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‘Understanding the limitations of the ccTLD as a proxy for the national web: lessons from cross-border religion in the northern Irish web sphere’

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ABSTRACT

National web spheres include content that resides within geographically non-specific domains, such as .com or .org. However, little is known as to why this content ‘lives’ outside the ccTLD. The island of Ireland is formed of two political units with two ccTLDs (.uk and .ie). This chapter takes the case of the Christian churches in Ireland as a case study in the mapping between the nation and the ccTLD. It investigates the degree to which the differing historic attitudes of Protestant and Roman Catholic churches to national identity are reflected in patterns of domain registration. Based on data for 2015 and 2016, Roman Catholic congregations were more likely to register domains outside the .uk ccTLD. However, there was no corresponding prioritisation of registration within .uk for the several Protestant denominations. That organisations that might be expected to register their web estate within a particular national domain do not in fact do so suggests that the ‘gravitational pull’ of the ccTLD is weak. The chapter also shows that the networks of links between the individual Baptist church congregations on both sides of the border between 1996 and 2010 was both tightly focussed around the churches in Northern Ireland, and also highly localised within one part of the province, whilst being spread across four TLDs. While offline patterns of numeric strength and geographic concentration are reflected online, they map only very loosely onto the ccTLD.

Understanding the limitations of the ccTLD as a proxy for the national web: lessons from cross-border religion in the northern Irish web sphere

Peter Webster

The writing of modern history has often depended on a stable notion of the state. Even if studies of nationalism have dealt subtly with the means by which people understand their relationships with both ethnic nations and the state as a political and legal entity, it has at least been possible to circumscribe the latter without significant difficulty. The world order that has persisted since the early modern period presupposes that persons have some form of citizenship, a legal identification with a state; even if they may hold more than one, each citizenship may stand on its own without legal ambiguity. Another of the fundamental assumptions of that system is that geographical space (at least on land) can usually be clearly divided into territorial units under unified and monopolistic systems of law and government. To elaborate an insight of Max Weber, in order for a state successfully to enforce a monopoly on the use of violence, it must first know where its boundaries are.

The high-water mark of national schools of historical writing was perhaps in the late nineteenth and early twentieth centuries, as compendia of national biographies were created alongside monumental editions of primary sources (examples include the Dictionary of National Biography in the UK, or the *Monumenta Germaniae Historica* in Germany). Scholarly interest has broadened since to include the interactions between states and their peoples across borders, but still by and large supposing a fixity in those states at any one point in time. Studies of migration still must presuppose a point of origin and a point of arrival, both of which are located within physical space. Printed publications may circulate freely, but their publication is still governed by a national legal framework; something similar may be said of

television and other broadcast media.¹ The advent of the web presents historians with a new and somewhat perplexing question: where is it? What does it mean to think of the web in spatial and quasi-geographic terms? To what degree may we write national histories of the web? Where did a particular website ‘live’? Of where was it a resident or citizen, so to speak?

These questions are explored more fully elsewhere in this volume, but several attempts have already been made, by dint of necessity, to define the parameters of a national web domain. Several nations have legal frameworks of very long standing that provide for the systematic creation of a record of a nation’s publishing, usually known as legal deposit. In extending these to cover non-print publication, which includes the web, it has perforce been necessary to formulate criteria by which to identify web content that falls within the remit of the law. Several such criteria have been adopted, singly or in combination, including the physical location of the server on which the data is hosted, the residence of the person or organisation registering the domain name, and the language in which the content is written (Webster, 2017, 2018b). However, in most cases, the task of defining a national web domain has begun with one or more country code top-level domains (ccTLD) even if it has not ended with them.² This chapter examines the nature of the .uk ccTLD as a proxy for the UK web by means of a case study of the web estate of the Christian churches in Northern Ireland.

The society of Northern Ireland is marked by an interlinking of religious and national identity, which may be unique in Europe if not, indeed, in the world. On the face of it, therefore, it would seem an unusual case from which to generalise about the nature of national web domains. However, it is through examinations of marginal or exceptional cases such as this that the

- 1 On the role of national print communities in the development of modern nationalism, see Anderson (1991), pp.37–46.
- 2 The creation and regulation of ccTLDs is the responsibility of ICANN, the Internet Corporation for Assigned Names and Numbers. Registration of individual domains in each ccTLD is delegated to national registrars; in the case of the UK, this is the responsibility of Nominet.

ambiguities of the situation are brought into relief. This chapter uses data provided by the British Library to reconstruct the link relationships between churches in Northern Ireland, examining the regional, national, and cross-border relationships that they imply. In doing so, it argues that even though there are indeed clear geographic concentrations in these link graphs, they map only very loosely indeed onto the UK ccTLD.

