

Something about the Weather

Using Digital Methods to Mine Geographical Conceptions of Europe in Twentieth-Century Dutch Newspapers

JORIS VAN EIJNATTEN

How was Europe portrayed as a geographical entity in the texts of weather reports published in Dutch newspapers between 1950 and 1990? To answer this ostensibly simple question, this article uses digital methods, including text mining and visualisation techniques. It shows that digital historical research offers a way of objectifying long-term, stable subjectivities. The Dutch perception of Europe that emerges from this qualitative analysis is remarkably slanted towards distinctions between a first, second and third-degree Europe, findings that may help explain the tenacious resistance to Europe as an inclusive political project.

Hoe werd Europa als geografische entiteit afgebeeld in weerberichten in Nederlandse kranten in de periode tussen 1950 en 1990? Om deze schijnbaar eenvoudige vraag te beantwoorden worden in deze bijdrage gebruik gemaakt van digitale methoden, zoals *text mining* en visualisatietechnieken. Het artikel toont aan dat digitaal historisch onderzoek een manier biedt om het bestaan van langdurige, stabiele subjectiviteiten te objectiveren. De Nederlandse perceptie van Europa die uit deze kwalitatieve analyse naar voren komt is opvallend gekleurd, met een duidelijk onderscheid tussen een eerste-, tweede- en derdegraads Europa. De bevindingen kunnen helpen om de hardnekkige weerstand tegen Europa als een politiek project te verklaren.

Introduction¹

The weather is not political. The rain falls where it wills, depressions come and go at their own discretion, temperatures rise and drop as they please. Unlike human beings, the weather has no motive, ulterior or otherwise.

Wind force and precipitation are not the effectuation of a programme or an agenda. True enough, the weather can be made political, for engineering meteorological conditions is not entirely a matter of science fiction. Managing the amount of rainfall or sunshine in specific places is something governments and businesses would probably like to accomplish. In fact, seeding clouds to give rainfall a boost is one of the few techniques already in use to regulate the weather. Once technical obstacles have been surmounted, political hurdles taken and ethical issues resolved, fixing a thermostat in the sky to improve agriculture, enhance the tourist season or win wars may well become reality.² At this moment in time, however, weather patterns are not the result of a conscious politics. At best one could say that politics is one of many factors influencing climate change. Of course, politics has not proven particularly effective as an instrument of climate control. But even if politics were able to impact climate change on the shorter term, the ability to control local weather conditions would still be close to zero.

In contrast to the weather itself, weather maps can be highly political. In post-war West Germany, for instance, the principle of the *Deutsches Reich in den Grenzen vom 31. Dezember 1937* was long upheld on administrative charts and in school atlases – but also in the weather maps displayed on national television, where the German imperial boundaries remained intact until 1970.³ On the level of the nation state, weather maps are political by definition, since they show state borders that may or may not be under dispute. However, this does not apply to something as amorphous as ‘Europe’. Despite the importance of the European project for post-war states, which for much of the century funded national broadcasting corporations, governments have not demonstrated a particular interest in portraying Europe in specific ways in weather reports. As a concept, Europe simply never made it to everyday meteorology.

Nevertheless, looking at how Europe has been dealt with in practice in weather reports, assuming of course that those portrayals contain a European dimension in the first place, offers a perspective of the way larger geographical frameworks are created and maintained in the public mind. Because weather patterns are contingent on forces beyond the control of a particular nation state, the spatial representations of Europe that emerge in portrayals of the

1 This research was supported by the National Library of the Netherlands (KB) and the Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS). I would like to thank audiences in Amsterdam, Leiden, The Hague, Utrecht, Los Angeles, Leipzig and Tartu, David van Eijnatten, Ed Jonker and the

anonymous reviewers and editors of BMGN for their helpful suggestions.

2 James Rodger Fleming, *Fixing the Sky. The Checkered History of Weather and Climate Control* (New York 2010).

3 Rolf F. Nohr, *Karten im Fernsehen. Die Produktion von Positionierung* (Bochum 2001) 38-41.

weather in the media of a given country have less to do with the politics of culture than with the relatively fortuitous location of weather stations, the mechanisms of scientific and institutional information flows, the editorial policy of the media in question and, above all, the vagaries of the weather itself.

The nature of Europe and the ‘identity’ of its inhabitants have been themes of public significance ever since the 1973 Copenhagen Declaration on European Identity. There has been much debate on the subject, as the next paragraph makes clear, but little attention has been paid to what at first glance may seem trivial and mundane. This article reconstructs an unconventional image of Europe fashioned in popular Dutch media during the latter part of the twentieth century. How was Europe portrayed as a geographical entity in the texts of weather reports published in Dutch newspapers between 1950 and 1990? These meteorological descriptions include both reports that focus on Europe as such and those that allude indirectly to Europe by contextualising regional or national weather expectations. These reports were obviously intended to predict the weather and to explain to readers the arguments on which predictions were based. This article suggests that while weather reports were non-political in their intention, they were nevertheless highly political in their effects, in that they gave rise to popular conceptions of Europe not usually taken into account by politicians, philosophers or journalists. And if there is one truism that applies to weather reports, it is that they were extremely common and incredibly popular. As one newspaper put it in 1954:

And what to think of the most popular feature of any newspaper? Wouldn't that be the weather report, which briefly outlines the weather's intentions, somewhere on the front page, but always on a specific spot, again and again, every day?⁴

Apart from telling tales about the weather, this article has two other designs. Firstly, demonstrating that long-term and deep-rooted conceptions of Europe do exist, it claims that the modern era, for all its perceived cultural instability, exhibits persistent patterns that reflect something of a cultural *longue durée*. In this respect, I take issue with much of the identity politics that underlies what has become known as the so-called cultural turn, predicated as it often is on the assumption that transient, ‘constructed’ subjectivities are relatively easily made or

4 All translations from Dutch to English by author. *De Tijd. Godsdienstig-staatkundig dagblad* (*The Times. Religious-Political Newspaper*) (16-01-1954).

unmade.⁵ Secondly, this article argues in favour of taking seriously digital history, not as a jargon-laden enclave for nerdy historians who have lost their affinity with hermeneutics, but as a serious disciplinary undertaking accessible to all historians. For this reason, a somewhat extended outline of a simple, do-it-yourself text-mining methodology has been included as an indispensable part of this article.

In what follows I will first briefly discuss current research into narratives about Europe and then explain the theory and assumptions underlying my approach. Next, I will shed some light on the nature of the source material and explain the methodology I have employed. After that I will present and discuss my findings.

Narratives on European space

Research into the idea of, and narratives on, Europe, both contemporary and historical, has been underway for some time now. Intellectuals, we know, have often speculated on Europe as a Christian continent, as the source and bulwark of Enlightened modernity, as a coherent unity despite its political and cultural diversity, as a conglomeration of nations amenable to technocratic reconstruction with peace and prosperity as the exemplary outcome. Much of this thinking harks back to eighteenth and nineteenth-century conceptions of European exceptionalism. These emphasised rationality as the most important characteristic of the European mind, or, alternatively, Christianity or humanism or the spirit of freedom. Narratives on Europe were not always self-congratulatory. Writers ranging from the romantic to the postcolonial have exercised a considerable degree of self-criticism, glorifying a distant past for ever beyond reach, advocating respect for a religious world view, repudiating progressivist, technology-driven modernity, noting a fatal dialectic inherent to the Enlightenment, or emphasising the continent's dark side in its role as the world's oppressor.⁶

5 For more theoretical expositions, see Joris van Eijnatten, 'Beyond Diversity: The Steady State of Reference Cultures', *International Journal for History, Culture and Modernity* 3 (2015) 1-8; and idem, 'After Identity: Mentalities, European Asymmetries and the Digital Turn', in: Ulrich Tiedau, Tessa Hauswedell and Axel Körner (eds.), *Re-Mapping Centre and Periphery: Asymmetrical Encounters in European and Global Contexts* (London 2019) 44-60.

6 Hartmut Kaelble, *Europäer über Europa. Die Entstehung des europäischen Selbstverständnisses*

im 19. und 20. Jahrhundert (Frankfurt/New York 2001); Hans Mooij, *Het Europa van de filosofen* (Kampen 2006). Other general overviews are Kevin Wilson and Jan van der Dussen (eds.), *The History of the Idea of Europe* (London/New York 1995); Anthony Pagden, *The Idea of Europe: From Antiquity to the European Union* (Cambridge 2002); Peter Rietbergen, *Europe: A Cultural History* (Milton Park/New York 2015); Patrick Pasture, *Imagining European Unity since 1000 AD* (Houndmills 2015).

Few of these narratives have offered a clear geographical conception of Europe.⁷ This even applies practically without exception to the abundance of narratives used by policymakers and corporate actors to make sense of Europe in the context of European integration in the seven decades after the Second World War. One narrative is the familiar story of Europe as a project of post-war reconstruction, leading to the advancement of peace, reconciliation, democracy and human rights. Obviously formulated against the background of the EU as a legal and political unity and employed as recently as 2012 by the Norwegian Nobel Committee in awarding the Peace Prize to the EU, the narrative characteristically defines Europe, vaguely, as an inclusive idea rather than, precisely, as an exclusive one.⁸ The same applies to the economic Europe of the single market, the social Europe of solidarity and financial security, the green Europe of sustainable development, and the global Europe that builds walls to dampen the effects of globalisation. These narratives and others have all been grounded in different and variable and always fuzzy visions of Europe's geographical extent.⁹

In the twentieth century, conceptions of Europe reached popular audiences most effectively through mass media. This holds true for the institutional narratives on Europe of the post-war period, such as the propagandistic films about the history of European integration that initially were intended to sell the Marshall Plan to European citizens. This kind of film continued to be produced well into the 1960s¹⁰, and although they were targeted Western Europe, in particular the members of the European

- 7 Alexander B. Murphy, 'Relocating Europe', in: Evelyn Gould and George J. Sheridan (eds.), *Engaging Europe. Rethinking a Changing Continent* (Lanham 2005) 81-101. Cf. also Lila Leontidou, 'The Boundaries of Europe: Deconstructing Three Regional Narratives', *Identities. Global Studies in Culture and Power* 11:4 (2004) 593-617. <https://doi.org/10.1080/10702890490883876>; Bo Stråth (ed.), *Europe and the Other and Europe as the Other* (Brussels 2010). Cf. the idea of Europe as an 'inter-civilisational constellation' in Gerard Delanty, *Formations of European Modernity: A Historical and Political Sociology of Europe* (Houndmills 2013). On the relationship between geography and conceptualisation, see Jan Iversen, 'Europe and European culture – a conceptual analysis', *European Societies* 4:1 (2002) 1-26.
- 8 Ian Manners and Philomena Murray, 'The End of a Noble Narrative? European Integration Narratives after the Nobel Peace Prize', *Journal of Common Market Studies* 54:1 (2016) 185-202. <https://doi.org/10.1111/jcms.12324>.
- 9 Cf. also Fabrice Larat, 'Present-ing the Past: Political Narratives on European History and the Justification of EU Integration', *German Law Journal* 6:2 (2005) 273-290; Frank Bösch, Ariane Brill and Florian Greiner (eds.), *Europabilder im 20. Jahrhundert. Entstehung an der Peripherie* (Göttingen 2012).
- 10 Anne Bruch and Eugen Pfister, "'What Europeans saw of Europe". Medial Construction of European Identity in Information Films and Newsreels in the 1950s', *Journal of Contemporary European Research* 10:1 (2014) 26-43; Anne Bruch and Gabriele Clemens, "'Wie Phönix aus der Asche" – Die filmische (Re-) Konstruktion des Europäers', in: Gabriele Clemens (ed.), *Werben für Europa. Die mediale Konstruktion europäischer Identität durch Europafilme* (Paderborn 2016) 489-506; Gabriele Clemens, "'Von der Venus von Milo bis zu Jean

Coal and Steel Community (ECSC), one central aim of these official narratives was to show that the antagonism between nation states in general could and should be transcended. In consequence, Europe was portrayed as a somewhat nebulous geographical entity, as a source of human civilization – unfortunately undermined by the evils of the twentieth century – as a fundamental unity to which borders were essentially foreign, or as a unified culture based on Greco-Roman antiquity and Christianity. The main thrust of such films was to picture Europe as a natural unity to which it was beholden to return after the devastations of two world wars. Since frontiers were artificial and in any case shifted continuously, Europe was portrayed as a borderless space, inhabited by a tolerant and unprejudiced people guided by rationality and curiosity, and partial to solidarity.¹¹

The indistinctness of Europe as a spatial entity likewise emerged in non-official media, such as newspapers, although here the geographical bias is often more evident and the focus usually on the national context. For example, between 2003 and 2005 French newspapers framed ‘Europe’ in terms of *Europe-puissance*, in which Europe figured as an international power block, albeit one preferably under French leadership. British newspapers presented Britain as a global mediator for the ‘new Europe’, basically meaning a Europe no longer dominated by the French or the Germans. The French tended to see themselves as core Europeans, regretting the loss of European power but believing in a renaissance of European solidarity engineered by the core EU countries (and not so much the eastern EU countries); while the British were inclined to be sceptical and indifferent with regard to Europe, but saw opportunities for a strong, cosmopolitan alliance dominated by the northern European countries, rather than the southern ones.¹²

Monnet”– Narrative der europäischen Integration’, in: idem, 401-438. For other official media, ranging from music to passports, see Cris Shore, ‘Creating the people’s Europe: symbols, history and invented tradition’, in: idem, *Building Europe. The Cultural Politics of European Integration* (London/New York 2000) 40-65.

