Where is the evidence? A review of the literature on the usability of book indexes

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Mary Coe reviews the literature in search of an evidence base for book indexing practice. She discovers that while research has been conducted on index characteristics and usability, it has been systems-focused, and that little is known about what readers expect from book indexes and how they use them. She suggests that user studies could contribute not only to development of better indexing practice but to greater knowledge of human information behaviour.

Introduction

Book indexers have been calling for research on indexing for many years. Ken Bakewell (1993) suggested that the British Standard for Indexing was based on assumptions about users of indexes and that research into user behaviour was needed. His review of research activity to that date revealed controversial issues in indexing practices that remained unresolved because of the lack of evidence. He also pointed out that methods of researching user reactions to indexes had not been adequately developed. A year later, Jessica Milstead (1994) identified a 'near-total dearth' of research on print indexes. While applauding several recent studies that represented a counter-trend, she was particularly concerned that user studies were lacking. In stating her case, she noted that 'indexers need answers to a fundamental set of questions about users, particularly questions about their cognitive state, and the amount of effort that they can be expected to undertake and under what circumstances' (Milstead, 1994: 577).

In 2014, two decades on from Bakewell and Milstead’s calls for research, has the situation improved for book indexers? Have user studies been conducted that will provide some evidence base for professional indexers attempting to improve their practice and develop justifiable standards? This literature review attempts to answer that question by identifying and analysing recent research on book indexing. Literature from related fields, such as human information behaviour, and on new book formats, such as ebooks, is considered briefly, but the primary focus of the review is research on indexes for print books.

Book index, definition of

If you don’t find it in the index, look very carefully through the entire catalogue.

(Sears, Roebuck, and Co., Consumer’s guide, 1897)

This quote points directly to users’ expectations of the usefulness of a book index. Do readers assume that the index will help them? What course of action will they take if they don’t find it useful? To step back even further, what do readers think an index is?

While professional indexers may understand what a book index is, readers might not always work from the same definition. Digital formats for reading material have highlighted the difference between professional approaches to indexes and popular expectations (Johncocks, 2008a). For example, Hanson (2007: 83) states that indexes are unnecessary for ebooks because the reader can use the search function to locate information ‘in a matter of seconds’ and construct an ‘index’ by doing a ‘keyword search’. Hanson’s fundamental confusion between a concordance (a list of words used in a body of work) and an index (a finding aid that directs users not only to words in the text but to concepts and synonyms in order to provide multiple points of access) indicates that the first point of any user study should be a careful definition of the meaning and purpose of a book index.

There are many definitions of an index in the professional literature, such as Hans Welsch’s (1991: xxi) statement that an index is ‘an alphabetically or otherwise ordered arrangement of entries, different than the order of the material in the indexed document, and designed to enable its users to locate information in it’. Anderson (1993) and Anderson and Pérez-Carballo (2005: 14) define an index as ‘any device that is (or can be) used to indicate or point to something of interest’. They suggest that a table of contents might also constitute an index, as it meets this definition (Anderson and Pérez-Carballo, 2005: 439). This is an interesting point, as many readers might use the finding aid at the front of the book (the table of contents) more often than the index at the back of the book.

But what is meant by a ‘good’ index? Donald and Ana Cleveland (1990: 143) suggested that it was one that ‘leads a user to the exact information that is needed, with no hurdles and no irrelevant material’. G. Norman Knight (1979: 20) quoted John Rothman, editor of the New York Times Index, to the effect that ‘an index is as good as its users think it is’. Users might describe concordances as indexes and expect to find nothing more than lists of words taken from the text in the ‘index’, or assume that by using search functions in digital products they are able to ‘index’ as well as the professionals. The sophisticated systems that professional indexers use to create their product might not be understood by users or even by publishers and editors (Boschieter, 2006; Lipetz, 1989). It is beyond the scope of this review to discuss the art of book indexing, but the fundamental question of whether readers understand that there is such a process should not...
be ignored in conducting indexing research. A user’s definition of an index will influence their expectations for index use and should also influence the indexing process (Bell, 1996).

