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Three Puzzles of Non-religion in Britain

DAVID VOAS & SIOBHAN McANDREW

ABSTRACT *Non-religious people tend to be male rather than female, to be better educated than average, and to live in particular areas. Each of these findings contains a puzzle that we address using data from Great Britain. Male infants are slightly more likely than female infants to be described by their parents as having no religion. To explain this phenomenon, we show that there is an association between the religious labels attached to girls and boys and the characteristics of their mothers and fathers, respectively. A positive correlation between education and non-religion is often taken for granted. Among young adults in Britain, however, the relationship is reversed. The reason lies in the former religious polarisation of the graduate population. The final puzzle is why so much local variation in secularity is evident. We examine the extent to which these contrasts are the result of demographic and socio-economic differences.*

Introduction

Religious affiliation, practice, and belief have been declining in Great Britain for the past several decades or more. Lack of religion seemed bohemian or even disreputable at the beginning of the twentieth century; by its end, it was the norm. Exactly why this social transformation occurred is still debated.

Three sources of influence deserve particular attention. The first is the family; parents typically transmit their social identities, beliefs, values, and practices to their children and the success or failure of this form of social reproduction has important consequences for religion. The second is education, which is the other main formative influence on children. Individuals' attitudes, worldviews, and social networks are affected by the type and amount of the education they receive. Finally there is the social environment of friends, neighbours, and local opinion leaders, who collectively determine what seems reasonable to do and believe.

These are large topics and books could be written about any one of them. Our aim in what follows is to address a specific puzzle from each domain. Why are baby boys less religious than baby girls (if the Census is to be believed)? Why are people with no religion less educated than average, when in the past they tended to be highly educated? And why is there so much geographical variation in the extent of non-religion? While the results will not offer a comprehensive explanation of why religion has declined in personal and social significance, we hope to clarify some of the mechanisms at work.

Our empirical investigation is based on the quantitative analysis of large British datasets. One key source is the Census of population carried out in 2001

by the Office for National Statistics (ONS) in England and Wales (and by corresponding agencies in Scotland and Northern Ireland). In addition to the standard output tables showing the values for particular variables in any selected area, Samples of Anonymised Records (SARs) are also released. These samples make it possible to perform multivariate analyses on the Census micro-data (so called because they consist of individual or household records rather than summary statistics).

Another important source of data on religion is the British Social Attitudes (BSA) survey, conducted nearly every year since 1983 by the National Centre for Social Research. Questions on religious affiliation and attendance are routinely included, while belief in God has been covered more sporadically. Sample sizes are 3,000 or more. Whereas the Census has only one question on religion ('What is your religion?') and data (at the time of writing) only for 2001, the BSA survey is broader in scope and provides a time series extending over a quarter of a century.

Birds of a Feather or Proxy Reporting?

We begin with religious transmission from parents to children. Most families start with a couple: the Census might suggest that there is a remarkably high degree of assortative mating by religion or non-religion. As shown in Figure 1, close to 90% of married or cohabiting white Christian women have partners who are also identified as white Christians. By contrast, barely a fifth of women with no religion have white Christian partners.

It is tempting to suppose that religion remains important in personal relationships. People apparently either choose partners with the same religious views or they switch, acquire or lose religion to accommodate their spouses.

Figure 1. Ethno-religious group of spouse/partner for White Christians and no religion/not stated, by sex.

Source: Special Licence Household Sample of Anonymised Records from the 2001 Census for England and Wales.

However, these figures do not sit comfortably with what we know about the Census. The very high level of Christian identification seemed to have less to do with religion *per se* than with its use as a quasi-ethnic category (Voas and Bruce). It would be surprising if nominal Christians ruled out un-religious people as partners or vice versa.

In fact, the apparent tendency of people with no religion to be living with others of no religion may be an artefact of proxy response rather than a matter of homophily. In England, the 2001 Census household form was addressed “To the Householder, Joint Householders or members of the household aged 16 or over”. The instructions read, “What you have to do”:

- Your household should complete this form ...
- ...
- Answer the remaining questions for every member of your household.
- Sign the Declaration ...

These instructions seem to invite the person completing the household portion of the form to complete the sections for each individual member as well. There is generally no harm in this procedure; in contrast to many social surveys, the Census mainly includes questions that someone could confidently answer on behalf of a spouse, child or other relative living at the same address: date of birth, employment status, and so on. The problem with religion is that so many people “are simply uncertain or ambivalent. The line between ‘C of E’ (Church of England) and ‘none’ can be rather fuzzy” (Voas, “Surveys” 136). Lim, MacGregor and Putnam use the term ‘liminal nones’ to describe people who go back and forth between identifying with a religion and no religion.

In these circumstances we suspect that the apparent consistency between spouses is the result of one person completing the Census form on behalf of everyone—generally choosing the same answer to the religion question for each member of the family—rather than strong religious endogamy. This conjecture could be tested by comparing the Census results with findings from a household survey for which we could be more confident that individuals responded independently.

Notwithstanding the tendency for differences to be ironed out by proxy reporting, it seems likely that many people did complete the form individually. Alternatively, many men identified their wives but not themselves as Christian and, conversely, many ‘Christian’ women described their husbands as having no religion. Responses to the religion question in the 2001 Census show higher proportions of men classified as ‘none’ at every age (see Figure 2).

