I should like to acknowledge the help and encouragement of an Oxford External Studies class during this early stage of the investigation. I am particularly grateful to Michael Pont who wrote the program to produce tables such as that illustrated in Figure 1. This operates on the output from the search programs, making the necessary calculations to set absolute figures against the amount of available data, thus providing the percentages and county rankings.

SIMPLEPLOT - a graphics package developed by Bradford University Software Services.

Future applications of this technique will make use of a Graphics facility to shade the counties in slowly decreasing intensity of stippling according to their order and percentage figures in the tables. This will eliminate the need to classify counties into what are somewhat arbitrary groupings, and will give a better visual representation of geographical and/or topographical patterns.


OCP has a facility which enables specific sequences of characters to be declared as equal for the purposes of ordering output. However, it will not include within this definition strings containing a space. In order to get round this problem, forms such as and long. & long etc. need to be temporarily joined prior to running the OCP program. The output from which Figure 6 was extracted was produced by applying the following two ECCE commands to the text-file in order to produce a temporary file: 

1. fn=lan/s.lan/ & (f/s.lon/lon/), where [f] means 'find', [s] 'substitute', [/] is the string-delimiter and [*] means 'repeat throughout the file'. The dummy character [*] occurring nowhere else in the file), joins all the words starting with the strings [lan] and [lon] to the previous word. [*] was then declared as 'padding' in the OCP command file, which means that it was effectively ignored. The search criteria were defined as 'headword = @&*@n@* &@n@*', where [@*] represents one character and [@*] represents any or no characters. This causes the program to treat the strings [@*] and [@*] as equal for sorting, but not for printing. The original space could subsequently be returned to the output file by the ECCE command [f/s/], and the temporary file be deleted. Other forms picked up by these criteria, but not illustrated in the extract, include 'endelang', 'alangae', 'and lunc', and 'endelangwevis'. The full printout contains 3192 citations, approximately 65 of which did not represent phrases containing andlang and had to be removed. When the material has been glossed such long-winded routines can be dispensed with, as OCP will be able to operate directly on forms tagged by the headword.

abrocanan borg and aroc broc.

The string-lists also serve to check whether any forms will have slipped the net of searches such as that outlined in note 11, above. In this latter case the list showed that there were no words beginning with the letters 'lan' in the Corpus, so that, although 'endelang' forms occur, there was no necessity to include 'lan' in the joining edit carried out by ECCE.

1. THE PROSPEROGRAPHICAL BACKGROUND
Karlen Schmid and Joachim Wollasch both became interested in commemorative documents while members of the Freiburger Arbeitskreis directed by the historian
Gerd Tellenbach in the 1950s and early 1960s. What members of this group were seeking in these sources was otherwise unobtainable information about the structure and inter-relationships of the early medieval nobility, especially the Reichsadels, i.e. the Carolingian imperial nobility: information, that is, not provided by the traditionally well-explored sources like charters and chronicles. Another focus of interest involved the history, the structural evolution and the inter-relationships of early medieval communities, as revealed by the lists of members of such communities entered in confraternity books and also by monastic obituaries. Both themes can be subsumed under the general heading of ‘early medieval prosopography’. According to this approach, commemoration (memoria) is, as an important constituent of the medieval mentality, fundamental to prosopography. Commemorative documents show medieval individuals grouped according to their social or institutional affiliations, that is, in association with people related to them and/or whose amici or frati were they, in either a secular or a spiritual sense. The historian’s aim is to find the groupings behind the thousands of entries in commemorative records. These ‘entries’ may include titles or other indications of status (e.g. rex, comes, monachus, laicos, ancilla) or give an individual’s provenance (e.g. Wintoniensis, Fuldensis, de Aquia). Names may be arranged in lists associated with a leading figure (e.g. abbas, episcopus) or under a heading like Iste sunt frater istius loci, Nomina fratrum novi coenobii Wintoniensis aequelaeae, Nomina uiventii, Nomina reginarum vel abbatissarum. In obituaries they may be grouped simply under the dates of the calendar. In libri vitae they may be set down singly or in groups without further identification. Although historians have long known, from legal and historiographical sources, of various types of social grouping (familia, consuetudo, guilds, etc.) and of institutions (monasteries, chapters of canonists, etc.), they used to know little about the persons who filled the various roles. Commemorative sources have the advantage of showing, or at least naming, individuals in their various social and institutional relationships; and so they can be used – always, of course, in conjunction with the other material available – for studying the character and the functioning of such groups and institutions. Comparison of name-entries and name-lists among themselves as well as with other sorts of historical source-material is a principal method developed by the Freiburg and Münster teams. It requires preliminary editing of the various commemorative records in a standard form making them comparable with each other: the general title Societas et Fraternitas (after a term used in Cluniac sources from the tenth century onwards, to signify the religious community itself together with those admitted to spiritual confraternity with it) has been adopted for the co-ordinated series of editions of early medieval commemorative records and of commentaries upon them coming from both teams (see further below, Section III). Continental memoria-research has so far concentrated on three major topics, which correspond to the focal points of commemorative tradition in the early medieval Carolingian empire and its successors:

