

glass beads on a vertical aluminium wire in the axis of rotation. Here they have scarcely any influence on the swing of the coil. The damping effect of the oil, which is contained in a small globular receptacle, like a fish-bowl, between the fixed coils, is very complete and satisfactory. I had the pleasure of presenting the first rough instrument thus made to Prof. Johnson for the physical laboratory of McGill College.

W. H. STONE

LIBRARY CATALOGUES¹

THERE is a wide difference in function between the old "literary and philosophical" libraries, such as are now dying out in various parts of the country, and the "free public" libraries which are steadily, though remarkably slowly, on the increase in England—libraries which lay before readers of all classes Mr. Herbert Spencer's denunciations of what an evil sign of the times their organisation for the diffusion of knowledge is, compared with Lord Brougham's old Society for the same purpose.

The old library was in principle a museum of books, where, after a few readers who might be trusted to handle the choice volumes cautiously and reverently had enjoyed the luxury of making themselves acquainted with their contents, each of such volumes was put up in its place to form part of the "collection" of which the librarian was proud, and from which he was as little anxious to promote abundant issues as the proprietor of Dickens's old curiosity shop was to make sales of its contents!

But the other—the modern—type of library, is a stock of the literature for which either the public itself manifests the greatest appetite, or philanthropists and public educators are most desirous to disseminate and cultivate a taste: the happiest fate wished for any book in such a store being that it should be fairly thumbed to death. The new library is worked on the principle of the city warehouse where the whole stock should be turned over several times in the year; and anything which cannot be "moved" is an incubus upon which the manager's eye falls day after day with more and more impatient determinations.

The catalogues of the respective types of library accordingly should be widely different productions. That of the former should be an accurate register of sizes, dates, and editions; the compiler fairly taking it for granted that its consulter is intimate with the subject he is inquiring upon, and that a difference, even in the edition, from the one sought, may make the book as far from what he wants as Blackstone's "Commentaries" from Caesar's.

But the main object of the catalogue of the new library is again like that of the commercial advertisement. Its consulters are not such as know exactly what they want, and its maker is anxious to display in it his books and their contents to the best advantage; like the salesman, his greatest triumph being, not to supply a customer with the article most in demand, but to allure him to higher qualifications and raise a new taste which will lead him along tempting paths of expenditure. In drawing it up, accordingly, the librarian will hardly take a better example than that of the commercial world in its advertisements of books; to be followed soberly, however, for it would doubtless raise a distrust in catalogues if they heaped up the favourable critiques which are to be found there. Nor, again, are the frequenters of a free library able to judge from titles which pleased authors' fancies what those authors' books contain, and an important matter is to bring within their ken the contents of volumes many of whose titles are indefinite, some figurative, and not a few positively misleading or absurd.

¹ "Catalogue of the Halifax Public Library, Lending and Reference Departments." (Halifax, 1882.)

In such an institution, therefore, where the books may not be examined before taking out, or the librarian have a literary discussion with each applicant, time can hardly be better spent than in making the catalogue supply as much as possible this information.

The handsome and carefully-printed catalogue now under notice, giving 100,000 references to 25,000 volumes, has carried this out to a very creditable extent; under most collected essays and doubtful titles giving a list of the subjects and the ground gone over, and under each subject-head referring the reader to the principal works where it is treated upon, or from which information may be picked up, whereas many other catalogues have placed together only those books in whose titles the name of such subject occurs. Thus under the head of Canada, while thirteen titles are quoted containing the name, there are also placed before the reader thirty-two titles which do not contain it. Although there is no book upon a special subject like "Carpets," he is referred to "Manufacturing Industries"; and under that burning subject, "Capital and Labour," though not a book bearing the title is to be found, master or man is referred to sixteen books on political economy. A danger in attempting this is shown, however, by comparing any two such catalogues together. Not half of the books in a large library bearing upon any great subject can be thus quoted, and a very intimate knowledge is required to select those of most general superiority; and even then a shade is unfairly thrown over books of nearly equal ability. Why, for instance, should only four of Hugh Miller's books be quoted under the head of Geology, and only two of those of the Geikies?