**Book indexing, practices and standards**

Professional indexers may understand what they mean by an index and the purpose of the product that they create, but there is conflicting advice on how to go about creating it. Compounding this confusion is the lack of an evidence base for professional standards and practices.

Hans Wellisch offered this revealing statement in his book *Indexing from A to Z*:

> Whenever I recommend a practice or procedure, I try to justify it by stating my reasons, rather than relying merely on tradition or custom. Time and again in my research into the origins of various rules and practices widely accepted as gospel in the library field and in the more specialized one of indexing, I find that they were the ideas of (mostly anonymous) persons who imposed them following their own predilections or idiosyncrasies but seldom if ever based them on facts, observation, collection of data and their interpretation, or on research into causes and effects. (Wellisch, 1991: xviii)

Fortunately, Wellisch does clarify that his justifications for rules and procedures are based on helping users to find information as quickly and effectively as possible, and that he does not expect users to have any knowledge of the rules of indexing.

Other professional authorities have generally been upfront about the lack of evidence on which to base their recommendations. While earlier texts, such as *Indexing, the art of* (Knight, 1979) do not include a reference list, authors in the 1990s and beyond have looked for research and either noted its absence or used what they could find to justify their decisions. The authors of *Introduction to indexing and abstracting* readily acknowledge that although ‘much has been said about how indexing must be aimed at the user, little is understood about the needs of users’ (Cleveland and Cleveland, 1990: 144). In *The indexing companion* (2007), Glenda Browne and Jon Jersey identify findings from book index research conducted in the 1990s (the counter-trend mentioned by Milstead above) and state that they will apply it to relevant sections of their handbook when possible.

There has been much discussion in the literature about the lack of evidence supporting indexing standards and the difficulties inherent in regulating the practice of indexing. At the 1993 ASI conference, held only a month after the publication of Bakewell’s call for research, standards and indexing research were the subject of several papers (Anderson, 1993; Kleinberg, 1993; Liddy and Jorgensen, 1993; Shuter, 1993). Bakewell (1990: 127) described the lengthy and difficult process of attempting to revise the international standard in the 1990s, and noted ironically that the draft version included an index which contravened many of the recommendations made in the text of the standard. Gratch, Settel and Atherton (1978: 14) commented that it was ‘impossible’ to develop valid standards because of the lack of empirical research on book indexes, and advised indexers to work to the content of each unique book, or the what aspect of indexing, instead of trying to apply standards that only concentrate on the how of indexing. Hazel Bell (1993: 232–3) also noted that standards were often concerned with the structure of indexes, rather than the relation of the index to the text, because this was an easier aspect to regulate.

In reviewing the index-related sections of the 14th edition of *The Chicago manual of style*, Bella Hass Weinberg (1994: 109) noted that not only was the ASI not involved in writing those sections, indexing experts such as Nancy Mulvany, author of *Indexing books* (2005), disagreed with the *Chicago* rules for indexing (Weinberg, 1994: 105). Weinberg (1994: 108) also pointed out that the index to the *Chicago manual* didn’t follow the rules stated in the text.

While indexers have moved successfully into the modern age, replacing index cards and shoe boxes with dedicated indexing software as tools of their trade, they are continuing to not only use but advocate indexing practices that were devised in an earlier era and based on tradition, rather than a documented understanding of index user behaviour (Anderson and Pérez-Carballe, 2005; Calvert, 1996). Many examples of conflicting advice on indexing practices can be found, but they are beyond the scope of this review. Suffice it to say that more research on indexing is needed to determine whether current indexing practices and standards meet not only the needs of indexers but also those of users.

**Literature review, search method**

As a professional indexer, my approach to this literature review has been one of ‘creative inquiry’ and as a ‘dialogue’ between myself and my professional practice (Montuori, 2005: 375). I have gathered literature from the professional indexing community through informal channels, such as personal contacts, and through formal channels, such as conference papers and journal libraries. I have made extensive use of the ‘ancestry approach’ (Cooper, 1998: 56) in examining reference lists and citations in the materials as I collect them. I have searched *The Indexer*, using both the online archive and the journal index, and I have searched the online archive of *Key Words* (2004–14). I have also utilized Google Scholar and a university library’s discovery tool to search multiple databases and repositories, using the terms ‘book index’, ‘index usability’ and ‘index user’.