(a) Carolingian monasticism before and after the reform led by Abbot Benedict of Aniane and by the emperor Louis the Pious has been studied through the huge confraternity books from Reichenau and St Gall and the smaller one from Salzburg. The many lists of monastic and other spiritual communities that these manuscripts contain show the inter-relationships between monasteries in the early medieval period and the part that the monasteries played in fostering Christianity and political influence in the Frankish kingdoms. They also make it possible to study the inner life of a community and also its relations with the outside world. The rich material from Fulda, Reichenau and St Gall has now been partly published and analyzed, mainly by Professor Schmidt’s team, and several studies of other communities have appeared or are in progress (for bibliographical details of all works cited here, see below, pp. 167-71).

(b) Carolingian and post-Carolingian social groupings in relation to the monasteries keeping the records are shown by the confraternity books mentioned and by those of Präfers, Remiremont, Brescia and Cividale. The original entries, usually lists of each house’s own community and of communities (or individuals) in confraternity with it, were from the later ninth century onwards ‘overgrown’ by additional entries, of individuals or of groups, made by hundreds of different scribes, so that a more or less chaotic appearance, the so-called ‘cemetery of names’, supersedes the original orderly scheme. But, as long as they are preserved in this original form and not as fair copies made by later scribes, such entries illuminate the history of associations between lay people and monks or clerks, between noble families, between kings and their followings, between the various lay benefactors surrounding a monastery, and so on. Studies have already been made of the various Sippen (family-clans) of the Reichs aristokratie (imperial nobility) during the Carolingian empire and the early days of the German kingdom that succeeded it. A current project of Gerd Althoff and Karl Schmid deals with name-entries recording amicitiae between leading nobles and clerks during the early tenth century (cf. below, p.163).

(c) Thirdly, the obituaries surviving from the late ninth and especially the tenth century onwards throw light on the history of spiritual communities, and in
particular of monastic ones in the age of reform. Without these records, it would, as Joachim Wollasch has emphasized, have been impossible to explore in detail the histories of the communities themselves, i.e. of the brethren and the sisters who formed them. Previously, monastic history had been concerned only with abbots, monastic rules, reforms, property and economic management, because the community itself, its members and its development and its self-awareness, could hardly be investigated. Obituaries, when correlated with confraternity lists and charters, offer the unique possibility of grasping the 'memory', that is, the liturgical and historical self-awareness, of a community and of seeing a convent in relation to the surrounding world, to other houses in confraternity with it, and to its lay benefactors and amici. The economic importance of donations and anniversary-foundations can be estimated from the additions to some obituary entries, recording how much has been offered in charity for the souls of the benefactors or brethren concerned. The effects of reform can be evaluated by the separation in the memoria between monks and lay people or by the intensifying of the commemorative practice itself. Among the centres of obituary-tradition during the period from the ninth century on and especially from the tenth to the twelfth century, the Cluniac houses have been most closely studied, particularly by the historians at Münster led by Wollasch; and work has also begun on some of the more important obituary from the German empire (see further below, pp. 163-4).

II. Commemorative Sources and Liturgical Commemoration

This leads to the second theme: the development of the commemorative records themselves and of the liturgical forms of commemoration underlying them. In 1976 Otto Gerhard Oexle published the most comprehensive survey yet of the commemoration-liturgy and its early medieval records. This has since been supplemented by Arnold Angenendt's work on the connection of commemoration with the liturgy of penance, by Schmid's on the development of libri vitae, and by Wollasch's on obituary.