11 On newsreels in the 1950s, see Eugen Pfister, *Europa im Bild. Imaginationen Europas in Wochenschauen in Deutschland, Frankreich, Großbritannien und Österreich 1948-1959* (Göttingen 2014) 163-241. Cf. the *New Narrative for Europe: The Mind and Body of Europe*, commissioned by the EU, which is not much more precise than: ‘Europe is a state of mind that goes beyond a grouping of Nation States (...)’; <http://ec.europa.eu/assets/eac/>

[culture/policy/new-narrative/documents/declaration_en.pdf](http://ec.europa.eu/assets/eac/culture/policy/new-narrative/documents/declaration_en.pdf) (accessed on 16-01-2019); Wolfram Kaiser, ‘Clash of Cultures: Two Milieus in the European Union’s “A New Narrative for Europe” Project’, *Journal of Contemporary European Studies* 23:3 (2015) 364-377. DOI: 10.1080/14782804.2015.1018876.

12 Maria Rovisco, ‘One Europe or Several Europes? The Cultural Logic of Narratives of Europe – Views from France and Britain’, *Social Science Information* 49:2 (2010) 241-266. The research was based on *The Guardian*, *The Times*, *Le Monde* and *Figaro*. Newspapers tend not to follow official narratives. See Hans-Jörg Trenz, ‘Media: The Unknown Player in European tegration’, in: Ib Bondebjerg and Peter Madsen (eds.), *Media, Democracy and European Culture* (Bristol 2008) 35-46.

Media, whether visual, auidial or textual, and whether or not they function as a conduit for official points of view, are a treasure trove of narratives about Europe.¹³ Practically all of these narratives are geographically vague, and presumably they are so on purpose, given the many potential political pitfalls on a continent burdened with so complex a history.¹⁴ Europe's geographical extent has been a major unknown for as long as narratives of Europe have existed. This does not mean that spatial conceptions of Europe did not take hold in the public mind. But until now, no-one thought to check the weather.

As noted previously, the weather is accidental to politics and ideology. The content of weather reports (as opposed to their visual representations) offers a view of Europe relatively untainted by political and institutional interests or by the intellectual discourse of philosophers and journalists. There is no such thing as Christian weather, nor do ocean currents care whether Europe is unified or not. But there is another significant quality characteristic of weather reports, in particular as a newspaper genre. They are entirely mundane and iterative to the extreme. During the newspaper-reading decades of the twentieth century – before the 1990s, when the internet gradually kicked in – scarcely a day went by without a report on the weather. This applies, above all, to newspapers.

The effect of repetition on collective experience has been subject to considerable debate since the rise of communication studies around the

13 Cf. Juan Díez Medrano, *Framing Europe: Attitudes to European Integration in Germany, Spain, and the United Kingdom* (Princeton 2003); Stefan Seidendorf, *Europäisierung nationaler Identitätsdiskurse? Ein Vergleich französischer und deutscher Printmedien* (Baden-Baden 2007); Maximilian Müller-Härlin, *Nation und Europa in Parlamentsdebatten zur Europäischen Integration. Identifikationsmuster in Deutschland, Frankreich und Großbritannien nach 1950* (Baden-Baden 2008); Jan-Hendrik Meyer, *Tracing the European Public Sphere: A Comparative Analysis of British, French and German Quality Newspaper Coverage of European Summits (1969-1991)* (Stuttgart 2010); Sven Leif Ragnar de Roode, *Seeing Europe through the Nation: The Role of National Self-Images in the Perception of European Integration in the English, German, and Dutch Press in the 1950s and 1990s* (Stuttgart 2012); Florian Greiner, *Wege nach Europa. Deutungen eines imaginierten Kontinents*

in deutschen, britischen und amerikanischen Printmedien, 1914-1945 (Göttingen 2014), focuses on an earlier period.

14 Geographical indeterminacy is typical of other media, such as cartoons: Priska Jones, *Europa in der Karikatur. Deutsche und britische Darstellungen im 20. Jahrhundert* (Frankfurt am Main 2009). On museums: Stefan Krankenhagen, 'Exhibiting Europe: The Development of European Narratives in Museums, Collections, and Exhibitions', *Culture Unbound: Journal of Current Cultural Research* 3 (2011) 269-278. On maps: Michael Wintle, *The Image of Europe: Visualizing Europe in Cartography and Iconography throughout the Ages* (New York 2009); Bo Stråth, 'Karten – Repräsentationen Europas aus vier Jahrhunderten', in: Rüdiger Hohls, Iris Schröder, Hannes Siegrist (eds.), *Europa und die Europäer. Quellen und Essays zur modernen europäischen Geschichte* (Stuttgart 2005) 237-249.

middle of the twentieth century. Effective mass communication hinges on two elements: persuasive techniques and repetition.¹⁵ How, exactly, the one is related to the other is a matter of ongoing inquiry, but it is clear that persuasion depends to no inconsiderable degree on repetition. This is where serial publications like newspapers come in. As Benedict Anderson observed, newspapers have helped give rise to imagined communities, but the same could be said for other periodical media, including television and the internet.¹⁶ Anderson emphasised geographically dispersed newspapers as a source of collective identity, but it will be evident that iteration over time strengthens the effect of simultaneity. Because people in the past continuously read similar things, they began to be part of the same linguistic, cultural matrix spanning time and space. Advertisements are illustrative: they made Coca-Cola into an icon of twentieth-century Dutch life.¹⁷ The same applies to weather reports. In comparison with the total number of articles published in newspapers, accounts of the weather are at least as significant in terms of impact as advertisements. A century of continental isobars made the geographical frames of reference offered by weather reports a household item. More than the political and intellectual narratives on Europe, weather reports occur and recur, influencing collective beliefs consistently and unobtrusively from the bottom up. Given European political developments over the past decade, the impact of official narratives on Europe is clearly not as large as politicians and policymakers would wish. But there is something about the weather, to paraphrase the seventies' song, that everybody knows.¹⁸

There is yet another reason why weather reports, in whatever medium they are published, are ideal to understand deep-rooted, widely-shared frames of reference: they are dense in terms of information content. These days people tend to check the weather by accessing the internet through apps on mobile phones or a browser on a computer. In both cases, the weather report they find, is either cartographically isolationist, in the sense that it shows little besides the contours of a familiar map of the regional or national state in which the user resides (or to which he or she intends to travel), or it is textually local, in the sense that the report displays a table with data for one very specific location. The abstract space portrayed in an app is usually filled with little

15 Marshall Soules (ed.), *Media, Persuasion and Propaganda* (Edinburgh 2015); Elizabeth M. Perse and Jennifer Lambe, *Media Effects and Society* (New York/London 2017).

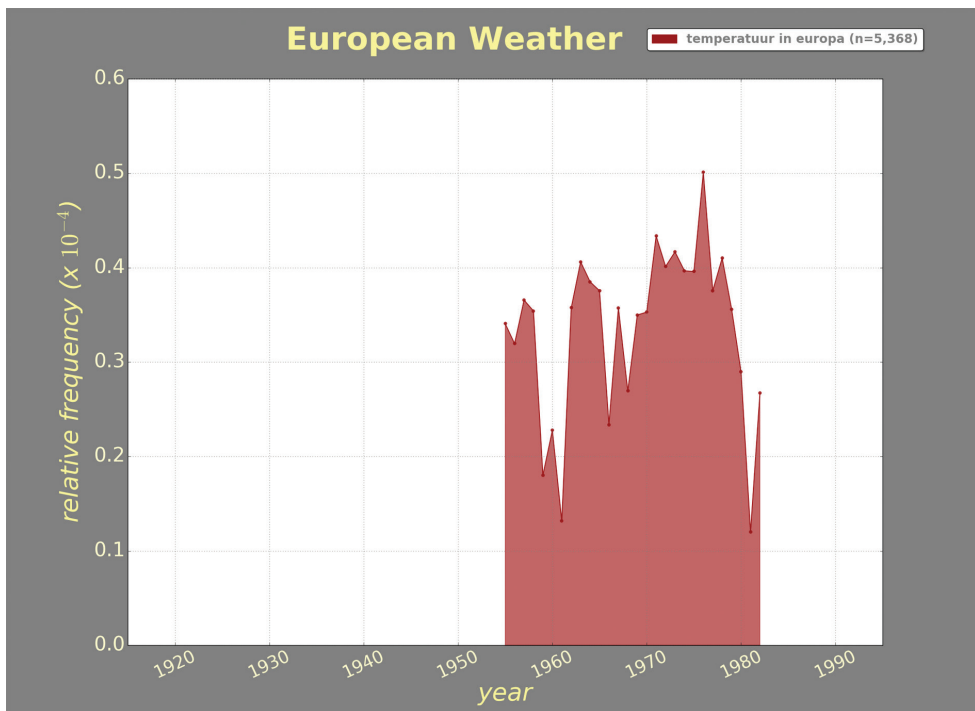
16 Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London 1991; revised and extended).

17 Melvin Wevers, *Consuming America: A Data-Driven Analysis of the United States as a Reference Culture in Dutch Public Discourse on Consumer Goods, 1890-1990* (PhD dissertation; Utrecht University 2017).

18 The song 'Sacramento' on the album *Acceleration* by Middle of the Road (<https://viaf.org/processed/LC|n 96004551>) (accessed on 16-01-2019).

suns and clouds and bursts of rain, or overlaid with a satellite image of cloud cover on the move. Weather reports no longer offer an informative spatial framework based on an elementary knowledge of geography. They offer icons that have an immediate bearing on the space where the user is or desires to go to, without the user having to know the coordinates of his or her location – or any other location for that matter. Contemporary weather reports are not so much outward as inward-looking; they do not require a broader spatial framework to make sense.

By contrast, weather reports in historical newspapers tended to require, and to bring about, a higher level of understanding because they spelled out in relative detail the behaviour of meteorological elements over both land masses and seas. To some extent this is a distinction based on different media: the fast-paced, horizontal, highly visual world of cyberspace is epistemologically dissimilar from the sluggish, vertical, textual world of the printing press. As we shall see below, however, weather reports in twentieth-century newspapers were often more detailed than those printed in newspapers today. Moreover, they also frequently focused explicitly on ‘Europe’ as a conceptually distinct category. As Figure 1 shows, the trigram¹⁹



▲
Figure 1

19 A trigram is a version of ‘ngram’: a contiguous sequence of three words from a given text, in

this case a collection of more than ten million newspaper articles.

‘temperature in Europe’ occurred in newspapers particularly between 1955 and 1982. Clearly, ‘European weather’ was an explicit topic in newspapers in this particular period.²⁰ Although this article’s restriction to the period 1950–1990 was made partly out of necessity (see the following discussion on OCR issues), the trigrams make clear that the limitation is also a logical one in terms of the conceptual history of Europe.

Because weather reports in newspapers occur in very large quantities, running them through a computer is one logical way of making sense of them. The research for this article is based on a collection of newspaper articles publicly accessible through Delpher, a repository of Dutch texts maintained by the National Library of the Netherlands.²¹ This article does not include an analysis of the weather maps of Europe printed in the newspapers themselves. These maps could well have been added as a source of data, but there are at least four reasons why they have been excluded. Firstly, they occur much less often than textual reports, as not all texts were accompanied by maps. Secondly, they are less dense in terms of information content, which makes them less meaningful than the textual information. Thirdly, they are far less precise than the texts, offering only a generic, fuzzy view of Europe. Fourthly, and most crucially, as far as spatial elements are concerned the maps simply reproduce a limited amount of data (commonly a selection of names of towns) that is also present in tabular form in weather reports and forecasts. The decades between 1960 and 1990 were still the heyday of text-based newspapers. These particular maps figured as a support, rather than a substitute, for texts. They primarily visualised isobars, squall lines, wind direction and types of cloud cover; they did not offer a qualitative vision of Europe’s spatial texture.

One real problem in the textual dataset is the quality of the bits-and-bytes version of the original printed text. Although weather forecasts span the whole twentieth century and a substantial part of the nineteenth, the earlier material is often not usable because of the relatively poor optical character recognition (OCR) – the automatic translation of human-readable texts into machine-readable data. That is in a sense unfortunate, since the level of information in the 1920s seems to have been higher than in the 1960s. On the other hand, the error margins of the OCR in the later reports are considerably lower. The weather report for Monday 11 February 1963 consists of a table of weather conditions, maximum temperatures and rainfall measured at a number of weather stations the day before. The OCR software has generated the originally tabular information in plain text:

20 The trigram is based on a dataset from Delpher that has been corrected for OCR errors. The updated (but uncorrected) dataset currently on Delpher shows more such peaks between 1850 and 1950, particularly in the nineteenth century,

and again after 1982. These peaks, however, have no substantial impact on the general pattern. The same applies to other ngrams (e.g. the 4-gram ‘in europa de temperatuur’).

