The periods indicated on it differ from those on the great market-stone, and seem to furnish a solution to the perplexing complementary calendar system mentioned by Spanish writers as 'the lords of the night accompanying the days.'

In conclusion, I would state, that, in my opinion, many of the large stone receptacles that are generally called 'vessels for containing the hearts and blood of human victims' are no other than the standard measures, preserved for reference in the market-place.

Before publishing my final results, I shall submit them to a searching and prolonged investigation. An examination of the originals of many of the codices reproduced in Lord Kingsborough's 'Mexican antiquities' will be necessary to determine important points, and during the forthcoming year my line of researches will be in this direction. ZELIA NUTTALL.

HOW TO MAKE THE MOST OF A SMALL LIBRARY. [1]

THE question is not what to do with a library of five hundred thousand, or a hundred thousand, or fifty thousand volumes. It has nothing to do with libraries which can afford to buy manuscripts or incunabula, black-letter tracts, or early American sermons. It is not for libraries whose collections of original authorities took away, many years ago, the cause of John Adams's reproach that in his time the books from which Gibbon's statements might be proved true or false could not be found in the United States. A student may go to the libraries in the great cities and read at his will, order from abroad books relating to his specialty, or, if he can show just cause for his request, may even have books sent to his distant home. The libraries which concern us are those of thirty, or ten, or five, or even of one thousand volumes, in towns and villages, open, perhaps, all day six days in the week, or two or three hours on one day. I mean this for you, whose library spends a thousand dollars a year; and you, who have but five hundred for books, periodicals, and binding; and you, who struggle along with fifty dollars' worth of new books twice a year. It is for you, too, whose library has existed in a half-alive state with poor American reprints of English books, novels in wretched condition, antiquated volumes of science, biographies of the dreariest, incomplete volumes of magazines. How can such libraries be made centres of sweetness and light in country towns?

'Your house is not large enough to swing a cat in,' said a man to his friend. 'But I don't wish to swing a cat,' answered the friend. This bit of homely wisdom, and another, 'When you can't have what you like, you must like what you have,' are as useful in libraries as anywhere else.

But they do not mean that you are to be satisfied with the present use of many of the books which are now gathering dust upon your shelves. Some of them may easily be made to answer the questions of your readers. Spend the next money that you have in a few books of reference, a new edition of an encyclopaedia, a good atlas, 'Lippincott's biographical dictionary,' 'Poole's index,' and its co-operative supplement the Brooklyn catalogue, and the Providence reference-lists. If you can get also, or if you have already, all the volumes of *Harper's magazine*, *Scribner's monthly*, and the *Century*, the *Popular science monthly*, and *Littell's living age*, with the separate indexes, including articles and poems too short to be indexed in Poole, you are ready to meet the wants of most of your readers. If you have time, index *St. Nicholas*, *Wide awake*, and *Harper's young people*. A librarian of a small library can often satisfy a reader by showing him an article written ostensibly for children, but told in the clear, simple style which appeals to many older persons. The thinking powers of many boys and girls never develop after they leave school at fifteen; and knowledge, in order to be attractive to them in their later years, must be set forth as attractively as in their school-days. If you can overcome the repugnance of many persons to books which they think childish and beneath them, you can often give them just what they are able to enjoy. I sometimes say, "The best article that I know is in the *Wide awake* [or *St. Nicholas*, or *Harper's young people*], and, if you have no objection to reading a boys' and girls' magazine, I think that you will find in it just what you need."

A magazine which has a department of 'Answers to correspondents' asked, in a late number, for no questions which might be answered by referring to an encyclopaedia or biographical dictionary. In the next number a correspondent begged the editor to remember that many persons had no access to such books, and their only way of learning what they wished to know was through the magazine. The library in every town or village should supply this want, and should also contain Brewer's 'Reader's hand-book' and 'Dictionary of phrase and fable' (which, though often inaccurate, are much better than nothing), and Wheeler's 'Dictionary of noted names of fiction,' and 'Familiar allusions.' As soon as you can afford it, buy all the volumes of 'Notes and queries;' but until then you can answer many questions from the books of reference already named.

