

## TRAINING IN LIBRARY SCIENCE (4)

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### TEACHING NORMATIVE PRINCIPLES

**S.R. Ranganathan**

[Starts with the difference in the psychology of the adolescent and the child. Distinguishes between the techniques of teaching by "telling facts" and by "reasoning and inference." Examines the varying incidence of the latter technique in different subjects. Traces the evolution of its incidence in Library Science. Traces the cleavage in the library profession and the secession of special librarians, to the delay in its incidence. Describes the emergence of the normative principles needed as the basis for the latter technique. Describes the experience of teaching Library Science, with the leaven of the normative principles pervading everywhere].

#### 1 Telling *vs.* Reasoning

Where to start in teaching library science—needs first consideration. The search for the starting point should be guided by a known fact. The students of library science are beyond their teens. The technique of teaching them should, therefore, be different from that of teaching school pupils. This difference is demanded by the difference in the psychology of learning of the adolescent and the child. In the child, rote memory is at its best; an entire book is easily remembered and reproduced without need for a conscious follow-up of the thought-content. In the adolescent, verbal memory progressively gives place to rational memory. The teaching technique for library science cannot therefore consist largely of "telling facts". It must, on the other hand, consist largely of "reasoning out" every detail and every step in procedure. Even facts are best communicated by introducing them as inevitable consequences of some basic principles and generally known information. I remember an instance. I was teaching paper-making as part of physical bibliography. There was need to give a brief history of paper-making. In the first year, I merely stated the facts of history:—the epochs when paper-making passed on from country to country, machinery for paper-making was invented and improved successively, and paper mills were established in India; the location of the paper mills of India; and the expected future trends. The

statement of these facts was no doubt easy for the teacher. But it resulted in mere cram work for the students. From the second year onwards, I started with a recapitulation of the progress of renaissance, the emergence of social forces under the impact of population pressure, and the economic geography of fibrous vegetation in the different parts of India. This social approach induced a gleam in the eyes of the students. It even led them to look up historical and geographical literature to brush up what they knew vaguely already. It further led them to focus the known facts on paper-making. Then the facts in the history of paper-making flowed out as inescapable consequences. These were then verified by looking up the published materials on the subject. These were nearly corroborated. Where there was discrepancy, a rational search was made for its cause ; and it was found. I mention this extreme example, as the teaching of history is still loitering in the plane of "telling facts", and it is not yet fully lifted to the plane of "reasoning and inference".

### 11 DIFFERENTIAL INCIDENCE

The technique of teaching through "reasoning and inference" and developing rational memory instead of merely "telling facts" and developing verbal memory only, was first adopted in teaching mathematics. But about half a century ago, deductive reasoning was overdone and inductive reasoning was neglected even in teaching children. This fault has now been corrected. So far as teaching adolescents is concerned, the correct "reasoning and inference" technique is now fully used in mathematics ; to a large extent in physical sciences ; and increasingly in the biological sciences. On the other hand, in the teaching of applied sciences the field has been for long monopolised by the technique of telling and demonstrating rule-of-thumb methods, and making the students imitate doing or do according to a prescribed work-chart. But in recent years the teaching of certain subjects such as production engineering, belonging to applied sciences, has adopted the technique of "reasoning and inference". In the teaching of social sciences, such a change has been slow in coming. It has come earliest in law. It is now coming into economics. In this subject, the change-over has been helped largely by the Cambridge School. The influence of Keynes has

been very favourable. Teaching of history still awaits the coming of the change. Thus there has been a differential incidence of the technique of teaching by "reasoning and inference" in different subject-groups. It must be remembered, however, that the born teacher has been always using all along a right dose of the "reasoning and inference" method, whatever be the subject taught. But then he has been guided by intuition; and he has been the exception rather than the rule. The normal way of teaching has been slow in changing over.

## 2 Incidence in Library Science

In this respect, the technique of teaching library science is having three handicaps.