Religion, national identity, and the ccTLD in Northern Ireland

The island of Ireland was partitioned in 1920–1921 into the Irish Free State in the south (later the Republic of Ireland) with an overwhelming majority of Roman Catholics, while part of the province of Ulster in the north remained part of the United Kingdom as Northern Ireland, with a Protestant majority population. Although the relative proportions have varied, Northern Ireland always had a significant Roman Catholic minority population. It is not the task of this chapter to recount the history of the ‘Troubles’, the three decades of civil unrest and inter-community violence that were in significant part ended by the Good Friday Agreement in 1998; the literature on the subject is now very large, both on the national and international politics and the local experience, and over very short and very long spans of time (for example, Bew & Patterson, 1985; Howe, 2000). Two decades after the Agreement, it is still the case that many, although by no means all, in the Roman Catholic community identify with the political ideal of a united Ireland, while Protestants tend to retain a strong attachment to the United Kingdom. Within this very particular politico-religious nexus, the Christian churches themselves and their interactions have themselves attracted some historical attention, as their story is both intimately connected with, and distinct from, the wider issue (Ellis, 1992; Gallagher & Worrall, 1982; Power, 2007; Taggart, 2004).

It has often been noted that Northern Ireland remains an unusually religious society, when compared to both the rest of the UK and other liberal

democracies in the West; Steve Bruce has shown the degree to which the province is an exception to the pattern of secularisation visible elsewhere (Bruce, 2007, pp.53–60). Due to its very particular religious and political history, Northern Irish society has been characterised by an exceptional sensitivity to symbols, to history, and to place. The Northern Ireland Parades Commission was created in 1998 in order to facilitate mediation in the case of disputes concerning the numerous public processions that mark certain key historic dates. Such a procession is the Apprentice Boys March commemorating the ending of the siege in 1689 of the city still known as either Derry or Londonderry according to one’s view of national identity. The decision in 2012 to limit the flying of the Union flag from Belfast City Hall provoked widespread violent unrest in the province (BBC, 2012). The first part of this chapter explores the degree to which that sensitivity to space and symbol has been transferred online. Amongst the churches, Catholic and Protestant, in a province where the symbols of national identity have such prominence, does the location of a website within or outside the .uk domain carry any similar symbolic weight? Might those churches most associated with unionism be more likely to register in the UK ccTLD than Roman Catholic churches?

At this point, the scholar bumps up against the fact that researchers know almost nothing of the patterns of registration in individual TLDs. An indication of the scale of the question is given by a 2015 investigation by the British Library, which found more than 2.5 million hosts³ that were physically located in the UK without having .uk domain names (UK Web Archive, 2015). This would suggest that as much as a third of the UK web may lie outside its ccTLD. There has so far been almost no research that compares this pattern with other national domains, although related

3 In this context, a host is that element of a web domain that may be expressed in the form *news.bbc.com*. As such, single domains may have many hosts (although not necessarily). In practical terms, *host* is largely synonymous with *subdomain*, though not strictly so.

questions have been asked of other national domains (Brügger, Laursen, & Nielsen, 2017; Ben-David, 2016). The problem is particularly acute in the cases of countries that have a delegated ccTLD which is in fact hardly used, such as the .us domain for the USA (Brügger, 2017, p.65).

The picture is further occluded by a lack of understanding of which kinds of content are more or less likely to be outside the circle, although scholars are beginning to pay attention to the nature of the web sphere in particular economic or social spheres (Musso & Merletti, 2016; Kahn, 2018). At the time of writing, in the UK there are political parties, banks, train companies and all kinds of other organisations that ‘live’ outside .uk – but we understand almost nothing about how typical that is within any particular sector. We also understand very little about what motivates individuals and organisations to register their site in a particular national space. There is a need for case studies of particular sectors to understand their ‘residence patterns’, as it were: are British engineering firms (say) more or less likely to have a web domain from the ccTLD than nurseries, or taxi firms, or supermarkets? Do organisations that wish to operate internationally choose non-specific domains such as .com or .org? Or (as Ian Milligan and Tom Smyth suggest in this volume) are choices made by registrants conditioned in part simply by the comparative difficulty and expense of registering in one TLD over another (Milligan & Smyth, 2018)?

