Förkortningar

AN = Afdeling for Navneforsking, Nordisk Forskningsinstitutt, København
ANF = Arkiv for nordisk filologi
APhS = Acta philologica Scandinavica
AS = Anthroponymica Suecana
BFN = Beträge zur Namenforschung
BØ = Bustadnavna i Oslofjord
DAG = Dialekt- och ortnamnsarkivet i Göteborg, SOFI
DAL = Dialekt- och ortnamnsarkivet i Lund, SOFI
DAUM = Dialekt-, ortnamns- och folkminnesarkivet i Umeå, SOFI
DD = Diplomatarium Danicum
DGP = Danmarks gamle Personnavne
DN = Diplomatarium Islandicum
DN = Diplomatarium Norskegammen
DR = Danmarks Runeindskrifter
DRA = Rigsarkivet, København
DS = Danmarks Smedsnavne
DSt = Danske Studier
FMU = Finlands medeltidsurkunder
FR = Riksarkivet, Helsingfors
Fv = Forovannen
G = Gotlands runinskrifter (SRI 11–12)
Gs = Göteborgs runinskrifter (SRI 13–15)
hd = härad
KA = Kännararkivet (i SRA), Stockholm
KL = Kulturhistoriskt lexikon för nordisk medeltid
L = län
Lind = E. H. Lind, Norsk-islandska dopnamn och fingerade namn fra medeltiden (1920–34)
LUP = L. Peterson, Lexikon över ur-nordiska personnamn (http://www.sofi.se)
MM = Maal og minne
NG = Norske Gaardnavne
NI = G. Kvaran & S. Jönsson, Nøfn Islanda (1991)
NITR = Norges innkrefter med de yngre runer
NLER = Norges Indrekrefter med de ældre Runer
NK = Nordisk kultur
NN = Nøm og nennne
NO = Norsk ordbok
NoB = Nøm og bygg
NPL = K. Krüger & O. Stemshaug, Norsk personnamnleksikon (2. utg., 1995)
NRA = Riksarkivet, Oslo
NRL = L. Peterson, Nordiskt runnamns-lexikon (http://www.sofi.se)
NRO = Norsk riksmålsordbok
Ni = Nórsk runinskrifter (SRI 14:1)
OAU = Ornamentsarkivet i Uppsala, SOFI
ODS = Ordboek over det danske Sprog
OGB = Ornamnna i Göteborgs och Bohus län
or. = original
OLÅ = Ornamnnsällskapets i Uppsalas arkkivet
Rep = Repertorium diplomataicum regni Danici medievalis
SAOB = Ordboek över svenska språkets utg. av Svenska akademien
SAS = Studia anthroponymica Scandinavia
SD = Svensk diplomatarium
SDN = Svenskt diplomatarium [ny serie] från och med år 1401
SkO = Skånes ornamn
Sm = Smålands runinskrifter (SRI 4)
SM = Sveriges medeltida personnamn
SM = Sveriges medeltida personnamn
SMPS = Sveriges medeltida personnamn
SMR = Sveriges medeltidsgironom 1453–1441
sn = socken
SN = Studier i nordisk filologi
SOF = Sveriges ornamn. Ornamnen i Blekinge län
SOD = Sveriges ornamn. Ornamnen i Dalarnas län
SOFI = Språk- och folkminnesinstitutet
SOI = Sveriges ornamn. Ornamnen i Hallands län
SOJ = Sveriges ornamn. Ornamnen i Jämtlands län
SOJ = Sveriges ornamn. Ornamnen i Jönköpings län
SoK =Språk och Kultur
2. Facts about the *Deutscher Familiennamenatlas* (DFA)

In February 2005, the German Surname Atlas project was launched as a cooperation between the Universities of Freiburg and Mainz. The exact project name is: "Deutscher Familiennamenatlas – Sprach- und kulturwissenschaftliche Untersuchungen des Familiennamenbestandes in Deutschland (DFA)" ("The German Surname Atlas – a Linguistic and Cultural Investigation of Surnames in Germany (DFA)"). This project is financed by the Deutsche Forschungsgemeinschaft (German Research Foundation) and will be supported for the next seven years (for further information, cf. www.familiennamenatlas.de)