[1] Read before the Milwaukee meeting of the Library association by Miss C. M. Hewins, July 7, 1886.

The stock questions with which every librarian is familiar, such as who wrote 'I am dying, Egypt, dying,' whether Shakspeare was of noble birth, or Eleazar Williams was Louis XVII., are easily disposed of. If you can make your readers understand that they must formulate their requests in intelligible shape, you have gone a long way towards making your library useful. They expect a librarian to find 'a book about cheerfulness;' or 'a book about whether education is better than wealth;' or 'a book in marbled covers that wasn't exactly a history, but had something about history in it, that mother read about nine years ago.'

This is no place for discussing the merits of rival encyclopaedias. I find the Britannica, Chambers's, Appletons', and Johnson's all useful. If I could have only one, and no atlas, I should take Appletons', on account of its maps, its full lives of living persons, and its yearly supplement. A person often goes to a library with a question which he fancies can be answered only by reference to many learned books, but really is a very simple one. A stranger from out of town once said to me with a pompous air, "I am pursuing an extensive course of historical reading, and wish to know what works the library contains on the history of Constantinople." I meekly replied that we had only a very few of the original authorities, and that they were in English translations. "What have you, then?" I named the more familiar histories, and a few recent books of travel, like De Amicis' and Gautier's. "I wish to see a minute map of the city." — "We have nothing minute. The best that I can give you is in the 'Encyclopaedia Britannica.'" — "Ah, indeed! That is a work I have never heard of. May I see it?" This confession betrayed at once the depth of the stranger's learning. He read the encyclopaedia for about ten minutes, then returned it with thanks, and went away saying that he had now finished his course of reading on Constantinople. An encyclopaedia often satisfies the vague desire for knowledge, of a person who has not learned how to use books, and asks in an indefinite way for something on a certain subject.

The Brooklyn catalogue is especially useful in its biographical references to lives in books which, without it, might stand unopened on the shelves. For example: a librarian, when asked for a life of Queen Christina of Sweden, might not remember, without consulting it, that, although there was no life of her in the library, chapters upon her might be found in Wilkie Collins's 'Miscellanies,' Hays's 'Female biography,' Mrs. Jameson's 'Lives of female sovereigns,' and Russell's 'Extraordinary women.' 'Poole's index' unlocks *Littell's living age*, which is full of biographical and historical articles. Every volume of essays in a library should be indexed, and every title placed in the catalogue.

The question of what kind of catalogue you should have is one that depends largely on the number of your readers and the kind of books which they take. A printed one soon grows obsolete. A card-catalogue, well arranged under authors and subjects, with zinc indicators to show the places of subjects, and brass rods so that the cards cannot be displaced, is as good as any thing that has yet been used. "I made my catalogue," said a librarian to me a year or two ago, "so that the greatest fool in town could not possibly make a mistake in finding an author or title." This catalogue is certainly a model of clearness and simplicity. Long experience with fixed shelf-numbers has convinced me that they should not be used, but should give place to the Dewey plan or one of its modifications.

The books which you buy should depend, like your catalogue, on your class of readers. A library in a village where there are farms and gardens should have the latest and best books upon farming, gardening, the care of cattle and poultry, and several agricultural and horticultural papers and magazines, that may be allowed to circulate after they are bound. I saw not long ago, in a newly endowed library in such a town, several books with finely colored illustrations of beautiful-leaved plants and flowering shrubs, that must certainly have an influence in time in making the gardens of the neighborhood very different from the traditional farmhouse door-yard. A town with telephones, electric lights, machine-shops, and manufactories, where many young men of intelligence are electrical engineers, machinists, and draughtsmen, needs all the newest books that it can afford to buy, on electricity, applied mechanics, and mechanical drawing. We find in Hartford a steadily increasing demand for books of these classes. Scientific works, unless of recent date, are worse than useless, except to a student of the history of science. A person who asks for a book on physics or chemistry from a printed catalogue does not always notice the imprint, and chooses a work quite out of date. A librarian can and should tell him where to find a newer and better one.