**Book indexes, research on**

*Usability studies versus user studies*

Many index usability studies are system-oriented and based on the Cranfield paradigm, using a static test collection of documents and questions to conduct task-based research with an emphasis on recall and precision metrics (Fidel, 2008; Harman, 2011; Regazzi, 1980; Vakkari, 2003). In contrast, user studies take a people-oriented approach to investigate user behaviour in context, often using more qualitative methods to obtain rich data (Banwell and Coulson, 2014).
Coe: Where is the evidence?

While there is no ‘right’ way to design research, the methods chosen should reflect the goals of the study (Harman, 2011: 72). While examining the research on book indexes, it is important to distinguish between studies that focus on indexes as a system to be evaluated for usability and studies that focus on the behaviour and expectations of index users.

Quantitative studies

Johncocks (2008b) notes that although indexing ‘has always been essentially non-quantitative in character’, there is still an interest in developing a metric for index quality, which he defines as ‘ease of use’. Most of the quantitative studies of book indexes focus on index quality, and almost all of them conclude that index quality cannot readily be determined without more research into user behaviour. Bishop, Liddy and Settel’s (1991a, 1991b) two-part index quality study is modelled on the earlier work of Gratch, Settel and Atherton (1978), which analysed the characteristics of book indexes for subject retrieval.

Gratch and colleagues’ study revealed that indexes are inconsistent and do not follow standards, which could potentially hamper their use in a database for computer-based subject searching. The study did not include testing of such a database and did not evaluate the indexes against the text of the books, which makes it difficult to determine not only whether the goal of the study was achieved but whether index quality was adequately measured.

Bishop and colleagues also cite Wittman’s (1990) quantitative evaluation of subheadings in award-winning book indexes and Diodato and Gandt’s (1991) exploratory study of author and nonauthor indexing. Like Johncocks, Diodato and Gandt acknowledge that book indexes are not readily ‘quantifiable’; nevertheless, the stated purpose of the study was to develop a metric to determine who authored an index. Unfortunately, they do not determine how many of the nonauthors were professional indexers. Although we could assume that many of them were, it would be difficult to apply this study to professional indexing practice.

Wittman (1990) found that the subheadings in four indexes that had won the Wheatley Medal had certain characteristics not found in non-award-winning indexes. While this study may reveal the preferences of Wheatley Medal judges, it does not shed any light on how users would prefer to see index subheadings.

Bishop and colleagues’ (1991a, 1991b) descriptive, exploratory index quality study was much larger in scope than anything previously reported. It was supported by a grant from OCLC, and data collection was carried out by 20 students in a graduate indexing and abstracting class. The purpose of the study was to describe characteristics of book indexes, assess their quality, and describe publishers’ policies on book index production. The first part of the study employed the same methodology used by Gratch and colleagues (1978), and the results obtained were compared with the earlier study. Part two included the survey of publishers and a qualitative analysis that attempted to determine how following standards would ‘contribute to the perceived quality of indexes’. Index evaluation for the
The qualitative portion of the study was carried out by the graduate students, who were assumed to be ‘well-prepared index evaluators’ based on their involvement in the course. The students were asked to re-index portions of the texts and their indexes were compared with the published index for ‘completeness, accuracy, and precision’. The conclusions presented from this qualitative analysis appear to be based on the students’ comments on the usability of their own indexes. Unfortunately, the indexes were not tested with users in any real-world context. Echoing the other researchers that they cite, Bishop and colleagues state that quantitative methods can only offer preliminary results, and that final conclusions about index quality can only be made after conducting studies of the behaviour and cognitive processes of index users.