The database consists of all fixed network telephone lines from 1995 (all the following maps are based on the data of 1995). There are roughly 1,000,000 different types of surnames in Germany; the number of tokens (network lines) is roughly 30,000,000. On average, every 2.8 persons share one fixed network line. A specially-developed computer program enables us to create maps which show the exact distribution of the surnames in Germany. Postal code areas from one to five digits serve as a point of reference. In order to understand the basis for distribution points on the map, a few words about German postal codes are in order. All addresses in Germany come with a five-digit postal code (e.g. 55128 in Mainz). When creating these maps we have a choice of basing the points on only the first three digits (three-digit map) or on all five digits (zoom) (including, of course, all the other digits). The five-digit map provides the most detailed picture and allows us to see differences between towns and villages within a small region. These maps also allow us to locate what we term a *nest*, a centre for a name which is found almost nowhere else. Because the DFA project is interested primarily in surname landscapes, however, most maps shown in this paper are three-digit maps, which provide an overall picture of the relative distribution of names throughout Germany. As an example for a three- and a five-digit map, cf. Map 1 for Hass(f)dentenfel, a sentence name originally meaning 'hate the devil'. This surname occurs only within a restricted area around Saarbrücken, the capital of the federal state of Saarland. The spellings with (orthographically correct) (ß) predominate with 311 tokens against (ss) with 46 tokens. Map 2 presents a five-digit map.

As already mentioned, relative and absolute maps can be produced. The absolute maps represent the absolute occurrence of a name, meaning that, in general, the major urban centers produce the biggest spots. Since we are primarily interested in onomastic landscapes, we usually produce relative maps. There remains, of course, the problem that there are different population densities in the federal states (North Rhine Westphalia with the highest population density and Mecklenburg-Vorpommern with the lowest one). Maps 3 and 4, Richter, show the difference between an absolute and a relative map.
Most important is the fact that we don’t produce many so-called one-name maps but rather combination maps concerning a special question. If, e.g., the apocope isoglosses shall be demonstrated, different original adjectives (such as Link vs. Linke, Lang vs. Lange, Kurz vs. Kurze) are combined to mark the border between the areas with and without apocope. Another important aspect is that we always concentrate on words of the same word class membership because the apocope isogloss could vary between adjectives (Lang vs. Lange), common names (Haas vs. Haase), and proper names (Fritsch vs. Fritsche). Isoglosses may vary even inside the same word class, however. The comparison of these isoglosses with common nouns and adjectives leads to new insights, as shown by Kunze & Kunze (2003), where not only many astonishing parallels are observed, but also some clear divergences between these lines. Since we are interested in the distribution of linguistic phenomena and not of single names, most of the following maps are combination maps.

Every map is accompanied by a detailed commentary which contains all the relevant information about the motivation for the map (what we are trying to illustrate), the exact query (exactly what we entered) and the different output types, the token frequencies of the different types, a listing and an explanation of the names which are excluded (mostly those with competing semantic sources), some information about the origin, the history, and the etymology of the respective name, a list with the absolute and relative frequency of the name on the basis of two-digit postal code areas, a description and an evaluation of the map, and some further details. This commentary requires a lot of work and time because the data have to be cleared up both thoroughly and cautiously. The goal of the Surname Atlas is to document only the linguistic phenomena, not to explain them. It often occurs that we stumble upon very interesting onomastic landscapes which only can be explained by interdisciplinary research. For example, we often find surprising parallels between the structure of Bavarian and Westphalian surnames, areas which are not connected geographically in any way (cf. Maps 20 and 21 for Meyer and its compounds).

There are also some problems we have to deal with, e.g., mobility. Of course there are many foreign names in Germany but we can exclude them by not looking for them (and, on the other hand, we also can find them by entering an appropriate query as, e.g., “...ski” to extract the Polish surnames in -ski). More important are the many refugees after the Second World War which imported many German surnames. We estimate ten to twelve million migrants from Eastern Europe. Altogether, mobility leads to a certain distortion factor of around 20%. For every name, distribution is represented by small spots or small parts of the pie charts within the bigger spots. On the other hand, we also have maps which show an astonishing stability of surname landscapes, especially if we concentrate on surnames with a very high token frequency, such as the different spellings and forms of Schmi(e)dl/Schmitt/Schmitz. Map 5 provides the distribution of these variants, whereby the most frequent spelling with (dt) was excluded because it occurs everywhere in Germany. This map illustrates that the original genitive form Schmitz (‘the smith’s son’) occurs in western Germany (and correlates with many other profession names such as Schneiders, Krämers, Meiers, Beckers) whereas Schmitt is located in central Germany and Schmi(e)dl (with [d]) is found in the south. In order to avoid, or, at least minimize the mobility problem, we have decided to take only surnames with a minimum of 2,500 tokens (= fixed network lines). On the maps the number of tokens is always added directly after the names.

