Spanish is a multinational language, spoken in very different geographical regions, that is developing with surprising vitality. Due to distance, there are many issues that cannot be adequately addressed by a small number of researchers dispersed in more than twenty countries around the world and faced with challenges of communication and a lack of computerization. An exhaustive and automated study of the language of all the Spanish-speaking regions does not yet exist. Our research group, established in 1993 in Veracruz, has created an international network of Spanish lexical variation, VARILEX (Variación léxica del español).

1. VARILEX Focus on Modern Urban Spanish Lexicon

The goal of the project is not only to study some specific subjects, but also to try to find a workable method of international cooperation for linguistic research. Basically, there are four types of middle class informants: males, females, young (from 18 to 39) and old (from 40 to 80). At present, we have about 1700 informants who have responded to a total of 1,184 items through annual surveys from 1993. VARILEX surveys are centered on aspects of modern urban life such as clothes, transport, electric appliances, etc. Every year a new survey is sent to local collaborators in 24 countries, and the resulting data are received and digitized in Tokyo. Data are analyzed with multivariate methods and the results will be plotted in different types of linguistic atlases including the most populous Spanish-speaking cities. Almost 400,000 records on more than 11,000 forms are stored in a relational database (LAMPP-based) which can be accessed through the Internet.

2. Database Structure

Data collected from the surveys are structured in four basic tables, related to:

1. informants: sex, age, city, country, occupation, etc.;
2. answers;

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1 LAMPP: Linux, Apache, MySQL, PHP
2 Main page: gamp.c.u-tokyo.ac.jp/~ueda/varilex/.
3. geographical data; and
4. content of the surveys.

A sample of the survey is shown in Figure 1.

VRLX-A024: Prenda de punto que recubre el pie.
(1) calcetitas; (2) calcetines; (3) calcetines cortos; (4) medias;
(5) soquetes.
Otro(s) ____________________________ : No sé.
Comentario: ____________________________

Fig. 3 Cuestionario (parte)

FIGURE 1
Survey example

3. PUBLIC INTERFACE TO VARILEX DATABASE
Collected data are distributed to all the participants in the project in the shortest time possible and can be used by the participants, both individually or in teams, for their studies or publications. After data has been collected, the Data Bank Center, created for this purpose at the University of Tokyo, sends it to the members as printed booklets every year. It is usually available in electronic files as well. Additionally, there is a public interface to the database that can be freely accessed through the Internet. The public interface is shown in Figure 2.

4. BIDIMENSIONAL MATRIX
As the data are structured in a standard relational database, they can be easily analyzed in different ways. One of the simplest ways to show data is by means of a bidimensional matrix, showing different forms corresponding to a concept in every city of the survey. For example, the bidimensional matrix corresponding to socks is shown in Figure 3. In the left column, different geosynonyms for ‘socks’ (calcetines, etc.) can be seen.

5. SOME PRACTICAL USES OF THE DATABASE
Survey data can be easily reorganized as dictionaries including specific information on the geographical areas where the forms are used. Output is generated in PDF format on the fly using simple libraries written in PHP. In Figure 4 a Panhispanic glossary is shown. Data from this project have been included in different published dictionaries.

FIGURE 2
Public interface to VARILEX database

FIGURE 3
Bidimensional matrix
**Figura 4**

Sample of a dynamically generated Panhispanic glossary

6. AUTOMATIC CARTOGRAPHY

Now, through the use of relational databases, scripting languages such as PHP, which is easy to learn, and graphic libraries, it is possible to create an automatic and reliable system in a network to graphically plot the results of any kind of survey. There is no need for highly specialized or technical knowledge. In addition, many of the necessary tools are open source and free for academic use. The dynamically generated graphics are different depending on the query made by the researcher, who can use the latest data introduced in the database. In this way, group research can be more efficient, and the resulting atlases can be used immediately and freely by the academic community. Figure 5 shows a map generated on the fly for the form *saco* 'jacket'.

**REFERENCIAS**


• Ciudades donde se usa la forma
• No se ha encontrado esta forma
• Encuesta en preparación
• Forma: < sace >
• Código en encuesta: < A001 >
• Referencia concepto (inglés): < JACKET >
• Archivo generado: < php_atlas_varilex_saco.pdf >

* Definición en encuesta: Prenda de vestir masculina, que forma con el chaleco y los pantalones el traje completo. No es de paño con botones dorados.

FIGURE 5
Dynamically generated map for saco