THE LANGUAGES AND FORMAT OF THE LITERATURE USED BY RESEARCH SCHOLARS IN ZOOLOGY AT THE IBADAN UNIVERSITY, NIGERIA

KEN MC NWEKE
Department of Library Science
University of Maiduguri
Maiduguri, NIGERIA

964 citations in eight zoology theses approved at the Zoology Department of the Ibadan University between 1970 and 1975 have been studied. Such characteristics as the forms of publication of zoology literature used by the research scholars in zoology at the Ibadan University have been discussed. The distribution of the citations by languages of publication has also been assessed.

INTRODUCTION

The Department of Zoology was among the six departments which constituted the Faculty of Science, when the University College was established in 1948. By 1978, when the department marked its thirtieth year of existence, there were six recognizable teaching/research units in the department, namely: Ecology/Conservation, Entomology, Genetics, Hydrobiology/Fisheries, Parasitology and Physiology. Also, Toye [1] has noted that since inception, the department has continued to wax stronger in the vital areas of graduate production, mission-oriented research activities, and relevant extracurricular services to the community by its teaching and research personnel.

As regards research activities, he has broadly assessed the departmental output in decades. The first decade, 1948-1958, was described as the teething stage of development during which strong emphasis was laid on, "planting the basic principles of zoological research on Nigerian soil". It involved intensive collections of a variety of animals, a number of which were unknown to science. Observations were made on their occurrence and distribution in many parts of Nigeria and in varying habitats. Most of the animals were sent to the Museums of Natural History in Europe and North America for identification by acknowledged experts before they could be validly used for teaching and research.

The second decade, 1958-1968, was characterized by, "the laying of strong foundation for basic ecological research, with a view to applying research findings to the solution of identified economic problems". Among such early problems were the erosion of the Victoria beach in Lagos and the fouling organisms of the Lagos Lagoon.

The third decade, 1968-78, which includes the period, 1970-1975, investigated in this study, featured vigorous, "applied research efforts aimed at some serious aspects of national economic problems". It was also a period in which the department enjoyed unprecedented international collaboration in pursuing major multidisciplinary research projects, and substantial external funding. Notable examples of such undertakings listed by Toye included the following:

1. The schistosomiasis project carried out by the Parasitology Unit;
2. The biology and control of dried fish beetle pests and the grass-hopper (Zonocerus) pest research project by the Entomology Unit; and
3. The small animal project by the Vertebrate Ecology Unit.

OBJECTIVES

The purpose of this study is to analyze citations in approved zoology theses submitted to the Zoology Department of the Ibadan University, 1970-1975, in order to reveal its basic characteristics such as:

1. Format - the forms of zoological literature used by research scholars in zoology at the Ibadan University;
2. Language distribution - the extent to which research scholars in zoology at
ASSUMPTIONS

The following assumptions were made before the study was carried out, namely:

1. Research scholars in Zoology at the Ibadan University make more use of periodical articles than any other forms of zoological literature.

2. Zoological literature in English - the regular language of the Ibadan University community is more used by research scholars in zoology at the Ibadan University than those of other languages.

RATIONALE FOR THE PERIOD, 1970-1975, STUDIED

A total of 22 theses; 18 Ph.D, one M.Phil., and three M.Sc (see Appendix) were produced in the department from its inception in 1948 to 1978 when it marked its thirtieth year of existence. The theses were produced unevenly over the period.

Eight of these theses ( six Ph.D and two M.Sc) produced between 1970 and 1975 were analysed in this study because during the period, at least one thesis was produced from each of the six research units listed at the introductory section above. There were three on entomology (out of which two were on general biology of insects and the third on insect physiology ). Other units from which a thesis each was produced were ecology, fisheries, genetics, hydrobiology and parasitology. Also a total of 964 citations counted from the eight theses concerned were considered large enough to bring out the points of the study.

METHODOLOGY

The database was created by extraction of all the citations from the eight theses submitted to the Zoology Department of the Ibadan University during the period 1970-1975. The methodology was the traditional citation count-
thesis on ecology was the least and even less than half of the calculated average citations. 121.79 citations in a thesis on hydrobiology and 92 in a thesis on fisheries were also less than the calculated average citations.

FORMAT OF PUBLICATIONS

Analysis of the citations in the zoology theses concerned by forms of publications shows that many sources ranging from journals, books, reports, theses, monographs to congresses, proceedings, symposia, conferences, meetings, manuscripts and experts were consulted. Total counts of the number of times each form of publication was cited was taken and these are shown in Table 2.