Another problem is the fact that many surnames can be derived from different semantic sources. Sometimes it is possible to exclude one or more sources. If not, we no longer take the respective name into consideration. For example, it is not possible to create a map with the surnames containing different (former) German currency units, such as P(l)ennig, T(h)aler, Krew(ter), Mark(ck) etc. because T(h)aler cannot be separated from the homonymous residence and/or provenance name T(h)aler ‘living in or coming from a valley’, and Mark(ck) cannot be separated from a short form of the Christian name Markus.

The plan for the Surname Atlas project is to produce four volumes: the first two volumes with linguistic and the last two volumes with lexical topics. Most of the following examples concern the first two volumes. Some of the maps which will be shown below have been produced by Rita Heuser, Antje Dammel, Miriam Schmuck, and Rudolf Garski.

3. Fields of research

In working with the DFA computer program many questions emerge and these questions are often completely new and unexpected. This section provides some examples. First, we turn to topics concerning language history.

3.1. Surnames and language history

The most important isogloss in German is the so-called Benrather Linie which separates High German from Low German (and all the other Germanic languages) and which is based on the German sound shift which took place between 500 and 800 A.D. See Table 2.

The Benrather Linie ‘Benrath Line’ (which crosses Benrath near Düsseldorf) only concerns the change between [k] and [x] (maken vs. machen). It consti-
Table 2. The German sound shift in surnames.

<table>
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<th>Change from Germanic to</th>
<th>German surname (Low vs. High German)</th>
<th>Literal translation</th>
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<tr>
<td>-tt &gt; -ts (geminates)</td>
<td>Schütze(e) vs. Schütz(e)</td>
<td>'markman'</td>
</tr>
<tr>
<td>+r &gt; +s (postvocalic position)</td>
<td>Wüste vs. Wüst(e), Grohs(z)e vs. Groß(u)z(e)</td>
<td>'white', 'big, tall'</td>
</tr>
<tr>
<td>+p &gt; pf (initial position)</td>
<td>Pieper vs. Pfeifer</td>
<td>'piper'</td>
</tr>
<tr>
<td>+p &gt; -f(ʃ) (postvocalic position)</td>
<td>Pape vs. Pfaffe(ʃ)</td>
<td>'priest'</td>
</tr>
<tr>
<td>+b &gt; -b (postvocalic position)</td>
<td>Struck vs. Strauch</td>
<td>'bush'</td>
</tr>
</tbody>
</table>

Tutes the uppermost border of a complex of isoglosses called the Rheinischer Fächer 'Rhone Fan' (which is so named because the geographical distribution of the isoglosses on a map results in a form similar to that of a fan). It contains further isoglosses such as the Eiselschranke 'Eifel Boundary', the Hunsrück-schanke, the 'Hunsrück Boundary', etc. These lines are located south of the Benrath Line. On the one hand, the distribution of the surnames confirms these lines. On the other hand, they sometimes diverge from them, leading to interesting findings, e.g. that the respective sound shift line differs from name to name (cf. Kunze 1998). In general the isoglosses represented in the surnames can provide us with information about the exact position of these lines in Early New High German. It is well known that these lines are still in flux today in the respective dialects. Thus the study of surnames provides us with information about historical dialects and dialect borders. Maps 6 and 7 show the shift -tt > -ts (Schtz(e) vs. Schütz(e)) and -k > -cb (Struck vs. Strauch). Map 7 reveals a further problem: As lexemes, Struck and Strauch occur frequently only in northern Germany because there are different dialect words for 'bush', e.g. Busch, Stauden, in the southern part. In those cases we produce combination maps looking for other words containing the k > cb shift (but only if they share their isogloss - if not, we produce different maps). Maps 8 and 9 show the sound shift p > pf (word initial) and p > -f(ʃ) (postvocalic) as in Pape vs. Pfaffe(ʃ) and Pieper vs. Pfeifer(ʃ). The latter map contains some partly-shifted items such as Peifer which is expected because the lines differ depending on the position in the word (p > pf is located farther south than p > -f(ʃ)); cf. König 2004:64). These maps also illustrate the fact that they cannot be combined: The lines between Pape vs. Pfaffe(ʃ) and Pieper vs. Pfeifer(ʃ) differ greatly (for an explanation, cf. Kunze 1998).