The distinction made in early liturgical practice between commemoration of the living and that of the dead found expression in a corresponding division of the names in diptycha. Following late antique custom, names were also arranged in ordines according to their bearers' ecclesiastical or secular rank. A crucial step towards early medieval practice and its expression in commemorative records was, as Angenendt has pointed out, the development of missae speciales or votaiae celebrated for a penitent's soul: a custom ascribed, like the rest of the early medieval penitential system, to Irish origins. The earliest extant record of missae speciales for the dead as well as for the living (missa pro vivis et defunctis) is found in the seventh-century missal from Bobbio, whence the practice found its way into the confraternity books compiled from the eighth century onwards at Salzburg, Reichenau, Remiremont, Brescia, and elsewhere. Only one of these books, that from Salzburg, initiated by the Irish abbot-bishop Virgil (ob. 784), observes the distinction between the living and the dead throughout its whole structure; others reflect it in parts or in single lists, e.g., the Reichenau heading Nomina ulientum. At Salzburg, Durham and Winchester, ordines provided the original framework, whereas confraternity lists, apparently a later development, dominate in the books from Reichenau and St Gall. All libri vitae in time became 'overcrowded' with supplementary layers of entries, mainly concerning lay associates of the houses in question; their extreme variability of form has been described by Karl Schmid. Although there grew up from the late eighth century on a new kind of commemorative practice, that is, commemoration of the dead on the anniversary of their deaths, as recorded in obituary, and from the tenth century on this became the dominant custom, libri vitae nevertheless continued to be produced and eventually led to the Bruderschafts-Bücher (fraternity-books) of the late Middle Ages.

Commemoration of the dead on their anniversaries was imitated from the commemoration of saints on their feast-days, as was implied by the inscribing of the names of the dead in the margins of liturgical calendars or martyrologies. The Willibrod-calendar is the earliest extant example of this practice, behind which the Anglo-Saxons were, according to Angenendt, the driving force. Eventually, entire communities came to be enrolled in calendars or martyrologies (usually monastic chapter-books, like Cambridge, Corpus Christi College MS. 57, from Abingdon). Pure obituaries without entries for feasts of saints soon appeared: the earliest known are ninth-century ones from St Germain-des-Prés, Metz, Reichenau and St Gall, and these reveal the monastic practice of reading aloud at the daily chapter-meeting a martyrology-lesson from the chapter-book to have been instrumental in this development. This form of commemoration allowed individual mention, on the appropriate day, of every name in the obituary, i.e. an individual commemoration, whereas liturgical commemoration from libri vitae did not do so, a summarized reference to all names in into libro having become the rule. This may be why from the tenth century onwards obituaries became the main vehicle of commemorative record.

Much fundamental research remains to be done, especially on the early diptycha and on the development of commemoration and of confraternity practice between early Christian times and the early Middle Ages as well as on the late
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*Libri vitæ* of the central Middle Ages, from which stemmed the late medieval type of commemorative record. With obituaries, the sheer mass of material extant makes summary treatment impossible; and the special problems of their transmission (frequent recopyings that involved losses of name-material and obscured chronological stratification) pose difficulties for every single manuscript.

### III. Editions: Remiremont, Fulda, Reichenaun, obituaries

Until the new editorial methods had been developed in Freiburg and Münster, commemorative records, and obituaries in particular, were seldom edited; such editions as did appear were often incomplete or inaccurate. *Libri vitæ*, the early ones especially, aroused more interest than did obituaries and therefore found more editors. Among nineteenth-century editions, those of the *liber vitæ* of Hyde Abbey, Winchester, by Walter de Gray Birch, of the early part of the Durham one by Henry Sweet, of the Salzburg confraternity book by Sigismund Herzberg-Frankel, and of the confraternity books of Reichenaun, St Gall and Präfers by Paul Piper were mostly complete and textually more or less accurate. On obituaries, important work was done by Augustine Molinier, Ernst Dümmel and Franz Ludwig Baumann. Two major problems were not, however, recognized, much less solved; and that is the main reason why historians have made so little use of these sources:

(a) Most of the manuscripts had been compiled over several centuries, by hundreds of scribes: as noted, some pages of the Reichenaun book contain entries made by up to 300 different hands. Some editors, like Stevenson and Birch, tried to distinguish by means of footnotes between original compilation (the first hand of the manuscript) and subsequent additions. Others, like Piper and Herzberg-Frankel, tried to indicate additions either by asterisks or by changes of type; both, Piper especially, made many mistakes, which the reader was unable to check. No impression of a manuscript layout could be given in print, because there was neither enough space on a page nor enough different typefaces. As for obituaries, early editions mostly made no attempt to distinguish between original text and additions.

