

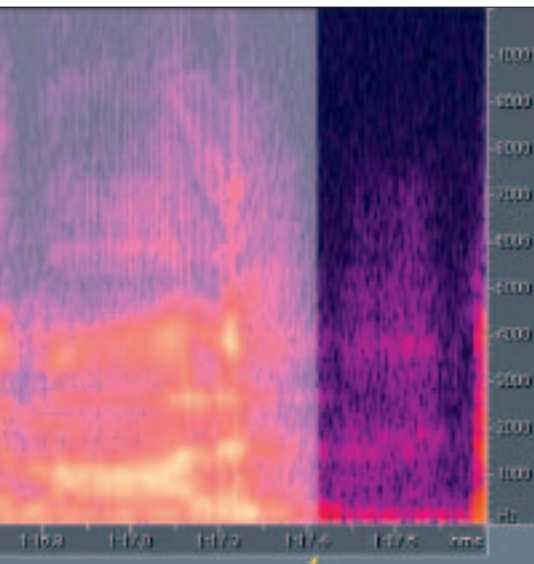
and again to the "Research Institute for German Language – Deutscher Sprachatlas" in Marburg, where the material is archived. In addition, the passing of well over 100 years and heavy use have led to conservation problems. The colours have partially faded and, despite its high quality, the paper is now aging. It is at this point that a project supported by the Deutsche Forschungsgemeinschaft (German Research Foundation, DFG) and known in specialist circles as the Digital Wenker Atlas began. At heart, this involved an archival operation with

the complete digitalisation and filming of all the material between 2001 and 2003. But digitalisation also enabled the publication of all of the material on the Internet. Further, it furnished the basis for further scientific analysis of the material. Over time, an information system for linguistic geography, with which the dynamics and transformations of the German language can be examined, has grown out of the published cartographic materials.

What makes 19th-century dialect data so interesting? The answer is that these data represent a "linguistic stage" that had not changed much since the formation of the early-modern territories. It is only as a result of the technical, political and social changes of the 20th century that the dialects have been brought into competition with standard High German in a new way. The massive migratory movements connected with industrialisation

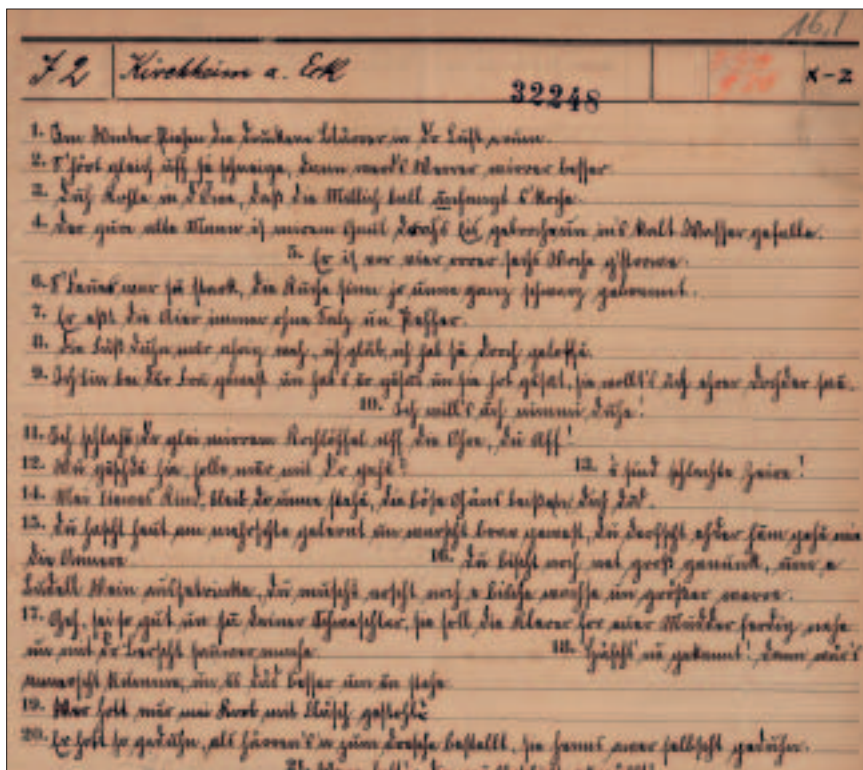
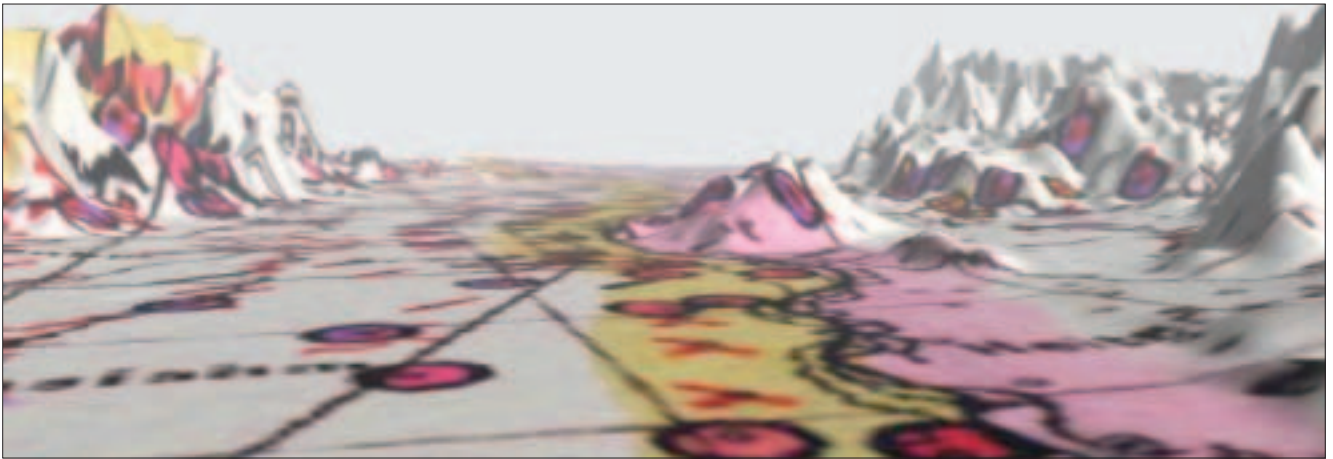
and the consequences of war, and the dissemination of High German as a spoken language with the advent of broadcasting in the 1920s played an important role here. The data collected by Wenker therefore represent, with geographic accuracy, the linguistic starting point of an ongoing development. Wenker's data offer an historical reference point for the current linguistic situation of all local dialects. But it is also possible to draw conclusions regarding historical developments leading up to the 19th century from the linguistic maps. In this regard, the material provides a unique source for the understanding of linguistic change and its mechanisms.