21 <https://www.delpher.nl> (accessed on 16-01-2019).

Station* • wew«»M«v»- Den Helder geh. bew. •. -3 ' o Ypenburg geh. bew. -1 O Vlissingen geh. bew. o O Eelde rw. bew. -4 o De Bilt «eh. bew. -3 o Twente zw. bew. -3 o Eindhoven geh. bew.- -1 o 7 .-Limburg 1. bew. 3 o Helsinki * meeuw -» o.1 Stockholm «eh. bew. -7 O Kopenh. driftsneeuw -3 o.1 Londen meeuw 1 3 Amsterdam zw. bew. -3 o Brussel geh. bew. 3 o Luxemburg zw. bew. 1 o ' Partis regenbul 5 o.1 -: Niece regen 9 3 »., Berlijn geh. bew. -3 o Zürich 1. bew. 4 O Wenen geh. bew. -1 O Innsbruck onbew. 3 o • " Athene geh. bew. 13 o.1 • Rome l. bew. 11 o.3 ■. Madrid zw. bew. 13 5 Majorc» moUneeuw 15 o.1 " Lissabon regen 16 7²²

The table is followed by icons displaying the phases of the moon and a detailed map of weather patterns over Europe. Place names in the OCR'd text are perfectly legible, including the abbreviation for Copenhagen. The exceptions are Paris ('Partis'), Nice ('Niece') and Majorca or Mallorca ('Marjorc»). The report lacks a more detailed textual account of the expected weather patterns, but such forecasts are included on other days of the week.

The OCR for the post-War period is reasonable and imperfections can largely be resolved by employing so-called regular expressions, patterns that signify specific bits of text and are crucial in finding place names based on faulty OCR. A relatively complex case is the Swiss city of Zürich, various versions of which can be traced using the expression <z[uüe]{1,2}ri[ce]h|z[lt]irich>. We can do this for all place names, and the challenge then is to add the apposite regular expressions to a list of about 50,000 locations in what we assume to be Europe – defining Europe as comprehensively as possible, including 'safety margins' extending to the whole of the USSR, parts of Western Asia and the Middle East, and the countries bordering the Mediterranean. Given the limited number of places mentioned in Dutch weather reports – less than five hundred locations for the post-War period – this is feasible, although the process needs to be repeated over and over again until satisfactory results are obtained. The method is not perfect. Notoriously difficult is 'Rome', since the wrongly OCR'd versions of the name often coincides with the wrongly OCR'd versions of other, non-related words. In these cases, I have cut my losses and captured Rome manually on the basis of a random selection; the analogue analysis does not, however, change the general picture.²³

It is fairly easy to write a script that runs the list of 50,000 locations through thousands and thousands of weather reports. I have used Python, a coding language, to determine frequencies per decade, normalise them (relating all frequencies to a common scale), and generate the results in tabular form. It is far more difficult to plot the extraordinarily rich crop of spatial entities yielded by the texts onto maps. Since visualisations are a crucial but oft-neglected aspect of computer-assisted historical research, I shall briefly discuss the cartographic aspects.

22 *De Telegraaf* (*The Telegraph*) (11-02-1963).

23 See note 34.

Building maps of Europe

Software packages, most of them commercial, allow us to chart locations²⁴, but the greatest flexibility is afforded by writing code that simply superimposes a scatter plot on an appropriate map projection. In this way, the map forms the background to the scatter plot's x and y axes, that is, the longitudes and latitudes. A satisfactory portrayal of Europe is obtained by cutting the relevant portion of the earth's surface from a Lambert Conformal Projection and centring it on 52° North and 5° East (approximately the location of the city of Utrecht in the Netherlands). A frame 6,500 km broad and 5,200 km high then captures a land mass that includes most of western Russia, most of Turkey, a large swathe of North Africa, the Azores and most of southern Greenland.

Cities, towns and the occasional village are easy to plot, since they are points on a map and can therefore be determined rather precisely by their latitudes and longitudes. The problem of changing historical place names needs to be tackled, although most places behind the Iron Curtain had already been re-baptized by 1950. Königsberg was Kaliningrad by then, yet Chemnitz turned into Karl-Marx-Stadt only in 1953. False positives likewise need to be taken into account. It transpires, for instance, that 'Zomergem' refers not to the Belgian place name, but to an abbreviation for the Dutch 'zomergemiddelde' ('zomergem.', meaning 'summer average'), while 'Hjo' is not the Swedish municipality but simply faulty OCR. Mistaken identities, too, must be taken care of. 'Middelburg' refers to the Dutch rather than to the Belgian town, Los Angeles does not refer to the place in Spain, while China is the country rather than the Russian location.

Mapping areas such as countries or provinces is more difficult than plotting locations. The main technical difficulty involves the fact that areas, in distinction to point-like features such as towns, cannot be indicated on a map merely on the basis of latitudes and longitudes. They require geometrical descriptions of the boundaries encompassing an area. Planes are less easy to handle than points. Mapping areas also raises two specific problems that need to be solved. The two problems concern, first, the changing historical boundaries of territorial entities, and second, the complex relations between different kinds of areas. These may overlap, and do so to varying degrees at different moments in time. In other words, the planes that visualise these areas likewise change over time and intersect in different ways. In the following both problems will be discussed. The reader may find it useful to consult the visualisations included in this article.

24 Examples are Noadgoat (<http://nodegoat.net/>) and CartoDB (<https://carto.com/>) (Accessed on 16-01-2019).

The first problem (historically unstable boundaries) can be addressed by breaking down the larger territorial entities into basic administrative units and then reconstructing them historically.²⁵ The assumption is that the smaller units themselves demonstrate relative continuity and that recombining them allows us to reconstruct the historical areas to which they once belonged (and in many cases still do). This approach is not always feasible, partly because the territories mentioned in weather reports do not always neatly correspond to political entities. For the period examined here (1950-1990), Germany, for instance, was divided into the DDR and BRD, or East Germany and West Germany. Yet weather reports often just mention ‘Germany’. When Germany is mentioned without further specification, it is therefore reconstructed as the sum of DDR and BRD. This is relatively simple to do, since the current sixteen states can be recombined easily, three of which (Berlin, Bremen and Hamburg) overlap with cities that bear the same name and can be treated as locations. However, to deconstruct Slovenia and then reconstruct it as part of Yugoslavia about sixty units need to be identified (or even more if municipalities are employed).²⁶

Rebuilding historical nations is a complicated affair, but it can be done using a detailed database. The advantage of databases is that tables can be interlinked relationally, so that it is possible to connect different regions and countries in different ways. This solves the second problem, that of overlap between different types of regions. At least four categories of geographical areas need to be dealt with because they figure in weather reports and forecasts. The first category includes historical countries such as Belgium, Greece or the Soviet Union. These are not difficult to handle, although there are some exceptions to the rule. Meteorologically, it is not illogical to divide Great Britain into its constituent nations England, Scotland and Wales, and to join Northern Ireland (which is in fact part of the United Kingdom) to the Irish Republic.

The second group of areas consists of regions within countries, such as Normandy in France, Siberia in Russia, the Ukraine in the Soviet Union, or the Po Valley in Italy. A third group includes regions that span two or more countries, such as Scandinavia, Lapland, the British Isles, the Balkans, the Pyrenees or even the Sahara. The fourth category are ‘outliers’, mostly islands that belong to certain countries but are not necessarily the object of a weather report. Martinique is a French department but it is fairly safe to assume that weather reports mentioning France did not intend to refer also to conditions on that particular Caribbean island.

The advantage of a relational database is that the Azores as an outlier can be mathematically ‘subtracted’ from Portugal, since weather reports

25 I have used the public domain map dataset available at <http://www.naturalearthdata.com/> (accessed on 16-01-2019).

26 Note that on the maps, the outlines of the basic administrative units remain visible.

do not subsume the Atlantic Islands meteorologically under Portugal; and that the French Riviera as a region within a region can be ‘added’ to France, since a report mentioning that country will normally mean the whole of territorial France, including the Riviera. This allows us to deal with specific mentions of either the Azores or the Riviera, and make them stand out from their respective countries. In working with frequencies, we can take subtractions and additions quite literally. For example, Norway = Scandinavia + Norway, which means that mentions of Norway can be added to mentions of Scandinavia, given that the second implies the first.²⁷ Likewise, Bavaria = Germany + Bavaria, while Faroe Islands ≠ Denmark + Faroe Islands, since the Faroe Islands are meteorologically distant from mainland Denmark. For practical reasons, the Ionian and Aegean Islands can be more usefully reckoned to mainland Greece, as the Shetland Islands should be to Scotland. Mentions of Corsica (France), Sardinia (Italy), Sicily (Italy), Crete (Greece) and Cyprus (Greece)²⁸ have been tallied separately (thus Corsica ≠ France + Corsica), since the weather reports themselves tend to set these areas apart.

Mapping weather in *De Telegraaf*

There are different ways of counting and comparing and therefore of visualising frequencies. Do we want to count only the fact that Garmisch-Partenkirchen occurs in a weather report, treating its presence as either true or false? Or do we want to count all mentions of the German winter resort in a single report?²⁹ Garmisch-Partenkirchen is unlikely to occur very often in one report, but a region like England may crop up several times. Given the presumed cultural effects of iteration, it follows that the more often England occurs in a weather report, the more likely it will become part of the readers’ mental framework. There is also the question of spatial comparisons within periods or across periods. The first method (synchronic comparison) allows us better to differentiate between frequencies within a given period; the second (diachronic comparison) allows us better to understand the development of

27 ‘Scandinavia’ is a controversial term, of course; in such cases, I have made assumptions as to what a historical reader of weather reports would have associated with the term. Hence Finland has been included as part of Scandinavia.

28 For technical reasons, the post-1974 Turkish part of Cyprus is neglected.

29 To clarify the difference: in the first instance the frequency count per weather report is either 1

(present) or 0 (not present); I will refer to this method as ‘unique’ counts. In the second instance the frequency count per weather report is equal to the number of occurrences, which may be 0 or any number higher than 0; I will refer to this method as ‘all’ counts. Cumulatively the effects of the different ways of counting can be very large.

frequencies over a number of periods. For this article all possibilities have been explored, but to avoid repetition only synchronic versions are included in the visualisations.

Since we are interested in the gradual development of patterns over time, generating dynamic maps would be a logical option. Since these are difficult to maintain stable online and to reproduce offline, I have chosen to display the number of hits within specific periods per decade, a time frame that still allows us to draw robust conclusions concerning both continuity and discontinuity. I have also excluded places within the Netherlands and, indeed, the Netherlands itself. Since Dutch newspapers by definition always report on Dutch weather, the inclusion of self-referential material would defeat the purpose of this research. Moreover, Dutch place names occur much more frequently in weather reports than locations outside the Netherlands, so that patterns representing Europe would only be obscured by a surplus of locations irrelevant to the analysis. On the maps, place name labels have been left out for the sake of clarity.

Finally, I have made a close examination of six national and regional newspapers. These are *De Telegraaf* ('The Telegraph', popular right-wing, 1893-present), *Het Vrije Volk* ('The Free People', social-democratic, 1945-1991), *De Waarheid* ('The Truth', communist, 1940-1990), *Leeuwarder Courant* ('Leeuwarden Daily', regional focus on Friesland, 1752-present), *Nieuwsblad van het Noorden* ('Newspaper for the North', regional focus on Groningen, 1888-2002) and *Limburgs Dagblad* ('Newspaper for Limburg', regional focus on Limburg, 1918-present). The selection is based on the availability of the papers in digitised format for the whole period and on the fact that they represent a substantial cross-section of the Dutch press.