(b) The great variability in medieval spelling of personal names made usable name-indexes essential. Early editors, however, simply listed all name-forms in alphabetical order, so that, as O. von Mitis complained in 1949, variants of the name *Dietburg*, for instance, occurred in 81 different places on 50 different pages of the index to Piper’s *Libri confraternitatum* of 1884. Similar procedures were followed by Birch, Herzberg-Frankel, Baumann, Valentini, and others. Such an index is almost useless, because without reading it right through no-one can be certain of finding all the variants of any name.

The first to grasp these problems and try to circumvent them were the editors of the *Liber memorialis* of the Lotharingian monastery of Remiremont. This book had been begun c.860, with materials dating back to the 820s, and by the twelfth century some 11,500 personal-name entries had been made in it. Its editors, Eduard Hlawitschka, Karl Schmid and Gerd Tellenbach, made three innovations:

(a) Facsimiles were given of all folios carrying name-entries.

(b) All separate entries were distinguished by numbering them through folio by folio. Each hand occurring more than five times in the whole book was described; and in the printed text entries were set out, page by page, in the chronological order shown by the palaeographical analysis.

(c) The personal-name index was for the first time planned on onomastic principles. Choosing as headwords or lemmata the Germanic elements or ‘themes’ used in Ernst Förstemann’s *Altdeutsches Namenbuch*, the editors listed under them all the variant forms in all the combinations (compound names) found: first, single-element names and ones with hypocoristic suffixes, then two-element ones in alphabetical order (e.g. under ALB-, Albine, Albini, Albinus, Ebloem, ... Albker, Alkeritas, Alparcius, Albcan, Albegund, etc.), with reference to their entries in the edition. To help the non-philologist find the right lemma, the themes were listed at the beginning of the index.

This, the first of a new generation of editions of commemorative records, was a decisive step; but its form was not to be definitive. A further stage of research was initiated by Karl Schmid’s appointment in 1966 to the Chair of Medieval History at Münster and the subsequent founding there of the ‘Sonderforschungsbereich 7: Mittelalterforschung’ (Special Research Team 7: Medieval Studies), with Schmid directing ‘Project B: persons and communities’. The first aim was to edit and annotate a unique corpus of records from a single monastic community, St Boniface’s foundation at Fulda. The so-called ‘annals of the dead’, i.e. lists of deceased brethren compiled yearly by year instead of in calendar form, together with obituaries, lists of monks, and the abbey’s pre-1100 charters, provide a vast body of prosopographical material: the names from the memorial records alone amount to 18,675 items, those from the charters to 24,655. From the outset the team included an anthroponymist, Dieter Geuenich, in co-operation with whom specialists in data-processing at the Münster University computer centre set up programmes for storing and processing the personal names (see further below, Section IV). Codicology and statistics were the other auxiliary sciences enlisted. The result of some ten years’ work at Münster, and later at
Freiburg (where Schmid returned in 1973), was the five-volume publication, *Die Klostergemeinschaft von Fulda im früheren Mittelalter*, the first treatment of commemorative records in which edition and interpretation were inseparably interwoven.

The first volume contains introductory articles by Karl Schmid and his collaborators about their aims and methods, especially the 'lemmatizing' of personal names and the data-processing involved, as well as about the *Memorialüberlieferung* (commemorative tradition) of Fulda in general, the beginnings of the monastic community there, and the sequence of abbeys. The heart of this volume is the edition of the records: (a) texts (i.e. confraternity agreements), (b) lists of office-holders, (c) lists of monks, (d) lists of Fulda monks taken from the Reichsau confraternity book as well as from Fulda's own records, (e) obituaries, and (f) the annals of the dead from Fulda and from Prüm. Facsimiles of the manuscripts form an integral part of the edition.