Babu (1992) conducted a questionnaire-based survey of user preferences for indexes which provides some insight into index users’ expectations; however, the narrow scope of the survey (frequent users of philosophy books from universities in South India) limits applicability of the results to broader indexing practice. Diodato’s (1994) larger user preference survey was also limited by the study sample (librarians and professors), who were assumed to be index users based on the fact that they read books. Again, Diodato suggested that more in-depth studies of index users should be conducted.

**Qualitative studies**

Liddy and Jörgensen followed up Bishop and colleagues’ index quality study (1991a, 1991b) with a task-based usability study (1993; 1996). Their research goal was to observe print index usage in order to determine which index characteristics facilitated information access in print and electronic formats. Unfortunately, the readily available papers on this research only reveal partial results from the study, but these provide interesting data and highlight the need for further research into user behaviour.

Participants in this study were university students who used variations of an index to a familiar undergraduate-level textbook to answer search questions offered by the researchers. Based on their observations, Liddy and Jörgensen surmise that many of the students in the study did not understand the basic structure of a book index, and that many of the assumptions that indexers have about users may be incorrect. It should be noted that all of the study subjects were students from a School of Information Studies, who presumably would have some knowledge of information retrieval tools and methods; however, Liddy and Jörgensen were forced to discard data from one subject who did not even use the index for searching! The results from this study indicate that future research should perhaps focus on users’ awareness and understanding of indexes generally.

Williams and Bakewell (1999) conducted a British Library-sponsored investigation of the quality of indexes to children’s books with the aim of improving the effectiveness of indexes. Their study and Elliston’s report on workshops on indexing for secondary school students are included in the SI publication *Indexing children’s books* (Bakewell et al., 2000). In addition to providing rich detail on children’s approaches to indexes, the study also revealed that children mainly use indexes for the purpose of schoolwork, and that they find indexes to be generally helpful. There is no indication in the study of whether the children in the sample had been taught how to use indexes in school, though the authors do recommend that this should be done.

Elliston’s report on her indexing workshop revealed that many children did not understand where an index was located (many thought that the table of contents was the index) but that they were able to quickly grasp the purpose of an index and how to use it to search for information in a book. Flatoff’s (2007) informal survey of index users, including children, also considered instruction in index use and questioned participants about frequency of index use. While these researchers also included task-based elements in their studies, their initial approach was to inquire about readers’ experience with using indexes. No doubt this step was included because children were involved in the studies, but the assumption that adult users are somehow more familiar with indexes or trained in their use should be tested in a similar fashion.

Susan Olason’s (2000) task-based usability study is often cited in the literature and is well known in the professional indexing community. Olason, a professional indexer with a background in systems engineering, was inspired to conduct the study after hearing many people describe indexes as ‘confusing’. Olason’s research design and translation of findings to a rule-set for indexing could provide a basis for more formal usability studies. While Olason states that participants in the study represent a ‘good cross-section of index users’, it is not clear how she determined that they were in fact index users. Participants were asked whether inclusion of indexes was a factor influencing selection of books for purchase. While the data collected might partly answer the question whether they were index users, the question about book purchasing and her concluding remarks that indexes ‘directly affect publishers’ profits and add value to authors’ reputations’ seems incongruent with the rest of the study.

Some publishers have taken their own steps to investigate index use. Christine Nelson Ryan and Sandra Henselmeier (2000), both involved with indexing at Macmillan Computer Publishing, devised a naturalistic task-based strategy for conducting index usability tests. Questionnaires asking about participants’ attitudes to using indexes, familiarity with the book topic, and frequency of index use were administered, and interviews discussing participants’ observations and ideas for improving indexes were conducted. Despite the careful preparation for this study, it was marred by inadequate test questions that were too vague or misunderstood by participants. Unfortunately, the authors offer only a summary of the test experience and do not present any data from the study or samples of the indexes used. It should be noted that study participants were all publishing company employees, thus their attitudes to and ability to use indexes might not reflect a general population.