Table 2

Citations by Form of Publications

<table>
<thead>
<tr>
<th>Form of Publications</th>
<th>No. of Commulation</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journals</td>
<td>750 (77.8)</td>
<td>750 (77.8)</td>
<td></td>
</tr>
<tr>
<td>Books</td>
<td>102 (10.6)</td>
<td>852 (88.4)</td>
<td></td>
</tr>
<tr>
<td>Reports</td>
<td>34 (3.5)</td>
<td>886 (91.9)</td>
<td></td>
</tr>
<tr>
<td>Theses</td>
<td>23 (2.4)</td>
<td>909 (94.3)</td>
<td></td>
</tr>
<tr>
<td>Congresses</td>
<td>20 (2.1)</td>
<td>929 (96.4)</td>
<td></td>
</tr>
<tr>
<td>Monographs</td>
<td>12 (1.2)</td>
<td>941 (97.6)</td>
<td></td>
</tr>
<tr>
<td>Proceedings</td>
<td>7 (0.7)</td>
<td>948 (98.3)</td>
<td></td>
</tr>
<tr>
<td>Oral Communications</td>
<td>6 (0.6)</td>
<td>954 (98.9)</td>
<td></td>
</tr>
<tr>
<td>Symposia</td>
<td>4 (0.4)</td>
<td>958 (99.3)</td>
<td></td>
</tr>
<tr>
<td>Conferences</td>
<td>2 (0.2)</td>
<td>960 (99.5)</td>
<td></td>
</tr>
<tr>
<td>Meetings</td>
<td>2 (0.2)</td>
<td>962 (99.7)</td>
<td></td>
</tr>
<tr>
<td>Manuscripts</td>
<td>2 (0.2)</td>
<td>964 (99.9)</td>
<td></td>
</tr>
</tbody>
</table>

Out of a total of 964 citations concerned, Table 2 shows that 750 citations or 77.8% of the total citations were journal articles. 102 citations or 10.6% of the total were books. Thus journal articles and books together accounted for a total of 88.4% of the total citations. The rest, 112 citations, were reports, theses, congresses, monographs, proceedings, oral communications, symposia, conferences, meetings and manuscripts. These citations constitute only 11.6% of the total citations.

The result of the above analysis thus supports the assumption that research scholars in zoology at the Ibadan University make more use of periodical articles than any other forms of zoological literature. The result is also consistent with the conclusion from an assessment of the holdings of tropical agricultural periodicals in Nigerian libraries where Lawani [3] has asserted that:

In the field of science and technology, periodicals constitute the most important forms of publications. They account for between 70 per cent and 82 per cent of all literature use.

It also approximates the finding that[4]:

In 1969, 1970 and 1971, abstracts from serials accounted for 94 per cent of all entries in Biological Abstracts.

Thus, Zoology is a biological science.

LANGUAGES OF PUBLICATION

The necessity for this section of the study arose from the need to know the relative use of the different languages for the entire zoological literature cited in the theses. The language in which more literature cited is more used than any other language in which less literature is cited. The result of the analysis by languages is shown in Table 3.

Table 3 shows that English was by far the most used language for zoological literature. Of all citations, 91.8% was in English, while 8.2% was in languages other than English. Out of the latter, French accounted for 4.9%, German 1.6% whereas other languages namely Russian, Italian and Dutch put together constituted 1.7% of the total literature.

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The above result supports the hypothesis that zoological literature in English was more used by research scholars in zoology at the Ibadan University than those of other languages.

Table 4 shows citation counts of languages of publication by subdivisions of zoology. It is a further break-down into finer subcomponents of zoology, by languages of publication of the citations. The pattern of distribution of citations by languages in each of the subdivisions is generally the same as is found in zoology itself. Over 90 per cent of the literature of genetics, parasitology, fisheries and hydrobiology were in English. Entomology and ecology had 89.2 per cent and 79.7 per cent respectively of their literature in English with the corresponding increase of the literature in French. We find, therefore, that even in subdivisions of zoology, literature in English still dominated compared to other languages. Literature in French takes the second position.