The indexes constituting Vol. II/i and Vol. III were improved and refined in comparison with the Remiremont one. Personal names, as well as being arranged by prototheme, were also classified by deuteronomy; and each compound was allotted a number, e.g. 'a1', 'a35', 'b2', and so on. An index to variant spellings of initial elements gives the numbers of the relevant lemmata. This makes the indexing more precise and also, thanks to computer-processing, more consistent. Furthermore, because historians had previously been unable to make full use of the prosopographical information hidden in this material, the team developed a new device, the *Kommentiertes Parallellregister* (annotated parallel-index), an index not of names but of persons; this displays, in parallel columns representing the main branches of the Fulda records (a-f, above), all references to identifiable individuals, with commentary provided in an additional column. The material is divided into three periods: 779-916 (PR 1), 917-1013 (PR 2), and 1014-1104 (PR 3); and within each section the names are arranged under the usual lemmata. The *Gesamtverzeichnis* (general index) in Vol. III again exhibits all the personal names, including those from the charters, in the form of a parallel-index; this, however, deals not with persons but with names, displaying those from the commemorative records in parallel with the ones from the three distinct cartulary-traditions represented in the Fulda material. Cross-references link these names both with the indexes in Vol. II/i and with the edition in Vol. I; and the key to all the lemmata is the index of lemmata-numbers. So the *Fuldawerk* is based on a series of interlocking indexes which facilitate comparison both of names as such and of the persons and social groups represented. The whole enterprise rests on collaboration between historians and anthroponymists close enough to enable the aims and the methods of both disciplines to be combined.

This collaborative approach is further developed in Vols II/ii and II/iii, in chapters that deal both with the source-material and with the house's sphere of influence. In his 260-page *Studien zum Einzugsbereich der Klostergemeinschaft von Fulda* (studies on the catchment-area of Fulda Abbey), Eckhart Freise shows how fruitfully onomastics and prosopography can be combined. Given that not all the 600 monks recorded by the tenth century could have been recruited from the immediate neighbourhood, Freise seeks the social - that is, familial, institutional, territorial, and regional - backgrounds of the monks and of the social groupings involved. Detailed statistical comparison between the charter material and the commemorative records reveals the main districts from which monks were recruited and where property was acquired, and also a gradual shifting of these districts over two centuries. Continuities in the monks' name-patterns over many generations imply like continuity in social and regional background: the rare form *Harit*, recurring in five generations from 800 to 926, is an impressive example of this. Changes in the *Namengut* (name-vocabulary) reflect the shifts in the catchment-area; and names occurring only once each hint at associations with areas outside the East Frankish empire.

Geuenich's purely onomastic and phonological studies in the Fulda name-material had been published separately in 1976. After analyzing the different lines of transmission, he chose as his *Leitüberlieferung* (main tradition) the annals of the dead, because these were written at Fulda itself. Most of the charters and all the lists of monks survive only in copies made either relatively late or elsewhere (e.g. at Reichesau), and so cannot be used as evidence for the early dialect of Fulda itself. The main topics that he treats include name-frequencies, studies of monothematic and of diethematic names (and especially the suffixes seen in the former, which show -ng as superseded by -zicho, -zeltn and so on during the twelfth and thirteenth centuries), the status of the bearers of the different types of name, foreign forms, bynames, phonology and orthography, and the Fulda dialect as representative of East-Frankish.

The *Fuldawerk* did not, however, mark any definitive stage in the publication of commemorative records. In 1975 Schmid and Wollasch had published their manifesto entitled (in translation) 'Societas et Fraternitas: a plan for an annotated corpus of source-material for medieval prosopographical research'. The core of their programme consists of certain 'key-traditions' of commemorative records, starting with the *Liber vitae Dunelmensis*, a new and more complete edition of which is now planned on the principles outlined there. As well as a bibliographic
raisonsée listing not only all then-existing studies of commemorative records but also work in progress, this work lays down guidelines for editing and indexing such material.