The presentation and style of indexes have also been investigated. Hans van der Meij (2002) reported on two task-based usability studies of the effects of indexing styles on task complexity and search efficiency. Unfortunately, it
was not naturalistic research (participants were provided with a perfect match between keywords for searching and index entries) and the index style that was judged to be most effective is rarely used in book publishing. As with previous research, participants were not asked about their experience with using indexes.

Cheryl Landes (2009) led a project that compared indexes prepared by indexers who work with technical books with those working with non-technical material. Indexers themselves were participants in this study, which revealed that indexers’ and readers’ backgrounds both influence use of indexes. Landes moved outside the realm of usability to query participants about the inclusion of indexes in books, which mirrors earlier efforts at proving the importance of indexes to publishers (Olason, 2000; Williams and Bakewell, 1999).

Most of these qualitative studies of book indexes have been task-based usability studies with a focus on readers’ abilities to use indexes as a system. Many have attempted to prove that indexes are worthwhile inclusions in books. A few have explored users’ general knowledge of indexes, and many have called for further study into the behaviour of index users.

Ebooks

Ebooks could provide an unexpected avenue for research into the behaviour of print book index users. Research into ebook search and navigation tools has already provided some interesting insights.

Barnum and colleagues’ study (2004) compared an ebook with and without a hyperlinked index and full-text search capability. It was conducted by graduate students in a usability-testing course, but unfortunately the index was not usability-tested prior to the study and heuristic evaluation was conducted by evaluators without any formal training in writing book indexes. The study participants were familiar with usability testing, with the book used for the study, and with computer use. There is no indication, however, of their experience with book indexes. Given these limitations, it would be difficult to apply any results of this study to print book indexes. However, the researchers do note that users’ perceptions of the tools they are using to navigate ebooks are an important element in their use. They also note many flaws in the ebook navigation tools used in the study. They quote Richard Evans (2002), who suggested that if free text search tools replace indexes in ebooks, ‘important information will no longer be made retrievable. Instead, information will become important simply because it is retrievable.’

Noorhidawati Abdullah has conducted several qualitative and quantitative studies of university students’ attitudes towards ebooks (Abdullah and Gibb, 2007, 2008a, 2008b, 2008c, 2009; Abdullah, 2008; Noorhidawati and Gibb, 2008). These studies revealed that students find browsing of ebook indexes to be an easy task to perform (Noorhidawati and Gibb, 2008) and that students prefer using indexes to other search tools available in ebooks (Abdullah and Gibb, 2009). Task-based usability studies conducted by Abdullah suggest that an index is a more efficient and effective search tool than free text search or using the table of contents in ebooks (Abdullah and Gibb, 2008c, 2009).

Berg, Hoffmann and Dawson’s (2010) qualitative task-based study of undergraduate students’ use of ebooks compared with print books revealed that although students successfully used the indexes in print books to find information, they did not expect to find indexes in ebooks. Consequently, they were more successful in finding information in the print books than in the ebooks. Berg and colleagues state that ‘use of the index was the method least likely to be transferred from print to electronic’. Comparison with Abdullah’s research would suggest that if readers are aware that indexes are available in ebooks, they might prefer to use them and would find them to be the most effective search tool.

In a literature review of ebook studies, Staiger (2012) points out that students may use ebooks in a different way from print books, which complicates comparison of the two formats, and that further research is needed. Thus, it might be difficult to study users’ approaches to ebook indexes without first obtaining a better understanding of their use of print book indexes.

Human information behaviour

There is a cynical view that users approach our libraries and information retrieval systems only as a last resort when there is absolutely nowhere else to turn. When they do come in, they have low expectations, silently demanding very little more than they usually find. Therefore, we continue to operate in the same old way, never fully understanding what is meant by the term ‘use of information.’

(Cleveland and Cleveland, 1990: 144)

Since the above statement was published, there have been many changes in how people access information. Most notably, the widespread use of search engines such as Google and the development of Web 2.0 have greatly enabled the retrieval and sharing of online information. As Johncocks (2008a) points out, exposure to these tools might have also changed the way that users approach indexes. Johncocks urges indexers to question their assumptions about users, and to also consider the task of educating users.

