On Books and The Housing of Them

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In the old age of his intellect (which at this point seemed to taste a little of decrepitude), Strauss declared [1] that the doctrine of immortality has recently lost the assistance of a passable argument, inasmuch as it has been discovered that the stars are inhabited; for where, he asks, could room now be found for such a multitude of souls? Again, in view of the current estimates of prospective population for this earth, some people have begun to entertain alarm for the probable condition of England (if not Great Britain) when she gets (say) seventy millions that are allotted to her against six or eight hundred millions for the United States. We have heard in some systems of the pressure of population upon food; but the idea of any pressure from any quarter upon space is hardly yet familiar. Still, I suppose that many a reader must have been struck with the naive simplicity of the hyperbole of St. John, [2] perhaps a solitary unit of its kind in the New Testament: "the which if they should be written every one, I suppose that even the world itself could not contain the books that should be written."

A book, even Audubon (I believe the biggest known), is smaller than a man; but, in relation to space, I entertain more proximate apprehension of pressure upon available space from the book population than from the numbers of mankind. We ought to recollect, with more of a realized conception than we commonly attain to, that a book consists, like a man, from whom it draws its lineage, of a body and a soul. They are not always proportionate to each other. Nay, even the different members of the book−body do not sing, but clash, when bindings of a profuse costliness are imposed, as too often happens in the case of Bibles and books of devotion, upon letter−press which is respectable journeyman's work and nothing more. The men of the Renascence had a truer sense of adaptation; the age of jewelled bindings was also the age of illumination and of the beautiful miniatura, which at an earlier stage meant side or margin art,[3] and then, on account of the small portraitures included in it, gradually slid into the modern sense of miniature. There is a caution which we ought to carry with us more and more as we get in view of the coming period of open book trade, and of demand practically boundless. Noble works ought not to be printed in mean and worthless forms, and cheapness ought to be limited by an instinctive sense and law of fitness. The binding of a book is the dress with which it walks out into the world. The paper, type and ink are the body, in which its soul is domiciled. And these three, soul, body, and habilament, are a triad which ought to be adjusted to one another by the laws of harmony and good sense.

Already the increase of books is passing into geometrical progression. And this is not a little remarkable when we bear in mind that in Great Britain, of which I speak, while there is a vast supply of cheap works, what are termed "new publications" issue from the press, for the most part, at prices fabulously high, so that the class of real purchasers has been extirpated, leaving behind as buyers only a few individuals who might almost be counted on the fingers, while the effective circulation depends upon middle−men through the engine of circulating libraries. These are not so much owners as distributers of books, and they mitigate the difficulty of dearness by subdividing the cost, and then selling such copies as are still in decent condition at a large reduction. It is this state of things, due, in my opinion, principally to the present form of the law of copyright, which perhaps may have helped to make way for the satirical (and sometimes untrue) remark that in times of distress or pressure men make their first economies on their charities, and their second on their books.

The annual arrivals at the Bodleian Library are, I believe, some twenty thousand; at the British Museum, forty thousand, sheets of all kinds included. Supposing three−fourths of these to be volumes, of one size or another, and to require on the average an inch of shelf space, the result will be that in every two years nearly a mile of new shelving will be required to meet the wants of a single library. But, whatever may be the present rate of growth, it is small in comparison with what it is likely to become. The key of the question lies in the hands of the United Kingdom and the United States jointly. In this matter there rests upon these two Powers no small responsibility. They, with their vast range of inhabited territory, and their unity of tongue, are masters of the world, which will

have to do as they do. When the Britains and America are fused into one book market; when it is recognized that letters, which as to their material and their aim are a high−soaring profession, as to their mere remuneration are a trade; when artificial fetters are relaxed, and printers, publishers, and authors obtain the reward which well−regulated commerce would afford them, then let floors beware lest they crack, and walls lest they bulge and burst, from the weight of books they will have to carry and to confine.