De Telegraaf is the newspaper with the largest turnover. For this article only those weather reports were used with an OCR quality sufficient enough for them to be found using a series of weather-related search words, followed by a manual selection.³⁰ Processing the articles manually was necessary to eliminate incidental articles on the weather covering specific events, such as extreme temperatures or high snowfall that sometimes led to newsworthy accidents or deaths. In all, 46,405 weather reports were investigated. The total number of articles examined per decade, referred to as 'n' on the maps, was used to normalise the frequency counts (see Table 1). From the figures it can correctly be inferred that the *Leeuwarder Courant* has the highest OCR quality in the dataset.³¹

30 The dataset was constructed by selecting all articles containing the truncated word 'temperatu', extracting from these all articles containing at least one word from an extensive list of weather-related terms (such as 'rain', 'cloud', 'snow', 'weather', 'dry', 'frost', etc.), and then manually selecting all weather reports from the remaining articles. Only more extensive

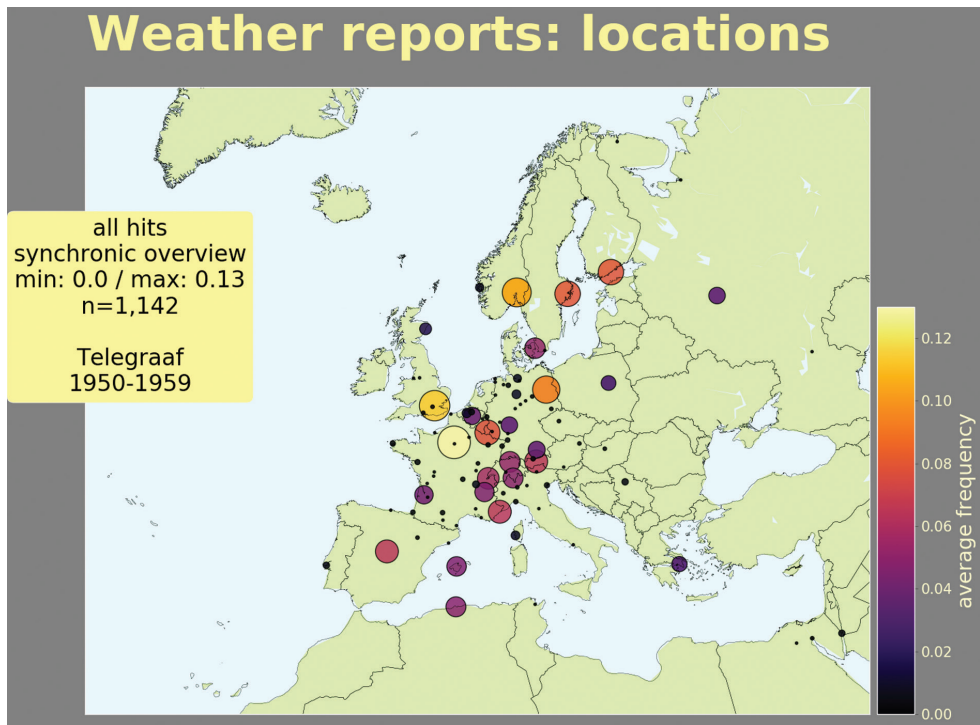
reports were used, i.e. those mentioning place names other than the source of meteorological information, which in the Netherlands is usually 'De Bilt', the location of the Royal Netherlands Meteorological Institute (KNMI).

31 Wevers, *Consuming America*, 82. The meaning of the figures is actually more complicated. If we assume that a newspaper will publish around

Newspaper	No of weather reports in dataset (n)			
	1950-1959	1960-1969	1970-1979	1980-1989
<i>De Telegraaf</i>	1,142	1,624	3,059	2,181
<i>Het Vrije Volk</i>	1,073	1,547	2,437	2,418
<i>De Waarheid</i>	1,739	1,171	895	943
<i>Leeuwarder Courant</i>	2,475	4,665	5,508	4,472
<i>Nieuwsblad van het Noorden</i>	1,867	2,123	1,895	1,782
<i>Limburgs Dagblad</i>	222	584	417	166
Total	8,518	11,714	14,211	11,962

Table 1. Number of weather reports per newspaper and decade.

The first series of maps displays the frequency counts for cities, towns and, in some rare cases, villages, in a synchronic overview that accentuates the differences within the decade rather than across several decades. The location map for the 1950s (Figure 2: *De Telegraaf*, all hits) shows the average number



▲
Figure 2

250-300 weather reports per year that should leave us with 2,500-3,000 reports per decade. The higher numbers for some newspapers implies that weather reports were sometimes divided into more than one instance in the automatic segmentation (tables were

labelled separately) or that some newspapers simply contained more than one instance (such as tables and reports, or shorter and longer reports, or reports on Dutch and European weather). Normalising the frequencies eliminates this problem.

of hits per weather forecast on a scale running to the maximum value within that decade.

The colour scheme³² runs from small and black (minimum number of hits) to large and white (maximum number of hits). It is obvious that the larger markers on the map represent the locations of weather stations in the recurring tabular information concerning ‘Yesterday’s weather’. As a newspaper clarified in 1956, most information about the weather was relayed to the Royal Netherlands Meteorological Institute (KNMI) from airports.³³

An arbitrary table in a paper from November 1954 contains a typical list of places (that is, weather stations) that are easily recognisable on the map: Helsinki, Oslo, Berlin, London, Paris, Luxemburg, Munich, Innsbruck, Geneva, Locarno, Zurich, Grenoble, Nice, Madrid, Mallorca and Algiers.³⁴ However, as expected given the OCR issues described above, Rome is missing from the map and Vienna is virtually non-existent; we need to take their absence into account.³⁵ Other popular places in this decade are Athens, Bordeaux, Copenhagen, Frankfurt, Brussels, Stockholm, Aberdeen, Warsaw and Moscow. They too were often included in tabular reports. It is clear that the locations that regularly manifested themselves in weather reports stretched in a broad swathe from the south-west to the north-east, with a significant bulge in central-western Europe.

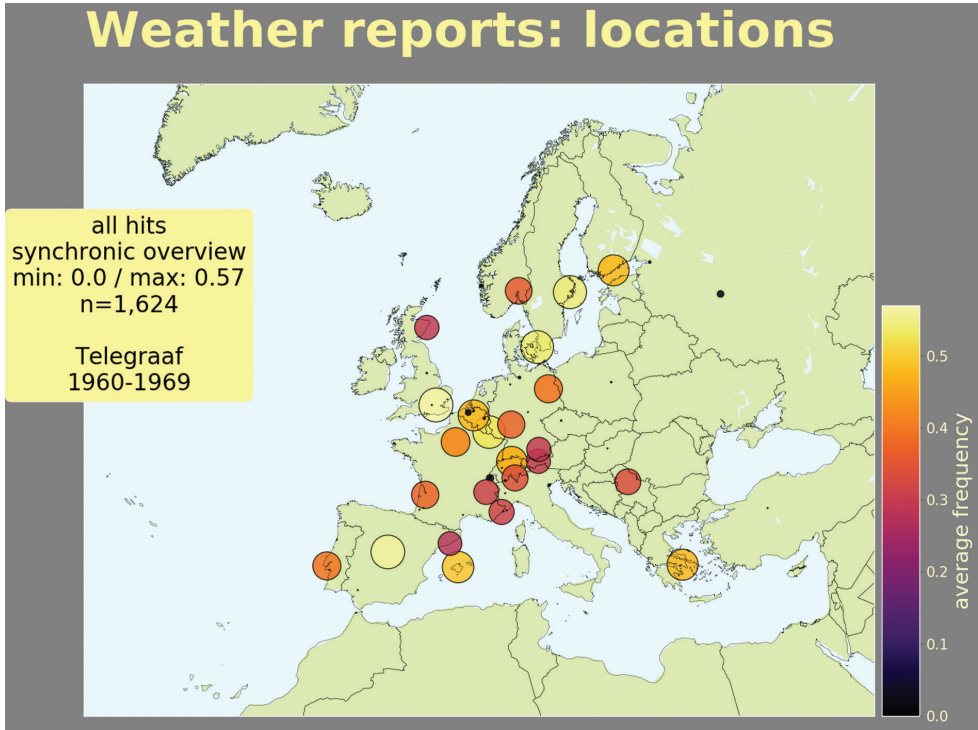
After 1960 Aberdeen, Barcelona, Belgrade and Lisbon become more prominent, followed by Dublin, Las Palmas, Casablanca, Tunis, Istanbul, Beirut, Jerusalem, Split and, interestingly, the Austrian town of Klagenfurt. Many other places are mentioned, but only incidentally (Figures 3, 4 and 5). The general pattern itself does not change significantly: Europe is represented mostly by locations to the west of the Iron Curtain. What does change over time, as the diachronic series demonstrates, are the number of locations on the map as well as their absolute frequencies. The same places are mentioned more often in later decades, with a peak in the 1970s. This peak seems characteristic of *De Telegraaf*, despite the rigorous correction that was made for the duplicates inadvertently added to the dataset during the digitisation process. Note that there is no significant difference in outcome between tallies of all occurrences (‘all’) and tallies of the truth of an occurrence (‘unique’): the patterns remain the same.

32 ‘Inferno’: https://matplotlib.org/examples/color/colormaps_reference.html (accessed on 16-01-2019).

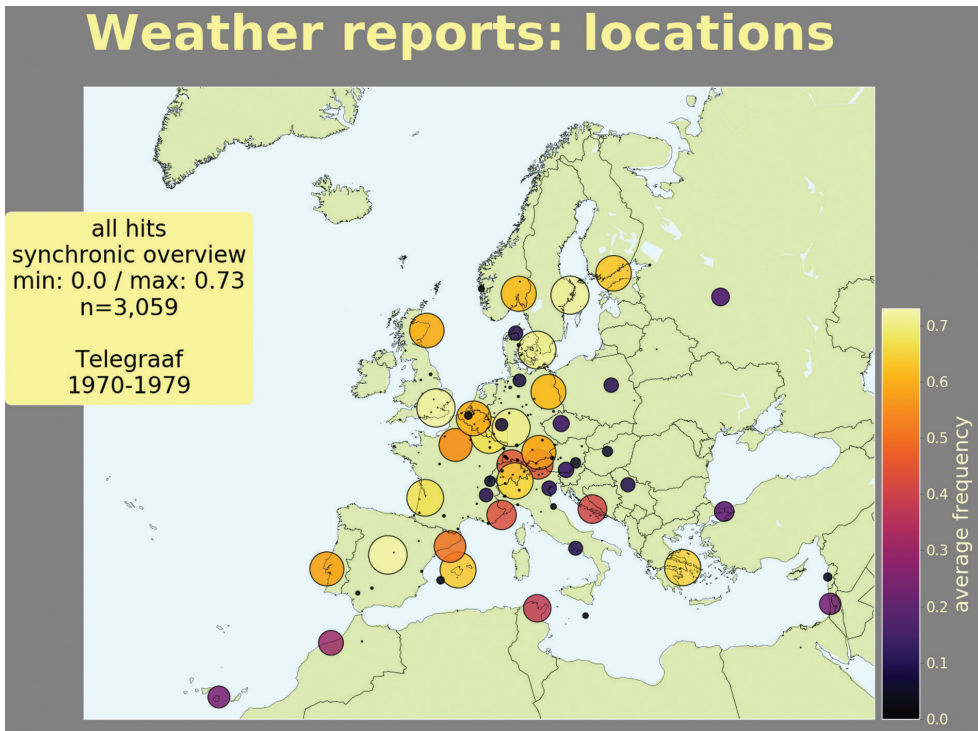
33 *Nieuwsblad van het Noorden* (12-05-1956). Aberdeen did have an airport.

34 *De Telegraaf* (11-11-1954).

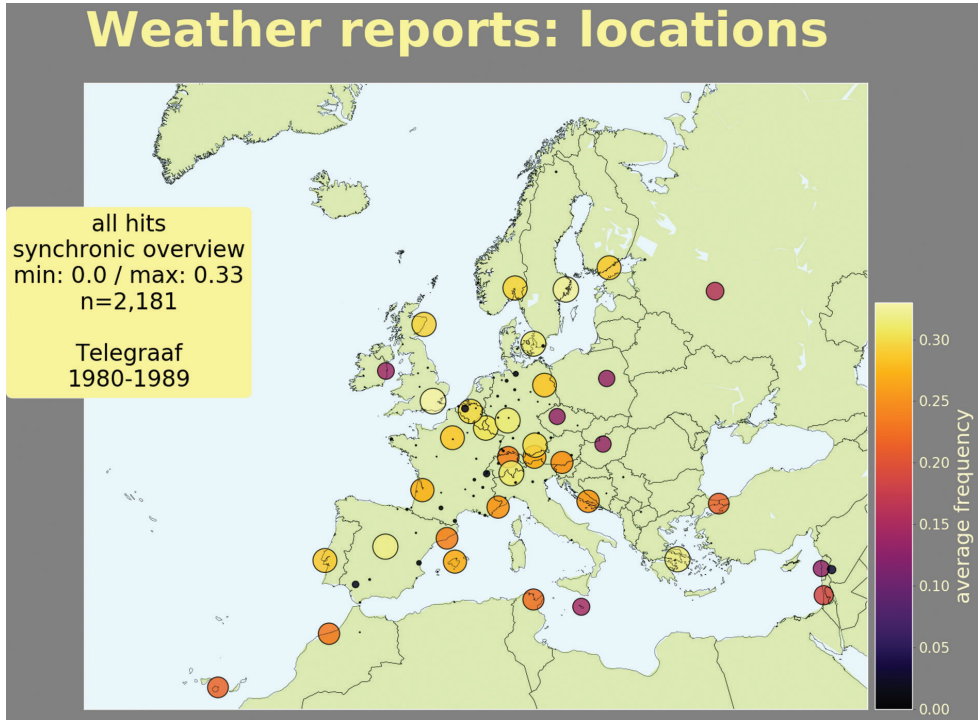
35 A limited manual control for *De Telegraaf* was done using a random selection of 100 weather reports for each of the periods 1950-1959 and 1980-1989; it corroborated the general pattern, but also adds the missing information for Rome and Vienna, which scored similarly to places like Innsbruck and Helsinki.