These findings are entirely expected. Women are more religious on average than men in nearly all places and periods (Miller and Stark; Stark; Walter and Davie). Men are sometimes more involved in religious observance, particularly public practice (Sullins), but even among Muslims and orthodox Jews, it is common to find that women have the edge in subjective aspects of religiosity. In European Christian cultures, there is virtually always a gender gap (in favour of women) in church attendance, self-description as religious, belief in God, and identification with a denomination.

To return to the issue of intergenerational transmission, there is a strong and obvious tendency for Christian parents to list their young children as Christian,

Figure 2. Identification as Christian by age and sex, England and Wales 2001 (%).

Source: 2001 Census of Population, England and Wales.

Notes: The base excludes non-Christian religions, i.e. the graph shows Christians as a percentage of people identified as 'Christian', 'no religion' or 'religion not stated'.

although it is also apparent that many parents are reluctant to describe infants as having a religion. Affiliation starts to drop during adolescence and turns into confirmed defection when (by their early to mid-20s) the young adults complete their own Census forms.

As an aside, Figure 2 also shows the strong association between (adult) age and religiosity that is characteristic of most developed countries. A growing body of research suggests that this pattern emerges not because individuals become more religious as they grow older, but rather because each successive generation is less religious than the one before (Voas and Crockett; Crockett and Voas).

Why are Baby Boys Less Religious than Baby Girls?

The gender difference in religious identification is found even among infants and young children, although the gap is very small. As shown in Table 1, there are about 105 boys for every 100 girls aged 0–4 in the general population. With Christians, however, the ratio is closer to 104, while for nones, it is around 107. Some parents seem slightly more likely to identify baby girls as 'Christian' than baby boys.

To understand why this phenomenon arises, we need to identify what kinds of parents and households produce it. It is a challenge, however, to investigate the demographic and socio-economic correlates of this gender bias. We need to know about the families of these infants (one- or two-parent, same or mixed religious identity, presence of siblings) and their own age, sex, and notional religion. Other relevant variables may include parental age, social class, ethnicity or region.

Table 1. Sex ratios by age and religion, England and Wales 2001.

Age	Total	Christian	Not stated	No religion
0	104.4	103.4	103.3	107.3
1	105.2	104.4	104.6	107.0
2	105.1	104.4	106.3	106.6
3	104.8	103.6	106.6	106.5
4	105.0	103.7	106.7	108.2
5	105.1	103.7	107.1	109.2
6	105.4	104.1	106.7	109.6
7	105.0	103.5	108.1	110.4
8	105.0	103.5	107.4	110.8
9	104.7	102.6	107.9	112.6

Source: Census of population 2001.

Note: Sex ratio is $100 \times \text{number of boys} / \text{number of girls}$.

Fortunately, the Sample of Anonymised Records (SAR) from the Census makes it possible to do the analysis. The most widely used SAR is a sample of individuals, but for these purposes we need data on everyone in a household. The Special Licensed Household SAR (SLH-SAR) is a 1% sample of the 2001 population Census for England and Wales. It contains records for 525,715 individuals within 225,436 households; individuals can be linked to others in the same family or household. The dataset provides variables on age, sex, religion, ethnic group, marital status, social class, education, employment, and so on as well as household-level variables, such as housing tenure and number of cars. In order to help safeguard confidentiality, no geographical identifiers are included.

Our hypothesis is that the religious labels attached to infant girls and boys will be influenced by the characteristics of their mothers and fathers, respectively. In some families infants are regarded (perhaps in keeping with Protestant voluntaristic principles) as having no religion, or no religion is stated for them, but generally speaking young children are identified with the religion of their parents. There may be no single way of characterising 'parental religion', however. Men tend to be less religious than women, even when both belong to the same religious group, and parents are therefore often different in religiosity (and less often in affiliation). It is natural that children will be thought of as being more like one or the other parent and typically they are thought to resemble the parent of their sex. In these circumstances one might suppose that infant girls are more likely than boys to be identified as Christian.

To test this hypothesis, our analysis focuses on parents giving their religion as Christian, none or not stated; the non-Christian sub-population is excluded. Likewise, only households containing children 0–5 have been selected. There are eight distinct family types defined by religion, the first four being ones with both parents living together and the other four involving lone parents:

- (1) both parents Christian
- (2) mother Christian, father no religion or not stated
- (3) father Christian, mother no religion or not stated
- (4) both parents no religion or not stated

- (5) lone mother, Christian
- (6) lone mother, no religion or not stated
- (7) lone father, Christian
- (8) lone father, no religion or not stated

If the hypothesis is correct, we would expect the following exceptions to the standard infant gender gap:

- In family type 2 (mother Christian, father not), the gender gap should be larger than average.
- In family type 3 (father Christian, mother not), the gender gap should be reversed.
- In family type 7 (lone father, Christian), the gender gap should be negated or reversed.

The findings are shown in Table 2. The figures in the top half of the table (for two-parent families) are just what one would expect to see if the hypothesis is correct. Where both parents are labelled in the same way (whether Christian or not), there is a modest gender gap of 1.2%. We attribute the existence of this gap to unobserved (that is to say, unrecorded) differences in the religiosity of the two partners, with the fathers being on average somewhat less religious than the mothers. Where this difference is made explicit on the Census form—where the mother is recorded as Christian, while the father is not—the infant gender

Table 2. Identification of infants as Christian by sex and religious identity of parents, England and Wales 2001.

