

# FROM REFERENCES TO ORIGINALITY

Gheorghe Săvoiu<sup>1</sup>, Mladen Čudanov<sup>2</sup>

<sup>1</sup>University of Pitesti, Faculty of Economic Sciences and Law, 1, Targul din Vale, Pitești, Argeș, Romania,

<sup>2</sup>University of Belgrade, Faculty of Organizational Sciences, Jove Ilica 154, 11000 Belgrade, Serbia

<sup>1</sup>e-mail: gsavoIU@yahoo.com; <sup>2</sup>e-mail: mladenc@fon.bg.ac.rs

**Abstract.** *This article aims to analyze the specific approach, from bibliographic references or bibliography to creativity or originality, for the whole procedure of modern research, emphasizing its distinctive tendencies or its characteristics in trans-, inter-, cross- and multidisciplinary research, an aspect announced from the very introductory part. After a section dedicated to the four concepts announced in an attempt to identify some similarities and also differences detailed in this article, between references and bibliography, as well as between creativity and originality, there follows a final section, whose content explores the management of sources or references and bibliography (RM), enumerating some of the freeware or paid software (RMS), so that its use can be ensured in a concrete and efficient way. A few final remarks about the future of this new type of management, specific to scientific research, conclude the article and outline several potential trends in this new narrow or niche managerial field.*

**Keywords:** *references, bibliography, creativity, originality, software (S), reference management (RM), reference management software (RMS), scientific research.*

## 1. INTRODUCTION

The analysis of the specific approach, from bibliographic references or bibliography to creativity or originality, for the whole procedure of modern research, but also in trans-, inter-, cross-, and multi-disciplinary research, starts from some conceptual similarities and differences between the terms references and bibliography, as well as between creativity and originality, and then proceeds with the enumeration and description of modern software useful in the specific management of bibliographies, and thus related to ensuring the creativity or originality of books, articles, etc.

The authors' avowed option for the Harvard style of editing references or citations (compared to APA, MLA, Chicago/Turabian, etc.), and implicitly for the author-date system of ranking references or citations (as compared to the author-number system), but especially for a software typical of referential management (from a group restricted to *EndNote*, *Mendeley*, *Zotero* or *Docear*) is unfortunately not validated, but only relatively subjective, and cannot be fully outlined, and even less definitive, starting from the role of this article to expound useful information for young, and even older, researchers in this area, which is apparently limited or restricted by the requirements of prestigious magazines and publishers.

## 2. POINTS OF SIMILARITY AND DIFFERENCE BETWEEN REFERENCES AND BIBLIOGRAPHY, AND BETWEEN CREATIVITY AND ORIGINALITY

The concept of bibliography is not very old, to the point of even contrasting with some of the most optimistic temporal assessments of its occurrence. The term *bibliography* appeared, in its modern sense, as late as the beginning of the nineteenth century, although the classical notion of bibliography originates from a French term, derived from the Latin word, and both actually have undeniable origins in the term *biblion* (the book) + *graphia* (writing), millenary words of descending from ancient Greek. The bibliography of a book brings together a list of the books and source articles, whether a reference is made to what is needed at the beginning of the drafting, or that they are added to what is used during an act of scientific writing, in the view of the author(s).

In the case of scientific research, the bibliography represents both that information set contained in some books and articles, from which the research was started, theoretically and practically, and that to which reference is made at the end, as a general report of a scientific research. The bibliography is presented in a book or article in typical terms and in a standardized manner to facilitate access to the author's/authors' ideas. Any bibliography appears as a printed annex on a particular subject or topic, the description of the books and articles being systematic and combining the author/authors, the year of publication, the title, the publishing house and its location, the editions, sometimes even the translators of the original, etc. [1].

The modern meaning of the concept delimited by *bibliography* is focused exclusively on the outcome of the publication, and so the bibliography becomes, in the case of a research, a list of books and articles that were used by someone when he/she concretized and wrote a research into a particular book or article [2].