It is plain, for one thing, that under the new state of things specialism, in the future, must more and more abound. But specialism means subdivision of labor; and with subdivision labor ought to be more completely, more exactly, performed. Let us bow our heads to the inevitable; the day of encyclopaedic learning has gone by. It may perhaps be said that that sun set with Leibnitz. But as little learning is only dangerous when it forgets that it is little, so specialism is only dangerous when it forgets that it is special. When it encroaches on its betters, when it claims exceptional certainty or honor, it is impertinent, and should be rebuked; but it has its own honor in its own province, and is, in any case, to be preferred to pretentious and flaunting sciolism.

A vast, even a bewildering prospect is before us, for evil or for good; but for good, unless it be our own fault, far more than for evil. Books require no eulogy from me; none could be permitted me, when they already draw their testimonials from Cicero[4] and Macaulay.[5] But books are the voices of the dead. They are a main instrument of communion with the vast human procession of the other world. They are the allies of the thought of man. They are in a certain sense at enmity with the world. Their work is, at least, in the two higher compartments of our threefold life. In a room well filled with them, no one has felt or can feel solitary. Second to none, as friends to the individual, they are first and foremost among the compages, the bonds and rivets of the race, onward from that time when they were first written on the tablets of Babylonia and Assyria, the rocks of Asia minor, and the monuments of Egypt, down to the diamond editions of Mr. Pickering and Mr. Frowde.[6]

It is in truth difficult to assign dimensions for the libraries of the future. And it is also a little touching to look back upon those of the past. As the history of bodies cannot, in the long run, be separated from the history of souls, I make no apology for saying a few words on the libraries which once were, but which have passed away.

The time may be approaching when we shall be able to estimate the quantity of book knowledge stored in the repositories of those empires which we call prehistoric. For the present, no clear estimate even of the great Alexandrian Libraries has been brought within the circle of popular knowledge; but it seems pretty clear that the books they contained were reckoned, at least in the aggregate, by hundreds of thousands.[7] The form of the book, however, has gone through many variations; and we moderns have a great advantage in the shape which the exterior has now taken. It speaks to us symbolically by the title on its back, as the roll of parchment could hardly do. It is established that in Roman times the bad institution of slavery ministered to a system under which books were multiplied by simultaneous copying in a room where a single person read aloud in the hearing of many the volume to be reproduced, and that so produced they were relatively cheap. Had they not been so, they would hardly have been, as Horace represents them, among the habitual spoils of the grocer.[8] It is sad, and is suggestive of many inquiries, that this abundance was followed, at least in the West, by a famine of more than a thousand years. And it is hard, even after all allowances, to conceive that of all the many manuscripts of Homer which Italy must have possessed we do not know that a single parchment or papyrus was ever read by a single individual, even in a convent, or even by a giant such as Dante, or as Thomas Acquinas, the first of them unquestionably master of all the knowledge that was within the compass of his age. There were, however, libraries even in the West, formed by Charlemagne and by others after him. We are told that Alcuin, in writing to the great monarch, spoke with longing of the relative wealth of England in these precious estates. Mr. Edwards, whom I have already quoted, mentions Charles the Fifth of France, in 1365, as a collector of manuscripts. But some ten years back the Director of the Bibliotheque Nationale informed me that the French King John collected twelve hundred manuscripts, at that time an enormous library, out of which several scores where among the treasures in his care. Mary of Medicis appears to have amassed in the sixteenth century, probably with far less effort, 5,800 volumes.[9] Oxford had before that time received noble gifts for her University Library. And we have to recollect with shame and indignation that that institution was plundered and destroyed by the Commissioners of the boy King Edward the Sixth, acting in the name of the Reformation of Religion. Thus it happened that opportunity was left to a private individual, the munificent Sir Thomas Bodley, to attach an individual name to one of the famous libraries of the world. It is interesting to learn that municipal bodies have a share in the honor due to monasteries and sovereigns in the collection of books; for the Common Council of Aix

purchased books for a public library in 1419.[10]

Louis the Fourteenth, of evil memory, has at least this one good deed to his credit, that he raised the Royal Library at Paris, founded two centuries before, to 70,000 volumes. In 1791 it had 150,000 volumes. It profited largely by the Revolution. The British Museum had only reached 115,000 when Panizzi became keeper in 1837. Nineteen years afterward he left it with 560,000, a number which must now have more than doubled. By his noble design for occupying the central quadrangle, a desert of gravel until his time, he provided additional room for 1,200,000 volumes. All this apparently enormous space for development is being eaten up with fearful rapidity; and such is the greed of the splendid library that it opens its jaws like Hades, and threatens shortly to expel the antiquities from the building, and appropriate the places they adorn.