### 21 AS A SOCIAL SCIENCE

In the first place, library science is predominantly a social science. Thus tradition tilts the technique of teaching it towards "telling facts" instead of "reasoning and inference".

### 22 AS AN APPLIED SCIENCE

Secondly, library science is an applied science. It is concerned, not with the production of commodities as in the traditional applied sciences, but with the service and the organisation for service of physically embodied mental commodity. All the same, its aim is to help towards the consumption of a commodity fulfilling a human want. World seldom waits to practice an applied science till it is grounded on a rational basis or on fundamentals. By trial and error, it improvises some methods and procedures. These are transmitted to the new generation through imitation aided by work-charts. Such a method is more or less satisfactory in the earlier and simpler phase of the production and service of most commodities. During the last one century library science has been passing just through such a phase. Indeed mere apprenticeship was deemed sufficient for nearly three generations. Then a slight supplement of formal teaching was admitted to be necessary. This was found to be sufficient so long as the social purpose of library service was the handing over of books embodying macro thought. But today, the social purpose of library service has deepened. Every citizen should be made to

accept library service. Service of micro thought, embodied in tiny articles in periodicals or in sections and paragraphs of books, has begun to pervade everywhere including even public libraries. Trial and error method, transmitted through imitation and oral instruction, is found to be inadequate to meet these deeper purposes. Emergent evolution is called for at every turn in library technique. To teach a technique involving elements of emergent evolution, "telling cum work-chart" method is inadequate. "Reasoning and inference" method is essential. As an applied science, library science is in the throes of the change-over from the former to the latter technique of teaching.

### 23 AS A POST-GRADUATE SUBJECT

Thirdly library science is largely taught as a post-graduate professional subject. Till now post-graduate teaching in general and of professional subjects in particular has been dependent on the teacher's flair rather than on established methodology. In some subjects intrinsically able men with a highly integrated personality are found in plenty among the practitioners. Therefore some of the teachers too have first rate flair in the corresponding professions. But the library profession has been given a salary scale and a social status too low to attract and retain a highly integrated personality. Consequently, the professional men drawn into the work of teaching library science had seldom disclosed first rate flair to teach. The overweightage given to the apprentice part of training has militated against the possible reaction of the students to the defects in the formal part of the training. At any rate it has considerably delayed attention being given to the methodology to be used in professional education.

## 3 Practice in the Past

### 31 TEACHING OF ORGANISATION

Thirty years ago, as a student, my reaction to the then prevalent method of teaching library organisation was one of despair. Sections of the library act were read out without any attempt to show the why of any of them. Facts and figures were cited for several library authorities without any explanation of their differences. Model minutes of meetings of Library Committee were dictated. The

library budgets of several boroughs and counties were summarised without any light on the principles behind them. The data and the standards prevalent in several libraries for building and equipment were given rapidly without any light on how they were suited to particular situations.

### 32 TEACHING OF ADMINISTRATION

Teaching of library administration consisted similarly of dictation of the administrative procedure current in a few libraries. No principles of planning, or job-analysis, or routine, or time-analysis, or elimination of waste, or standardisation were developed for use as guide in meeting situations that may emerge newly in future.

### 33 TEACHING OF PHYSICAL BIBLIOGRAPHY

In physical bibliography, paper-making, printing, book-illustration and binding were 'taught as independent crafts, with little correlation to the library profession. Their application to the textual criticism of old books was often illustrated. But this was not the business of librarians except in the few antiquarian and dormitory libraries. In my year, binding was taught by a master-binder. His own personality and his flair endowed the subject too with an unusual charm and coherence. But the other divisions of physical bibliography were taught by librarians practising in antiquarian libraries; and we were simply made to cram some definitions and descriptions. The impact of this persists in the question papers of even today.