▲
Figure 3



▲
Figure 4



▲
Figure 5

The second series of maps shows the frequency counts for the various categories of regions mentioned in weather reports (Figures 6, 7, 8 and 9). The same colour scheme is used, but in this case, for the sake of visibility, the frequencies range from white (low) to black (high). Grey represents areas not mentioned in weather reports. The light yellow colours are practically negligible: a single mention in one decade already puts a region or country on the map. The darker colours are far more significant. It is immediately clear which countries apart from the Netherlands figured most prominently in Dutch newspapers from the 1950s: France, Germany, England, Scotland, Norway, Sweden and Finland, with a bit of Italy and Russia on the side. Scandinavia stands out, but on the map showing counts of all, rather than unique hits, Sweden is more prominent than Finland, as is Norway.³⁶ This is due to the use of the formulas such as Finland = Finland + Scandinavia, and Sweden = Sweden + Scandinavia. Frequencies have been binned (generating groups of numbers that fall within specified ranges, where each bin is represented by a colour).³⁷ The countries show up

36 Note that Denmark has not been taken as part of 'Scandinavia' because in practice meteorological reports do not reckon it to Scandinavia and always mention the country separately. On

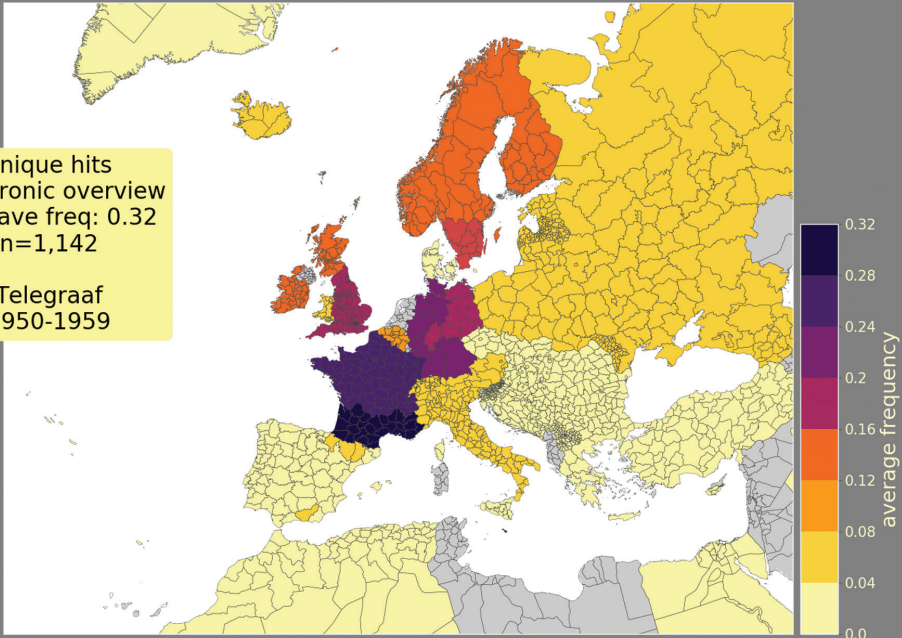
the other hand, I have reckoned the Oblast of Murmansk to be part of Lapland.

37 See <https://docs.scipy.org/doc/numpy/reference/generated/numpy.linspace.html> (accessed on 16-01-2019).

Weather reports: regions

unique hits
synchronic overview
max ave freq: 0.32
n=1,142

Telegraaf
1950-1959

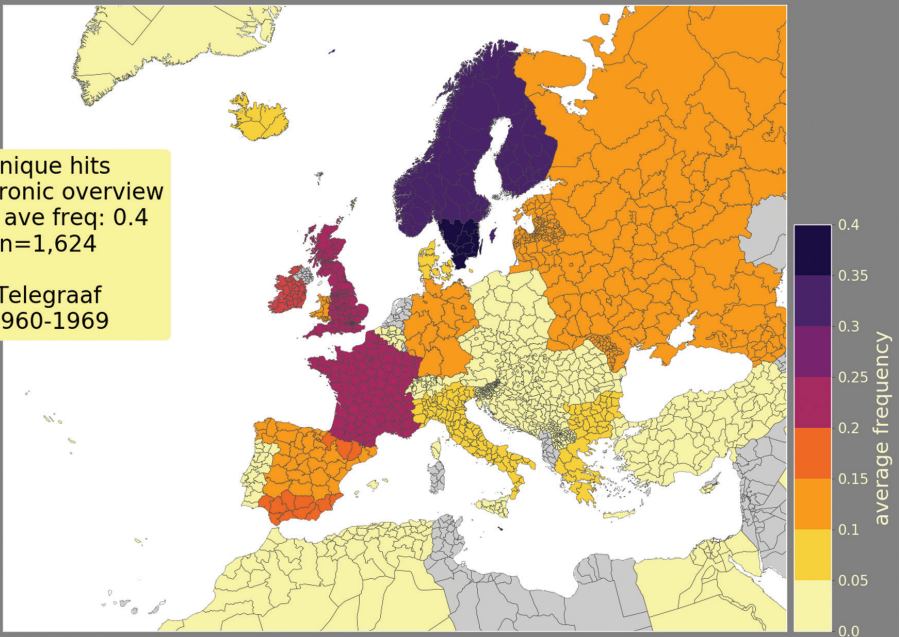


▲
Figure 6

Weather reports: regions

unique hits
synchronic overview
max ave freq: 0.4
n=1,624

Telegraaf
1960-1969

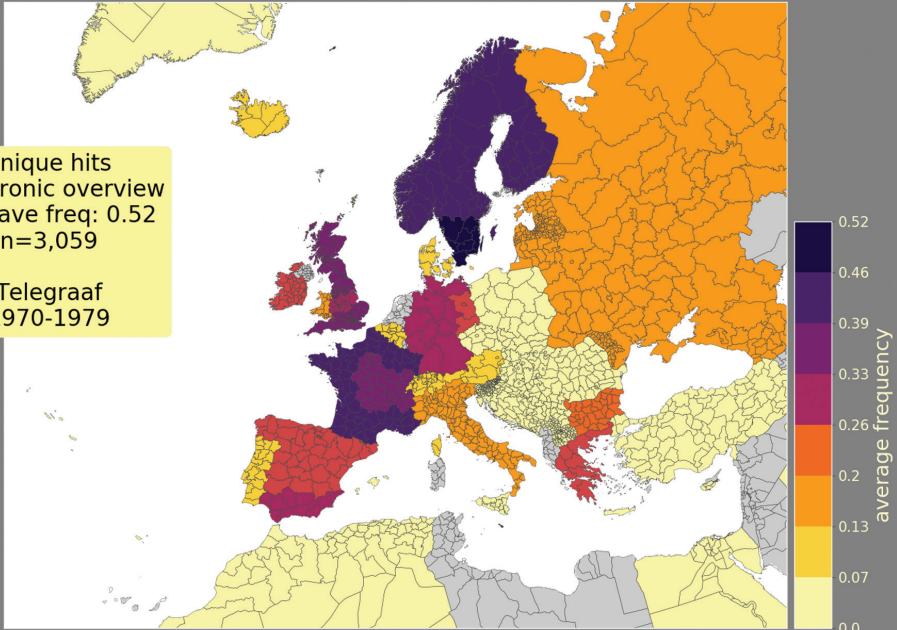


▲
Figure 7

Weather reports: regions

unique hits
synchronic overview
max ave freq: 0.52
n=3,059

Telegraaf
1970-1979

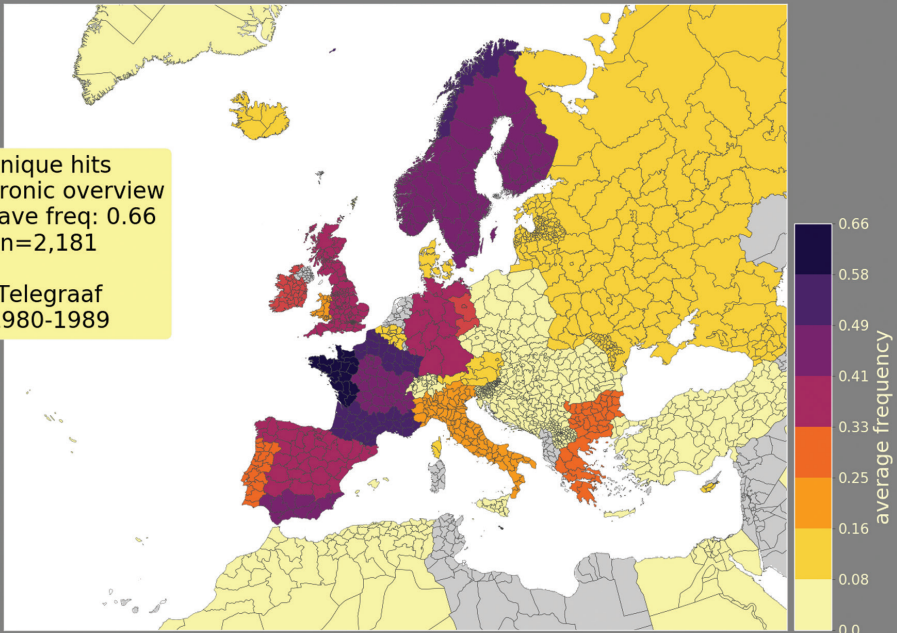


▲
Figure 8

Weather reports: regions

unique hits
synchronic overview
max ave freq: 0.66
n=2,181

Telegraaf
1980-1989



▲
Figure 9

more if the level of the underlying bin, in this case representing Finland, Sweden or Norway, is exceeded with a sufficiently high frequency score for Scandinavia.

Unlike the location series, the region series shows a clear distinction between tallying methods: regions within regions (like Kent in England) and regions across regions (like the Pyrenees in France and Spain) show up more often when using unique counts. The reason is obvious. ‘France’ is likely to occur more often in the same weather report than ‘Pyrenees’; however, if ‘France’ and ‘Pyrenees’ are each counted only once, then ‘Pyrenees’ will occur more often relative to ‘France’. Many details do not appear on the map for all frequencies (although some do: see Figures 10, 11, 12 and 13).

For the 1950s, both methods show the Pyrenees, but the map for unique counts is more detailed. The whole of southern France is more prominent; in Spain both the Pyrenees and Granada show up; southern and western Germany are clearly present; while southern Sweden stands out from the Scandinavian countries as a whole. Such details allow us to examine specific areas of interest in the weather reports while not distorting the general pattern. That qualitative effect is extremely clear: in Dutch weather reports, Europe amounts to a broad swathe of territories running from the south-west to the north-east. In the 1950s, Europe basically extends from the Pyrenees to Lapland, encompassing France,

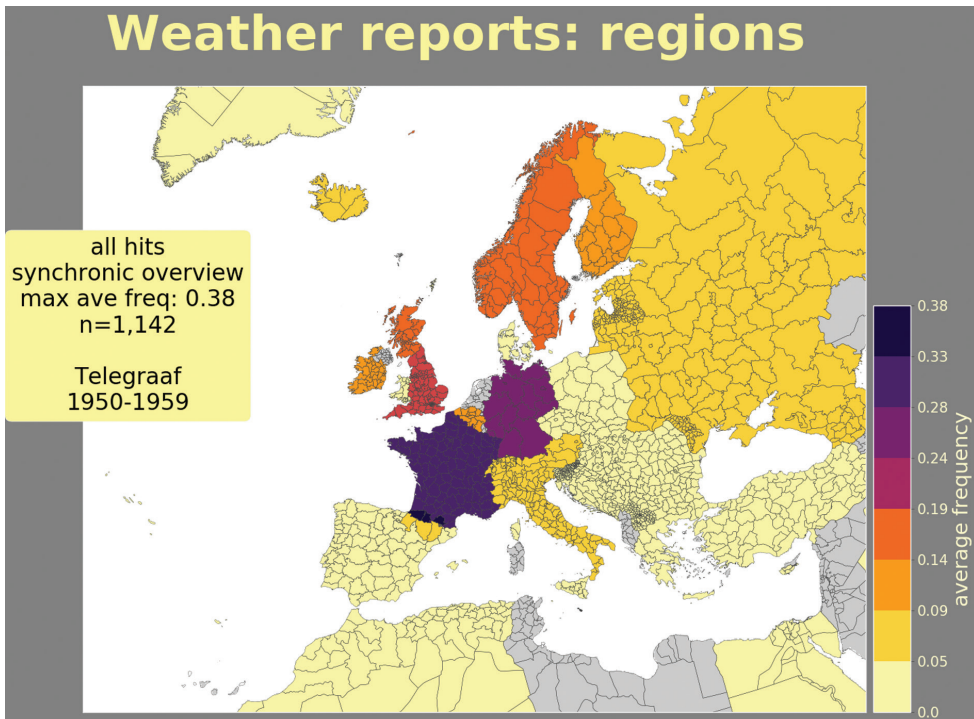
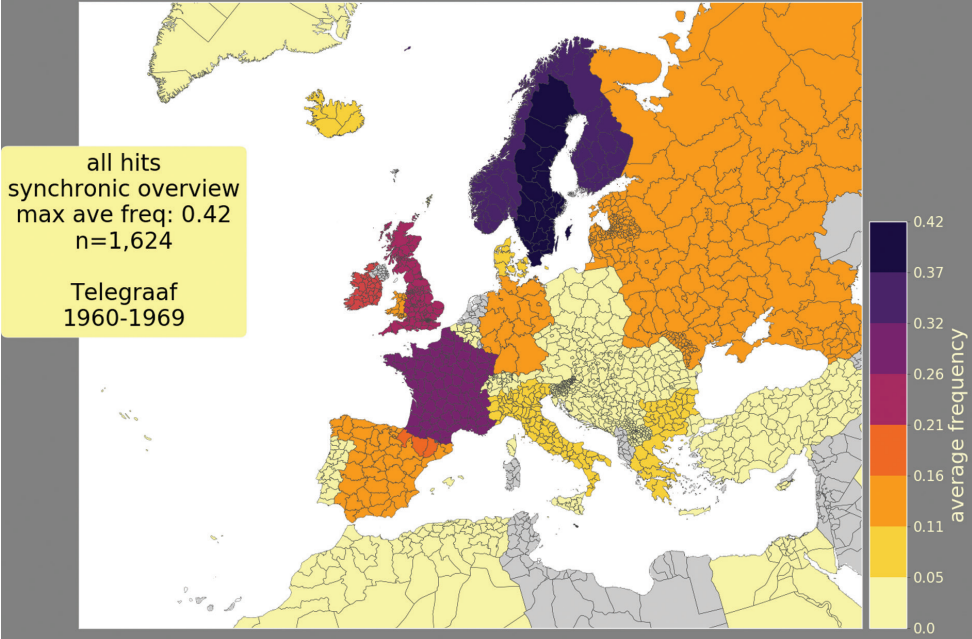