The standard set in 1970 by the edition of the Remiremont Liber memorialis was refined by the new one of the Reichenaufraternity book which Schmid, together with Geuenich and with Johanne Autenrieth, published in 1979, so inaugurating a new series of the Monumenta Germaniae Historica. In part, this did follow the lead of the Remiremont one, in that it included a facsimile of the 164-folio manuscript. It made, however, no attempt to represent the different entries in print according to a palaeographically-based scheme, because that was precluded by the multitude of hands contributing to the Reichenauf book and its consequently far more complex structure. In compensation, the indexing system was elaborated so as to include: (a) lemmatization of all the personal names according to the DMP data-base (for which, see below, Section IV), on a plan like that used for the Fulda material but embodying fuller statistical information; (b) an index of uncertain readings, the equivalent of a critical apparatus; (c) an index of name-entries with territorial bynames indicative of provenance; (d) an index of titles; (e) an index of place-names, and (f) identification of the entries made by the first scribe. All the elements of a critical edition are thus supplied, but in the shape of indexes, not of textual notes. Introductory chapters more ample than those provided for Remiremont dealt with codicology (Autenrieth), anthroponomy (Geuenich), and prosopography (Schmid), this last suggesting lines of research for which the edition might be used. An important feature retained from the Remiremont volume is the omission of any identification however secure, of specific individuals; although this has been censured by several reviewers, the editors maintain that, because exploitation of this material has only begun, identification could at this stage have been offered only piecemeal. Existing research on identifications is listed in the extensive bibliography, supplemented by a table keying the references to the folios of the Liber. A further justification for this reticence is that name-entries from libri vitae can fruitfully be used for prosopographical purposes only by comparison, not just within a single book, but with entries in all other relevant ones, so that until there exists a full series of editions all based on the same principles no substantial prosopographical research can indeed be undertaken.

As a supplement to this edition of the Reichenauf book, there appeared in 1983 a similarly-planned one of the unique list of 341 names inscribed on the Altarplatte (altar-stone) of Reichenauf-Niederzell; in this, the facsimile and indexes were accompanied by epigraphical, monastic and historical commentaries. In the same year a facsimile-edition of the twelfth-century liber vitae of Corvey was also published. Work is in progress on the early medieval libri vitae of St Gall, Pfaffers, Salzburg, Brescia, and Cividale. Meanwhile, a comprehensive survey, based on palaeographical analysis, of name-entries in the early medieval libri of continental origin, with a lemmatized index covering all the manuscripts, is already at press. A third step in the exploitation of these sources will be marked by the publication of general commentaries on the lists of spiritual communities (Listenwerk) and on social groupings at the time when the German Reich was formed in the early tenth century (Amicitiae). The needs of research have thus dictated publication in three stages: (i) edition of a facsimile with indexes; (ii) palaeographical analysis; and (iii) prosopographical investigation.

Work on medieval obituaries has centred mainly upon Professor Wollasch and his team at Münster, in co-operation also with the French scholar Jean-Loup Lemaître. For dealing with the largest corpus of obituaries surviving from the medieval world, that of the Cluniacensis ecclesia, Wollasch developed an approach similar to that used for the Libri vitae. Editions, with facsimile and indexes, of the individual manuscripts are accompanied by a synoptic table representing all the known Cluniac obituaries and by commentaries on the various prosopographical and institutional implications of the material (this work has been described in English by Dietrich Poock, as well as by several reviewers).

Limitations of space forbid giving here even summary indications of the prosopographical uses of such material; but editorial methods cannot be passed over in silence. Early editions of obituaries – as in the French series ‘Obituarìes’ or the German ‘Necrologia Germanicae’ – often gave only selected entries of supposed special interest, such as those of dignitaries; few offered identifications or comparison with other records. Acting on the principles laid down by Wollasch, Gerd Althoff published in 1978 an edition of the Borghorst obituary; as well as a facsimile, this included a text, accompanied by name-indexes, of the feast-entries made by the original scribe, and further indexes to the obit-entries made by later scribes and to miscellaneous items such as prayers and lists of abbesses. An historical and hagiological commentary was also provided, with the aim both of dating the manuscript and also of defining and explaining certain foreign influences appearing in the obituaries, such as links with Ottonian Essen, with the Bilunger family, and with archbishop Adalbert of Magdeburg; a personal-name commentary was supplied by Geuenich. This has been the model for, so far, two further editions of obituaries from the Ottonian or Salian Reich: those of Merseburg, Magdeburg and Lüneburg, edited by Althoff and Wollasch.
and that of St Emmeram in Regensburg, edited by Freise, Geuenich and Wollasch. As well as the facsimiles and the lemmatized indexes, both include extensive treatments of the codicology and palaeography of the manuscripts and of the historical background to their compilation. The St Emmeram volume also includes an edition of the associated martyrology and indexes to the provenance of some isolated entries concerning various Bavarian monasteries and churches. Both volumes again contain onomastical commentary by Geuenich.