### 34 TEACHING OF BOOK SELECTION

Many of us wondered why book selection meant only little more than writing out a few dozens of slips, the selection of the titles being left entirely to our own unaided native flair. At the end of the course, notes embodying a few principles of selection were dictated in a form suited for cramming and reproduction in the examination. There was no attempt at deriving these principles from any fundamental principles. Most of these related to the controverted proportion of fiction to nonfiction.

### 35 TEACHING OF CLASSIFICATION

We were fortunate in our teacher of library classification. He

took the foundations of the subject deep enough to touch fundamentals. He developed the superstructure therefrom by the method of "reasoning and inference", in the classes devoted to theory. But the drill work in the practical class amounted merely to "telling" class numbers. Copies of the *Publishers' circular* and of *Decimal classification* were spread on the students' table. Hit-or-miss-drill began, with the teacher reading out one title at a time and the students giving the DC number. For most of the students who had had long apprenticeship in issue work and shelving, this was an easy game. We became adepts in poring through the schedules and the index. Often different students gave different class numbers. Then the teacher pronounced his own preference in the form of a judgement. No reason was given or asked for.

### 36 TEACHING OF CATALOGUING

Cataloguing suffered most. The *Anglo-American code* formed the text for work in the theory class. The rules in the code were read out, including the examples. No fundamental principles were hit. No comparison was made. No foundations were laid in the form of canons of cataloguing. The inconsistencies among the rules of the code were neither sensed nor examined. The basis for practical work in cataloguing was the code in use in the library of the college. This differed in many respects from the code used in the theory class. With regard to the choice and rendering of the heading, title portion or note, we had to draw mostly from the tradition imbibed at the stage of apprenticeship. One result of this has been the cliches of irrational elements still being blindly accepted and perpetuated even in the latest editions of the *Anglo-American Code*. In defence of this, it is naively claimed that it has been working satisfactorily all these years and no reader has complained! What a naive motive force!! Another result has been the rudderless state of cataloguing caused by the various subtle changes slowly coming into the title pages of books on the one hand, and in the questions to be answered by the catalogue on the other. As a student, my reaction to this method of teaching cataloguing was one of disgust. At a recent international meeting, it was pathetic to find the inability of persons to distinguish between Canons for the Framing of Cata-

loguing Rules and the Catalogue Rules themselves. The height of humour was reached when it was insisted that the Canons for framing Cataloguing Rules are best taken up for consideration after the proposed Cataloguing Rules were framed! This phenomenon throws a lurid light on the present state of teaching cataloguing.

#### 4 Evil Effect

##### 41 COMPLACENCE IN STAGNATION

The first evil effect of teaching by mere "telling of known facts and practices" has been the induction in the library profession of a static state of mind and complacency in stagnation. This by itself is sufficiently damaging. The teachers, who were mostly from public libraries, had learned their trade as apprentices. Some had begun their apprenticeship even at 12. A rigid routine had been well built into their muscular, sensory and mental texture. Students with a long prior apprenticeship found formal instruction simply confirming what had been already impregnated into their texture. They had seen no other texture. There was therefore acceptance without question. The teachers therefore thought that there was nothing difficult in teaching and that the only requisite was familiarity with the know-how of the work in an established public library. But the universe of knowledge was steadily developing. It is increasingly dynamic. It has now become almost continuously turbulent. Correspondingly, the human world demands an increasingly exact and expeditious service of recorded knowledge. The stagnation brought about by faulty teaching technique is thus proving disastrous.

##### 42 CLEAVAGE IN THE LIBRARY PROFESSION

The second evil effect is a consequence of the first one. During the last quarter of a century, the industrial and the commercial world had begun to ask for exact, exhaustive and expeditious service of nascent micro thought. The librarians trained in the traditional way in the existing schools were found to be unequal to such a service. The industries and the technical professions turned away from them. They sent some of their own men—scientists, engineers, technologists, agriculturists, and medical men—to care for the

library. They called them Information Officers and they used the term Special Libraries to denote their libraries. The special librarians decline to be classed with librarians. They have the backing of the rich industries in thus standing apart. The public librarians too are encouraged, by their large number and long existence, to stand equally apart. This cleavage in the library profession has established itself even at the Americo-European international level. IFLA and IFL have to be maintained as distinct organisations.