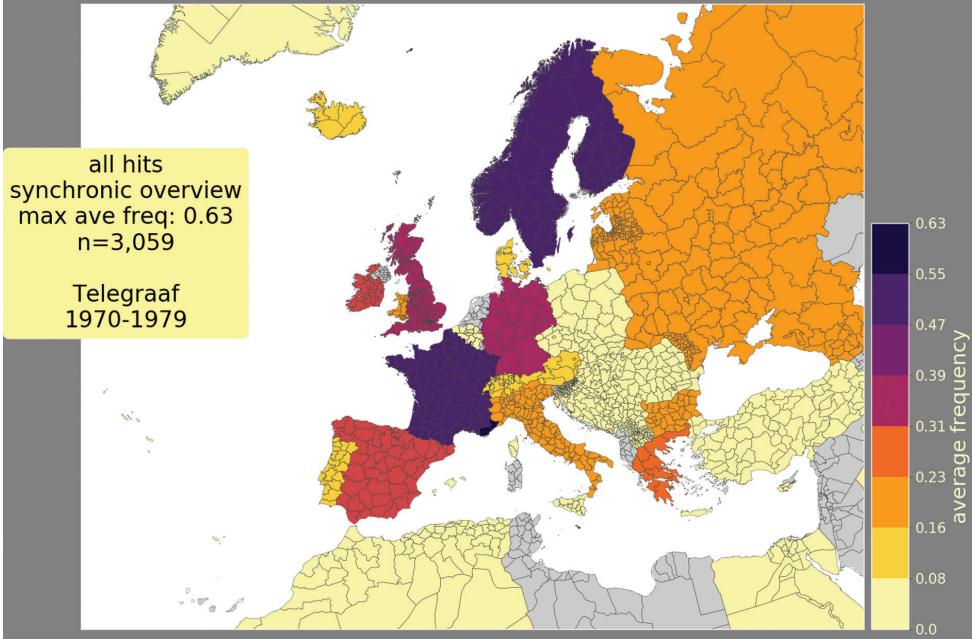
Figure 10

Weather reports: regions



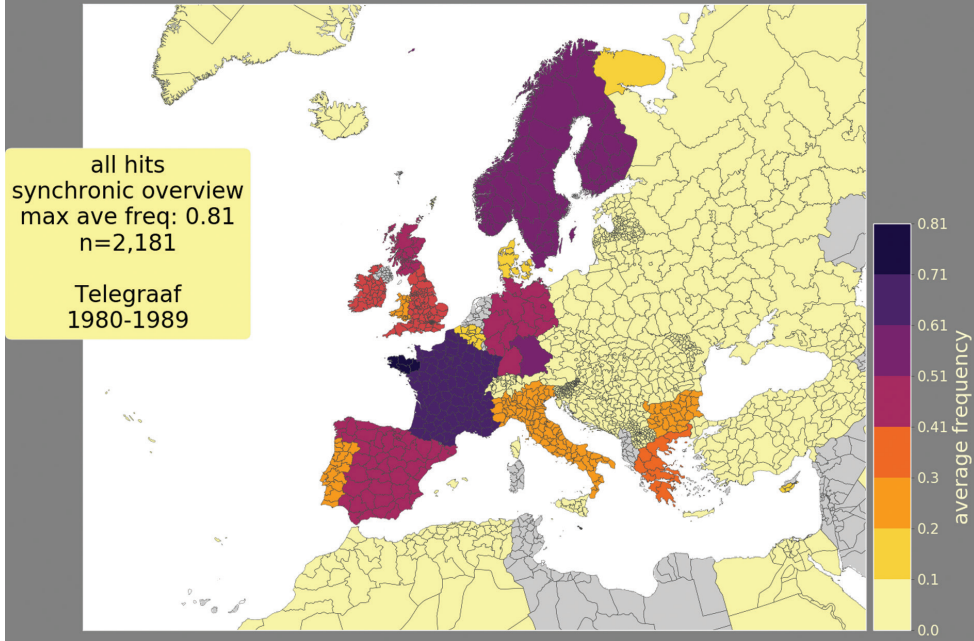
▲
Figure 11

Weather reports: regions



▲
Figure 12

Weather reports: regions



▲
Figure 13

Britain, Germany and the Scandinavian countries, with Russia looming in the background.

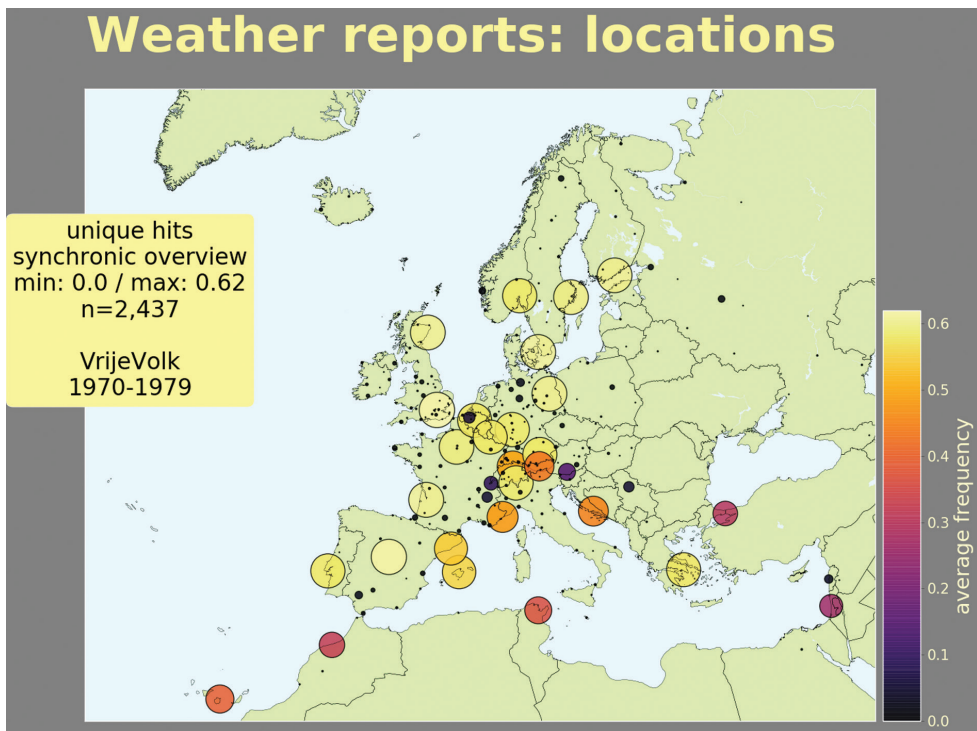
In later decades this general pattern does not change; the variation is in the details. In the 1960s there is relatively more Spain, while Greece has become as visible as Italy. The latter two countries develop a greater presence in the 1970s, as do Spain and Portugal. These are obvious tourist destinations. Switzerland, Austria and the Balkans too come to the fore in later years. This, then, is basically the meteorological extent of Europe in the final decade: France, Britain, Germany, Scandinavia and the Iberian Peninsula represent Europe in the first degree; Italy, Greece, the Balkans and, to a limited extent, Russia are part of second-degree Europe. Poland, Czechoslovakia, Yugoslavia, Romania, Bulgaria and Hungary (third-degree Europe) hardly appear, although a bit of Balkans materialises on the map. To put it bluntly, the whole of Eastern Europe is irrelevant; Albania does not exist at all. This general pattern does not change using different tallying methods ('all' versus 'unique').

Mapping weather in other newspapers

Given the centralised supply of meteorological information through the KNMI, one would not expect much variation between the Dutch newspapers

used in this research. Indeed, they show exactly the same general pattern, supporting the assumption that newspapers together helped create one dominant geographical frame of reference. But again, there is variation in the details.

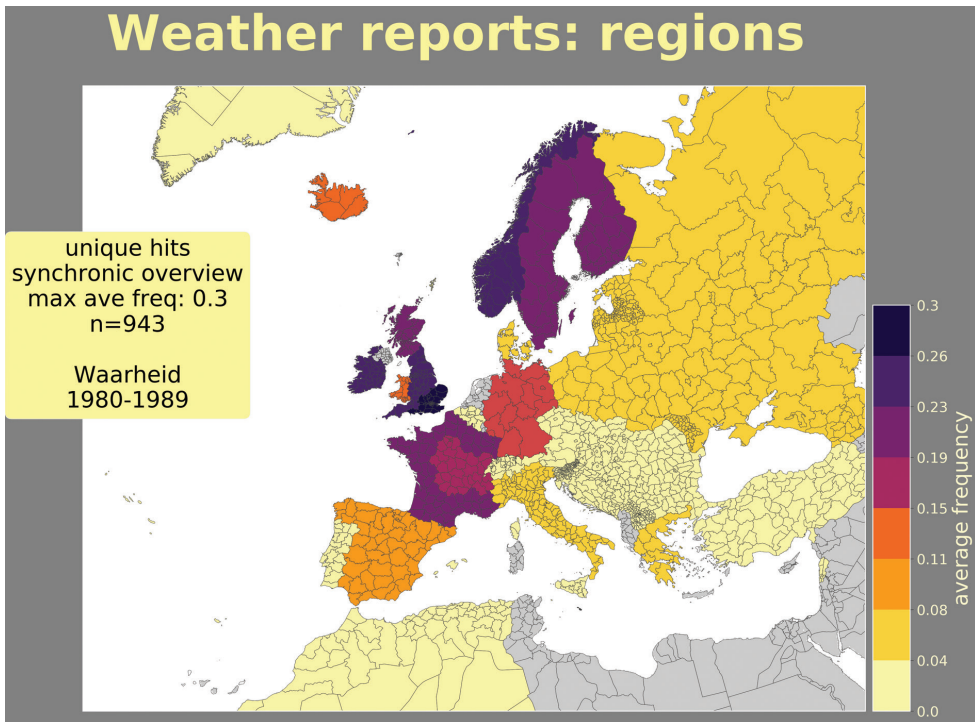
All Dutch newspapers used in this research reproduced the tabular information about the meteorological conditions observed at major European weather stations. As time went on, however, *Het Vrije Volk* more often mentioned less significant places in comparison to the other newspapers (Figure 14). These places are unremarkable in terms of the number of hits per decade but they were apparently places of interest, locations that witnessed meteorological incidents worth reporting. If such incidents stuck in people's minds, they evidently did so not through repetition but through sheer effect, although it should be borne in mind that what is breath-taking to a professional prognosticator may be less prepossessing to the reader of a morning paper who has just gotten out of bed. Nonetheless, people may have remembered Kvikkjok in Sweden for its low temperatures (minus 30) in March 1978, or Shoeburyness in England because that is where former BBC weather forecaster Jim Bacon registered a wind speed of 161 kilometres per hour in January 1988, or Loznica in Yugoslavia (now Serbia), which in May 1987 witnessed no less



▲
Figure 14

than twenty-five millimetres of rainfall in six hours.³⁸ The pattern of these 'lower order' locations is similar to the general pattern: there are more locations almost everywhere, including Eastern Europe (especially Poland), but the concentration is highest in Britain, France, Germany, Sweden, Spain, Switzerland, Austria and Italy.

One might expect newspapers with left-wing sympathies to report more often on weather conditions in Eastern Europe. Yet that is not the case, at least not in the communist daily *De Waarheid* (Figure 15).