There are various different styles of editing a bibliography, and various manners of citing books, articles, etc. Such a style specifies the information needed to edit or quote in a bibliography, including how the information is ordered, as well as the punctuation and other characteristic formatting features. The most common classification of drafting styles for a bibliography, or of citing books, articles, etc., has the the academic discipline involved as its discriminating variable. Thus, the American Psychological Association (APA) addresses the disciplines of Education, Psychology and MLA Sciences (Modern Language Association), and is suited to humanities, while the Chicago / Turabian style is exploited by those sciences, defining a wider sphere and a wider audience, which have to do with business, history and fine arts, while

the Harvard style (Harvard Law Review Association) is generally used in academic quotes, as described in the on-line guide available on the Anglia Ruskin University's specialized link [3,4,5,6].

The bibliographic references are reflected in a list of papers. Typically, the list of references or referenced works is the extended name frequently given to bibliographic references, in the modern terminology of editing or publishing books, articles, etc. These two types of lists virtually mean the same thing. Each is an alphabetical list of the works cited, or the works referred to in the text of a book or an article. The list of cited works is the final subtitle used when quoting sources by following the style of Modern Language Association (MLA) or Chicago (Chicago University – which addresses the general public), while the subtitle *reference list* or, even simpler, *references* is the usual variant when the sources exploited are cited, using the American Psychological Association (APA) or Harvard Law Review styles [3,4,5,6]. In addition to these classical styles, which are already considered major or dominant, there co-exist about 8,000-10,000 different styles in the universe of reference lists or citations and of bibliographies...

On the other hand, the list of references, or the list of cited works and the bibliography do not describe the same concept in research, either, as the former lists, in final position, all the articles cited in the text of the book or article, while a bibliography contains all the materials (books, articles, databases, blogs, etc.) that a researcher has consulted in preparing his/her investigation, whether or not he/she cited from all of them.

As a general rule valid in all styles, each reference quoted in the text should appear in the reference list, and each entry in the reference list must be quoted in the text [7]. Another general finding individualizes the scientific article, where the reference list has become the optimal solution in relation to the books (theses, encyclopaedias, treatises, etc.) which are defined mainly through the bibliography [8].

The structure of the styles described above is also done starting from the hierarchy or the ordering criterion by means of two major systems: the author-number system, and the author-date system. The references or citations in the author-number system are ranked or hierarchized according to their appearance in the text {[1], [2,3], [4], etc.}, rather than in the alphabetical order of the first author's family name, as they appear in the system author-time. For example, the Harvard style is an author-date system, and its main advantage is to provide a more appropriate management for a relative majority of journals and publishers in this field of referencing or quoting.

Such well-established and long-defined notions as *creativity* and *originality* have a real similitude in scientific research, since both of them are basically criteria that must be fully satisfied in a research activity, along with the systematic nature of the investigation, and the transferability and/or the reproducibility of the results [8].

*Creativity*, as defined by most prestigious dictionaries [9,10], represents the ability to transcend ideas, rules, methods, models, relationships or other similar aspects that are traditional in nature, and so to create other ideas, rules, forms, methods, models, relationships, interpretations, being virtually merged with the terms of originality or imagination and sometimes synthesized as the ability to produce novel, i.e.

completely new or unusual ideas. A nuance of research specific to the field physics appears by redefining creativity as the activity of imagination that is not governed by any rule but only by facts, observations, experiments, etc., so *it cannot be practically taught or learnt*, as Albert Einstein stated in the inaugural speech at The Prussian Academy of Sciences, as early as 1914, and reconfirmed in his 1934 *On the Method of Theoretical Physics*. Modern inter-, trans-, cross- and multidisciplinary research is also remains a creative act, in the dual sense of incubation and illumination, extended with the help of *preparation* and *verification*, nearly one century after Graham Wallas's work titled *The Art of Thought*, and thus generating the four stages of the creative process in general, by means of a specific osmosis, which is conscious and unconscious at the same time [11]. Preparation often coincides with the identification of the problems of research, and implicitly with the study of the bibliographic resources or references, or subsequent citations.

Modern scientific research is increasingly exposed, and prone, to a true *mystery of creativity*, where incubation and illumination become evolutionary, uncontrollable, non-standardisable, processes, which are unanticipated and, especially, impossible to repeat or resume, in ever-different contexts.