But the proper office of hasty retrospect in a paper like this is only to enlarge by degrees, like the pupil of an eye, the reader's contemplation and estimate of the coming time, and to prepare him for some practical suggestions of a very humble kind. So I take up again the thread of my brief discourse. National libraries draw upon a purse which is bottomless. But all public libraries are not national. And the case even of private libraries is becoming, nay, has become, very serious for all who are possessed by the inexorable spirit of collection, but whose ardor is perplexed and qualified, or even baffled, by considerations springing from the balance−sheet.

The purchase of a book is commonly supposed to end, even for the most scrupulous customer, with the payment of the bookseller's bill. But this is a mere popular superstition. Such payment is not the last, but the first term in a series of goodly length. If we wish to give to the block a lease of life equal to that of the pages, the first condition is that it should be bound. So at least one would have said half a century ago. But, while books are in the most instances cheaper, binding, from causes which I do not understand, is dearer, at least in England, than it was in my early years, so that few can afford it.[11] We have, however, the tolerable and very useful expedient of cloth binding (now in some danger, I fear, of losing its modesty through flaring ornamentation) to console us. Well, then, bound or not, the book must of necessity be put into a bookcase. And the bookcase must be housed. And the house must be kept. And the library must be dusted, must be arranged, should be catalogued. What a vista of toil, yet not unhappy toil! Unless indeed things are to be as they now are in at least one princely mansion of this country, where books, in thousands upon thousands, are jumbled together with no more arrangement than a sack of coals; where not even the sisterhood of consecutive volumes has been respected; where undoubtedly an intending reader may at the mercy of Fortune take something from the shelves that is a book; but where no particular book can except by the purest accident, be found.

Such being the outlook, what are we to do with our books? Shall we be buried under them like Tarpeia under the Sabine shields? Shall we renounce them (many will, or will do worse, will keep to the most worthless part of them) in our resentment against their more and more exacting demands? Shall we sell and scatter them? as it is painful to see how often the books of eminent men are ruthlessly, or at least unhappily, dispersed on their decease. Without answering in detail, I shall assume that the book−buyer is a book−lover, that his love is a tenacious, not a transitory love, and that for him the question is how best to keep his books.

I pass over those conditions which are the most obvious, that the building should be sound and dry, the apartment airy, and with abundant light. And I dispose with a passing anathema of all such as would endeavour to solve their problem, or at any rate compromise their difficulties, by setting one row of books in front of another. I also freely admit that what we have before us is not a choice between difficulty and no difficulty, but a choice among difficulties.

The objects further to be contemplated in the bestowal of our books, so far as I recollect, are three: economy, good arrangement, and accessibility with the smallest possible expenditure of time.

In a private library, where the service of books is commonly to be performed by the person desiring to use them, they ought to be assorted and distributed according to subject. The case may be altogether different where they have to be sent for and brought by an attendant. It is an immense advantage to bring the eye in aid of the mind; to see within a limited compass all the works that are accessible, in a given library, on a given subject; and to have the power of dealing with them collectively at a given spot, instead of hunting them up through an entire accumulation. It must be admitted, however, that distribution by subjects ought in some degree to be controlled by sizes. If everything on a given subject, from folio down to 32mo, is to be brought locally together, there will be an immense waste of space in the attempt to lodge objects of such different sizes in one and the same bookcase. And this waste of space will cripple us in the most serious manner, as will be seen with regard to the conditions of

economy and of accessibility. The three conditions are in truth all connected together, but especially the two last named.