In order to address the particular question in relation to the Northern Irish churches, use was made of the publicly available directories of individual parish or congregation sites, made available either by the national church administrations themselves or by third parties.⁴ These were examined

4 These directories are largely intended as a resource for users wishing to locate and find contact details for a particular local congregation, perhaps in order to attend a service. That of the FPCU is typical, and is available at www.freepresbyterian.org/churches/. Since the time the analysis was carried out, the directory for the Association of Baptist Churches in Ireland has been removed from the site and was never captured by the Internet Archive or any other publicly accessible web archive.

between August and November 2015 in the cases of the Roman Catholic church, the (Anglican) Church of Ireland, the Presbyterian Church of Ireland, and the Free Presbyterian Church of Ulster, and then for the Baptist church in November 2016. None of these sources make any warranty as to their completeness, but there was no reason to suppose that any incompleteness should systematically skew the proportions of domains in each top-level domain. Although this chapter will not pursue the matter further, it is also the case that some kinds of churches were more likely than others to have registered a domain for individual local congregations. Fewer than 40% of Roman Catholic congregations had their own domains, compared with more than 80% of the Baptist churches examined. The case of the Church of Ireland was further complicated by the fact that many congregations used subdomains of the global `anglican.org` domain (maintained in the USA), a transnational option not available to any of the other denominations. It remains to be seen how far this is due to variations in the degree of control exercised by national and diocesan hierarchies over local congregations; the observable contrast between Roman Catholic and Baptist would certainly fit such a hypothesis. It was also the case that across the denominations there were many congregations that did not maintain a site at all, and others that maintained a Facebook page to serve the same purpose: a subject that would merit investigation in its own right, but not here.

Given the history of Christianity in Northern Ireland, it would be reasonable to hypothesise that the denomination least likely to want to identify with the UK, and thus with the `.uk` TLD, would be the Roman Catholic church. This would seem to be borne out by the 100 domains found, of which only 12 were `.uk` domains. 64 of the 100 – nearly two thirds – were in fact `.com` domains, where one might have hypothesised that non-commercial alternatives such as `.org` might have been more obvious choices (see Table 7.1, below). Three congregations had in fact obtained domains

from the Republic of Ireland ccTLD (.ie) Such cross-border registrations were not unusual as Northern Ireland has a special status with the registrar in the Republic; domains registered from Northern Ireland constituted 1.5% of the total registrations in the .ie domain in 2016, some 3,245 in total (IEDR, 2017, p.10). Without further evidence such as interviews it would be hard to establish that any particular political intention should be read into a registration in the Republic. However, it is clearly the case that few Roman Catholic churches had chosen to register in the .uk domain.

Table 7.1 Proportions of different churches' domains by TLD

	<i>Domains</i>	<i>.uk</i>	<i>.com</i>	<i>.ie</i>	<i>Other</i>
		%	%	%	%
Roman Catholic	100	12	64	3	21
Presbyterian Church of Ireland	203	43	17	-	40
Baptist	101	40	24	-	36

What of the Protestant churches? If Roman Catholic congregations were unlikely to register their domains in the UK, the second part of the hypothesis might be that Protestant churches should be more likely to do so. This was the case for the Presbyterian Church of Ireland (PCI), the largest of the Protestant denominations. Of just over 200 domains (representing somewhat less than 50% of the total number of congregations), some 43% were registered in the .uk TLD. This proportion was significantly larger than for the Roman Catholic churches, but still a minority. 17% were .com registrations, and 37% were .org. The Baptist church in Ireland is a great

deal smaller in terms of numbers of adherents, but the proportion of churches with their own domains is considerably larger (101). Of these, 40% were registered in the UK TLD, a proportion comparable to that for the PCI.

For these two Protestant denominations, one large and one small, only a minority of their web estate resides within the UK TLD.