In 1986 Michael Borcholte, also in collaboration with Geuenich, published the first lemmatized index of names from another kind of prosopographical source: the over 800 pre-1100 charters from St Gall; mostly preserved as originals, these offer 22,100 personal names. The almost 25,000 names from the Fulda charters had, as explained, been analyzed in the Fuldawerk. Further studies are planned of names from the Cluniac charters and from several other large archives, such as those of Lorsch, Weissenburg and Freising. Unlike a liber vitae or an obituary, a corpus of charters often repeats one individual’s name many times over, and this means that any index must pay special attention to dating and to identification.

The auxiliary sciences essential for study of commemorative documents and associated materials are palaeography and anthroponymy. Palaeography is needed for determining when and where a manuscript was written and, crucially, which names belong to the same ‘entry’ or are entered by the same hand. Anthroponymy is needed for analyzing the name-material in terms of regional distribution, name-giving customs, and phonological development, as well as for indexing it on etymological principles. These fundamental needs have governed the structure of the new editions, which consist of (a) various kinds of index and (b) various means of presenting the palaeographical evidence, such as facsimiles and discrimination between the work of different scribes. Manuscripts with very complex palaeographical structure — such as the Reichenau liber vitae with some pages to which over 300 scribes had contributed — cannot be printed like an ordinary text-edition, because establishing the sequence of the name-entries would (even if ultimately possible) take years. This is why the form of edition adopted contains no ‘edition’ in the traditional sense but consists only of a photographic facsimile and a system of indexes. Some reviewers have criticized this plan; but none has yet been able to suggest a clearer way of presenting these documents. To have applied the principles of the Remiremont edition — that is, the printing of the material according to palaeographical analysis — to the larger and more complex books from Reichenau and from St Gall would have risked delaying their publication indefinitely. The facsimile-editions are therefore to be taken as steps towards fuller presentation of a more traditional kind. The next step should be presentation in palaeographical terms, on the same lines as in the Remiremont volume but with joint treatment of all documents representing the same region and period and therefore containing overlapping group-entries (Nameneinträge). The third will be prosopographical commentary on these entries; and the first major studies, by Althoff, Geuenich, Oexle and Schmid, are to appear under the titles Listen geistlicher Gemeinschaften and Amicitiae.

The ultimate aim of the teams at Freiburg and at Münster is to draw up an early medieval prosopography based on the social groupings revealed by all the main sources for the period. The materials either are or soon will be stored in the data-base DMP (see below, Section IV). A further project is for an onomasticon listing all personal names current in the one-name period; this, too, will be based on the DMP material, structured according to the dictionary WSP (again, see below). Thus far, England has been no more than touched by the researches of the Freiburg team. It too, however, has its place in the onomastic and prosopographical cosmos of the early Middle Ages; and the Anglo-Saxon charters with their extensive witness-lists, together with Domesday Book and other records, ought also to be incorporated into this project.

IV. The Data-base DMP and the Dictionary WSF

Reference has repeatedly been made to the Freiburg data-base, the anthroponymical and prosopographical tool underlying all the recent work of both research teams. This Datenbank zur Erforschung mittelalterlicher Personen und Personengruppen (data-base for research on medieval persons and social groups) or ‘DMP’ was set up, with the help of the Freiburg Computer Centre, after Karl Schmid’s return to Freiburg in 1973. A new project being undertaken in collaboration with the Max Planck Historical Institute at Göttingen aims at creating a new type of data-base which permits full text-retrieval, thus enabling the whole context of each personal name to be stored without abbreviation or conventionalization. Apart from the materials derived from the many editions and indexes compiled by the Münster and Freiburg teams (listed below, among others, in the Bibliography and mostly described in the present article), DMP incorporates further data taken from editions of confraternity books and of charters, listed below under Bernard and Bruel (Cluny), Brockner et alii (Pfälzer), Doll (Weissenburg), Forstner (Salzburg), and Glückner (Lorsch). Printed texts have in most cases been checked against the manuscripts. All in all, there are at present over 400,000 personal-name items stored there, taken mainly from obituaries (c.180,000 items) and libri memoriales (c.100,000); the charter-material, at
present comprising c.120,000 items, still needs supplementing.