Even in a paper such as this the question of classification cannot altogether be overlooked; but it is one more easy to open than to close −− one upon which I am not bold enough to hope for uniformity of opinion and of practice. I set aside on the one hand the case of great public libraries, which I leave to the experts of those establishments. And, at the other end of the scale, in small private libraries the matter becomes easy or even insignificant. In libraries of the medium scale, not too vast for some amount of personal survey, some would multiply subdivision, and some restrain it. An acute friend asks me under what and how many general headings subjects should be classified in a library intended for practical use and reading, and boldly answers by suggesting five classes only: (1) science, (2) speculation, (3) art, (4) history, and (5) miscellaneous and periodical literature. But this seemingly simple division at once raises questions both of practical and of theoretic difficulty. As to the last, periodical literature is fast attaining to such magnitude, that it may require a classification of its own, and that the enumeration which indexes supply, useful as it is, will not suffice. And I fear it is the destiny of periodicals as such to carry down with them a large proportion of what, in the phraseology of railways, would be called dead weight, as compared with live weight. The limits of speculation would be most difficult to draw. The diversities included under science would be so vast as at once to make sub− classification a necessity. The olog−ies are by no means well suited to rub shoulders together; and sciences must include arts, which are but country cousins to them, or a new compartment must be established for their accomodation. Once more, how to cope with the everlasting difficulty of 'Works'? In what category to place Dante, Petrarch, Swedenborg, Burke, Coleridge, Carlyle, or a hundred more? Where, again, is Poetry to stand? I apprehend that it must take its place, the first place without doubt, in Art; for while it is separated from Painting and her other 'sphere−born harmonious sisters' by their greater dependence on material forms they are all more inwardly and profoundly united in their first and all−enfolding principle, which is to organize the beautiful for presentation to the perceptions of man.

But underneath all particular criticism of this or that method of classification will be found to lie a subtler question −− whether the arrangement of a library ought not in some degree to correspond with and represent the mind of the man who forms it. For my own part, I plead guilty, within certain limits, of favoritism in classification. I am sensible that sympathy and its reverse have something to do with determining in what company a book shall stand. And further, does there not enter into the matter a principle of humanity to the authors themselves? Ought we not to place them, so far as may be, in the neighborhood which they would like? Their living manhoods are printed in their works. Every reality, every tendency, endures. Eadem sequitur tellure sepultos.

I fear that arrangement, to be good, must be troublesome. Subjects are traversed by promiscuous assemblages of 'works;' both by sizes; and all by languages. On the whole I conclude as follows. The mechanical perfection of a library requires an alphabetical catalogue of the whole. But under the shadow of this catalogue let there be as many living integers as possible, for every well−chosen subdivision is a living integer and makes the library more and more an organism. Among others I plead for individual men as centres of subdivision: not only for Homer, Dante, Shakespeare, but for Johnson, Scott, and Burns, and whatever represents a large and manifold humanity.

The question of economy, for those who from necessity or choice consider it at all, is a very serious one. It has been a fashion to make bookcases highly ornamental. Now books want for and in themselves no ornament at all. They are themselves the ornament. Just as shops need no ornament, and no one will think of or care for any structural ornament, if the goods are tastefully disposed in the shop−window. The man who looks for society in his books will readily perceive that, in proportion as the face of his bookcase is occupied by ornament, he loses that society; and conversely, the more that face approximates to a sheet of bookbacks, the more of that society he will enjoy. And so it is that three great advantages come hand in hand, and, as will be seen, reach their maximum together: the sociability of books, minimum of cost in providing for them, and ease of access to them.

In order to attain these advantages, two conditions are fundamental. First, the shelves must, as a rule, be fixed; secondly, the cases, or a large part of them, should have their side against the wall, and thus, projecting into the room for a convenient distance, they should be of twice the depth needed for a single line of books, and should hold two lines, one facing each way. Twelve inches is a fair and liberal depth for two rows of octavos. The books are thus thrown into stalls, but stalls after the manner of a stable, or of an old−fashioned coffee−room; not after the manner of a bookstall, which, as times go, is no stall at all, but simply a flat space made by putting some

scraps of boarding together, and covering them with books.