One Protestant denomination in Northern Ireland is particularly strongly associated with unionist sentiment: the Free Presbyterian Church of Ulster (FPCU), founded by the Reverend Dr. Ian Paisley in 1951. Paisley is probably the only Western religious leader to have also founded a mainstream political party, the Democratic Unionist Party, in 1971, and both the DUP and the FPCU were breakaway movements which set out to protect aspects of traditional Ulster unionism and Protestantism (Bruce, 1986, 2007, *passim*). If any of the churches might be expected to be attached to symbols of Britishness, it would be the FPCU. The set of results is relatively small, as fewer than a third of the 61 congregations counted had their own domains. However, of those 18 domains only two were registered in the UK TLD. It would appear, then, that for the Protestant churches at least, domain registration in the UK space is not regarded as an important marker of national identity.

This section has shown that, based on the patterns of domain registration for the churches of Northern Ireland in 2015 and 2016, Roman Catholic congregations were likely to register domains outside the UK, a finding broadly in line with the initial hypothesis. However, the converse hypothesis in relation to the Protestant churches is not borne out; a particular prioritisation of registration within the UK ccTLD seems not to be a conspicuous feature of the data. Both conclusions point to important areas of future research on the nature of national webs, and the limitations of the ccTLD as a proxy for them. If organisations that might be expected to want their web estate to reside within a particular national domain do not in fact

register their domains there, it suggests that the ‘gravitational pull’ of the ccTLD is weaker than might be supposed.

Link patterns in the Baptist web

The second half of this chapter takes the case of one of the Protestant denominations in Ireland in order to investigate the mapping (or lack of it) between the nation and the ccTLD. It recreates the networks of links between individual church congregations on both sides of the border, and asks: are these link networks influenced by the fact of the ccTLD, or are there more geographic and cultural factors in play that determine their shape? The churches in question are the Baptist churches of Ireland.⁵

The history of the majority of Christian denominations in Ireland begins long before partition. As a result, almost all of the churches are organised on an all-Ireland basis, without reference to the border between the Republic and the north. In the case of the two churches organised on an episcopal basis (with territorial subdivision into dioceses each under the oversight of a bishop), diocesan boundaries do not map onto the ancient county boundaries from which the border was drawn. As such, those Anglican and Roman Catholic bishops whose dioceses straddle the border must cross back and forth almost on a daily basis as they do their work around the parishes. At the same time, although each denomination has congregations in both north and south, those congregations tend to be concentrated in areas of greatest population, and also bear the marks of the history of the particular denomination. In the case of the Church of Ireland, adherence became more concentrated in the north after the Church lost its social advantages with disestablishment in 1869 and then partition (Keane, 1970, p.168; McDowell, 1975, pp.119–130). The Presbyterian Church of Ireland, by contrast, has always been numerically concentrated in the north, a reflection of the history

5 The Baptists were selected for analysis primarily for the relatively high proportion of individual congregations that had registered their own domains.

of immigration from Scotland in the early modern period from which it grew (Bruce, 2007, pp.2–21).

One of the smaller Christian denominations in Ireland, the historic polity of the Baptist churches has never included geographic subdivisions to match the diocesan structure of the Anglican and Roman Catholic churches. The focus of Baptist identity is very much the local congregation, which is effectively autonomous, although the vast majority of those individual congregations are members of a national federation or union. In Ireland this is the Association of Baptist Churches in Ireland (ABCI). In late 2016 the ABCI listed 117 churches as members, 89 of which were in Northern Ireland and 28 in the Republic. Those 117 congregations had a total membership in the region of 8,500. Since formal membership is not a condition of involvement in the life of the church, the ABCI estimated that the larger community, including those who attend but have not taken on membership, numbered some 20,000 people. Further investigation (detailed below) revealed a small number of other churches that were not members of the ABCI but which designated themselves as Baptist, which have been included for the purposes of this study. This brought the total (including churches that had existed at some point between 1996 and 2010 but had closed since then) to 123. Of all the denominations in Ireland, it was the Baptists which had the highest incidence of domains registered to individual churches: 105 in all, representing more than 4 out of 5 individual churches. It may be that this is due to the focus on the autonomy of the local congregation mentioned above.