Another important historical development was unumlaut a > åle, o > ò, u > û, and au > åu/åe, when followed by a syllable containing [iː] or [ı] in Old High German. The standard language is mainly (though not always) based on the unumlaut forms but this is not the case for every German dialect. Here we can expose the so-called 'umlaut-friendly' and 'umlaut-hostile' dialects. This topic shows that language history and dialectology are closely linked. The following two maps (10 and 11) provide the distributions of Maurer vs. Meurer 'bricklayer' (an example for non-umlaut in standard German and unumlaut in some dialects) and of compounds ending in -bofer vs. -bofer. In both cases it becomes obvious that the southern dialects avoid unumlaut. Going into the five-digit maps would enable us to draw the exact lines between the unumlaut and the non-unumlaut areas. More such noun must of course be included, such as Brauer vs. Bräuer and Forster vs. Förster in order to get a more watertight picture. The lines between -an- vs. -en/ån- and -o- vs. -ö- are not congruent. The same holds for the other unumlaut isoglosses.

Last but not least, a lot of lexemes and word formation techniques which have died out are preserved in the extensive inventory of surnames. As one example, which could be interesting for Scandinavian readers, we provide the names Lachner and Lachmann, two old words for 'doctor', still found in Swedish läkare (cf. Map 12). However, this name is a further example of potential homonymy: Lachner may also derive from residence and provenance names, originally meaning 'who is living next to a puddle/who moved from Lachen (a toponym)'.

3.2. Surnames and dialectology

As already mentioned, language history and dialectology cannot be separated clearly. There are, however, many dialectal phenomena which did not have any significant impact on the standard language. For example, the metathesis of -r- is primarily of dialectological interest: Map 13 provides the distribution of Born-born vs. Brunnl-brunn (the former containing metathesis) and classifies metathesis as a typically northern phenomenon. The unrounding of å > å and ó > ö is a further dialectological feature: Here we can refer to Maps 22 and 23 (Müller vs. Miller), where the red portions of the pie charts in southern Germany west of Munich represent the unrounding area with Müller.

So far we have only considered phonological phenomena. Our anthropomnemonic database also provides a great deal of information about former orthographic landscapes, e.g., the doubling of (f) in Wolf(f), Wolf(f), Kauf(f)mann, Hof(f)mann, etc., or the different Latinized forms of original first names such as Jakob, where four different spellings can be distinguished: Jakobi, Jacoby, Jakobi, Jakoby. Map 14 shows the different spelling areas of this typically middle German phenomenon. Jakoby (yellow) predominates in western areas, Jakobi (red) in the eastern part, and in between we find Jakobi (green) (cf. also Maps 20 and 21 for the different spellings of Maior).

A very instructive map concerns the morphological issue of diminutives.
Map 15 provides the distribution of the two most frequent southern German diminutive allomorphs (Bäuerl, Bäuerle or Eberl, Eberle or Dietel, Dieterle). The Low German suffix -ke (Kurzke) couldn’t be considered because it cannot be separated from the many Slavic names ending in -ke (Huschke).

Map 16 clearly indicates that patronymics ending in -sen are prototypical for the northern part of Schleswig-Holstein, which was historically closely connected to Denmark.

A huge number of maps could be created with lexical issues. Here, the different historical naming landscapes can be provided, including the respective dialectal sound changes and word formation strategies. Map 17 shows the different heteronyms of the profession name Töpfer ‘potter’, accompanied by Map 18 representing a dialect map for the same word as a common noun from the dtv-Atlas “Deutsche Sprache” (König 2004:192).

3.4. New findings and surprises

The potential of the Surname Atlas is the amount of new insight, new findings and of many surprises. Until now, only one explanation for the surname Hunger was ‘a hungry person’. Since we can exactly locate the occurrence of surnames we can exclude many earlier etymologies. Entering a query for Hunger and Unger clearly shows that both occur in precisely the same environment (a restricted region near Dresden). This confirms that both names go back to ‘people coming from Hungary’ (even the English word for this country reveals the unorganic H- at the beginning of the word).