Of course this mischief increases as the greatness and importance of the subject increases. It is easy to cite all the books devoted to an account of New Zealand, but useless to attempt to give a full list of those which bear upon Europe or Asia. This catalogue carefully divides Africa into Central, East, North, South, and West, and quotes ninety-four works upon it, while upon America seventy-four make up the selection. The literature of Edward IV. may be fully compiled in a few titles, yet the forty-five works relating to Charles I. and II. do not nearly exhaust the books directly touching upon matters of that period, and sixteen works upon the English Commonwealth is not a great number to refer readers to.

Such a collection of books as the Halifax Library must have its deficiencies. Why are there only two books on the cruise of the *Challenger*, neither of them Sir Wyville Thomson's, whose name is not to be found? And if Lardner's Cyclopædia entire is not now thought indispensable, surely Thirlwall's "Greece" and some of his later books ought not to have been passed over.

It is difficult to see the advantage of the puzzling substitution in this catalogue of *A* for 10,000. It saves nothing till 10,000 is reached, and as soon as 11,000 is reached it takes up more room than the figure which requires no explanation. We are told that the Catalogue enumerates 25,000 vols., but not what substitute is made or to be made for 20,000. Again, if a — is used to save printing an author's name a second time, why should "Capital and Labour" be printed in full nineteen times, or "United States" 125.

The printing has been unusually well corrected, but we are inclined to ask, were the "wines of Cyprus" in the head of the compiler when he quoted Mr. "Cyprus" Redding as the author of "Modern Wines"?

The date of 1882 on the title-page, while the quarterly reviews come down to the bound vols. for 1883 with tables of their contents, is explained by the first part of the work, consisting of a catalogue of the novels and books in the juvenile department which were "most in demand," being issued at the earliest date possible, Part II. containing all the more important classes not being completed till this

year. It leads to a reflection on the inevitable incompleteness of a catalogue. There is no pause in the publication of books. In spite of the most careful filling up of the lists of missing books by the librarian, and the most liberal expenditure by the Committee, hundreds of new books must have come out, and a large proportion of them added to a library, between the time when the last title is handed to the printer, and the time when the first outsider can purchase his catalogue and examine what are the treasures kept in store for him. And in no production of industry, not even in ladies' adornments, is novelty so important a recommendation as in literature. The disheartening reduction of prices in secondhand catalogues, not of three-volume novels only, but of laborious and important works, is a proof of this. A greedily read daily press makes it inevitable. Any printed catalogue, therefore, with all the books in due order, must be deficient of the favourite, if not of the most important books which the library contains. Catalogues therefore in general should be printed like the most fugitive of literature, and be renewed as frequently as possible. A card-catalogue alone can be kept on a level with the stock of books. A frequent publication by a large library of a list of its new purchases, sold at a remunerative price to students and luxurious readers, would make a library popular among those with a strong appetite for reading, while it would not lead to the older tenants of the shelves being forsaken by the crowd.

In most public libraries an effort is made to combine the functions of the old collection of books with that of the dispensary of useful or pleasing thought, by having two departments. The books more deserving of the old feeling of preservation are wisely placed apart with real works of reference to form the Reference Department. A mischievous result of this arrangement usually is that it makes books of greatest intrinsic value and forbidding costliness least available to the impecunious student. The Halifax Catalogue avoids this by arranging all together in one alphabetical list, marking each of the reference books with an *R*, and leaving the question of lending them out practically to the discretion of the librarian or Committee. We strongly approve of this method and of liberality in working it, and recommend it to the notice of other libraries.