Historians and sociologists of religion alike have so far paid almost no attention to the degree to which historic and geographical patterns of religious activity have been replicated online, in Ireland as elsewhere. This is in part because historians are only now beginning to address the web as a source for historical study. In contrast, the literature from religious studies

scholars regarding the web is now very considerable, but has tended to concentrate on the detailed examination of individual websites or small clusters of sites, or particular social media platforms such as Facebook (Webster, 2018a). The availability of web archives for whole national domains (or at least for whole ccTLDs) for significant extents of time affords an opportunity for just this kind of examination of large networks as they have evolved.

One such dataset, made available by the British Library, is of particular use for this inquiry. The British Library has custody of the JISC UK Web Domain Dataset, an extraction from the Internet Archive of all its holdings from the UK ccTLD for the period from 1996 until 2010. From that the Library has made available several derived datasets, one of which – the UK Host Link Graph – forms the basis of the analysis in the remainder of this chapter.⁶ The Host Link Graph contains some 1.6 billion linked pairs of hosts, each representing the outward link relationship between one host and another. Thus, the following entry:

2001 | *host1.co.uk* | *host2.ac.uk* | 5

is an assertion that in 2001, 5 individual resources (usually pages) were found at *host1.co.uk* that contained at least one link to *host2.ac.uk*.

The analysis that follows makes certain key assumptions. Due to the processes by which the data has been collected, it is not straightforward to form a view on the completeness of the dataset: that is, on how far the archive is a complete representation of content that was available in the UK ccTLD. Almost no information is available on the crawl profile, the frequency with which the domain was crawled, and the ‘seed list’, the set of known domains with which the crawl began. Inferences about completeness might well be made by use of data from the UK registry, were it available.

6 The data is available for download from <http://data.webarchive.org.uk/opendata/ukwa.ds.2/host-linkage/>, with a DOI: **10.5259/ukwa.ds.2/host.linkage/1**

For the purposes of this analysis, however, it is reasonable to assume that the gaps in the archive, if not strictly random, are at least not systematic; the Internet Archive are no more likely to have missed certain types of churches than others.

The data also throw into sharp relief some of the difficulties of transnational analyses of the web when web archives are largely created on a national basis. These data reflect only the linking practices of domains hosted in the UK ccTLD, but this chapter has already established that fewer than half of the domains of churches in Northern Ireland are registered in that domain. At the time of writing, there was no equivalent data available with which a scholar might analyse the same patterns in the Irish ccTLD (.ie) or in the generic .org, .com, and .net domains. As such, the patterns deduced in the Northern Irish churches registered in the UK ccTLD may not in fact be replicated by those churches registered outside it, although it is *prima facie* difficult to assert why they should be different.

The ABCI maintained a public listing of the websites of its member churches up to 2016, but historians of religion have long known that churches close, open, move, amalgamate with each other, and split with a certain frequency. In order to arrive at a list of domains that reflected the state of affairs between 1996 and 2010, the ABCI list of domains current in 2016 was used in order to query the Host Link Graph and extract all .uk hosts that linked to one of the churches in question, as well as all hosts to which any of the initial list linked outwards. An inspection of the results revealed several cases where individual congregations had employed more than one domain, and other congregations that either no longer existed or had ceased to maintain their own domain. The process was repeated with a revised list each time, until a point was reached where no new domains were being retrieved. At this point, it was assumed that the list was sufficiently complete to be analytically meaningful. If there were other domains for Irish

Baptist churches that had existed between 1996 and 2010, the Internet Archive found no other Baptist church in the UK ccTLD linking to those domains.

This chapter has already shown that in 2016 only 40% of Baptist domains in Northern Ireland were registered in the UK ccTLD. The next step was to analyse the historic set of domains for 1996 to 2010 in relation to their geography: where in Northern Ireland were these churches located? In 1996 the two counties on the eastern coast, Antrim and Down, between them accounted for nearly two thirds of the population of the province, not least since Belfast, the principal city, straddles the border between the two. Unsurprisingly, this geographical concentration was closely matched by the concentration of individual churches. 69% of the domains were of churches in counties Antrim and Down, and only 4% were from county Fermanagh, the largely rural county to the south west, the population of which accounted for approximately 3% of the total in the same 1996 estimates (CAIN, 2016).