Originality describes the ability to think independently and creatively, and also the quality of being new/novel or unusual, special and interesting at the same time [12,13]. Originality is often defined in an antinomial manner, not the same or similar to anything (else) or to anyone (else), and being materialized as the absence or nonexistence of any loan of ideas. In scientific research, originality also lies in primordiality, pioneering, being a preeminent act connoting uniqueness. In modern trans-, inter-, cross-, and multidisciplinary scientific research, originality also includes something specific or strictly particular to a team or a single author (researcher), sometimes conferring the risk of the unusual, the extravagant, the bizarre, and even eccentricity, thus distancing itself from platitude or banality, copying or plagiarism, in an increasingly clear manner [8]. A further significant nuance assimilates the originality with the concept of information, in line with the definition of the latter term as "the novel meaning / the novelty of a message, an almost identical signal emitted, transmitted and received, referring to individual or universal knowledge in a scientific field" [14]. A piece of original research ends with an authentic manuscript, which is transformed, under the impact of time and due to the richness of information contained, into a valuable scientific landmark. New information generating originality in a research also arises as a result of the innovative application of some old methods in new situations, of past models applied to future estimates, which permit to challenge older scientific laws in parallel with identifying new laws and rules, validating or invalidating hypotheses, associations, correlations, etc., in a creative, rigorous and clear manner, while outlining the profile of authentic research. Within the framework of modern scientific research, the mere (though never simple) multidisciplinary approach can generate originality through the extensive coverage of variables and phenomena, methods and models characteristic of seemingly isolated sciences, which are however reunited in the spirit of the team and the joint project. Any authentic aspect must be emphasized in an integrative manner in

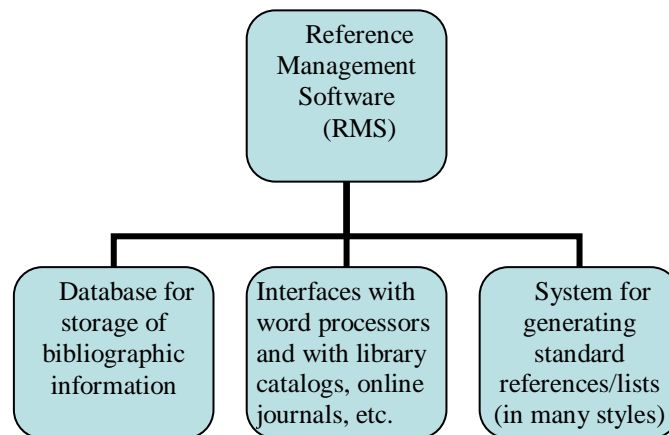
relation to previous research through a literature review section, which will provide continuity of results, initial/final hypotheses, investigative methods and models, validation/invalidation of results etc., thus describing historically a true continuum of the original or originality. Such approach has been pondered since XII century, and can be summarized in Isaac Newton's expression "*If I have seen further, it was by standing on the shoulders of giants*". Rooted in the Greek mythology, that thought was applied in scientific context by Bernard of Chartres, but opens *incrementalism* direction in scientific research as early as in the medieval year of 1159th. The allegory that can be applied is that if a dwarf climbs on the shoulders of a giant, a dwarf can see a little further than the giant by himself. In our context, originality and creativity can stem from the previous research, and even a minor contribution is an advancement. To obtain new, additional knowledge in comparison to famous researcher in the past, young researcher does not have to be more of a genius compared to the cited grand authors. Young researcher can add more knowledge to the pool filled by great names such as Nobel laureates, if his or hers research is based on the references which are well understood by her or him and add some new contribution.

Thanks to the networking and the Internet, there is an advancement of the human civilization from loose confederation of entities which communicate rarely and scarcely to a unified informational entity which shares information, knowledge and original ideas without significant limits except limits bound for the core human nature. That context enables minor research advancements to combine into the major contributions, like shovel by shovel of rocks can build a mountain, all of that in combination of referencing previous work and adding own original thoughts. Well connected and referenced group of minor advancements and incremental research can integrate into significant overall body of new knowledge. Original thoughts become bricks, and references become mortar in that mountain of new research. In conclusion, creativity and originality are simultaneous and even complementary, and cannot occur one without the other, irrespective of the degree of complexity of the research itself, thus amplifying the identity of meaning in relation to the trans-, inter-, cross- or multidisciplinary character of the research.