The use of books on special subjects grows every year. The Society for study at home, the Chautauqua society, many smaller clubs, *Queries* and other periodicals, with their lists of prize questions, have all done their part in encouraging readers to use libraries. The prize questions are often such as anybody might write by opening any volume of history or biography at random and

framing a question about the first name or subject on the page. Such questions are a severe tax on a librarian's time and patience; but, if a reader comes in search of answers, he must be kindly received, and all the resources of the library placed at his disposal. A librarian needs a certain tact and skill in guessing at the wants of readers. This comes by practice, after one has learned to estimate the mind-power of the frequenters of a library. 'Can you give me something on the French revolution?' asks a young girl. Instead of offering Thiers, or Carlyle, or even the 'Epoch of history' volume, the librarian asks, 'How long an account do you wish, — one in several volumes?' — 'Oh, not very long, and not very deep, please.' — 'An historical novel, perhaps?' — 'Yes,' with a visible brightening of the face; and the reader goes home happy with 'Citoyenne Jacqueline,' perhaps to come back and ask for another novel of the same period, or even a history. It is, however, too much to expect that every reader who desires a little historical knowledge will go through a course of many-volumed books. The various lists of historical novels published by the Boston public library and other libraries, Professor Allen's 'Catalogue of novels and poems on English history,' and Adams's 'Manual of historical literature,' are every-day helps in even the smallest library. It is not hard for a librarian to make a list of the novels in his or her own library which illustrate different periods. A small library has this advantage over a large one, that it cannot afford to buy poor novels. Miss Hewins closed with a list of about seven hundred dollars' worth of books made for the beginning of a free library in a manufacturing and farming town, whose inhabitants are of average intelligence.

THE AGE OF ELECTRICITY.

IN the closing sentence of this book the author remarks that we are to-day entering upon the age of electricity; so that, in spite of its title, the volume must be regarded as a discussion of incidents in the world's history which were necessary and preliminary to its complete preparation for the phase of its existence which it is now about to take on. Now and then, throughout its nearly four hundred pages, prophetic glimpses are afforded of what this age may have in store for us, but in the main the author has confined himself to the safer ground of already accomplished fact.

The reader is carried from the 'myth of the amber-soul,' which is discoursed upon in the first chapter, to nearly the latest application filed in the patent office up to date; and, in a general way, the task of summarizing the vast amount of information which scattered itself with great irregularity along the centuries from the earliest of these dates to the latest has been well and satisfactorily performed.

The book is written in the interests of the general public, and is nearly free from technicalities, which are so often a bugbear to the general reader. While not especially intended for the student of electricity, it will prove to be a useful book of reference to many whose collections are limited, as it contains a good deal of historical information not otherwise accessible in a single volume. Considered in relation to the supposed demands of the general reader, the author has perhaps erred somewhat in often going into details which may serve to complicate rather than to simplify, and, in a few instances, in avoiding the discussion of an interesting subject because of its seeming difficulty.

Several inaccurate and misleading statements are found scattered through the book, which are all the more noticeable on account of its general excellence. Early in his discussion the author defines the units now commonly used in electrical measurement: but he has not been able to avoid confusion in their use subsequently, as when he states that the quantity of current necessary to decompose a grain of water is 3.13 ampères, and in other instances. Many readers will be astonished at the statement that the resistance of a battery-cell is in no way altered by increasing or diminishing the size of the plates. The assumption of the resistance of what the author continually calls a 'strange atmosphere' around the poles of a magnet, and in the neighborhood of a conductor conveying a current, in order to account for the phenomena of the magnetic field, would hardly seem to be warranted, even in a popular treatment of the subject.

In his historical references, the author is disposed to give due credit to American science and invention, although in his discussion of the induction coil he nowhere mentions the important contributions of Mr. E. L. Ritchie; and his treatment of contemporaneous discovery and invention does not seem to be quite free from prejudice and bias.

Notwithstanding these and some other faults, the book contains a vast amount of interesting information, presented in an interesting way, and it will doubtless find an appreciative audience. It presents a handsome appearance, and the numerous illustrations are generally appropriate adjuncts to the text. In the fine full-page cut, however, showing a man of war destroyed by a fish-torpedo,

The age of electricity. By PARK BENJAMIN. New York, *Scribner*, 1886. 12°.