#### 43 NO SEARCH FOR NORMATIVE PRINCIPLES

The third evil effect of faulty teaching method is that, in spite of library science having been taught for nearly a generation, no urge was felt by the teachers of the subject to search for and establish a few normative principles which contained latently in themselves all the facts and techniques to be told. In the absence of search for normative principles, there has naturally been no urge whatever to forge an efficient calculus for making valid inferences from the normative principles.

#### 44 REMOVAL OF THE EVILS

These evils can be normally removed only by a new generation of librarians raised with an understanding of the whole view of library service—past, present and future—by a process of teaching which uses the method of “reasoning and inference.”

#### 5 VICIOUS CIRCLE

Teaching adolescents by the method of “reasoning and inference” is possible only in a subject admitting of a few principles as the starting point. Such principles from the basic hypotheses in the natural sciences and the normative principles in the social sciences. They are loosely called the Laws of the Science. In the natural sciences, the calculus used for reasoning and inference has been rendered precise and impersonal. The flaws that lead to faulty inferences are mostly found in the domain of the postulates and assumptions which had been usually influenced by experiences confined to non-infinitesimal and non-infinite contexts. In other words, the boundary conditions within which alone a postulate or an assumption is true are lost sight of and universal validity is taken for granted.



During the last fifty or sixty years such faults are being detected, the limits of validity are being underlined, and the calculus of reasoning is being made versatile enough to meet varying limits of validity. But comparatively speaking, the calculus used for reasoning and inference in the social sciences is still primitive. The verbal medium, with all its refracting undertones and overtones, still provides the only calculus. The necessary symbolic calculus has not yet been forged. We are in a vicious circle. Teaching of social sciences, including Library Science, lingers largely in the sphere of "telling facts" and avoids entering the sphere of "reasoning and inference," because there is no calculus capable of making the normative principles disclose unerringly all their implications. On the other hand, no proper calculus is forged, because the method of teaching does not make normative principles the anvil on which the subject is beaten to get it developed in the class room. There is, therefore, no venture of sufficient intensity to enter the sphere of reasoning and inference. The only way to cut this vicious circle is to start using the technique of teaching by "reasoning and inference" even with the aid of the loose, refractive, primitive, verbal calculus. This is possible in library science because we now have a set of normative principles for use as the starting point and anvil.

## 6 Emergence of Normative Principles

### 61 RESULT OF REVOLT

The search for normative principles was itself, in reality, the result of my revolt against the "tell facts and invoke rote memory" technique of teaching to which I had been subjected in being taught various subjects. When I was a pupil at school and college in my earlier years, I did not know the reason for my revolt. But my second birth into studenthood in 1924 made me realise the reason. I was then 32. I had already taught mathematics and physics for seven years. I could watch the teaching of library of science to which I was subjected, not only from the angle of student, but also from the angle of teacher. I was filled with an urge to remove the cause of revolt. This urge would not leave me until I could formulate a set of necessary and sufficient normative principles and show the facts and procedures, taught verbally and disjointedly, as valid implications of those

principles. I would not dare to teach library science till I could succeed in this. By 1928, the Five Laws of Library Science took shape. Edward B. Ross, my beloved professor of mathematics, tested them. One evening in July 1928, he remarked in effect, "These are sufficiently trivial to form the basic principles of your new subject."