### 3. THE MANAGEMENT OF THE LIST OF REFERENCES AND BIBLIOGRAPHY – A MAJOR FACTOR OF THE CREATIVITY AND ORIGINALITY OF RESEARCH

The management of sources or bibliographic references has become a major success factor for modern scientific research. This new type of management contributes to solving some complex aspects, which are often considered complicated, which arise in the work of a researcher in the increasingly prompt and challenging approach of contemporary research. A significant factor of complexity is the coexistence of a wide variety of styles of editing reference lists and bibliographies, as well as the author-number and author-date hierarchy systems. This niche management, mainly known as bibliographic reference management (RM), is promptly exerted by means of software (abbreviated to RMS) that

provides an essential tool for researchers regardless of age, experience, research and themes, hierarchical team level, project, partnership, consortium, confederation, etc. The evolution of the RMS software available was almost exponential, which foreshadows increasing difficulties in selecting RM software. The contemporary architecture of an RMS includes minimally the elements in Figure no. 1:



Source: [15]. Karavaev, (2016) p. 84.

**Fig. 1** The major components of RMS

In principle, these new IT solutions that ensure the management of references and bibliographies benefit from a variety of functions:

- a) they cite from bibliographic databases and websites;
- b) they collect and archive metadata from pdf files;
- c) they allow the organization of citations in the software database itself;
- d) they allow and provide citation annotation;
- e) they allow and ensure the sharing of the database or its parts with colleagues in the research team, project, partnership, consortium;
- f) they share data with other similar software or their users by exporting them in a format that can be imported (thus ensuring import-export compatibility of files);
- g) they enable and secure the exchange of data with other bibliographic reference management products through standard-format metadata;
- h) they produce citations formatted in a variety of styles or systems [16].

There are naturally strengths (the extent to which certain trends, impulses, orders, etc., are from the very moment of software development, dependent on needs, temporal and financial constraints, limitations of the individual user's flow), and also weaknesses (the learning time as a user of a piece of software, accessibility and the user-friendly nature of the interface, archiving or storage capability, user's annotation and search capability, the duration or lifecycle of a software, etc.) for any RMS analyzed. The user of such an RMS also gives different degrees of importance to a list of references or citations or an impeccable bibliography (which should be correct, complete, accurate, recent, well made in point of hierarchy, relevant to research, etc.), and implicitly to the degree of initial accuracy of a reference or citation

(depending on style, system, translation from one style to another, or from one system to another)

An RMS provides its user with the practical, timely, accurate and effective possibility to write and edit a reference list or citations, or a bibliography structured in a one- (very rarely) or multi-criteria manner (frequently), relative to a particular subject, topic or theme, with an author nominated or with a team of this author (et al.), depending on the year of publication or publication, etc.

The main types of RMS, which are already considered classic, refer to *EndNote* (devised by Thomson Reuters in 1988, with the *EndNote Web* variant, now belonging to Clarivate Analytics), *RefWorks* (made by RefWorks/ProQuest in 2001), *Connotea* (made by Nature Publishing Group in 2004), *Aigaion* (made by Aigaion in 2005), *Zotero* (made by Roy Rosenzweig and Center for History and New Media at GMU in 2006), and *Mendeley* (made by Elsevier in 2008). The multiplication process of this kind of software is uninterrupted. The examples of continuity have been increasing over the last decade: the modern RMS has evolved from *Qiqqa* (2010) to *Colwiz* (2011), to *Docear* (2011), to *SciRef* (2012), from *RefMe* (2014) to *F1000Workspace* (2015), etc., and the emergence of innovative RMSs has seen a growing frequency each year. In other words, new and more sophisticated IT solutions for RMS appear, which are ever more pertinent and wider in terms of referencing or citation areas, reference access from online libraries, solutions to host a database on a researcher's personal computer, variants of export-import of references or citations, etc. [17,18,19]. Another important aspect is the manufacturer's specialization by developing software dedicated exclusively to a particular type of discipline, or specific to a typology of academic literature. The type of specialization which is most often cited is represented by the legal literature [20, 21], according to the metadata extracted from the reference lists or citations and bibliographic databases (OSCOLA, LexisNexis, Westlaw, HeinOnline, BAILII). Comparison of one RMS with another is done in relation to various and multiple criteria, some of which may be mentioned as more important: being free of charge (open source), the multiuser character for managing a reference list or citation and annotated bibliography, the time needed for organizing the above lists, the capacity and speed of automatic indexing of the full-text content of the document library, the performance of providing reference lists or citations in the major styles (Harvard, APA, MLA, Chicago/Turabian), as well as getting data from as many styles as possible out of the 8,000 to 10,000 different styles already existing today. There are also already established methods (an example being the COinS method, used to incorporate bibliographic metadata into the HTML code of web pages, complemented by the Z39.50 communications protocol – an international client-server standard, which is also used extensively in library environments).