Wilson (2006) has considered how information-seeking behaviour has changed over time, not only in the wider context of the digital world, but in the individual context, suggesting that users learn as they use various information retrieval systems. Drawing on the classic chicken or egg theory, Ménard (2011) has asked ‘which comes first, indexing or retrieval?’ If we do not know how readers actually approach indexes, how can we produce a product that they will want to use? Studies in the field of human information behaviour may assist indexers to reconsider their old ways and question why readers may view the index as the tool of last resort when they can more easily use Google.

Peter Morville (2005: 17) discusses the concept of ‘wayfinding’, which has been applied to user behaviour in the digital environment. In order to prevent users becoming...
‘lost in cyberspace’, orientation and navigation systems that act as ‘breadcrumbs’ and ‘landmarks’ are created in websites. While book indexes may provide a guide to a smaller world (a book), they too provide a map or a ‘wayfinder’; however, users often seem unwilling to use these wayfinders, whether on the web or in a book. Mooer’s law states that ‘an information retrieval system will tend not to be used whenever it is more painful and troublesome for a customer to have it than not to have it’ (Morville, 2005: 44). Similarly, Zipf’s principle of least effort explains that people will follow the course of action that involves the least amount of work (Case, 2012: 174). Morville (2005: 45) reiterates these ideas by suggesting that ‘we cannot assume people will want our information, even if we know that they need our information’.

Solomon (2002: 230) points out that the view of professionals as ‘insiders’ versus the ‘outsider’ view of users should be taken into account when considering the design of information systems. Solomon (2002: 238) also cites studies suggesting that rather than emphasize finality, information systems should support reflection, thinking and learning. Reflecting on 25 years of research into end-user searching, Markey (2007: 1128) suggests that although users prefer to use simple search tools, we should design systems that ‘covertly teach and advise at the same time’. The use of an index as a browsing tool for a book or a wayfinder to orient users to a book’s content and language could be two ways to explain how an index could be used in this manner.

According to Mulvany (1994: 97), one of the most important features of printed indexes is the ability of users to browse through them easily. This feature also allows users who are struggling with a search task to determine whether the information is actually present or whether they are not searching correctly (Mulvany, 1994: 97). A book index, which is a document separate from the text indexed and could be considered to be a ‘hypertext’, allows users to explore a book in a nonlinear fashion (Mulvany, 1994: 92). Unfortunately, as Mulvany (1994: 92) points out, ‘the problem with a good index is that it is low-profile’ and it has a structure that is ‘transparent’ to most users. Cognitive research in information science suggests that the characteristics of both systems and users should be considered to produce interfaces that eliminate as much as possible the ‘cognitive dissonance’ between what users expect and what systems can do (Allen, 1991: 4–5). In the case of print indexes, this means that index users need to have some knowledge of the system in order to use it and that indexers need to think about retrieval when creating an index.

Further book index user and usability studies are needed not only to inform professional practice but to inform other areas of information behaviour research. This interplay of research methods and areas can already be seen in the literature. Hert, Jacob and Dawson’s (2000) usability assessment of online indexing structures used the index usability metrics developed by Liddy and Jørgensen (1993). In a report of a study on website index usability, Kingsley (2008) cited Barnum and colleagues (2004), Liddy and Jørgensen (1996), Ryan and Henselman (2000), and Olason (2000).

The findings of these researchers can in turn provide useful evidence for book indexers. For example, Kingsley (2008) reports that most users are aware of website indexes but don’t use them because they do not expect them to be helpful or confuse them with site maps. As with print book indexes, there may be a disconnect between professional and user definitions of an index and assumptions about index use. Bella Hass Weinberg (1999) suggested that research on indexing could improve Internet access and that the skills of indexers could be applied in many ways beyond the print medium. Indexing research could inform development of information systems and their influence on human information behaviour (Hjorland, 2011).

