Chapter 11

A History of Lertap

The first version of Lertap was developed for the Venezuelan Ministry of Education in the years 1971 through 1972. It was called "DIEitem", with DIE referring to el Departamento de Investigaciones Educacionales.

At the time, the Ministry was embarking on a national assessment program, with emphasis on mathematics and language achievement. The Kuhlmann-Anderson aptitude, or "IQ", tests were also used on a national scale by the Ministry, and a general-purpose item analysis program was required, one which could handle conventional achievement tests, and the Kuhlmann-Anderson forms.

The development of the Ministry's assessment centre was under the direction of Rogelio Blanco, with Richard Wolfe, of OISE (Ontario), overseeing the technical services part of the operation. Richard created a general front-end to set up data sets for subsequent analyses, using the PL/I programming language. The first version of Lertap, programmed in FORTRAN II, picked up data sets pre-processed by the PL/I program, and output classical item statistics. The first Lertap could not only handle the idiosyncrasies of the Kuhlman-Anderson tests, but could also entertain multiple tests within the same data set. Thus one could submit a data set with results from the mathematics test, the Spanish-language test, and the Kuhlmann-Anderson forms, all strung together in a lengthy input string.

Work on the first Lertap was supported by the Ford Foundation, and by the Organization of American States.

In 1973 work on the second version began at the University of Colorado, home of the Laboratory of Educational Research. The PL/I front end was replaced by another, written in FORTRAN, and featured the use of a set of free-form control cards to describe a job. These control cards were the forerunners of those seen in the latest version of the software, described in Chapters 4, 5, and 6 of this book[1].

At the time, free-form control cards were not at all common, and, in this regard, Lertap 2 could be considered as being slightly ahead of its time. In 1973 the SPSS system had not yet appeared—many universities used the "BMD" series from the Health Sciences Computing Facility of University of California at Los Angeles (UCLA).

Lertap 2 also introduced support for processing affective tests. Bob Conry of the University of British Columbia provided strong support for the "aff" subtest capability, while Ken Hopkins and Gene Glass, at LER in Boulder, supported and encouraged the development of the overall package.

[1] The cards used in version 2 were almost identical to those seen in the new version.

The work started at LER was transferred to the University of Otago, in Dunedin, New Zealand, late in 1973. By the end of 1974 Lertap 2 was stable, and in use in a variety of centres in Canada and the United States.

Lertap 2's development was supported by several people at Otago, especially Dan McKerracher, Department of Education, and Brian Cox, Computing Centre. The user guide which emerged from Otago, the *Guide to Lertap Use and Interpretation*, was widely circulated, and use of the system grew steadily in the 70s.

The development of a microcomputer version, to be called Lertap 3, began in earnest at Otago in 1980, using a CP/M card on an Apple II computer, and then on an Osborne 1 system. Pascal and BASIC 80 were used to write initial modules, with everything eventually translated to BASIC 80 as it had a clear performance edge. The first working version was comprised of a series of interlinked modules which would load and unload themselves in just 56K of core memory.

By 1983 a reliable version of Lertap 3 was ready, accompanied by a comprehensive user guide. Barbara Calvert keenly supported the development of this version, and the resources of Otago's Department of Education stood behind the effort. A few hundred copies of the user guide were printed, and made ready for distribution.

At this time, however, the IBM Corporation decided to produce a microcomputer of its own. By late 1983 Lertap 3 had been altered so as to operate within IBM microcomputers, and National Computer Systems of Minneapolis had purchased non-exclusive rights to market it. NCS repackaged Lertap 3 as two stand-alone programs, MicroTest1, and MicroSurvey1. The work required to get the IBM version ready was partially supported by Hans Wagemaker of New Zealand's Department of Education, by Evelyn Brzezinsk of the Northwest Regional Educational Laboratory, Portland, and by Larry Erikson of National Computer Systems.

By the late 80s the Otago version of Lertap 3 was in use in many sites, with the NCS versions finding a home in many (many) more. It was unfortunate that a user guide for this version was never thoroughly developed. The guide printed at Otago covered the pre-IBM version, but the operation of this version differed much, and IBM users found it to be of limited use.

In 1987 a series of brief Lertap 3 user help sheets were circulating from Curtin University of Technology in Perth, Western Australia. These were later assembled as a small book, *Lertap 3 General Notes*, printed by Curtin University's Printing Services.

Lertap 3 remains a potent data analysis system. The scope of analyses it supports includes those related to cognitive and affective tests, general surveys, and classroom gradebooks. Its data preparation facilities include a module for complete date entry verification. And, it can handle results from the Kuhlmann-Anderson tests. (Not that they're used that much anymore, but Form B of the K-A is complex, making more exacting demands of a test-analysis program.)

In 1992 Piet Abik translated Lertap 3 to the Indonesian language, and it was later purchased by Indonesia's Ministry of Education and Culture for country-wide use in secondary schools, with the support of Bambang Irianto.

Lertap 2, Lertap 3, and the NCS versions came to be used throughout the world.

When Microsoft released the Windows 3 operating system, in 1992 (in Australia), it was clear that Lertap had to move to Windows. Users started to write to ask when the Windows version would be ready.

Work on Lertap 4 began in 1993, but was never finished. It came to have a facility for processing survey results, but not much more. It was clear that the production of a Windows version would require a dedicated block of time, and at least two programmers, if it was ever to get off the ground. It never did.

In 1999 Curtin University's Division of Humanities approved an application from the senior author to devote an extended sabbatical period to the development of an Excel-based Lertap system. The feasibility of using Excel as a serious developmental platform was obviously quite on—several small Excel-based engineering systems had emerged, and Prentice Hall had released the Excel-based "PHStat" system for business managers (Levine, Berenson, & Stephan, 1999).

So it was that Lertap 5 was born. Excel, and Visual Basic for Applications, proved more than equal to the task. And, while switching to an Excel base was obviously of enormous benefit, a decision to build the new system on the control "card" syntax seen in the second version was another telling factor behind the new system's relatively rapid emergence.