This method of dividing the longitudinal space by projections at right angles to it, if not very frequently used, has long been known. A great example of it is to be found in the noble library of Trinity College, Cambridge, and is the work of Sir Christopher Wren. He has kept these cases down to very moderate height, for he doubtless took into account that great heights require long ladders, and that the fetching and use of these greatly add to the time consumed in getting or in replacing a book. On the other hand, the upper spaces of the walls are sacrificed, whereas in Dublin, All Souls, and many other libraries the bookcases ascend very high, and magnificent apartments walled with books may in this way be constructed. Access may be had to the upper portions by galleries; but we cannot have stairs all round the room, and even with one gallery of books a room should not be more than from sixteen to eighteen feet high if we are to act on the principle of bringing the largest possible number of volumes into the smallest possible space. I am afraid it must be admitted that we cannot have a noble and imposing spectacle, in a vast apartment, without sacrificing economy and accessibility; and vice versa.

The projections should each have attached to them what I rudely term an endpiece (for want of a better name), that is, a shallow and extremely light adhering bookcase (light by reason of the shortness of the shelves), which both increases the accommodation, and makes one short side as well as the two long ones of the parallelopiped to present simply a face of books with the lines of shelf, like threads, running between the rows.

The wall−spaces between the projections ought also to be turned to account for shallow bookcases, so far as they are not occupied by windows. If the width of the interval be two feet six, about sixteen inches of this may be given to shallow cases placed against the wall.

Economy of space is in my view best attained by fixed shelves. This dictum I will now endeavor to make good. If the shelves are movable, each shelf imposes a dead weight on the structure of the bookcase, without doing anything to support it. Hence it must be built with wood of considerable mass, and the more considerable the mass of wood the greater are both the space occupied and the ornament needed. When the shelf is fixed, it contributes as a fastening to hold the parts of the bookcase together; and a very long experience enables me to say that shelves of from half− to three−quarters of an inch worked fast into uprights of from three−quarters to a full inch will amply suffice for all sizes of books except large and heavy folios, which would probably require a small, and only a small, addition of thickness.

I have recommended that as a rule the shelves be fixed, and have given reasons for the adoption of such a rule. I do not know whether it will receive the sanction of authorities. And I make two admissions. First, it requires that each person owning and arranging a library should have a pretty accurate general knowledge of the sizes of his books. Secondly, it may be expedient to introduce here and there, by way of exception, a single movable shelf; and this, I believe, will be found to afford a margin sufficient to meet occasional imperfections in the computation of sizes. Subject to these remarks, I have considerable confidence in the recommendation I have made.

I will now exhibit to my reader the practical effect of such arrangement, in bringing great numbers of books within easy reach. Let each projection be three feet long, twelve inches deep (ample for two faces of octavos), and nine feet high, so that the upper shelf can be reached by the aid of a wooden stool of two steps not more than twenty inches high, and portable without the least effort in a single hand. I will suppose the wall space available to be eight feet, and the projections, three in number, with end pieces need only jut out three feet five, while narrow strips of bookcase will run up the wall between the projections. Under these conditions, the bookcases thus described will carry above 2,000 octavo volumes.

And a library forty feet long and twenty feet broad, amply lighted, having some portion of the centre fitted with very low bookcases suited to serve for some of the uses of tables, will receive on the floor from 18,000 to 20,000 volumes of all sizes, without losing the appearance of a room or assuming that of a warehouse, and while leaving portions of space available near the windows for purposes of study. If a gallery be added, there will be accommodation for a further number of five thousand, and the room need be no more than sixteen feet high. But a gallery is not suitable for works above the octavo size, on account of inconvenience in carriage to and fro.

It has been admitted that in order to secure the vital purpose of compression with fixed shelving, the rule of arrangement according to subjects must be traversed partially by division into sizes. This division, however, need not, as to the bulk of the library, be more than threefold. The main part would be for octavos. This is becoming more and more the classical or normal size; so that nowadays the octavo edition is professionally called the library edition. Then there should be deeper cases for quarto and folio, and shallower for books below octavo,

each appropriately divided into shelves.