▲
Figure 15

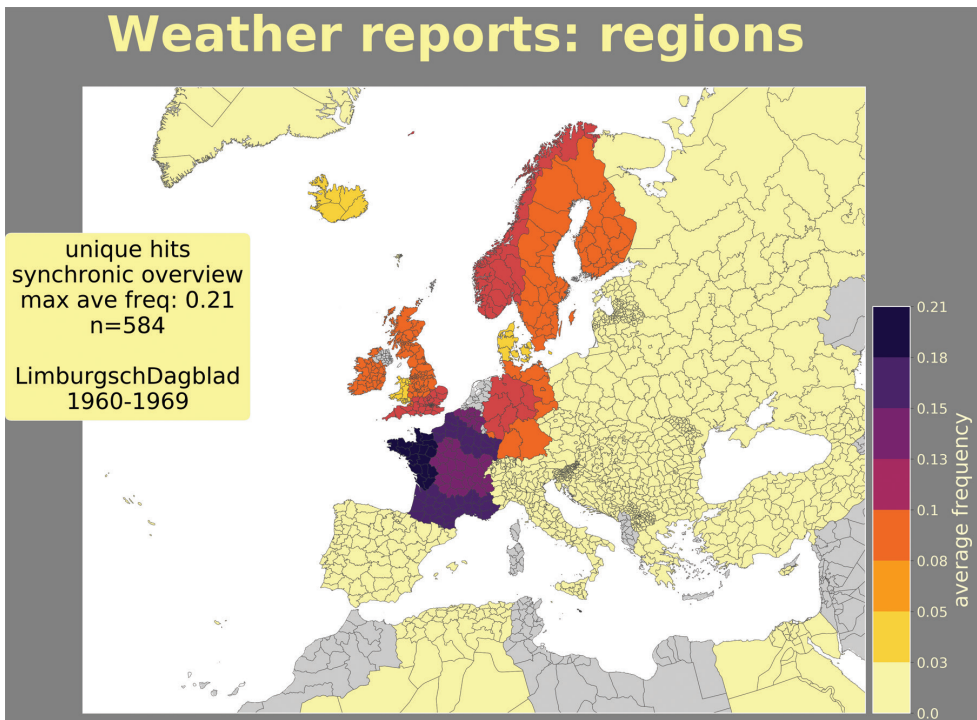
This may point to a more complex logistics in obtaining information from the other side of the Iron Curtain, but it may also illustrate the weather's political neutrality: neither Europe as a political entity nor Cold War communism have left footprints in the weather reports. News articles have been systematically ignored for this analysis, but *De Waarheid* may well have reported more often on the weather in Eastern European countries in incidental cases, as in a succinct news report titled 'Brrrr... ' from 1964: 'In Verkhojansk in North Siberia temperatures below 51 degrees Celsius were measured.'³⁹ As far as regions are concerned, both *De Waarheid* and *Het Vrije*

38 *Het Vrije Volk* (15-03-1978); *Het Vrije Volk* (16-01-1988); *Het Vrije Volk* (8-05-1987).

39 *De Waarheid* (18-01-1964).

Volk display exactly the same pattern as *De Telegraaf*: lots of France, Britain, Germany and Scandinavia, a bit of Spain, Italy and Greece, and a little Russia. There seems to be somewhat more Poland in *De Waarheid* than in *Het Vrije Volk*, but the difference is barely noticeable.

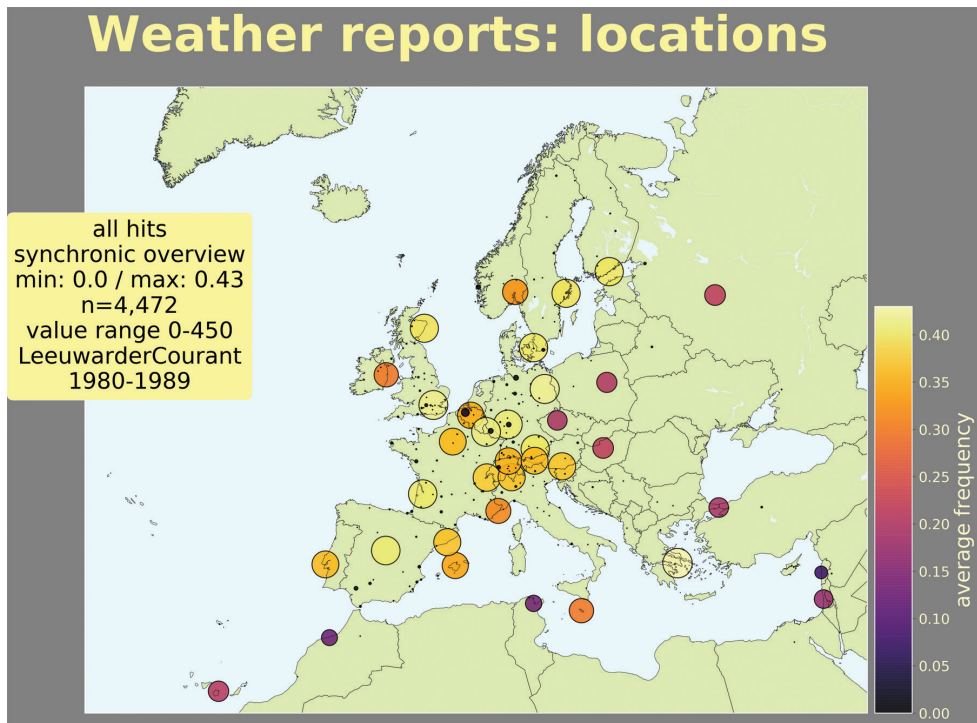
The meteorological tale of Europe is thus a monotonous one, and the three regional Dutch newspapers repeat the same story, albeit, once again, with slight variations. *Limburgsch Dagblad* catered to the southern part of the province of Limburg, which juts out of the Netherlands towards the south, somewhat like an inland peninsula wedged between Belgium and Germany. In consequence, the newspaper offered a much higher coverage of Belgian weather than any other newspaper, especially in the 1960s. The attention paid to its immediate neighbour stands to reason, since thunderstorms tended to cross southern Limburg on their way from Belgium to Germany. Apart from the usual overviews of weather conditions deriving from the major stations, *Limburgsch Dagblad* (Figure 16) offered little information on locations outside the Netherlands. The 1980s are the low point in terms of the extent and density of the geographical framework, and a weather report from 1989 demonstrates why this is so. A stylistic representation of Limburg covered by a raincloud hints at the simplified versions of reality helping people to keep up the pace in the information age. The accompanying text covers an area on the page equal to that of the illustration and it makes reference only to ‘our



▲
Figure 16

province'; Limburg as such is mentioned once in connection with a dial-up information service for the provincial weather forecast.⁴⁰

One of the more interesting newspapers is the Frisian *Leeuwarder Courant*, which was even more prolific than *Het Vrije Volk* in mentioning place names, particularly in the 1970s and 1980s (Figure 17). Locations in Germany, Britain, France, Spain and Italy were at the top of the list, but Poland, Czechoslovakia, Austria and Hungary apparently were also of interest to Frisians. In a weather report describing the watery effects of a depression spiralling into France over the Bay of Biscay, three places with sub-zero temperatures were mentioned: Hadsten on Jutland (Denmark), Nesbyen in southern Norway and Miskolc in north-eastern Hungary.⁴¹ Why any of these places would have been even remotely interesting to Dutch newspaper readers is not clear. Miskolc and Nesbyen were mentioned several times in the 1970s and Hadsten only once. Dropping names, together with the relevant information on rainfall, atmospheric pressure or temperature, was presumably meant to give readers insight into meteorological patterns – and thus inadvertently helped construct the spatial framework called Europe.



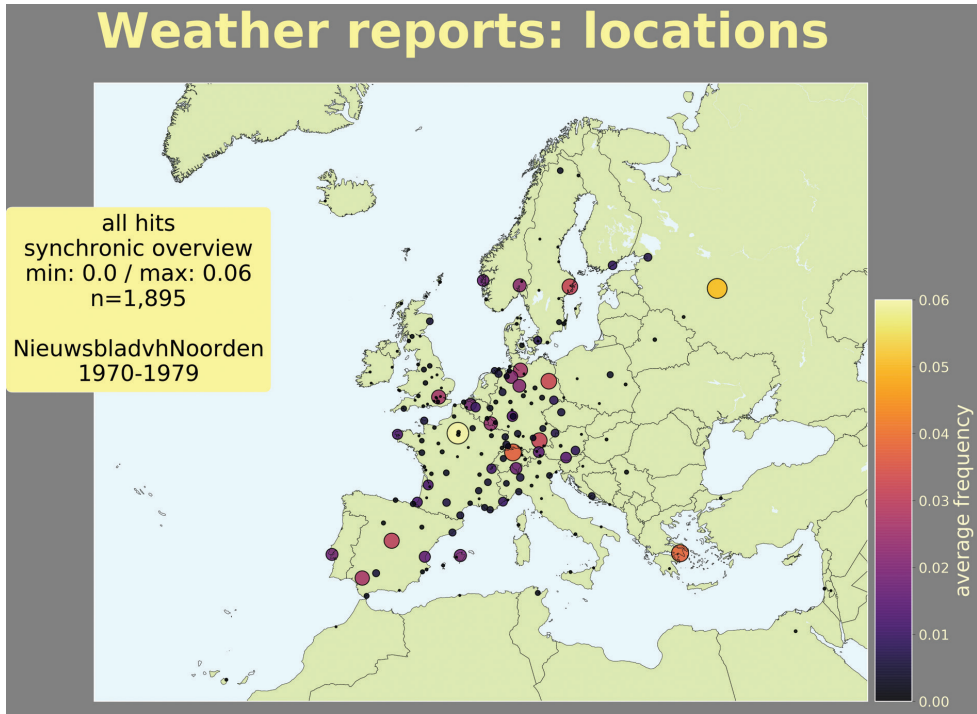
▲
Figure 17

Nieuwsblad van het Noorden presents yet another variation. It, too, reproduced tables indicating cloud coverage, minimum and maximum

40 *Limburgsch Dagblad* (20-12-1989).

41 *Leeuwarder Courant* (13-03-1974).

temperatures and rainfall for specific places. In this newspaper, the towns normally mentioned in the tables began to overlap with places mentioned in the texts (Figure 18).⁴² The tabular order, incidentally, had now become alphabetical where previously it had been geographical, running from the north to the west, south and east (or central). In the course of the 1970s the presence of such tables in this particular paper sharply declined.



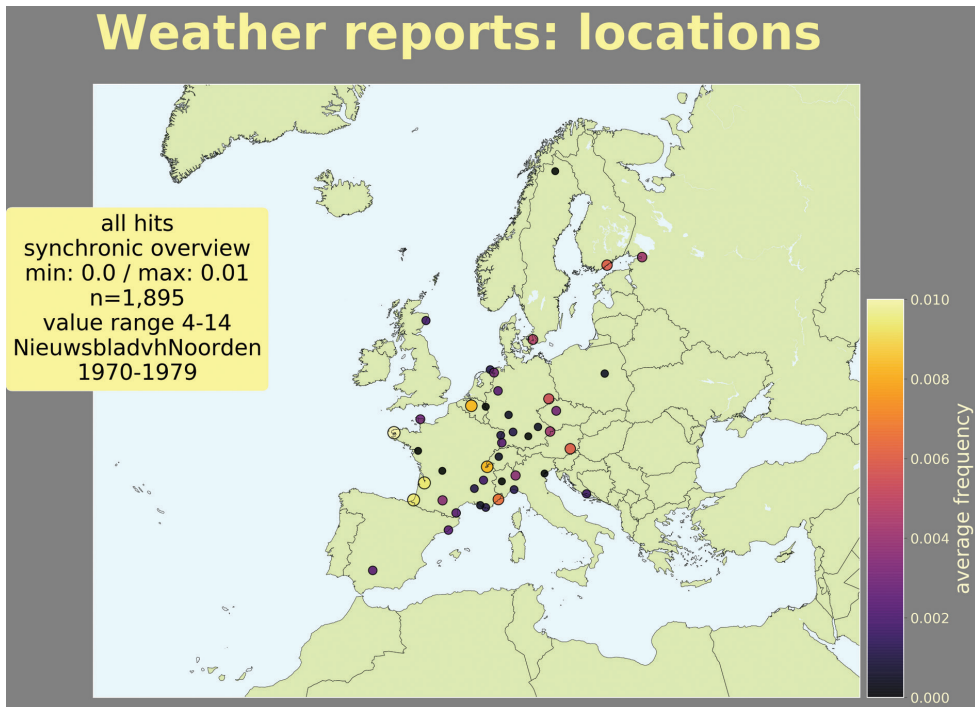
▲
Figure 18

Nieuwsblad van het Noorden, however, made a point of mentioning a variety of places in the texts. If we extract from the weather reports only medium-range frequencies (normalized frequencies between 0.004 and 0.014 or absolute frequencies between 10 and 25) we get the following list of places (Figure 19): Austria (Graz), Belgium (Brussels), Czechoslovakia (Prague), Britain (Aberdeen), Denmark (Copenhagen), Finland (Helsinki), France (Brest, Bordeaux, Biarritz, Cherbourg-Octeville, Grenoble, Limoges, Marseille, Montélimar, Nantes, Nice, Perpignan, Strasbourg, Toulon, Toulouse), Germany (Aachen, Augsburg, Borkum, Dresden, Emden, Freiburg, Münster, Offenbach, Passau, Regensburg, Stuttgart), Italy (Genoa, Milan, Turin, Venice),

42 A typical list of from August 1970 runs as follows:
Aberdeen, Athens, Barcelona, Belgrade, Berlin,
Bordeaux, Brussels, Frankfurt, Geneva, Grenoble,
Helsinki, Innsbruck, Copenhagen, Lisbon,

Locarno, London, Luxembourg, Madrid, Malaga,
Mallorca, Munich, Nice, Oslo, Paris, Rome,
Stockholm, Vienna and Zurich.