### 62 THE FIVE LAWS

The Five Laws of Library Science are :—1 Books are for use ; 2 Every reader his book ; 3 Every book its reader ; 4 Save the time of the reader ; and 5 Library is a growing organism. In recent years some generalisations have been made :—1 "Book" is used to denote any form of reading and kindred materials, such as maps, pictures, lantern slides, cinema reels, gramophone records, micro cards, films and film strips ; 2 "Time" is used to denote both objective and subjective time ; and 3 "Grow" is used to denote both continuous growth in size, quantity and the like, and simultaneous accretion and excretion which may result in a stationary size or quantity ; in other words, growth may be child-growth or adult-growth.

### 63 FIRST TRIAL

In December 1928, the University of Madras invited me to give a course of vacation lectures to teachers on library work. These lectures were delivered at Chidambaram, now Annamalai University, at the time of the annual conference of the South India Teachers' Union. This ensured an audience of about a thousand teachers. I used the occasion to start from the Five Laws and show most of the current library practices in outline to be implications of these Laws. It was also possible to state some new implications, which have since come into library practice. The efficacy of this method of putting library technique across to others was tested by checking up with some intimate friends in the audience.

### 64 SECOND TRIAL

Encouraged by the favourable opinion received and prompted by some demand from the audience for a more detailed course, I ventured to start the Madras Library School in April 1929, under the auspices of the Madras Library Association. For three years the members of the class were mostly school teachers, college lecturers, and

members of Local Bodies. They did not want drill in technique. It was only a new orientation about libraries that was required. This gave a splendid opportunity to beat out slowly and systematically the details of several library practices as implications of the Laws of Library Science. Thus, the technique of teaching by "reasoning and inference" had a good trial and it proved effective. There was light in the faces of the members of the classes. The substance of what was taught during the first three years was published in 1932 as the *Five laws of library science*.

### 65 PROFESSIONAL COURSE

In 1932, the Madras Library School was taken over by the University of Madras. More than half the members of the class were school or college librarians. There was no public librarian in the class, as there was then no public library in the State with an educated librarian. The average age of the class was 28. The Laws of Library Science were given an explicit place in the curriculum approved by the University. Apart from these laws permeating the teaching of every technique, I made it a practice to devote the first few classes to the formulation of the laws, their implications and the giving of a birds eye view of the whole subject as seen from the eminence of these laws. In 1937, the University made the library science course a full-timed, one-year, post-graduate course leading to the University Diploma. Till 1944, when I was in charge of the School I continued to orient the course by a series of initial talks on the normative principles. From 1944 to 1947, I did similarly in the Library School of the Banaras Hindu University. Since 1947, I am continuing this practice at the Library School of the University of Delhi. Most of the students have testified, in the later years of their life, to the help and comfort found in being taught the normative principles as a preliminary step and in every branch of library science being developed as implications of these principles.

### 7 ALL-PERVASIAE LEVEN

Sound teaching technique for library science requires that the leven of normative principles should pervade every lesson on every branch and for this purpose this leven should be made an integral part

of the apperception of the students, in a rapid preview of the whole subject before the teaching of the several branches begins. A prior apprentice course in an active library, as recommended in the preceding article of this series, is necessary to make this preliminary course on normative principles meaningful to the student. The work of correlating the experience of the apprentice course with the implications of the normative principles is a work of art. Indeed, teaching is an art and the teacher is an artist. No theory or system can ever be a substitute for a teacher. The good teacher transcends theories and systems. No system can make a bad teacher into a good one. But a good system is better than a bad one, in so far as it prevents the bad teacher from becoming too bad and helps the great mass of pedestrian teachers to be less bad than they would be. This emphasis on the place of normative principles in the technique of teaching library science is believed to contribute to a good system of teaching. I have found it helpful all along the course to refer back to normative principles to disclose continuity in the development of the subject particularly while turning round sharp corners and in facing forks in the path. This reference back should be made spontaneous for the students by spending the first few hours of the course on the normative principles and on the demonstration of extracting their implications out of them. An account of such an introductory course on normative principles has been given in my *Preface to library science*. Some of my books on the several branches of library science show how the leven of normative principles can be made to pervade the technique of teaching any branch of library science.