If the economy of time by compression is great, so is the economy of cost. I think it reasonable to take the charge of provision for books in a gentleman's house, and in the ordinary manner, at a shilling a volume. This may vary either way, but it moderately represents, I think, my own experience, in London residences, of the charge of fitting up with bookcases, which, if of any considerable size, are often unsuitable for removal. The cost of the method which I have adopted later in life, and have here endeavored to explain, need not exceed one penny per volume. Each bookcase when filled represents, unless in exceptional cases, nearly a solid mass. The intervals are so small that, as a rule, they admit a very small portion of dust. If they are at a tolerable distance from the fireplace, if carpeting be avoided except as to small movable carpets easily removed for beating, and if sweeping be discreetly conducted, dust may, at any rate in the country, be made to approach to a quantite negligeab1e.

It is a great matter, in addition to other advantages, to avoid the endless trouble and the miscarriages of movable shelves; the looseness, and the tightness, the weary arms, the aching fingers, and the broken fingernails. But it will be fairly asked what is to be done, when the shelves are fixed, with volumes too large to go into them? I admit that the dilemma, when it occurs, is formidable. I admit also that no book ought to be squeezed or even coaxed into its place: they should move easily both in and out. And I repeat here that the plan I have recommended requires a pretty exact knowledge by measurement of the sizes of books and the proportions in which the several sizes will demand accommodation. The shelf−spacing must be reckoned beforehand, with a good deal of care and no little time. But I can say from experience that by moderate care and use this knowledge can be attained, and that the resulting difficulties, when measured against the aggregate of convenience, are really insignificant. It will be noticed that my remarks are on minute details, and that they savor more of serious handiwork in the placing of books than of lordly survey and direction. But what man who really loves his books delegates to any other human being, as long as there is breath in his body, the office of inducting them into their homes?

And now as to results. It is something to say that in this way 10,000 volumes can be placed within a room of quite ordinary size, all visible, all within easy reach, and without destroying the character of the apartment as a room. But, on the strength of a case with which I am acquainted, I will even be a little more particular. I take as before a room of forty feet in length and twenty in breadth, thoroughly lighted by four windows on each side; as high as you please, but with only about nine feet of height taken for the bookcases: inasmuch as all heavy ladders, all adminicula requiring more than one hand to carry with care, are forsworn. And there is no gallery. In the manner I have described, there may be placed on the floor of such a room, without converting it from a room into a warehouse, bookcases capable of receiving, in round numbers, 20,000 volumes.

The state of the case, however, considered as a whole, and especially with reference to libraries exceeding say 20,000 or 30,000 volumes, and gathering rapid accretions, has been found to require in extreme cases, such as those of the British Museum and the Bodleian (on its limited site), a change more revolutionary in its departure from, almost reversal of, the ancient methods, than what has been here described.

The best description I can give of its essential aim, so far as I have seen the processes (which were tentative and initial), is this. The masses represented by filled bookcases are set one in front of another; and, in order that access may be had as it is required, they are set upon trams inserted in the floor (which must be a strong one), and wheeled off and on as occasion requires.

The idea of the society of books is in a case of this kind abandoned. But even on this there is something to say. Neither all men nor all books are equally sociable. For my part I find but little sociabilty in a huge wall of Hansards, or (though a great improvement) in the Gentleman's Magazine, in the Annual Registers, in the Edinburgh and Quarterly Reviews, or in the vast range of volumes which represent pamphlets innumerable. Yet each of these and other like items variously present to us the admissible, or the valuable, or the indispensable. Clearly these masses, and such as these, ought to be selected first for what I will not scruple to call interment. It is a burial; one, however, to which the process of cremation will never of set purpose be applied. The word I have used is dreadful, but also dreadful is the thing. To have our dear old friends stowed away in catacombs, or like the wine−bottles in bins: the simile is surely lawful until the use of that commodity shall have been prohibited by the growing movement of the time. But however we may gild the case by a cheering illustration, or by the remembrance that the provision is one called for only by our excess of wealth, it can hardly be contemplated without a shudder at a process so repulsive applied to the best beloved among inanimate objects.