Poland (Warsaw), Russia (Saint Petersburg), Spain (Barcelona, Cordova), Sweden (Kiruna), Switzerland (Bern, Geneva) and Yugoslavia (Split). This median group affirms the general pattern, with a clear bias towards France and Germany. The places were mostly locations of weather stations that witnessed interesting weather events. For example, Cherbourg, on the edge of Normandy, was mentioned mainly in connection with depressions and rain zones arriving from the Atlantic.



▲
Figure 19

The main reason for this spread of place names in *Nieuwsblad van het Noorden* was a weather man called Jan Pelleboer (1924-1992), a former KNMI employee with a gift for turning reports on the weather into infotainment. He became quite famous in the Netherlands because of his habit of grading the weather on a scale from one to ten. A long-time freelance contributor to, among others, *Nieuwsblad van het Noorden*, Pelleboer dispensed with the rather prosaic tabular information and instead wrote readable and meaningful accounts based on his personal selection of the information he obtained. In August 1978, for instance, he observed that

warm air is now also being pushed back in Scandinavia, where Stockholm still reached 30 degrees yesterday. The weakest spot with the lowest temperatures and greatest chance of rain lies today, and partially also tomorrow, over Scotland

and its surroundings, where 13 to 15 degrees have been measured. Aberdeen on the eastern coast this morning had 13 mm.⁴³

In this particular report the only towns mentioned were Stockholm and Aberdeen. Due to Pelleboer's use of narratives and his ability to add variety to the information available on weather in Europe, the differences between the frequencies of location names in *Nieuwsblad van het Noorden* is relatively smaller than elsewhere. At the same time, however, the same general pattern emerges. This applies also to regions mentioned in *Nieuwsblad van het Noorden*: they show exactly the same pattern.

Discussion

How, then, was Europe framed geographically in the texts of weather reports published in the Dutch newspapers used in this research between 1950 and 1990? We have seen that the reports highlight the northern and western parts of the European continent (including the British Isles as a part of that continent, geographically speaking), as well as bits and pieces towards the south and the centre. England, Scotland, France, Germany and the whole of Scandinavia figure especially prominently; Portugal, Spain and Italy become progressively more prominent in the latter part of the period.

Historians sceptical of digital humanities methods may point out that this pattern is exactly what we would have expected to find. The statement seems plausible, but is it justified? Obviously, readers familiar with Dutch newspapers will have had some sense of the general geographical orientation represented in the media they daily peruse. They would have expected a lot of France and a lot of Germany. But verifying a gut feeling is not quite the same as demonstrating the exact nature of an iterative pattern across multiple newspapers. This, of course, points to the significance of digital humanities methods. Not only do they enjoin upon us the sheer quantity of repetitive information itself, and thus the practical inescapability of mass communication in past and present, they also allow us to determine the mere fact that quite specific patterns emerged in Dutch newspapers over time. From these weather reports a qualitative view of Europe emerges. Parts of Europe matter more than others, meteorologically speaking. Dutch newspaper readers were conditioned by the frequency in which a distinctive geographical framework was reproduced time and again in a recognisable format, not just in one newspaper, but in six (and by extension a lot more).⁴⁴ This pattern is not a consequence of fluid 'cultural constructions' that are presumed to

43 *Nieuwsblad van het Noorden* (3-08-1978).

44 The Catholic newspaper *De Tijd* was examined for the period 1950-1972. The same pattern emerges from this paper.

underlie identity politics, in the sense that the concept of Europe boils down to what a particular group of people want it to mean at any particular moment in time. Far from it: such patterns are the structural result of an intensive and enduring interplay between social needs and natural forces.

But what does the pattern signify? Data with the aim of producing weather forecasts (rather than just weather reports) began to be gathered centrally on a European scale only after the establishment of the European Centre for Medium-Range Weather Forecasts (ECMWF) at Reading (UK), in 1975.⁴⁵ Such national and international institutes offered information mirroring their own, weather-based conceptions of Europe, which obviously fed into the newspapers. As noted previously, the Dutch meteorological institute (KNMI) depended for its reports on data delivered by various airports across Europe, shared daily by telex. This is the reason why towns such as Klagenfurt am Wörthersee, Austria, where the local military airfield had been turned into a commercial airport in the 1920s, and which would otherwise have remained unremarked in weather reports, nevertheless became familiar to Dutch newspaper readers.⁴⁶ Newspapers, however, also made their own selections, based on what they expected to be of interest to their readers. Most fundamentally, what readers required was information about the world they lived in, preferably tweaked into readable prose by the newspaper's journalist cum weatherman.

The existence of institutional networks is not the only explanation for the pattern of weather reports, apart, that is, from the caprices of the weather itself. One obvious feature in the pattern is tourism. If weather reports reflect a collective conception of Europe as a territorial entity, then one of the forces driving changes in their content over time was beyond any doubt the tourist industry. In this sense, the Dutch conception of Europe was less the result of a political project than of increased mobility – whether in the form of the charter flights destined for Palma de Mallorca since the late 1950s, or of cars that sped ever faster to the south of France as the Autoroute de Soleil was opened up in bits and pieces during the 1960 and 1970s.⁴⁷ In this sense, the post-war rise of the Mediterranean package tour holiday⁴⁸ is more than evident from the visualisations. Not just Mallorca was on the rise; so were countries like Spain, Greece and Italy, and regions such as the Riviera and the Pyrenees. Nevertheless, it is important to realise that tourism does not explain everything. Normandy mostly remained on the maps as an entry point for depressions, while Russia,

45 <https://www.ecmwf.int/en/about/who-we-are/history> (accessed on 15-07-2018).

46 Clearly, weather balloons and satellites likewise generated data, but these were placed at locations above, rather than in, Europe.

47 Towards the end of the 1960s, over 60 percent of all holiday destinations outside the Netherlands were reached by car. Mark van den Heuvel and

Peter Peters, *De roep om snelheid en verte: een studie naar de versnelling van vervoer in historisch en maatschappelijk perspectief* (Tilburg/Rotterdam 1998) 50-51; Peter-Eloy Staal, *Automobilisme in Nederland. Een geschiedenis van gebruik, misbruik en nut* (Zutphen 2003) 117-121.

48 Orvar Löfgren, *On Holiday: A History of Vacationing* (Los Angeles 1999) 118-119.

the Balkans and Scandinavia were mentioned, not because people travelled there in particularly large quantities, but because the weather there had an effect, whether direct or indirect, on the daily lives of Dutch readers.

Whatever the reasons for the nature of, and the changes and variations in, weather patterns, this article has attempted to show that the weather was responsible for defining a qualitatively detailed conception of Europe that was not, in itself, political. In this sense, this article helps unravel the ‘cultural logic’ of processes of Europeanisation. One instance of this cultural logic is the rather obvious, perhaps simplistic but nevertheless potent suggestion that the farther the distance an EU member state is to the original core of the European Economic Community, the more peripheral to Europe that country will seem to the people living there. This usually implicit cultural logic is common to narratives on Europe. Weather reports are of course also deeply concerned with proximity, but not in the sense of being at, or close to, a political core. Belgium, the country closest to the Netherlands in a cultural sense, apart from being a member state of the Benelux, hardly figures in weather reports. Proximity is important only because of the nearness of, say, a high pressure area affecting the local weather. But cold winds blowing across distant Siberia or a heat wave on the Azores likewise co-determine the perspective on Europe and its surroundings held by Dutch newspaper readers.

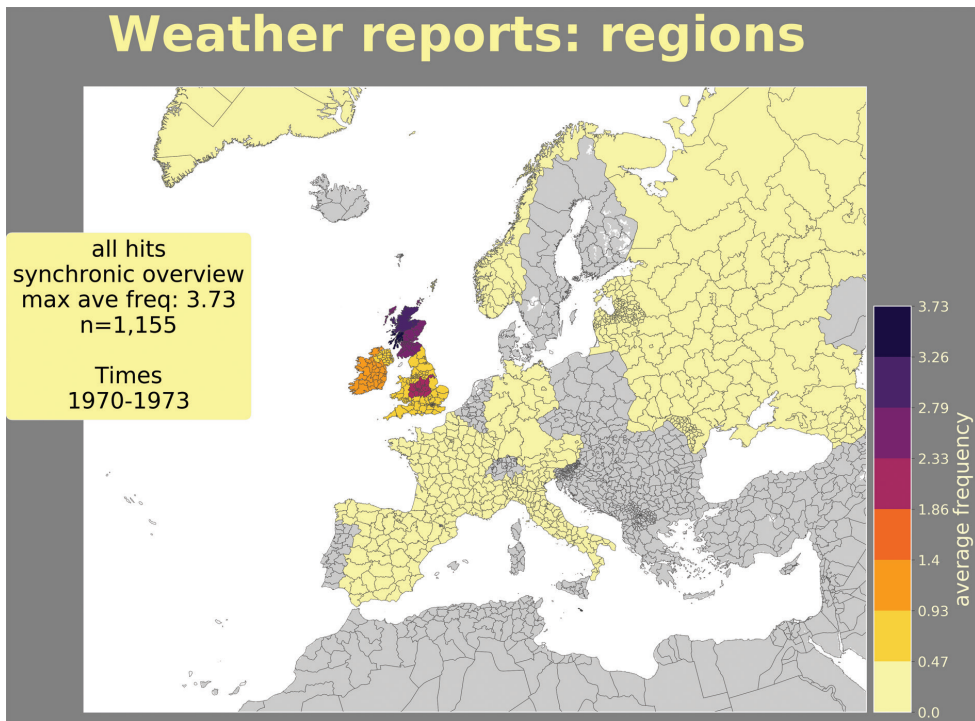
Given their enormous popularity, the pervasiveness of print in this period, and the density of information, the effect of post-war weather reports on geographical consciousness can hardly be neglected. Weather reports, however, merely constitute a single case study. The geographical orientation of newspaper readers can (and in due course should) also be gauged by examining the frequency in which different parts of Europe were mentioned in other newspaper rubrics: apart from advertisements in all shapes and sizes, one could make use of items as disparate as news articles and crossword puzzles. Once large-scale historical sentiment mining becomes a real option – the ability to determine affective relations within texts – we will be able to measure the emotional quality territorial entities evoked in the minds of readers.

Moreover, comparisons between weather reports from different regional or national contexts would be a most fruitful way to understand the way Europe figures as a set of varying geographical frameworks, rather than as a single one. A brief examination of the London-based *Times* for 1970–1973 is telling in this regard.⁴⁹ Norway (14.7 hits, normalised), Austria (13.9) and Italy (11.3) are the most commonly mentioned regions in this British newspaper in this period. These are extremely low frequency counts. The top three in *De Telegraaf* (1970–1975) score significantly higher: France (616.9),

49 The analysis was based on the Times Digital Archive (<https://www.gale.com/intl/c/the-times-digital-archive>), using the method described in this article (accessed on 16-01-2019).

Germany (430.2) and England (275.3). In other words, weather reports in the *Times* were highly self-referential: they are not about Europe, but about the United Kingdom. If we include the British Isles in the tally, the most common European regions excluding Greater London (4,223.4 hits, normalised) are Scotland (2,460.6), the Midlands (1,653.7) and Argyll (849.4). We can visualise the near total absence of Europe by plotting the frequencies on a map (Figure 20).

Thus, if the geography of weather reports is constitutive of a collective consciousness that persists over time, they may help explain the outcome of some recent political events. And if, in the end, there is something political about the weather, it's really nobody's fault.



▲
Figure 20

Joris van Eijnatten (PhD 1993) is professor of cultural history at Utrecht University. He works on various interrelated fields, including the history of ideas, religion, media and communication, employing source material from the eighteenth century to the present. His publications include books and articles on toleration, Dutch religious history, the poet Willem Bilderdijk, sermons, the justification of war, media history and conceptual history. He is specialised in digital history approaches to newspapers, periodicals, parliamentary records and other digitized texts, with a focus on tracing changing concepts over time. He is editor of the open-access journal *International Journal for History, Culture and Modernity*. Email: J.vanEijnatten@uu.nl.