Family type	Sex of child	Christian (%)	Gender gap	N
<i>Two-parent family</i>				
both parents Christian	M	87.7	1.2	6,826
	F	88.9		6,495
mother Christian, father no religion/NS	M	59.5	2.4	1,004
	F	61.9		943
father Christian, mother no religion/NS	M	31.9	−2.5	429
	F	29.4		429
both parents no religion/NS	M	4.2	1.2	1,698
	F	5.4		1,635
<i>One-parent family</i>				
lone mother, Christian	M	74.5	0.6	1,695
	F	75.1		1,724
lone mother, no religion/NS	M	5.8	3.1	884
	F	8.9		888
lone father, Christian	M	73.8	−9.5	80
	F	64.3		84
lone father, no religion / NS	M	18.2	11.3	44
	F	29.5		44

Source: Special Licence Household Sample of Anonymised Records from the 2001 Census for England and Wales.

Notes: The question on religion was voluntary; religion was not stated (NS) by 7.7% of respondents. The gender gap is the difference between Christian percentages for female and male infants (and hence is negative when more boys than girls were identified as Christian).

gap is correspondingly twice as high. Conversely, in the smaller number of cases where the father but not the mother is identified as Christian, the situation is reversed: baby boys are more likely to be labelled as Christian than baby girls.

It is harder to know what to expect in one-parent households. The child's religious identity may be determined entirely by the co-resident parent, but in some cases the other parent's religious views (about which we have no information) may have some influence. Lone-parent families are most commonly headed by a woman identified as Christian and here the infant gender gap is a barely perceptible (0.6%). Where there is a lone father who is Christian, we once again see a reversal of the usual situation: nearly 74% of young sons, but only 64% of young daughters are assigned to the religion. These figures are unreliable because there are so few Christian lone fathers of young children (88 in the sample), but the size and direction of the difference is striking.

These findings support the hypothesis that infants tend to be associated with the religion or non-religion of the parent of the same sex. The differences are small, but it would be interesting to know more about what kinds of households do or do not contribute to this gender gap. We therefore looked at a variety of characteristics, including age, marital status, education, and social class. Ideally one would consider other factors such as ethnicity and the number and religious identities of siblings, but it would require a larger sample than is available in the Household SAR.

Where both parents are Christian, there is no infant gender gap when the couple is young (fathers under 32 or mothers under 30 years old), cohabiting, well educated or in professional or managerial employment. These findings do not seem to hold when the parents have no religion—in fact, the infant gender gap looks even larger if the parents are young and well qualified—but the numbers are not large enough to allow us to be confident. It is somewhat paradoxical to have a 'Christian' infant when both parents have no religion, although grandparental involvement is a possibility. The parents might have decided to skip the question (thus going into the 'religion not stated' category), but why do they tick the 'Christian' box on the Census form for the child?

If we ignore the non-religious and focus on 'Christian' parents, it seems that young boys and girls are most likely to be given different religious identities when the parents are older, married, in skilled manual employment, and with low qualifications. Interestingly, the direction of the gender gap is reversed when the father is well qualified and the mother is not.

For lone mothers, the infant gender gap also seems to be a working-class phenomenon. In addition, it shows up among the unmarried rather than in women who are separated or divorced. These differences are not statistically significant, however.

In summary, the gender gap in religiosity is well known and has received a good deal of attention. Even accepting that women are more religious than men, it is surprising to find that infant girls are very slightly more likely to be described as 'Christian' by their parents than infant boys. The apparent explanation is that there is an association between the religious labels attached to girls and boys and the characteristics of their mothers and fathers, respectively. Boys—even baby boys—are thus more likely than girls to be identified as having no religion: like father, like son.

Of more significance for the future of religion in Britain is Figure 2 which may suggest that transmission of Christianity starts to fail before children even reach school age. The average length of a generation (which is equivalent to the average age of mothers at the birth of their children) is approximately 30 years and the proportion of young children who are described as Christian is very similar to the proportion of men 30 years older with that religious identity. It is markedly lower than the corresponding figure for women. One might therefore suppose that children acquire the religion or non-religion of their fathers, which turns the gender gap into a generation gap.

Table 2 tells a slightly different story, however. In round terms, it appears that in two-parent families a Christian mother and father contribute 60% and 30%, respectively, to the probability of a young child being described as Christian. These figures are additive, so that when both parents are Christian, the infant has (nearly) a 90% chance of being the same. These figures imply that transmission fails partly because Christian affiliation is not always shared by both parents, but also because in some cases even two Christian parents do not pass on their religion. (Some children of parents with no religion are identified as Christian, but the relative and absolute numbers are much lower, so little compensation can be found here.)

On the one hand, it seems that each new generation has the (non-)religious dispositions of the men in the parental generation. On the other hand, mothers seem to be more influential than fathers in transmitting a Christian identity. These findings can be reconciled if we recognize that religious socialisation depends on the cultural environment as well as the family. Men have been in the vanguard of secularisation; notwithstanding the claim that women administered the *coup de grâce* to Christian Britain (Brown), it was men who set the religious temperature. To understand the growth of non-religion we need to look beyond the family: first at education and then at the place of residence.

Are the Un-religious Better Educated?

For some purposes it makes sense to assume that 'religiosity' can be measured on a single scale. Attendance at services and belief in God, for example, are both indicators of 'being religious'; people who go to church are simply assumed to be more religious, on average, than those who do not, and likewise with believers and non-believers. In examining the connection between education and non-religion, however, it is helpful to treat religiosity as multi-dimensional, because education has contrary associations with religious belief and practice. On the one hand, studies consistently find that people with more education are less likely than others to believe in God (Argyle 77). On the other hand, it is frequently observed that religious participation (e.g. regular church attendance) in post-industrial societies is positively associated with both education and social class (see e.g. Norris and Inglehart 70).