It may be thought that the gloomy perspective I am now opening exists for great public libraries alone. But public libraries are multiplying fast, and private libraries are aspiring to the public dimensions. It may be hoped that for a long time to come no grave difficulties will arise in regard to private libraries, meant for the ordinary use of that great majority of readers who read only for recreation or for general improvement. But when study, research, authorship, come into view, when the history of thought and of inquiry in each of its branches, or in any considerable number of them, has to be presented, the necessities of the case are terribly widened. Chess is a specialty and a narrow one. But I recollect a statement in the Quarterly Review, years back, that there might be formed a library of twelve hundred volumes upon chess. I think my deceased friend, Mr. Alfred Denison, collected between two and three thousand upon angling. Of living Englishmen perhaps Lord Acton is the most effective and retentive reader; and for his own purposes he has gathered a library of not less, I believe, than 100,000 volumes.

Undoubtedly the idea of book−cemeteries such as I have supposed is very formidable. It should be kept within the limits of the dire necessity which has evoked it from the underworld into the haunts of living men. But it will have to be faced, and faced perhaps oftener than might be supposed. And the artist needed for the constructions it requires will not be so much a librarian as a warehouseman.

But if we are to have cemeteries, they ought to receive as many bodies as possible. The condemned will live ordinarily in pitch darkness, yet so that when wanted, they may be called into the light. Asking myself how this can most effectively be done, I have arrived at the conclusion that nearly two−thirds, or say three−fifths, of the whole cubic contents of a properly constructed apartment[12] may be made a nearly solid mass of books: a vast economy which, so far as it is applied, would probably quadruple or quintuple the efficiency of our repositories as to contents, and prevent the population of Great Britain from being extruded some centuries hence into the surrounding waters by the exorbitant dimensions of their own libraries.

− The End −

FOOTNOTES:

1− In Der alte und der neue Glaube

2− xxi, 25.

3− First of all it seems to have referred to the red capital letters placed at the head of chapters or other divisions of works.

4− Cic. Pro Archia poeta, vii.

5− Essays Critical and Historical, ii. 228.

6− The Prayer Book recently issued by Mr. Frowde at the Clarendon Press weighs, bound in morocco, less than an once and a quarter. I see it stated that unbound it weighs three−quarters of an ounce. Pickering's Cattullus, Tibullus, and Propertius in leather binding, weighs an ounce and a quarter. His Dante weighs less than a number of the Times.

7− See Libraries and the Founders of Libraries, by B. Edwards, 1864, p. 5. Hallam, Lit. Europe.

8− Hor. Ep. II. i. 270; Persius, i. 48; Martial, iv. lxxxvii. 8.

9− Edwards.

10− Rouard, Notice sur la Bibliotheque d'Aix, p. 40. Quoted in Edwards, p. 34.

11− The Director of the Bibliotheque Nationale in Paris, which I suppose still to be the first library in the world, in doing for me most graciously the honors of that noble establishment, informed me that they full−bound annually a few scores of volumes, while they half−bound about twelve hundred. For all the rest they had to be contented with a lower provision. And France raises the largest revenue in the world.

12− Note in illustration. Let us suppose a room 28 feet by 10, and a little over 9 feet high. Divide this longitudinally for a passage 4 feet wide. Let the passage project 12 to 18 inches at each end beyond the line of the wall. Let the passage ends be entirely given to either window or glass door. Twenty−four pairs of trams run across the room. On them are placed 56 bookcases, divided by the passage, reaching to the ceiling, each 3 feet broad, 12 inches deep, and separated from its neighbors by an interval of 2 inches, and set on small wheels, pulleys, or rollers, to work along the trams. Strong handles on the inner side of each bookcase to draw it out into the passage. Each of these bookcases would hold 500 octavos; and a room of 28 feet by 10 would receive 25,000 volumes. A room of 40 feet by 20 (no great size) would receive 60,000, It would, of course, be not properly a room, but a warehouse.