The above result once again demonstrates the importance of English as a medium of scientific publications. The overwhelming importance of English as a medium of scientific and technological publications has been shown by several studies. For example, Mann[5] in a world survey of the periodical literature of food science and technology, reported that approximately 40% of the papers were in English, 20% in German, 14% in Russian, 6% in French, 4% in Italian and 2% in Spanish. Also Wood[6], analysing references listed in the 1965 issues of the important abstracting and indexing publications discovered that 75% of the papers abstracted in Biological Abstracts...

### Table 3

<table>
<thead>
<tr>
<th>Languages</th>
<th>No. of Citations</th>
<th>Cumulation of Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>English</td>
<td>885 (91.8)</td>
<td>995 (91.8)</td>
</tr>
<tr>
<td>French</td>
<td>48 (4.9)</td>
<td>933 (96.7)</td>
</tr>
<tr>
<td>German</td>
<td>15 (1.6)</td>
<td>943 (98.3)</td>
</tr>
<tr>
<td>Others</td>
<td>16 (1.7)</td>
<td>964 (100.0)</td>
</tr>
</tbody>
</table>

### Table 4

<table>
<thead>
<tr>
<th>Subdivisions of Zoology</th>
<th>English</th>
<th>French</th>
<th>German</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetics</td>
<td>185 (94.4)</td>
<td>7 (3.6)</td>
<td>0 (0.0)</td>
<td>4 (2.0)</td>
<td>196 (100.0)</td>
</tr>
<tr>
<td>Entomology</td>
<td>365 (89.2)</td>
<td>27 (6.6)</td>
<td>10 (2.4)</td>
<td>7 (1.7)</td>
<td>409 (99.9)</td>
</tr>
<tr>
<td>Parasitology</td>
<td>128 (99.2)</td>
<td>1 (0.8)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>129 (100.0)</td>
</tr>
<tr>
<td>Fisheries</td>
<td>87 (94.6)</td>
<td>4 (4.3)</td>
<td>0 (0.0)</td>
<td>1 (1.1)</td>
<td>92 (100.0)</td>
</tr>
<tr>
<td>Hydrobiology</td>
<td>73 (92.4)</td>
<td>1 (1.3)</td>
<td>4 (5.1)</td>
<td>1 (1.3)</td>
<td>79 (100.0)</td>
</tr>
<tr>
<td>Ecology</td>
<td>47 (79.7)</td>
<td>8 (13.6)</td>
<td>1 (1.7)</td>
<td>3 (5.1)</td>
<td>59 (100.1)</td>
</tr>
<tr>
<td>Total</td>
<td>885 (91.8)</td>
<td>48 (5.0)</td>
<td>15 (1.6)</td>
<td>16 (1.7)</td>
<td>964 (100.1)</td>
</tr>
</tbody>
</table>
were published in English, 10% in Russian, 3% in French and 3% in German.

Toye[7] found that most of the publications relating to entomological research in Nigeria were published in English. She showed that out of the list of 1,720 items in the bibliography, 1696 were recorded in English, 17 in French, 3 in Italian, 3 in German and 1 in Portuguese. Out of the 216 periodical titles cited and consulted, 186 have their titles written in English, 19 in French, 9 in German, 1 in Portuguese and 1 in Italian. All the eight abstracts consulted have English titles. She further noted that:

Several articles in Journals which have non-English titles, for example, *Revue de Zoologie et de Botanique Africaines* are written in English.

Secondly, the above result of the analysis of the languages of publication of the literature used by research scholars in zoology at the Ibadan University shows that the research scholars did not restrict their literature use to only those published in English, the regular language of the Ibadan University community. Rather, their literature coverage in English and other languages is approximately in the proportion in which the literature of science and technology are known to be communicated worldwide.

CONCLUSION

Research scholars in zoology at the Ibadan University consulted a wide range of forms of publications in their literature search but were found to make the most use of journal literature. This is in accordance with the findings of other studies in the field of science and technology that periodicals constitute the most important forms of publication. Librarians and others who are concerned with the acquisition of zoological literature should, therefore, concentrate more in acquiring journal literature than any other forms of publication.

Although most of the literature cited were published in English language, it was found that the distribution of citations by languages of publication is approximately in the same proportion in which the literature of science and technology has been shown by previous studies to be communicated. Therefore, research scholars in zoology at the Ibadan University were efficient in zoology literature usage, both in the coverage of languages and in the extent of form of publications consulted.

REFERENCES


4. Ibid.


APPENDIX

Theses produced in the Zoology Department of Ibadan University, Nigeria: 1948 - 1978