Dieter Geuenich has developed, with the help of experts in data-processing, a programme for automatically 'lemmatizing', i.e. assigning to etymological headwords, all the personal names in DMP, and thus producing an index not of persons but of names, with all the variant spellings of each group together. The system is based on the structural principles underlying traditional Germanic personal names, viz. their creation from 'themes' or 'elements' (name-words, coded as 'W'), suffixes ('S'), and inflexions ('F'). Segmentation is carried out automatically; each item is then assigned to a headword or 'lemma' consisting of one or two themes (etyma) and possibly a suffix, the segments being separated by slashes, thus:

<table>
<thead>
<tr>
<th>Headword</th>
<th>Lemma</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Cyni</td>
</tr>
<tr>
<td>WW</td>
<td>Erhilmund</td>
</tr>
<tr>
<td>WS</td>
<td>Adding</td>
</tr>
<tr>
<td>WF</td>
<td>Berchtal</td>
</tr>
<tr>
<td>WWF</td>
<td>Cuthbertus</td>
</tr>
</tbody>
</table>

For Germanic names, the lemmata consist of Common Germanic, i.e., pre-Old-High-German, forms; Old English names are as far as possible lemmatized under these Common Germanic lemmata, except that for themes peculiar to Old English the OE forms have been retained. For Latin, Greek, or Biblical names, a standardized form of the whole name is used; and at present Slavonic, Celtic and Scandinavian names are similarly treated. The lemmatizing programme is therefore based on a dictionary of standardized forms, mainly themes, suffixes and inflexions ('WSF'), that have been extrapolated from the name-material entered in the data-base, so that the more material this incorporates, the more extensive and the more nearly complete the dictionary becomes. Additional information is stored with the lemmata, e.g. whether the theme in question can occur alone, or only as first or only as second element in a compound or in either position, how frequent it is in the data stored and how often it occurs in which roles and (for deuterogermes) which gender it represents.

The computer does not, of course, solve philological problems. Its efficiency depends upon the programme provided and also upon the range of name-material constituting the memory, or experience, of the dictionary WSF. The programme merely suggests how any given item might be lemmatized, and the philologist controls the whole procedure, deciding in each case which lemma is adopted or whether a new one must be introduced. Once made, a decision can be repeated for every analogous case; and this is certainly more efficient than human memory.

The larger the dictionary WSF becomes, the fewer will be the names which cannot be lemmatized automatically or that prove to have been wrongly assigned.

Another long-term aim behind the Freiburg-Münster data-base project is to compile a new early medieval onomasticon incorporating at least all the names from the records of the Carolingian Empire. Furthermore, the data-base helps to answer statistical questions about the frequency of particular name-forms, their geographical distributions, and their phonological developments. Computerized lemmatization has in the course of time become far more than a tool for helping with the editing of name-material; it has become, as the data-base DMP, a research-tool in its own right.

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NOTES AND REFERENCES

This is a revised version of the paper given on 26 March 1988 at the XXth Annual Study Conference organized by the Council for Name Studies, held at the University College of Wales, Swansea. Since 1985, the writer has himself been a member of Professor Schmid’s team at Freiburg.

Additional abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Deutsches Archiv für Erforschung des Mittelalters</td>
</tr>
<tr>
<td>FM</td>
<td>Frühmittelalterliche Studien</td>
</tr>
<tr>
<td>MGH</td>
<td>Monumenta Germaniae Historica</td>
</tr>
<tr>
<td>MMS</td>
<td>Münstersche Mittelalter-Schriften</td>
</tr>
<tr>
<td>ZGO</td>
<td>Zeitschrift für die Geschichte des Oberrechts</td>
</tr>
</tbody>
</table>

Some relevant English-language publications

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