

## CONCLUSIONS AND FINDINGS

### 5.0. Conclusions and Findings

#### 5.1. Conclusion

The study presented in the thesis revolves around the three hypotheses assumed in the first chapter. These hypotheses are, namely:

- (i) Whether there is a correspondence between Linguistic Analysis and Information Retrieval at only two levels of Linguistic Analysis, i.e., Semantics and Syntax;
- (ii) Whether principles of Information Retrieval propounded by different scholars at semantic and syntactic levels bear upon the Canons, Principles and Postulates developed by Ranganathan; and
- (iii) Whether the conceptual framework developed by Ranganathan for syntax is losing its grip in the field of information retrieval.

The first hypothesis stands verified in chapter two. It has been established in this chapter that there

is correspondence between Linguistics and Information Retrieval. It was also ascertained in this chapter that there are five types of linguistic analysis, viz.

1. Segmental Analysis;
2. Componential Analysis;
3. Distributional Analysis;
4. Discourse Analysis; and
5. Immediate Constituent Analysis.

These five types of Linguistic Analysis are used at three levels, i.e., Phonology, Syntax and Semantics. An examination of these techniques and levels of Linguistic Analysis in context of indexing languages revealed that an indexing language functions at two levels, i.e., Semantics and Syntax. It has also been observed in this chapter that the Phonological level, missing from the general indexing languages, is now finding a place in retrieval tools being developed on speech recognition techniques. The second hypothesis led to a survey of the principles propounded by different scholars in the field of Information Retrieval. Only those principles were taken into consideration which had been developed on the basis of Linguistic Analysis and which worked at either semantic level or syntactic level or both. This survey led to the following findings:

(1) The principles laid down by different scholars at semantic and syntactic level are either based on or reducible to the principles propounded by Ranganathan.

(2) Conceptual model of Ranganathan, consisting of conons, postulates and principles has all the germs of seminal ideas contained in it to guide further researches in the field of Information Retrieval. In fact, his seminal ideas have not been fully exploited. Even the ideas expressed by the latest thinkers in the field like Dahlberg and Fugman are more or less prototypes of Ranganathan's ideas couched in different expressions.

Thus second hypothesis is proved true and its verification details have been provided in Chapter III.

A test of Ranganathan's conceptual model was undertaken in the 4th chapter. Two Information Retrieval Tools, one belonging to Pre-coordinate Indexing System and other one belonging to Post-coordinate Indexing System were chosen. The choice fell on PRECIS (Preserved Context Indexing System) and The UNESCO:IBE Education Thesaurus. A study of these tools revealed that semantic principles of Ranganathan are still valid in both Pre- and Post-Coordinate Indexing systems. On the other hand, the Syntactical principles of Ranganathan are no more applicable

in context of Post-Coordinate Indexing Systems. These systems are relying on other techniques, which are:

- (i) Boolean search logic;
- (ii) Weighted-term search logic;
- (iii) Truncation;
- (iv) Adjacency and proximity operators;
- (v) Field level searching;
- (vi) Free text searching;
- (vii) Rang and limiting operators; and
- (viii) Best-match searching based on structural analysis.

Thus the third hypothesis is also proved to be true.

## 5.2. Suggestions

No doubt, the new techniques of Post-Coordinate Indexing System are very potential and playing vital role in machine retrieval. However, the phenomenon of 'noise' produced by these techniques is quite disturbing. The scholars are, therefore, now turning to knowledge-based systems by applying tools and techniques of knowledge representation developing in the field of Artificial Intelligence. The results are still not conclusive.

However, one thing is very clear that Rangana-  
than's conceptual model has enough seminal ideas contained  
in it to give a direction to the knowledge-based systems.  
Research needs to be taken on a large scale in this area  
in future.

Whatever form future trend may take, the ultimate  
final stage of alleged omniscience is never feasible.  
The following words of Xenophanes, translated by Karl  
Popper in this context make the point:

The God did not reveal, from the beginnings,  
All things to us, but in the course of time  
Through seeking we may learn and know things better.  
But as for certain truth, no man has known it,  
Nor shall he know it, neither of the Gods  
Nor yet of all the things of which I speak.  
For even if by chance he were to utter  
The final truth, he would himself not know it  
For all is but a woven web of guesses.

(Karl Popper 1972: 152-3)

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