The British Social Attitudes survey corroborates both these findings. Belief in God—with or without doubts—is lower among graduates than non-graduates; the 2008 survey gives figures of 29% versus 35%. Conversely, attendance at religious services is substantially higher among graduates than non-graduates at all ages. Across seven decades of birth, graduates are up to twice as likely

as non-graduates to attend services monthly or more often, a finding which is based on the very large pooled dataset covering the years 2000–2008.

Although the fact that education is associated in opposite ways with belief and practice may seem puzzling, the explanation is probably straightforward. Educated middle-class people are conscious of needing to take a position on religion; they are less prone than others to unreflective theism. People who have spent time in classrooms (or student coffee bars) have probably given some thought to ‘big questions’ and whether God features in the answers. Higher education produces scepticism about religion and the self-confidence to be overtly un-religious.

However, civic participation is highest among the educated middle class (Li; Li, Pickles and Savage). Churchgoing is a community activity that, like most others, is supported by people with education. There may be fewer believers among the well educated, but a substantial proportion of them are actively rather than passively religious. In brief, “this puzzle is explained if education both increases the returns to social connection and reduces the extent of religious belief”, Sacerdote and Glaeser state (188), albeit with reference to a slightly different issue.

The story does not end there, because there is a further puzzle concerning religion and education to solve. Figure 3 shows religious affiliation by decade of birth for graduates and non-graduates. As we know from previous work, there has been a steep decline in the proportion of each successive generation in Britain that identifies with a religion. The downward slope is especially severe for people without higher education: 82% of the oldest, but only a third of the youngest, regard themselves as belonging to a religious group.

Figure 3. Religious affiliation by decade of birth and higher education (%).

Source: British Social Attitudes surveys 2000–2008, pooled. N = 32,210.

Notes: Non-whites excluded.

The result is that the relationship between education and non-religion has been reversed. Graduates born prior to 1956 are less likely than their non-graduate contemporaries to have a religion; for years of birth from 1959 onwards, it is the people without higher education who on average show higher levels of no religion. The greater pace of inter-generational change in the latter group has produced a cross-over in the graphs.

This shift can also be seen, if less dramatically, in the 2001 Census. Using the Small Area Microdata Sample of Anonymised Records, one can select white respondents in England (to control for the changing composition of the population) and calculate the percentage of people with or without higher educational qualifications who identified with a religion. The less well educated are more likely to have a religion at all ages, but the gap narrows from almost eleven percentage points (for people in their 50s) to less than one percentage point (for those aged 20–24). It is not much of a leap to predict that the 2011 Census will show a cross-over (and in fact this is already apparent for women, among whom young graduates were more likely than non-graduates to have a religion in 2001).

There is some evidence that the education gap is also closing for religious belief. Here we are hampered by a shortage of good data: the questions on affiliation and attendance appear every year in the British Social Attitudes survey, but belief in God was only included twice in the past decade. The signs are, however, that graduates in the youngest generation are at least as likely to be theistic as their contemporaries without degrees.

The question is why the association between education and religious affiliation—and possibly belief in God—is changing. Our hypothesis is as follows. When access to higher education is restricted to very bright, well-read academic high achievers, graduates are disproportionately likely to report that they have no religion and do not believe in God, for the reasons mentioned above. As access to higher education is broadened, however, not only the social but also the intellectual distinctiveness of graduates fades. People in higher education are more like everyone else.

Our explanation rests on the combined effects of the expansion of higher education and the drift from religious adherence. In earlier times almost everyone had a religion, at least nominally. The small group of people who were overtly un-religious were mostly members of the middle-class *intelligentsia*—hence the connection between educational qualifications and no religion. Most young people now do not have a religion and at the same time a substantial proportion of this generation is entering higher education. As a result, the set of people who have no religion is expanding beyond the sub-population that is highly educated and that sub-population is in any case losing its distinctiveness.

A similar situation appears to be developing in the US, as noted in data from the American Religious Identification Survey 2008:

Also reflective of the growing 'normalization' of Nones are the relatively minor differences in socio-economic characteristics between them and the general population... While there are slight variations in educational attainment, what is really notable is that the differences are virtually negligible. [...] It was clear in 1990 that Nones were more educated than the general US adult population. While that is still the case today for university graduation rates, the gap has narrowed. (Kosmin and Keysar 4)

The real puzzle, however, is why the ‘God gap’ for educational credentials is not merely disappearing in Britain but reversing. The answer lies in the distributions of graduates and non-graduates over three religious categories: no religion, nominally religious, and practising. In the oldest generation, graduates are disproportionately represented in the two extreme categories: no religion and actively religious. As more people enter higher education, there is a gradual reduction of graduate distinctiveness, but that change is not the key feature of this explanation. What matters most is that graduates with a religion tended to be religiously active in the early generations. People raised by practising parents have a certain propensity to become nominally religious, while those raised in nominally religious families are at risk of becoming completely non-religious. (There are other paths, for example, from actively religious to non-religious or from nominally religious to practising, but it is sufficient to consider the main flows.)

It is easy to check that, based on plausible assumptions about these probabilities, the association between having a degree and having a religion changes from negative to positive. Everyone may become less religious at the same rate, but the graduate sub-population is moving from active to passive belonging, while more of the non-graduate population is losing a religious identity completely. (Note that these changes are likely to occur between rather than within generations.) As a result, total affiliation among graduates starts lower but ends higher than affiliation among non-graduates, as shown hypothetically in Table 3 and with actual values in Figure 3. Because of the relatively polarised religiosity of the graduate population at the outset, the decline in affiliation occurs more slowly over subsequent generations, which in turn produces the reversal in the association observed between higher education and having a religion.

