

shown to incorporate some of the traditional methods used in automatic indexing today.

The problem of indexing full texts, such as books, has not been solved. This problem emphasizes not only the drawbacks of existing descriptor languages but the drawbacks of artificial languages in general. Of the several approaches to solving this problem that have been suggested, the most promising are those based on statistical indexing. However, the automatic indexing of documents is a reality today, and it is used in systems where the documents are short or are abstracts.

#### References

- Bookstein, A., & Swanson, D. R. (1974). Probabilistic models for automatic indexing. *Journal of the American Society for Information Science*, 25(5).
- Bookstein, A., & Kraft, D. (1977). Operations research applied to document indexing and retrieval decisions. *Journal of the ACM*, 24(3).
- Damerau, F. J. (1965). An experiment in automatic indexing. *American Documentation*, 16(4).
- Dawson, J. (1974). Suffix removal and word conflation. *ALLC Bulletin*, Michelmas.
- Edmundson, H. P., & Wyllys, R. E. (1961). Automatic abstracting and indexing—survey and recommendation. *Communication of the ACM*, 4(5).
- Fedorow, E. B. (1973). Principles of automatic indexing in descriptor IR systems. *INFORM-ELECTRO*.
- Fidel, R. (1994). User-centered indexing. *Journal of the American Society for Information Science*, 45(8).
- Fratczek, W. B. (1992). Stemming algorithms. In W. B. Frakes & Beza-Yates (Eds.), *Information retrieval: data structures and algorithms*. Englewood Cliffs, NJ: Prentice Hall.
- Frants, V. I., & Voiskunskii, V. G. (1971). Automatic indexing in IR system for nitrogen industry. *Nauchno-Tekhnicheskaya Informatsiya (NTI)*, ser. 2, no. 4.
- Lancaster, F. W. (1968). *Information retrieval systems, characteristics, testing, and evaluation*. New York: John Wiley and Sons.
- Lovins, J. B. (1968). Developing a stemming algorithm. *Mechanical Translation and Computational Linguistics*, 11(1).
- Luhn, H. P. (1957). A statistical approach to mechanized encoding and searching of literary information. *IBM Journal of Research and Development*, 1(4).
- Luhn, H. P. (1958). The automatic creation of literature abstracts. *IBM Journal of Research and Development*, 2(2).
- Meadow, C. T. (1992). *Text information retrieval systems*. New York: Academic Press.
- Miltz, J. L. (1994). Needs for research in indexing. *Journal of the American Society for Information Science*, 45(8).
- Paike, C. D. (1990). Another stemmer. *SIGIR Forum*, 24(3).
- Porter, M. F. (1980). An algorithm for suffix stripping. *Program*, 14(3).
- van Rijsbergen, C. J. (1979). *Information retrieval* (2nd ed.). London: Butterworths.
- Robertson, S. E., & Sparck-Jones, K. (1976). Relevance weighting of search terms. *Journal of the American Society for Information Science*, 27(3).
- Salton, G. (1968). *Automatic information organization and retrieval*. New York: McGraw Hill.
- Salton, G. (1975). A theory of indexing. *Regional Conference Series in Applied Mathematics*, No. 18. Society for Industrial and Applied Mathematics, Philadelphia, Pennsylvania, 1975.
- Salton, G., & McGill, M. J. (1983). *Introduction to modern information retrieval*. New York: McGraw Hill.

Salton, G., & Yang, C. S. (1973). On the specification of term values in automatic indexing. *Journal of Documentation*, 29(4).

Soergel, D. (1994). Indexing and retrieval performance: The logical evidence. *Journal of the American Society for Information Science*, 45(8).

Sparck-Jones, K. (1972). A statistical interpretation of term specificity and its application in retrieval. *Journal of Documentation*, 28(1).

#### Bibliographic Remarks

Additional basic information on automatic indexing may be obtained from the following references.

- Damerau, F. J. (1976). Automated language processing. In M. E. Williams (eds.), *Annual review of information science and technology*, vol. 11. Washington, DC: American Society for Information Science.
- van Rijsbergen, C. J. (1979). *Information retrieval* (2nd ed.). London: Butterworths.
- Salton, G., & McGill, M. J. (1983). *Introduction to modern information retrieval*. New York: McGraw Hill.
- Damerdji, R. (1977). Operations research applied to document indexing and retrieval decisions. *Journal of the ACM*, 24(3).
- Robertson, S. E., & Sparck-Jones, K. (1976). Relevance weighting of search terms. *Journal of the American Society for Information Science*, 27(3).
- Bookstein, A., & Kraft, D. (1977). Operations research applied to document indexing and retrieval decisions. *Journal of the ACM*, 24(3).
- Readers who are interested in experimental approaches to automatic indexing are referred to the following publications.