KEPLER: At Last! (U)

(U) We have always needed some way to test, carefully and thoroughly, smart ideas (and some not so smart) for improving Sigint technology, and yet such testing is seldom carried out. It just makes good sense to demand of a vendor, perched on our doorstep with a product that he claims will do wonders for us, that we be permitted to try out his product for some reasonable period before we order a truckload. How else can we hope to avoid collecting a warehouseful of items that looked good when we bought them but turned out to be inadequate, inappropriate, unnecessary or worse when they were put to use in operations.

(U) It makes just as much sense, when we come up with bright ideas of our own, that we try these ideas out on a small scale before we invest in mass production of a device which may turn out to be something less than the ultimate Sigint machine.

(U) In spite of the fact that the foregoing is obvious, with few exceptions, we haven't been able to do this kind of testing in any disciplined way in the past. While it is true that we cannot look these devices up in *Consumers' Report* to see how they are rated, we should be able to find the answer ourselves. It would be most useful, one would think, to try out a product, our own or a vendor's, against real traffic with real operators, yet without disturbing operations any more than absolutely necessary. Many times in the past a product would be installed and operating before its obvious shortcomings were noted. Then the only alternatives were to live with the shortcomings or to insist on expensive and time-consuming modifications.

(U) Also, what happens when we find that we have a product or a system which, after testing, appears to be superior to what we have been using—whether faster, lighter, smaller, more accurate, easier to manipulate, easier to maintain, or whatever? Or when we find something that is able to perform smoothly and economically a desirable but hitherto awkward or impossibly expensive function? We should be able to display it, *in its working state*, to those whose judgments will determine its ultimate fate. These judgments usually have had to be made on the basis of narrative or statistical reports, slide presentations, glossy advertisements, simulated applications, or the persuasiveness of the vendor or Agency inventor. How much better it would be to say "Try it—see if you like it!"

(U) And another thing that has been neglected in the past and should certainly be remedied is consideration for human factors in the design of the system or device. No matter how well-intentioned the developer, there can be no substitute for the acid test of actual operator use of a new piece of equipment or operator participation in a proposed system. Design deficiencies are like proofreading errors: no matter how many times you check, you overlook *something*. But the number of defects could be minimized by thorough testing of the prototype in an operational environment, or the next thing to it, before follow-on production begins.

(U) Another advantage of careful testing before making the commitment to buy or produce is the resultant availability of hard data on which to base cost effectiveness statements. After all, the term cost effectiveness is more than just a catch phrase. Especially in the case of the more expensive equipment and larger systems, it is crucially important that decisions to expend resources be based on reliable estimates of what improvements or savings are likely to result. Data on which to base these estimates are often difficult to obtain, and often depend on "ballpark" figures. As part of the laboratory tests, however, data can be accumulated for sound estimates of output volumes, accuracy, completeness, and time expended. Comparisons can be made against current procedures and existing equipment. Cost figures can then be generated on the basis of actual, if limited, experience, and a statement of value can be developed with confidence.

~~(C)~~ It is virtually impossible to do all the good things listed above unless we possess the dedicated space, the special-purpose equipment, competent researchers to plan and execute the proper tests, and have available the services of operators as needed to man the equipment being tested. In the area of voice transcription technology, we never had such a facility until recently. When the Research Group (R5) moved to FANX III, a portion of R54's laboratory space was set aside to be used for the R (b)(3)-P.L. 86-36 (b)(3)-P.L. 86-36der the task known as KEPLER. In one of the papers setting up the laboratory, KEPLER's mission was described as:

[redacted]

[redacted]

(U) The Triple Play test is now over, and IBM has taken its equipment out of the lab. The facility is being readied for its next task, and several possibilities offer themselves. One of the more attractive ones is the exploration of techniques for enhancing the information support furnished to transcribers (or translators, or analysts). In this case the concern is really with processes that are within the state of the art, but whose value must be proven to be sufficient to justify the expenditure of large sums of money and other resources in their employment. It should be possible, through the creation and manipulation of appropriate models, to determine the probable value to Sigint operations of a number of sophisticated techniques involving data bases, computers, and both alphanumeric and graphic displays.

(U) In the search for new and better ways to cope with both novel and familiar problems in Sigint processing, the R (b)(3)-P.L. 86-36 (3)-P.L. 86-36ected to play a key role. No matter where the idea originates, if it holds promise for real improvement, it can be tried out and carefully evaluated. Even the most conservative practitioner of the arcane transcription arts may be moved by the wonders on display in the laboratory setting, provided that he can try out the system himself, on his own traffic, and really give the system a good road test. And that's what it's all about.

(U) It surprises his friends, who know him to be much more adept at and concerned with the arts than the sciences—more likely to be located at the keyboard of a musical instrument than a computer console, b(b)(3)-P.L. 86-36 has been concerned for a long time with technology in the service of Sigint. He is especially involved in supporting voice transcription, and says that he first began pushing for the creation of an experimental voice position in the 1950s.

(b)(1)
(b)(3)-50 USC 403
(b)(3)-18 USC 798
(b)(3)-P.L. 86-36