The publication of the historical cartography on the Internet presents a formidable technical challenge. Graphic files with a size of up to two gigabytes can be transferred over the Internet and virtually combined in accordance with the researcher's interests; that is, different linguistic maps can be interactively superimposed and analysed. This is achieved using methods developed for the processing of satellite images. In a process that takes several hours, a special cartographic programme converts all pixel coordinates into geographical coordinates. The result of this process, known as "georeferencing", is a map-image that furnishes the exact geographical coordinates for every pixel. This allows geographical information to be related to linguistic topics. For example, it becomes possible to combine the linguistic maps with a three dimensional elevation model or a map of historical territorial borders, in order to visualise spatial dependencies. The high geographical accuracy enables precise analyses of linguistic transformations. Since the 1970s, numerous regional linguistic atlases of the German-speaking territory have been created, which record the linguistic status of the dialects during and after the transformations of the 20th century. This information can be integrated with the system, and the 19th-century maps combined with those from the 20th. The linguistic transformations of the



Researchers make the shifting energy concentration in the human voice visible with aid of a "spectrograph". The sentence "There the grapes are unloaded and crushed" is being spoken here in a Rhine-Franconian dialect. Below: Section of a linguistic map. It gives a detailed illustration of the regional and local forms of the word "brother".





In the three-dimensional model: In the Rhine rift area, a language border runs right through the Kaiserstuhl. Below: Handwritten questionnaires from the palatine town of Kirchheim am Eck. In 1876, the linguist Georg Wenker began distributing questionnaires containing sentences in High German and requesting that these be translated into the local dialect.

last 100 years thereby become immediately visible. The results of such comparisons are highly informative. They show that the linguistic

system of many of these dialects has not changed greatly. The principal change is in the number of speakers: individuals who have acquired their local dialect as native speakers are less common, while their contemporary dialect remains very similar to that of the 19th century. In some regions, however, there have been distinct changes. The transformation is then mostly in the direction of High German. But it is those rare cases in which the dialects develop away from the standard language that are especially revealing. These are of great import

for the analysis of linguistic transformation. In its guise as an information system for linguistic geography, the Digital Wenker Atlas integrates a substantial amount of additional material aside from historical and contemporary linguistic maps, such as survey questionnaires, sound recordings and bibliographical entries that can be called up with a click of the mouse. While the survey questionnaires present all of the historical data from a particular place in its original context, the sound recordings provide a basis for the scientific analysis of the spoken language. Even though the sound recordings were taken a few decades after Wenker, this material makes a tangible experience of the character of a dialect possible for the layperson in a way that written surveys cannot match. The online bibliography is another special feature. In the next few years, all published and unpublished studies of German dialects, and studies from related scientific disciplines, are to be recorded in this bibliography. The Digital Wenker Atlas thereby sets a standard which goes beyond linguistics and offers an interdisciplinary information system for linguistic geography that is available on the Internet for free to anyone who is interested.

Dr. Alfred Lameli
Forschungsinstitut für
deutsche Sprache, Marburg
Dr. Stefan Rabanus
University of Verona, Italy

► www.diwa.info

german research

Magazine of the Deutsche Forschungsgemeinschaft



1/2007 ► A Deep Look into the Aachen Underworld
► Great Benefits from the Smallest Particles ► The Double
Life of a Fungus ► The Amazing Diversity of
Dialects ► Communication in the Network

DFG

 **WILEY-VCH**