So far we have considered the religious character of sub-populations defined by education. It is also interesting to look at the data from another direction: the educational qualifications found in groups defined by religiosity. Rather than treating religious identity, belief, and practice separately, we can produce the sort of three-fold categorisation suggested in the article by Voas on “The Rise and Fall of Fuzzy Fidelity”. ‘Religious’ respondents say that they have a religion, believe in God (if only sometimes), and attend services at least

Table 3. Hypothetical change in distribution of religion by education.

	Graduate		Non-graduate	
	Time 1	Time 2	Time 1	Time 2
No religion	30	40	20	45
Nominal	20	35	50	40
Practising	50	25	30	15
Total nominal and practising	70	60	80	55

Note: Arrows represent a transfer of half of the amount from Time 1 into the category shown for Time 2.

Table 4. Education by age and religious type (%).

	Un-religious	Fuzzy faithful	Religious
<i>Some qualifications (O-level/GCSE or better)</i>			
under 35	94.3	92.5	93.3
35 and over	75.9	63.4	70.4
<i>A-levels or better</i>			
under 35	61.2	69.8	75.5
35 and over	45.9	34.0	46.7
<i>degree or better</i>			
under 35	22.4	30.3	35.8
35 and over	17.9	10.2	16.0

Source: British Social Attitudes survey 2008. Sample base = 3,498.

monthly. The ‘un-religious’ have/do none of these things. In between are the ‘fuzzy faithful’, who identify, believe or attend singly or in some combination, but not all three. On this basis, 36% of white respondents to the 2008 British Social Attitudes survey are un-religious, 40% fuzzy, and 24% religious. (The analysis is restricted to people of white ethnic origin: because the non-white respondents are very different in both educational and religious characteristics, retaining them in the full sample obscures rather than clarifies the results.)

Table 4 shows the educational background of respondents in these three groups, split into two broad age categories: below 35 versus 35 and older. The table provides figures for three levels of education: at least secondary qualifications such as GCSE or O-level, at least A-levels, and finally degree-level qualifications. The vast majority of under-35s hold some qualifications, while older people are on average less well educated by any of the measures.

The classification by age and religious type reveals an interesting pattern. For the older age group, the association between religiosity and education is U-shaped: both the clearly secular and clearly religious are more highly educated than the ‘fuzzy faithful’ in between. For people younger than 35, however, the association between religiosity and education is consistently negative: the clearly religious are the most qualified, followed by the fuzzy and then the un-religious. (Because only a small minority of under-35s have no qualifications at all, the religious differences among people with at least some qualifications are not significant.) The analysis illustrated in Table 3 explains how and why this change is likely to have occurred.

Our analysis has illustrated the limits of trying to explain religious change by reference to changes in the composition of the population. Many sociologists have supposed, for example, that education undermines religious involvement and, as people are spending longer in education, it follows that religion may suffer. Similar arguments have been made with respect to women’s employment, marriage, family formation, and other variables. The common thread in these claims is the idea that what has changed is not the behaviour of people with given attributes, but rather the relative frequency of those characteristics in the population.

An alternative route is to consider context rather than composition: in the extreme, it might be the case that people are the same, while the environment in which they make choices has changed. Direct cultural effects may be more difficult to identify than compositional effects. It is not necessarily easy, for example, to measure a general shift in values from respect for traditional authority towards free-thinking individualism. Moreover, the boundaries between composition and context are often blurred: increased access to higher education (which is a matter of context) might have a compositional effect (if more educated individuals are less believing than others), which could in turn create a contextual effect (if the prevalence of non-religious worldviews has an impact on the common culture). In any event it is time to direct our attention to the geographical environment.

Local Variations in the Prevalence of Non-religion

The final puzzle is the question why there is so much local variation in the prevalence of religious identity, even when we control for age, sex, and ethnicity. Census data for local wards show that anywhere between 1.9% (Bastwell, Blackburn with Darwen) and 42.4% (St Peter's and North Laine, Brighton) report no religion across England's 7,969 wards. On the face of it, some parts of the country are as religious as Ireland, where 94% reported a religious affiliation in the 2006 Census, and other parts approach the secularity of East Germany, where 74% reported no religious affiliation in 2008. These contrasts do not seem obvious to observers, however, and are seldom commented on. We need to consider whether there are genuinely different neighbourhood cultures or merely local variations in the composition of the population.

The disparities are evident not just between wards (small areas with an average population of about 6,000) but also between local authority districts in England. More than a quarter of the people in Norwich, Brighton and Hove, and Cambridge have no religion. Districts in Nottingham, the City of London, Bristol, Oxford, Islington, Harlow, and Camden complete the top ten ranking. Notably, none are in the north of England and several have large student populations. By contrast, the bottom ten by this measure of secularity are South Ribble (8.7%), Ribble Valley, Allerdale (Cumbria), Sefton (Merseyside), Blackburn with Darwen, Wear Valley, Easington (Durham), Copeland (Cumbria), Wigan, St. Helens, and finally Knowsley, with only 5.8% reporting that they have no religion. All these districts are in the North West or North East regions of England. Several million people live in this unbuckled 'British Bible Belt', but the contrasts tend to be lost when we look at national averages.

