

PARS

MT system from Russia

Lingvistica '93 is a small private company based in Kharkov, the second largest city in Ukraine. The company specialises in language engineering products, with a special emphasis on machine translation systems and electronic dictionaries for English, Russian, Ukrainian, German and Spanish. All of their products run on IBM-compatible personal computers and have been on Ukrainian and Russian markets since 1990.

The PARS-2 system, for automatic translation between English and Russian, has been marketed since 1991 both in Ukraine and in other ex-Soviet Union countries, such as Russia, Kazakhstan, Georgia and Lithuania. Lingvistica also has clients for PARS in the United States, Israel and Germany. PARS is a useful translation tool which provides comprehensible, though stylistically imperfect translations.

PARS is used by professional translators, and for some it has been an everyday instrument providing easy-to-edit "raw" translations of Russian and English texts. Most importantly PARS can be easily adapted to specific subject areas since it features a unique dictionary creating/extending routine. Therefore quite a number of users are "end users", such as scientists, engineers, researchers who use PARS for information retrieval as well as for the translation of scientific reports, papers and even books.

In August, 1994, Lingvistica '93 began marketing the first version in the PARS-3 series. Its interface is quite familiar to those who have used Borland's products, being in strict accordance with the CUA standard. The numerous screen HELPs and menus are either in Russian or in English, so that the user is able to choose the interface language before starting the program.

PARS is Windows-compatible, and it may run in MS-DOS-compatible local networks. It has a flexible built-in text editor. In version 3.1, it saves formats of the most popular text processors, such as MS Word, WordPerfect, AmiPro etc. The built-in editor provides, *inter alia*, operation with characters and lines as well as with text blocks — both ordinary and column-type, paragraph indenting, and editing of files of up to 1.5 Mb.

In addition to the standard text-editing functions, the built-in editor also supports some specific functions, including horizontal and vertical screen splitting, synchronous windows scrolling, one-keystroke transposing of adjacent words as well as changing

character case, highlighting of multiple-meaning words, one-keystroke selection of a synonym and inserting it into the target text, automatic transliteration of untranslated words in both translation directions, and searching untranslated words and automatic insertion into the dictionary directly from the target text.

In PARS-3 there is a new approach to dictionary management. The end-user has a very flexible routine of adding new words to the dictionaries.

The program features a unique automatic encoding routine, which permits the user to enter a Russian word in its initial full form and have it automatically encoded. The program recognises the grammatical characteristics of the Russian word, such as part of speech, aspect (perfect or imperfect — for verbs), gender (masculine, feminine, neuter, plural form — for nouns), type of the morphological paradigm, singular and plural noun forms as well as the whole conjugation paradigm of the verbs, including personal, adverbial participle, short participle, and imperative forms. The program splits the word into the stem and the ending, and separates them with a vertical line for clearness. The word entry in the PARS-3 system resembles that in traditional dictionaries. All the idioms beginning with the 'head' word are displayed in the same window, the head word being substituted with the tilde (~) sign.

Dictionary convertibility permits you to type-in, for example, a Russian word with its translation and the system will immediately set the English-Russian correspondence. Therefore one and the same dictionary is used both for English-Russian and for Russian-English translation.

PARS-3 is supplied with a Russian grammatical polytechnical dictionary of more than 30,000 separate words, with full morphological information, and it is constantly extended. This kind of description of Russian morphology makes PARS-3 a valuable instrument for English speaking learners of Russian.

Lingvistica '93 has developed dozens of bidirectional English-Russian dictionaries. They contain more than 250,000 word-entries. They cover general usage words (27,000) as well as such topics as computers (22,000), microelectronics (17,000), economy (52,000), engineering (30,000), some branches of medicine (16,000). Other subjects to be covered during 1995 include oil and gas technology (30,000), geology/mining (10,000), rocket and space engineering (50,000), ecology (15,000).

PARS-3 features the following characteristics in the translation mode: Use of up to four dictionaries and setting of their priority hierarchy, translation of the whole text, or translating of a user-defined fragment — this may be a contiguous text area or a column —, convenient operation with external text processors (in the 3.0 version these may be any processors that support files in ASCII or ANSI format, with alternative cyrillic coding). PARS 3 can operate in multi-user mode in local networks. In this case the number of persons using the same dictionary in the translation session is not limited.

PARS 3 requires a central processing unit (not below i80286), not less than 450k random-access memory in bottom addresses. The program and the system files occupy 1750k on the hard disk (or 1900k, if the bilingual interface has been installed); system dictionaries occupy 60k per thousand entries. Also required are a display adaptor and a monitor of any type supporting Cyrillic characters; a keyboard with 101 keys (no Russian keyboard driver is necessary) and MS DOS 4.0 or higher or fully compatible. PARS 3 uses advanced features of the i80386 proc-

essor and extended memory XMS 3.0 or higher, though their presence is not obligatory.

PARS 3 supports Cyrillic characters, so no external resident drivers for supporting these characters are required.

A sample reverse translation by PARS-3

The source English text was first machine translated into Russian, after which the target text was machine translated back into English.

Source text:

Alcatel Australia has signed contracts, valued at a US\$56 sum to provide telecommunication equipment to China, agency AP-DJ reports from Canberra. The company will supply and install digital switching exchanges to the autonomous regions of Tibet and Ningxia and the province of Gansu.

Reverse Machine Translation:

Alcatel Australia signed contracts on sum of 56 dollars USA for the ensuring of China by the equipment of telecommunication, disclosed agency AP-DJ from Canberra. Company will supply and establish the digital switching of exchanges for the autonomous districts of Tibet and Ningxia and for province Gansu.