What patterns may be discerned in the inward-facing link graphs for Baptists in Ireland? To what degree do individual congregations link to each other, and in which patterns? Once the list of relevant hosts had been finalised, the whole Host Link Graph was queried once more for links between congregations, both within Northern Ireland and from Northern Ireland to churches in the Republic. The individual hosts were assigned a unique identifier allowing county by county analysis, as well as the association of multiple domains used by the same church. To gain an overall indication of the interconnectedness of churches in the different counties, counts were made of linked pairs between churches in the same county, and from churches in one county to churches in another. In this initial analysis, linked pairs that recurred in more than one year were counted each time they occurred.

Not surprisingly, the counties with the most domains figured most prominently in the aggregate numbers from the link graph (see Table 7.2). Some 44% of the domains were for churches in county Antrim and of the 481 edges in the graph (individual link relationships between one domain and another), some 396 represented either a linking resource from an Antrim church or directed towards one; of those, 151, almost a third, were links from one county Antrim church to another. County Down churches accounted for exactly a quarter of the domains, and formed at least one of the two nodes of more than a third of the edges; the proportion was slightly lower for Armagh, and lower again for the churches of county Londonderry. Most striking is the complete absence from the graph of any of the 14% of the domains that were for churches in the two western counties of Tyrone and Fermanagh. For the ten churches in the two counties not a single edge was found in the whole graph. This has partly to do with the fact that, on further investigation, it was found that three of those ten do not appear in the Internet Archive's Wayback Machine at all until 2013, after the end point of the dataset used here. Of the remainder only one is registered in the UK ccTLD, and so the others could only appear in this data as domains receiving inbound links from .uk sites; none of them were captured by the Internet Archive before 2008.⁷

7 It is of course possible that these churches maintained sites at different domains that were not discovered by the process employed. If that was the case, then it would confirm the thesis of the general isolation of the two counties by a different means, since those domains would have been discovered if they were linked to from other churches.

Table 7.2 The incidence of domains by county and the representation of those counties in the link graph

	<i>Proportion of total domains</i>	<i>Total graph edges</i>	
	%	<i>Out of 481</i>	%
Antrim	44	396	82
Down	25	174	36
Londonderry	10	70	15
Tyrone	10	0	0
Armagh	7	144	30
Fermanagh	4	0	0

The impression that the churches of counties Tyrone and Fermanagh were relatively late to establish their domains is confirmed by an examination of the link graph in particular years. Broadly in line with the general growth of the web, the graph of church-to-church links is considerably smaller in the early years, after the first domain appears in the main data in 2000. The graph for the years from 2000 to 2004, once link pairs that recur in more than one year are deduplicated, contains only 28 unique relationships between a total of 20 churches. Of these, eleven are from county Antrim (five from Belfast), four from county Down, and three from county Armagh. The graph as a whole grew from an initial cluster of churches in the populous east of the province.

We may observe from the analysis so far that, although less than half of the Baptist web in Northern Ireland is registered in the UK ccTLD, the links between churches show in fact a very tight geographic concentration in the link graph on the domains of churches in the eastern counties of Antrim, Down and (to a lesser extent) Armagh. This chapter does not pursue the kind

of detailed local studies that would be needed to establish why this might be the case, although some lines of enquiry might be advanced, viz., is this a representation of a wider divide between rural and urban churches, or a reflection of the greater resources or perceived influence of churches in certain areas, particularly Belfast? Or is the prominence of certain individual churches merely the product of their particular local circumstances and understanding of their role? Be these as they may, it is clear that the link graph shows little sign of sentiment regarding the common identity of all the Baptist churches in Northern Ireland. The next section addresses the question of the north and the Republic.

The introduction noted the pan-Irish organisation structure of each of the main Christian denominations on the island. In the Baptist case, each of the member congregations of the ABCI is formally autonomous, although the Association provides a focus for certain joint activities, notably the Irish Baptist College for ministerial training. The history of the denomination has been marked by a continuous negotiation between the principle of congregational autonomy, on one hand, and the practical advantages of national shared action and the voluntary relinquishing of control that that sharing entails, on the other (Thompson, 1995, pp.47–55, 85–106). Amongst the Irish churches, the Baptist national apparatus is among the weakest when considered in terms of the direct influence it may exert, and as such any fellow feeling there may be between churches is necessarily the product of other, more voluntary factors in Baptist life.