To return to smaller areas, the 4 wards with the highest proportion of religious nones are in Brighton, which claims 6 of the top 20 wards in all. Of the remainder, 8 are in Bristol, 2 in the City of London, 2 in Oxford, 1 in Norwich, and 1 in York. Of the 20 wards with the lowest proportion of nones, 4 are in Copeland, 3 in Blackpool with Darwen, 3 in Ealing, 3 in Newham, and 1 each in Brent, Oldham, Liverpool, St. Helens, Birmingham, Knowsley, and Bradford. Brent, Ealing, and Newham are London boroughs with large immigrant populations. The remainder are predominantly in the former industrial cities and typically

Figure 4. Distribution of wards in England by percentage of population with no religion, 2001.
Source: 2001 Census of Population, England.

have relatively few people born outside the UK: the Copeland, Liverpool, St Helens, and Knowsley wards are more than 98% white.

Various drivers of area-level religiosity may operate. The local economy is likely to be critical: some areas of England are economically vibrant, while the formerly industrial north is in relative decline. The more prosperous south is likely to attract younger and more highly educated workers; it is economically more developed and tends to be at the leading edge of value change. By comparison, the former industrial heartlands of the north and the Midlands host weaker local economies, with a higher proportion of the population economically inactive (permanently sick, long-term unemployed or never employed) as well as a higher proportion of the labour force in less highly skilled jobs and possessing lower educational qualifications.

In addition, demand for unskilled labour has generated considerable immigration to a number of the urban areas in the north and the Midlands. These areas have consequently become religiously different from other parts of the country, as settlers from Ireland and South Asia and their descendents have typically been more religious than the native English. Further, the presence of immigrant communities may encourage the white British who in other circumstances might have reported themselves as having no religion to identify themselves as 'Christian', as a marker of cultural and ethnic identity.

To some extent, these socio-economic characteristics can be captured by looking at economic activity and religious or ethnic identity. However, it is also

Table 5. Characteristics of English Wards 2001 (%).

	Minimum	Maximum	Mean
no religion	1.9	42.4	14.2
non-Christian religion	0	77.5	3.8
aged 25–34	3.9	46.2	13.3
managerial or professional occupations	6.3	64.8	26.9
degree-level educated or better (level 4 or 5 qualifications)	3.1	72.5	19.9
full-time students	0	85.8	4.0
no qualifications	1.7	59.8	28.0
economically inactive	0	26.1	6.0

Source: Census of Population, 2001.

Note: Number of wards = 7969. The base for the variables on occupation, qualifications, and economic activity is the population aged 16–74.

possible that, in addition to these structural socio-economic drivers, there are particular local micro-climates, due perhaps to ideological diffusion or distinct clustering of particular social groups. Space is important for the organisation of social groups and the spread of ideas and behaviours: people are likely to be influenced by neighbours' religious worship or irreligiosity, both at the individual and at the neighbourhood level. Area-level religiosity or irreligiosity will thus not be completely determined by the same factors which operate independently in each area, but also by diffusion processes (O'Loughlin and Anselin 17). Further, area-level religious affiliation is likely to be affected by the presence of particular places of worship or religious organisations in a given area. Since religious activity is generally practised communally, people who live close to areas with many places of worship are likely to have better access to churches, mosques, temples, and so on. All these factors may help to make nearby areas religiously similar, quite apart from the impact of shared socio-economic characteristics.

To explore the impact of space further, we examined the association between reporting no religious affiliation and a set of socio-demographic variables across wards in England, first without adjusting for space. Various fundamental socio-economic factors are likely to influence area-level proportions of religious nones:

- levels of education
- age structure
- employment rates
- proportion of full-time students
- religious or ethnic diversity

Table 5 summarises the characteristics of English wards in these respects. It is immediately clear that there is a great deal of variation between wards. In 57 wards, more than half the population has a non-Christian religion, while in upwards of two dozen others there are no non-Christians at all.

We then examined how these factors together might contribute to area-level irreligiosity. The first column of Table 5 provides the results of a conventional ordinary least squares (OLS) model. The proportion of religious nones at the ward level is positively correlated with the percentage of people aged 25–34

and also with the percentage of the population aged 16–74 who are full-time students. It is positively associated with the percentage of those over 16 who are educated to degree level and negatively associated with the share of the working-age population that is economically inactive (permanently sick, never employed, long-term unemployed). It is interesting to note that the population of religious nones is also positively associated with the percentage of people with no qualifications whatsoever and negatively associated with the proportion of the working-age population in managerial or professional posts or in the social classes A and B.

Finally, the proportion of religious nones is negatively related to the percentage of the population affiliated to religions other than Christianity. While it is possible that un-religious people prefer to live in areas that are not ethnically diverse, it seems more likely that they simply tend not to be found in places like northern urban centres that are home to large numbers of people belonging to other world religions.

The overall ‘fit’ of the model, or the R-squared, is moderately high, but other diagnostics indicate that the remaining unexplained variance is not made up of ‘random noise’, as the OLS specification requires. From the discussion above, it is likely that this remaining variance has a spatial aspect. A preliminary investigation indicated that the relationship between the proportion of the un-religious at the ward level was highly and significantly correlated with a weighted average of the percentage of religious nones in neighbouring wards (Moran’s $I = 0.674$, $p = 0.001$).

