 to 5. One to 3 captures the low end of religious commitment. A 1 is granted if the respondent scores low on all of the included measures and moves to 3 if they score low on only one of the included measures. A 4 is given if the respondent scores high on all but one measure and a 5 is granted if the respondent scores high on all measures. Low is judged to be the following: for church attendance—“never” or “a few times a year”; for religious salience—religion provides “no guidance” or “some guidance” in your daily life; and for frequency of prayer—“rarely or never” or “monthly.”

Religious guidance: “How much guidance does religion provide you in your daily life?” 1 = no guidance at all, 2 = some guidance, 3 = quite a bit of guidance, 4 = a great deal of guidance.

Religious television use: “On average, how many days a week do you do the following? Watch religious television” Coded 1 = at least one day, 0 = never.

Similar to congregation: “How do you compare with your fellow church members on the items listed below? Please indicate whether they are similar or different, and if different how they differ from you.” The index, ranging from 0 to 1, is constructed by averaging the “same as me” responses across the following categories: race/ethnicity, age, political beliefs, party affiliation, religious beliefs, social status/class, how far they live from the church.

Similar to small group: “Thinking about the church group or activity in which you spend the most time, are your fellow group members in general mostly the same as you or different and how are they different? Leave an item blank if you don’t know.” The index, ranging from 0 to 1, is constructed by averaging the “same as me” responses across the following categories: race/ethnicity, age, political beliefs, party affiliation, religious beliefs, social status/class, and how far they live from the church.

South: 1 = yes, 0 = no.