Approximately a quarter of Irish Baptist congregations are located in the Republic, and with a wide geographic spread. What evidence is there of link networks in the archived web that might reflect a sense of an all-Ireland identity? In order to address the question, the same link graph data was interrogated iteratively to detect domains used by the Baptist churches in the Republic: precisely the same technique as detailed above. Of the 30 Baptist

churches in the Republic of which I was aware, both members of the ABCI and independents, all but two had a registered domain at some point before 2016. Of these 28, 13 were registered in the Irish ccTLD; slightly fewer than half, a proportion broadly comparable to the results for the north examined above. The remainder was evenly distributed between the .com and .org TLDs. Of the 28, 20 had been crawled at least once by the Internet Archive between 2001 and 2010, the period of the link graph data used for this study.

What then of the links from churches in the north to those in the south? In order to construct a composite link graph for the whole of Ireland, the two lists of domains from north and south were used to extract all linked pairs representing a church in the .uk ccTLD linking to a church in the Republic. This exercise produced only a small number of results: a total of 27 unique link relationships, connecting only four Northern Irish congregations to 12 in the Republic. Given that such a small proportion of the churches in Northern Ireland were found linking to sister congregations in the Republic, the conclusion must be that little all-Irish sentiment is to be detected in the northern Irish Baptist web.

Conclusion

This chapter has attempted to make contributions to two wholly distinct fields of scholarly enquiry, in the hope of showing one way in which they might come into closer contact. To date sociologists of religion and scholars of the religious web have been slow to examine the ways in which networks of attention and influence have formed within and between religious organisations online, and the degree to which online networks are either a replication of offline networks or fall into distinctive new patterns. The Baptist churches of Ireland, although part of an association that covers both Northern Ireland and the Republic, are numerically concentrated in Northern Ireland, and in the easternmost counties of the province in particular. An examination of the link graph of the .UK ccTLD as captured by the Internet

Archive between 1996 and 2010 shows that that structure is largely reflected on the web. The link graph is tightly localised around the churches in the north, with very few links directed from churches in the north to their sister churches in the Republic. As well as that, the link network is also highly localised within Northern Ireland, being heavily concentrated around the churches of county Antrim and to a lesser extent county Down, the two easternmost and most populous counties.

Such an observation on its own does not reveal why this pattern might be the case, and many questions remain for further study. Is the weakness of link connections between north and south characteristic of all churches in Northern Ireland, or only the Protestant churches, or is it unique to the Baptists? Is the network particularly weak in the Baptist case because of the relative weakness of the national organisational structure? These questions could in part be answered by the application of the approach used here to the web estate of the other churches.

Important recent work has explored the technical factors that influence the interlinking of websites (Helmond, 2013, 2017). However, a history of the web is required that also attends to the local conditions that cause the human actors in control of websites to link to others, which will vary. A substantial project of oral history interviews and fine-grained examination of the evolution of individual church websites would be required to understand the communicative strategies that each congregation adopted and their evolution over time. That said, this chapter shows what may be observed at a distance with a new kind of data. Macro-level analysis of the web such as this offers an additional tool for historians and other scholars to deploy alongside their existing methods.

The chapter has also pointed out a particular challenge that historians and analysts of national webs face. Its analysis of the domain registration patterns of several of the Northern Irish churches shows that no clear pattern

can be seen that might reflect the very great differences in popular sentiment with regard to the UK as a political entity. In a province in which questions of national identity are uniquely salient, registration within the UK ccTLD does not appear to be a marker of that identity among the Protestant churches. In none of the churches, Catholic or Protestant, are even a bare majority of domains registered within the ccTLD. In the Baptist case, a network of links that is very tightly geographically concentrated is at the same time spread across four different TLDs.

Studies of particular web spheres such as this are so far very few. However, if the kind of pattern I have outlined is at all typical of other web spheres in Ireland – or religious ones elsewhere – it suggests that for web archivists and scholars alike the ccTLD is a weak proxy indeed for the national web. In addition, it brings into sharp relief one of the structural disadvantages of the division of world web archiving activities into national programmes. Though many web archives collect national material beyond their ccTLD, no organisation has any statutory responsibility to archive the non-geographic domains such as .com and .org as a whole. Unless and until it becomes possible to access web archives on a transnational basis, scholars will continue to work with fragmentary and non-commensurable data from several archives to reconstruct the national web.

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