We therefore incorporated spatial weights to take account of the proportion of religious nones in surrounding areas. Spatial models can capture the proximity between observed units, either by introducing a spatially lagged variable (*spatial lag model*) or by modelling spatial correlation in the error term (*spatial error model*). The former are preferable if there is good reason to think that the proportion of non-religious people in one area affects the proportion in neighbouring areas;

Table 6. Population of religious nones: Ordinary Least Squares (OLS) and spatial lag models.

	OLS	Spatial lag
constant	6.318	−0.467
spatial lag term	n/a	0.752
% non-Christian	−0.192	−0.123
% aged 25–34	0.515	0.305
% managerial or professional	−0.109	−0.036
% degree-level educated or better	0.155	0.033
% full-time students	0.360	0.198
% no qualifications	0.089	0.014
% economically inactive	−0.380	−0.062
R^2	0.391	0.756
number of observations	7,969	7,969

Note: All coefficients are statistically significant, except for ‘no qualifications’ in the spatial lag model, for which it is borderline ($p = 0.058$). The spatial lag model is produced by maximum likelihood estimation and hence the value shown is a pseudo- R^2 statistic.

the latter should be chosen if there is thought to be a missing spatial variable affecting an area and its neighbours equally (such as the presence of an important place of worship). In practice the results tend to be similar, but we judge the spatial lag model to be better on theoretical grounds, that is the specification used here to investigate how space affects religiosity.

We produced a spatial lag model using a matrix of weights that identifies the neighbouring areas in all directions, called 'queen contiguity', by analogy with chess (Anselin). Our aim was to investigate whether the size of the non-religious population could be better explained by adjusting for the weighted average of the population of religious nones among neighbours (the spatial lag) in addition to the area's socio-economic characteristics. The results are given in the final column of Table 6. As expected, the spatial lag term is positive and highly significant: neighbouring areas are similar. The remaining socio-economic variables work in the same direction as in the OLS model, where observations are assumed to be geographically independent, but the coefficients are smaller. Mapping the residuals (that is, the amount by which each individual area deviates from the predicted value) shows no remaining spatial pattern affecting regions or even districts. Specifically, there is no clear north–south difference that has not been captured by controlling for the socio-economic variables and near-neighbour similarity.

The model accounts for three quarters of the variance in the proportion of the ward population that has no religion, but it remains to be explained why neighbouring areas are similar. One obvious possibility is that they are composed of similar kinds of people. The model does include some demographic and socio-economic variables, but many more characteristics are likely to be relevant. Another possibility is that features of the local environment make a difference. Individuals are influenced by their cultural surroundings, which may be more or less religious (Iannaccone and Makowsky). Composition and context may be interdependent. Merseyside has long had a high proportion of mass-attending Catholics, for example, as a legacy of Irish immigration, but presumably the presence of the Irish and their descendents helped to reinforce norms of religious practice.

How can these results be interpreted? We suspect that the local differences in the prevalence of non-religion are driven by socio-economic variables (probably determined regionally or sub-regionally) and mediated by values, although some small areas can also be ideologically distinctive. Economic characteristics are not evenly spread across the country so that what looks like cultural clustering may have economic roots. The south is less religious than the north because young, highly skilled workers and full-time students tend to live there. By contrast, areas in which a high proportion of the population is economically inactive, or belong to religions other than Christianity, are less likely to be un-religious. These influences create a 'British Bible Belt' in the North West and North East, assisted by the fact that these regions attracted Irish Catholics in the nineteenth century and in the post-war period.

The north–south divide in the amount of non-religion matches the classical north–south divide defined by indicators of prosperity and deprivation: the line runs from the Severn to the Wash. Although the correspondence between money and religion may be mediated by culture, it is hard not to see socio-economic differences as the underlying cause. In line with the standard

case for secularisation, it appears that modernisation (as demonstrated and probably driven by economic development) creates difficulties for religion, even at the regional level.

Some of the variance remains unexplained by both the OLS model and the spatial model, as a number of wards are notably un-religious beyond the level expected. Several are found in towns such as Brighton, Bristol, Norwich, and York, where urban liberals and the gay community appear to have a clear preference for living in particular distinctive neighbourhoods. The Census does not tell us about the strength of the 'counter-culture' in each area, which opens opportunities for in-depth qualitative studies of such micro-climates. It would be particularly interesting to investigate how far people shape the culture (if the area attracts non-religious people) and how far the culture shapes the people in it (so that previously religious people become non-religious).

Discussion

British society is becoming progressively more secular as each generation emerges and remains less religious than the one before. Societies do not turn away from religion overnight or even from one decade to the next; rather, secularisation occurs as increasing numbers of people become nominally religious or only half-believing, before their descendants shed religious belief, practice, and identity altogether. To understand such change we need to examine the mechanisms related to secular identity formation.

The existence of a gender gap among the very young illustrates the low threshold between nominal religion and non-religion as well as the effect of parental affiliation on the choice of religious labels for girls and boys. Even at the outset, religious affiliation is not necessarily the product of simple transmission from parents to children. The construction of individual identity starts in infancy and is shaped by gender and social class. Religion (or the lack of it) may sometimes be passed from mother to daughter and from father to son.

Education has long been known to affect religious belief and practice. It is not always appreciated that the effects have been in opposite directions, at least in Britain: people with higher education are disproportionately represented among both non-believers and churchgoers. For affiliation, the relationship with education has switched from positive to negative among those growing up in the 1990s and 2000s. We have explained how the changing distribution of religious types among graduates and non-graduates produced this shift. In the mid-twentieth century, a majority of graduates attended church and hence they (or, more accurately, their children and grandchildren, who were also very likely to have degrees) had further to travel before disclaiming even nominal affiliation. As a result, religious identity among the highly educated part of the population has decayed more slowly than for those with fewer qualifications. The previously positive relationship between education and non-religion has been reversed. It would be a mistake to infer, however, that a continued expansion of higher education will produce a religious revival: both the graduate and non-graduate sub-populations are becoming less religious over time.