W. ODELL

THE "IDENTISCOPE"

It appears from the *Pall Mall Gazette* of October 21 that there is a prospect of "a campaign being run in the country" on behalf of the "Claimant" by "six of the best orators whom money can collect, . . . supplied with a hundred identiscopes." These are optical instruments, containing on the one side a drawing made from a portrait of the undoubted Roger Tichborne, and on the other side a drawing made from an equally undoubted portrait of the Claimant taken nineteen years later, and the arrangement is such that on looking into the instrument the drawings combine into one. This, it is maintained, leaves no doubt that the two portraits are those of one and the same individual.

The more important of the questions raised by this announcement is whether the fact of two genuine portraits blending harmoniously into a single resultant is stringent evidence that the portraits refer to the same person. Those who have examined the optical combinations and photographic composites that I have exhibited at various times will know that this is not the case. Those who have not seen them and care to know more about the subject should look at my "Inquiries into Human Faculty." (Let me take this opportunity of correcting an error there. The full and profile composite labelled "two sisters," in the middle of the upper row of the frontispiece, is really one of three sisters. I had made many composites of the family, and

by mistake sent the wrong one to the printer.) The reason why photographic portraits blend so well together is that they contain no sharp lines, but only shades. The contour of the face is always blurred, for well-known reasons dependent on the breadth of the object-glass; even the contour of the iris in an ordinary photographic print looks very coarse and irregular when it is examined by a low-power microscope. On superimposing a second portrait, the new shades fall in much the same places as the former ones; wherever they overlap they intensify one another; where they do not overlap they leave a faint penumbra which has usually a soft and not unpleasing effect. Judging from abundant experience, there would be no difficulty in selecting photographs of many different persons that should harmonise with the photograph of the Claimant, and it would be amusing to try strange combinations. I could suggest one that I think would succeed excellently: it is of a certain distinguished member of Her Majesty's—but I must be discreet, though probably if I ever come into possession of suitable photographs I may make a private experiment.

It seems, however, that the identiscope is not intended to be used to combine reproductions of the actual photographs, but only drawings in bold lines that have been made from them. The photographs, it is to be presumed, do not agree in aspect, so drawings are made from them that do so, the diameter of the iris being used as the scale unit of the breadth and length of the features, in making the drawings. Although the diameter of the iris is spoken of as an invaluable unit for exact reduction, its disadvantages appear to be great: (1) Its vertical diameter was, I suppose, not used, because in the large majority of cases the upper part of the iris is covered by the eyelid. (2) The horizontal diameter is unavailable unless the eye of the sitter was directed straight at the camera; otherwise the iris is seen in perspective, and its breadth is reduced by an unknown amount. (3) One eye is perspectively larger than the other, unless the face was set truly square to the optical axis of the lens; if not, it would be necessary to measure both eyes and to take a mean; this is a requirement to which I have as yet seen no allusion. (4) The diameter of the iris is only about 1/25th part of the length between the chin and the vertex of the head, consequently any minute error in its measurement would be largely multiplied when applying it as a unit. (5) The diameter of the iris in a photographic print does not, as I have already implied, admit of accurate measurement. The identiscope appears to be the same as an instrument sold some years ago, and of which I have one now by me. The description printed on it is "E. Wolf and Sons' patent Limnoscope, for copying drawings, designs, &c." I bought it for the purpose of experiments with composites, and tried many modifications of its principle, but other plans proved so much better that I discarded it. The principle is easily realised by any one who cares to place a table by a closed window and then to go out-of-doors with an open book in his hand, which he must hold horizontally by the side of the window, at the level of the table. He will then see through the glass an image of the book (a "Pepper's ghost," in short) resting on the table. The reflected image is so faint that the direct image has to be dimmed. Yellow glass serves this purpose. The limnoscope is not suitable for combining ordinary photographs because the reflected portrait is reversed; the left side of one face is combined with the right of the other. Much better instruments exist for making optical combinations; I have described them in my book.

I conclude as follows. First, that the fact of two photographic portraits blending harmoniously is no assurance of the identity of the persons portrayed. Secondly, when drawings made from portraits are shown to blend it does not follow that the portraits from which they were drawn would blend equally well. And lastly, the photo-