The authors of the present article did not intend to make a comparison of the specific elements of an RMS population in expansion and competition without precedent in the history of software or management in general but rather limited their task to listing some of the significant RMS types.

#### 4. SOME FINAL REMARKS

Even if it can be said that there are some ways of writing a bibliography or reference list, or list of citations for books,

papers, articles, etc. which have the potential, and even a trans-, inter-, cross- and multidisciplinary applicability, in an explosive contemporary context when the isolating unidisciplinarity is being abandoned, one cannot however appreciate that a universal style can be distinguished, with a dominant impact and coverage with exhaustive tendencies in a population of about 8,000-10,000 different existing styles. Even if the authors of the article rather subjectively consider that, in the medium and long-term the balance will incline towards the Harvard style, they cannot provide enough evidence to testify to the universality tendency of that style. Though incipiently, the four classical styles (Harvard, APA, MLA, Chicago/Turabian) are really and increasingly intersecting mutually, with homogenization and similarity to Harvard, where the internal citations remain in the text, in a simplified version, only to rigorously find their way within the final list of references. At the same time and similarly, the preference for *EndNote*, *Mendeley*, *Zotero* or *Docear* is equally subjective, irrespective of all the justifications that can be added and perceived in the more or less near future.

Referencing, just as any tool, can have its good and bad usage and sides. Research journals and conferences often quantify number of referenced articles, e.g. strongly recommend that a submitted paper has 20, 30, 40, 50 references. Such practice provides a standard, which objectivizes the quality of the research. Standardization in general increases the quality of the output and balances variations in quality between output units but can have its problems [22]. If applied only as a form, without the essence, such standards cannot guarantee expected good results. While we can discuss that there is some correlation between number of references and the quality of the research, we cannot prove causality, i.e. that a large number of references will cause article to be good, or that few references cause a low-quality article. As an interesting example, we can find the PhD thesis of John Forbes Nash, ground breaking work in economic theory, which has just two references in the whole PhD dissertation [23]. Extensive literature review is nearly the only beginning of a process to add incremental effort to the continuum of scientific research. However, good, and ground-breaking ideas can stem in original field, loosely or not at all related to existing research references. Regarding extensive literature analysis performed without the necessary attention and depth, it resembles what the Richard Feynman calls "cargo cult science" – following all the apparent precepts and forms of scientific investigation, but missing something essential [24]. So young students should not insist on the sole number of different references if they are not honestly satisfied with the core value of literature review and consequential referencing.

The unprecedented developments in scientific research, and deriving from that, of scientific literature, have generated a new type of reference list or citations and bibliography management, focused on various types of software (RMS), and the innovation and remarkable nature of that instrumental leap, with reference to the unprecedented evolutionary multiplication of the software dedicated to RM, together with the concrete solution of a more timely and prompt drafting of these lists, have already become major official trends, especially in trans-, inter-, cross- and multidisciplinary research.