Conclusion

According to Cevolini (2014), ‘The index is one of the most important knowledge management tools of the typographic age. It is also evidence of the way in which communication media shape both cognitive performance and social memory.’ If this statement is true, it seems puzzling that so little research has been conducted into book index use. Findings so far suggest that index users do not fully understand how to use indexes as they are currently being constructed, and even indexers themselves disagree on how to construct them. There is still no adequate measure of index quality or established method of testing index usability. This lack of an evidence base for indexing practice has an impact not only on print book production but on development of effective ebook search and navigation tools. It represents a knowledge gap in the field of human information behaviour. While the research already conducted has provided useful data, further studies exploring the expectations and needs of index users are needed.

Note

1 It is interesting to note that many of the books in the field of information behaviour have indexes that do not appear to follow current indexing standards or even apply theories of information behaviour. For example, the indexer’s version of Zipf’s principle of least effort or ‘save the time of the user’ is often ignored in favour of long strings of undifferentiated locators and unnecessary cross-references.

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References


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Sympathy for the Index-writer

During an exploration of early volumes of Punch, in relation to a project on historical attitudes to language, David Crystal came across the following article from Volume 15 in 1848 (p. 274). As he comments, the epigram ‘Plus ça change...’, which Jean-Baptiste Karr coined the following year, seems particularly apt.

Pity the poor index-writer!

Only consider the everlasting industry, the indomitable patience, the curious talent it requires to constitute a great Index-writer. Oblivion is his fate – silent contempt is his only reward. His work is referred to probably more than any other in the book; he is always a friend in need when you are long in search of a good article; he is ready at a moment’s notice to point out some particular subject you long to cry or laugh over, and still his work is uncared for, his serried columns of interesting figures are looked over with dry indifference, and not one person in a hundred thousand who takes a valuable volume, such as the Encyclopaedia Britannica, or Punch, is actually aware there is such a person employed upon it as the Index-writer.

It is too bad. Talents like his deserve a higher recognition. Think of the coolness of his head, the firmness of hand, which his work requires! Consider the mischief he might cause if he inadvertently put a 9 instead of a 6! The Index-writer gets blamed, and many are the bitter denunciations vented sometimes upon his anonymous head – but he never gets praised. He is thought nothing of when he is right – and yet when, by the strangest accident, he happens to be wrong. Gracious! what an outcry there is, and nothing is too bad for him.

Man is allowed to err at times, and is forgiven; but an Index-writer must be without a fault - he must be perfection itself. He is the virtual President of the Republic of Letters, and universal suffrage is the only return he gets.

But ‘Wait a little longer.’ The position of the Index-writer must one day be appreciated; the contempt has lasted too long. The brilliant merits of the Index-Writer must shine through the fog that for ages has enveloped them, and the World will, with its future adoration, repair its past neglect. Mankind is not so naturally ungrateful.

We are proud to announce that the first step will immediately be taken towards this mighty vindication. A young man of great talent, who has long distinguished himself in the difficult walks of Index-writing, is about to republish a large collection of them! They will comprise 163 Indexes, selected from all styles of literature, including both the light and the heavy; and the mass of learning they will exhibit will literally astonish the most contemptuous. This work cannot fail to be incalculably valuable to our collection of belles lettres. The Index in the present Number may be taken as a fair specimen.
A systematic literature review of 30 years should reveal evidence toward a maturing research methodology. The results of the systematic review are either summarized in a narrative, or, where there is much quantitative research, in statistical form. A scoping review is very similar, and is a term used to provide a summary of a topic, conducted as a prelude to undertaking further research (see Hidalgo Landa et al. 2011). They searched Pub Med, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and the Cochrane Library, although they excluded grey literature. A literature review is likewise not a collection of quotes and paraphrasing from other sources. A good literature review should critically evaluate the quality and findings of the research. A good literature review should avoid the temptation of stressing the importance of a particular research program. The fact that a researcher is undertaking the research program speaks for its importance, and an educated reader may well be insulted that they are not allowed to judge the importance for themselves. For example, a review of Victorian Age Physics may certainly present J.J. Thomson’s famous experiments in a chronological order. Otherwise, this is usually perceived as being a little lazy, and it is better to organize the review around ideas and individual points.