Finally, we have looked at the geography of non-religion in Britain. As in so many respects, a line drawn from the Severn to the Wash marks a north-south

divide. The fault-line is likely to be economic in origin. Relatively fewer people in the north have degrees or professional/managerial jobs; more are economically inactive. The south draws the young and highly skilled from elsewhere. These contrasts may be important not just because the composition of the population is different, but also because the prevailing values change earlier in some regions than in others.

Neighbouring areas tend to have similar characteristics, with the proportion of non-religious being one of the similarities. Certain areas remain distinctive even after taking both the composition of the population and the character of neighbouring areas into account. It seems evident that Brighton, parts of Bristol, the Calder Valley, and Norwich, for example, have genuine local cultures that are both the cause and consequence of selective migration. While areas tend to be different because the people living in them are different, it is also plausible that regional or even neighbourhood variation in norms and expectations will affect people's propensity to be non-religious.

Contemporary developed societies are in the midst of a secular transition. Notwithstanding the substantial impact of immigration and the influence of non-institutional spirituality, the dominant trend in nearly all Western countries is the rise of non-religion. Solving the puzzles produced by this transition should be high on the agenda of the social scientific study of religion.

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REFERENCES

- Anselin, Luc. *GeoDa 0.9 User's Guide*. Urbana-Champaign, IL: Spatial Analysis Laboratory, University of Illinois, 2003.
- Argyle, Michael. *Psychology and Religion: An Introduction*. London: Routledge, 1999.
- Brown, Callum. *The Death of Christian Britain: Understanding Secularisation, 1800–2000*. London: Routledge, 2002.
- Crockett, Alasdair, and David Voas. "Generations of Decline: Religious Change in Twentieth-Century Britain." *Journal for the Scientific Study of Religion* 45 (2006): 567–84.
- Iannaccone, Laurence R., and Michael D. Makowsky. "Accidental Atheists? Agent-Based Explanations for the Persistence of Religious Regionalism." *Journal for the Scientific Study of Religion* 46 (2007): 1–16.

- Kosmin, Barry, and Ariela Keysar, with Ryan Cragun and Juhem Navarro-Rivera. *American Nones: The Profile of the No Religion Population*. Hartford, CT: Trinity College, 2009. Available at: <http://www.americanreligionsurvey-aris.org/>, access date: 1 June 2010.
- Li, Yaojun. "Measuring Social Capital: Formal and Informal Activism, its Socio-Demographic Determinants and Socio-Political Impacts." Eds. Martin Bulmer, Julie Gibbs and Laura Hyman. *Social Measurement through Social Surveys: An Applied Approach*. Farnham: Ashgate, 2010. 173–94.
- Li, Yaojun, Andrew Pickles, and Mike Savage. "Social Capital and Social Trust in Britain." *European Sociological Review* 21 (2005): 109–23.
- Lim, Chaeyoon, Carol Ann MacGregor, and Robert D. Putnam. "Secular and Liminal: Discovering Heterogeneity among Religious Nones." *Journal for the Scientific Study of Religion* 49 (2010): 596–618.
- Miller, Alan S., and Rodney Stark. "Gender and Religiousness: Can Socialization Explanations be Saved?" *American Journal of Sociology* 107 (2002): 1399–423.
- National Centre for Social Research. *British Social Attitudes Survey 2000–2008* [data file]. Colchester, Essex: UK Data Archive, 2010 [distributor]. Available at: <http://www.esds.ac.uk/government/bsa/>, access date: 1 October 2010.
- Norris, Pippa, and Ronald Inglehart. *Sacred and Secular: Religion and Politics Worldwide*. Cambridge: Cambridge UP, 2004.
- O'Loughlin, John, and Luc Anselin. "Geography of International Conflict and Cooperation: Theory and Methods." Ed. Michael D. Ward. *The New Geopolitics*. Philadelphia, PA: Gordon and Breach, 1992. 11–38.
- Sacerdote, Bruce, and Edward L. Glaeser. "Education and Religion." *Journal of Human Capital* 2 (2008): 188–215.
- Stark, Rodney. "Physiology and Faith: Addressing the 'Universal' Gender Difference in Religiousness." *Journal for the Scientific Study of Religion* 41 (2002): 495–597.
- Sullins, D. Paul. "Gender and Religion: Deconstructing Universality, Constructing Complexity." *American Journal of Sociology* 112 (2008): 838–80.
- Voas, David. "The Rise and Fall of Fuzzy Fidelity in Europe." *European Sociological Review* 25 (2009): 155–68.
- . "Surveys of Behaviour, Beliefs and Affiliation." Eds. James A. Beckford, and N. Jay Demerath. *Handbook of the Sociology of Religion*. London: Sage, 2007. 128–50.
- Voas, David, and Steve Bruce. "The 2001 Census and Christian Identification in Britain." *Journal of Contemporary Religion* 19 (2004): 23–8.
- Voas, David, and Alasdair Crockett. "Religion in Britain: Neither Believing nor Belonging." *Sociology* 39 (2005): 11–28.
- Walter, Tony, and Grace Davie. "The Religiosity of Women in the Modern West." *British Journal of Sociology* 49 (1998): 640–60.