## 6. REFERENCES

- [1] *Meaning of bibliography in Oxford Dictionary*, (2017). [online] Available at: <https://en.oxforddictionaries.com/definition/us/bibliography> [Accessed November 2, 2017].
- [2] *Meaning of bibliography in Cambridge Dictionary*, (2017).[online] Available at: <https://dictionary.cambridge.org/dictionary/english/bibliography> [Accessed November 3, 2017].
- [3] *The Chicago Manual of Style*, (2017). 17th ed. Chicago: University of Chicago Press.
- [4] *The Modern Language Association of America*, (2016). *MLA Handbook*, 8 ed., New York: Modern Language Association of America
- [5] *The American Psychological Association* (2015), *Publication manual of the American Psychological Association*, 6<sup>th</sup> ed., 2<sup>nd</sup> printing, Washington, DC: American Psychological Association.
- [6] *The Harvard Law Review Association*, (2017). *Harvard System*, Anglia Ruskin University, [online] Available at: <https://libweb.anglia.ac.uk/referencing/harvard.htm> [Accessed November 4, 2017]
- [7] Hume-Pratuch, J., (2011). *What's a Reference List For?* [online] Available at: <http://blog.apastyle.org/apastyle/2011/02/whats-a-reference-list-for.html> [Accessed November 4, 2017]
- [8] Dinu, V., Săvoiu, G., Dabija, C (2016). *A concepe, a redacta și publica un articol științific. O abordare în contextul cercetării economice*, București: Editura ASE.
- [9] *Definition of creativity*, (2017). Cambridge Academic Content Dictionary, Cambridge University Press, [online] Available at: <https://dictionary.cambridge.org/dictionary/english/creativity> [Accessed November 9, 2017]
- [10] *Definition of creativity*, (2017). Oxford Dictionaries, [online] Available at: <https://en.oxforddictionaries.com/definition/creativity> [Accessed November 9, 2017]
- [11] Wallas, G., (1926). *Art of thought*. Reed. 2014, Kent UK: Solis Press.
- [12] *Definition of originality* (2017). Cambridge Academic Content Dictionary, Cambridge University Press, [online] Available at: <https://dictionary.cambridge.org/dictionary/english/originality> [Accessed November 10, 2017]
- [13] *Definition of creativity*, (2017). Oxford Dictionaries, [online] Available at: <https://en.oxforddictionaries.com/definition/creativity> [Accessed November 10, 2017]
- [14] Săvoiu, G., (2007). *Statistica-Un mod științific de gândire*, București: Editura Universitară.
- [15] Karavaev, N.L. (2016). *Reference management software*, Sci. Tech.Inf. Proc. Vol. 43(3), pp. 184-188.
- [16] Gilmour, R., Cobus-Kuo, L., (2011). *Reference Management Software: A Comparative Analysis of Four Products*. Issues In Science And Technology Librarianship. [online] Available at: <http://www.istl.org/11-summer/refereed2.html> [Accessed in November 12, 2017]
- [17] Beel, J., Gipp, B., Langer, S., and Genzmehr M., (2011). *Docear: An academic literature suite for searching, organizing and creating academic literature*. In Proceedings of the 11th ACM/IEEE Joint Conference on Digital Libraries (JCDL'11), Ottawa, Ontario, Canada, pp. 465-466.
- [18] Beel, J., (2013). *Which one is the best reference management software?* Docear Blog (2013-08-27) [online] Available at: [Accessed in November 14, 2017]
- [19] Beel, J., (2014). *Comprehensive Comparison of Reference Managers: Mendeley vs. Zotero vs. Docear*, Docear Blog (014-01-15) [online] Available at: <http://www.docear.org/2014/01/15/comprehensive-comparison-of-reference-managers-mendeley-vs-zotero-vs-docear/> [Accessed in November 14, 2017]
- [20] Justiss, L. K., (2011). *A Survey of Electronic Research Alternatives to LexisNexis and Westlaw in Law Firms*. *Law Library Journal*. Vol 103, pp. 79–80.
- [21] Meredith, S., (2013). *Critical review of referencing software when used with OSCOLA*. *European Journal of Law and Technology*, vol. 4 (1).
- [22] Mijatović, I., Čudanov, M., & Krivokapić, J. (2014). *Development of Co-Operation-Based Company Standards: The Case of Innovative Practice in Public Service Companies*. In *Innovative Management and Firm Performance* (pp. 200-213). Palgrave Macmillan UK.
- [23] Nash, J.F. (1950) *Non cooperative games*. Phd Dissertation. Princeton University. Available at: [https://rbcs.princeton.edu/sites/default/files/Non-Cooperative\\_Games\\_Nash.pdf](https://rbcs.princeton.edu/sites/default/files/Non-Cooperative_Games_Nash.pdf) [Accessed December 14th, 2017]
- [24] Feynman, R. P. (1974). *Cargo cult science*. *Engineering and Science*, vol. 37(7), pp. 10-13.