Finally, by using Maier and Müller, we intend to demonstrate that we bump into surprises even when using two of the most frequent surnames: Map 20 clearly reveals that the different spellings of Maier are geographically conditioned: First, most of these names occur in the northwestern and southern part of Germany (the heteronym Hofmann fills in the area in between). Forms with (e) cover the north and some small areas in the northern (Nuremberg) and in the extreme western part of southern Germany. The (a)-forms are typical for the south. If we now turn to the compounds containing -maier etc. as the second part (cf. Map 21) we get a different picture altogether: In the north, the expected (e)-spellings still predominate. In the south, however, the compounds are restricted to Bavaria (and no longer to Baden-Württemberg) but surprisingly we now find significantly more (e)-spellings than in the simplexes of the same area. This means that in compounds the (e)-spelling replaces many (a)-spellings. To date there is no satisfactory explanation for this deviation.

The other case is Müller: In contrast to Maier, the profession name Müller never had heteronyms in German dialects. In northern areas we find many occurrences of the lowered form Möller, and in a small area in southern Germany we have unrounded Miller forms. Map 22 provides the distribution for the simplexes. If we look for the same word again as the second element of a compound, however, the picture varies considerably: The share of unrounded forms is much greater than before (Map 23). In surnames of dialectal origin we always find cases of “Verhochdeutschung”, i.e., a change to the form considered to be more in line with standard German. Here, a possible explanation could be that the Millers were transformed into Müllers. In compounds, however, such as Stadtmüller, Moosmüller, and so on, the second part was perhaps not as easily identified as a ‘Müller’. This could explain the larger number of -miller as an integrated part of a word. Complete, autonomous words are more salient than mere parts of words. However, these and many other questions have to be explained soundly by further research in this onomastic field. The Surname Atlas only provides a well documented and thoroughly revised database for many future research tasks.

3.3. Surnames and cultural history

Many maps reveal facts that can only be explained by other scientific disciplines, such as history, migration research, social history, theology, biology, genetics, etc. One example is the former byname Klein ‘small’ which only occurs in the western part of Germany. The first assumption could be that the other regions used different words. But maps with the alternative, Kur(t)z ‘short’, only confirm the described distribution. Map 19 provides these former bynames. These facts could possibly be explained by a large number of small people which might have lived in the western area. There are grounds for the supposition that this goes back to the immigration of a Gallo-Roman population, but this is not yet confirmed. It can generally be observed that the motive to name people after their appearance (byname) is frequently represented in this area.

Another source of interesting findings is the many provenance names which attest various migrations. The huge variety of medieval profession names tells us about the historical division of labour. Another chapter is opened by the many saints’ names: By looking for the derivations of names such as Severinus, Lambert, Kilian, Parmin, Florian, conclusions can be drawn for the former veneration of the different saints. Finally, various surnames derived from patronymics allow us to gain insight into medieval naming landscapes. These are issues for volume three and four of the Surname Atlas.

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2 We would like to thank dtv-Verlag for allowing us to use this map in this paper.
4. Summary

In this article we have presented the project of a German Surname Atlas (Deutscher Familiennamenatlas) and described the procedures through which maps are made which show the exact areal distribution forming characteristic landscapes of the different types of surnames in Germany. The maps are based on German fixed network telephone lines from the year 1995. First the emergence and structure of German surnames were presented, then the most important facts about the German Surname Atlas. Section 3 showed some possible perspectives and sketched new areas of research, such as surnames and language history, surnames and dialectology, and surnames and cultural history. Finally, some new findings and surprises were depicted which only arise when working with the computer-based program.

References

Map 2. Five-digit map for the nest (Haßdenteufel).

Map 3. Absolute distribution for Richter.

Map 5. Distribution of Schmitz, Schmitt, and Schmi(e)d.
Map 6. German sound shift in Schütte vs. Schütz.

Map 7. German sound shift in Struck vs. Str(ə)uch.
Map 8. German sound shift in Pape vs. Pfaffe(r).

Map 10. Umlaut in Maurer vs. Meurer.

Map 11. Umlaut in -hofer vs. -höfer.
Map 12. *Lachner* as an example for a lexical fossil.

Map 13. Metathesis in *Born/-born* vs. *Brunn/-brunn*. 
Map 14. Orthographic landscapes for Jacobi etc.

Map 15. Diminutives in southern German surnames.

Map 17. Distribution of onomastic heteronyms of Töpfer 'potter'.

Map 19. Distribution of Klein(e) and Kur(t)ez(e) 'small'.
Map 20. Distribution of *Meyer* etc. as a simplex.

Map 21. Distribution of *-meyer* etc. as second element of compounds.
Map 22. Distribution of Müller etc. as a simplex.

Map 23. Distribution of -müller etc. as second element of compounds.
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ANTHROPOONYMICA
SCANDINAVICA

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