Plagiarism, its consequences, and how to avoid it

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Abstract

Plagiarism is a form of cheating, by which one presents as her/his work, what others have done. It may be severely punished, and could cause serious problems later in life. "Self-plagiarism" is also possible. Plagiarism, its consequences and and how to avoid it are discussed further below.

1 Plagiarism: What is it?

Plagiarism often involves dishonest use of work done by others (including work in the public domain). However, an author may also dishonestly use her/his own previous work, which may be termed "self-plagiarism". Teamwork could lead to plagiarism involving *original* work done by the team.

1.1 Plagiarising the work of others

The Oxford Dictionaries define "plagiarism" as:

> "the practice of taking someone else's work or ideas and passing them off as one's own"[1].

For the American Association of University Professors (AAUP), plagiarism is:

> "Taking over the ideas, methods, or written words of another, without acknowledgement and with the intention that they be credited as the work of the deceiver"[2].

For other definitions, see for example [3], [4, p. 7] and [5]. All definitions associate plagiarism with taking what belongs to someone else without the rightful owner's consent (that is, theft), as well as with "misrepresentation", that is, to present something in a deceitful way (with respect to ownership).

Plagiarism applies also to computer code, to visual information such as diagrams and figures, as well as to artistic expressions such as filmic or theatrical scripts, poetry, and musical compositions.

It is *stressed* that works in the public domain (that is, *not* copyrighted), unpublished work (such as personal letters and emails), material produced by anonymous authors, as well as anonymous collaborative work (such as Wikipedia articles) are treated *the same* as other works, for the purpose of plagiarism. The guidelines to avoid plagiarising such works are the same as for other types of work (see sect. 3).

1.2 Plagiarism and original team work

A team member may commit a form of plagiarism by *not* doing a *fair* share of the team work. For example, if a team of three students submit a report for credit, it is presumed that, unless otherwise approved by the instructor, each team member has done about one third of the work. If it turns out that one of them did very little work, this student would be essentially claiming credit for work done by the other two team members. Furthermore, the other two students would also be at fault, if they allow a student to get credit for the team's work, even though s/he did significantly less than her/his fair share of the work. If a team member has done less than her/his fair share the instructor should be informed.

In principle, it is presumed that all work of the team is jointly performed by all team members. Any sub-division of the work (for example, one member does all programming, another member does all report writing, or one member writes/program only the first half and the other writes/programs the second half) should be *pre-approved* by the instructor.

1.3 Self-plagiarism

Self-plagiarism occurs when someone attempts to get "credit" for certain work without informing those involved that s/he has already received, or expect to receive, credit for the same work. For example, a student may attempt to satisfy a course requirement by submitting material which s/he has, in whole or in part, already submitted for credit in another course, without making the instructors aware of the previous credit. Likewise, a researcher may attempt to publish the same work in multiple academic outlets without informing the editors and readers of the existence of previous publications or concurrent submissions of that work. This practice could be acceptable under especial circumstances, provided that it is pre-approved by the appropriate parties (instructors, editors, etc.), but even then, the author should cite the previous or concurrent versions of the work in question [6, Self-plagiarism].

Notice that self-plagiarism may occur even if the new submission (paper, report, etc.) only includes portions of a previous submission. The key is to let all involved know of any previous or concurrent use of the submitted material, before any "credit" is received.

2 Plagiarism punishment

Plagiarism may be *severely* punished. For instance, according to paragraph 5 of item §63 of the "Gesetz über die Hochschulen des Landes Nordrhein-Westfalen" (Law over the Institutions of Higher Education of the State of North Rhine-Westphalia) a student guilty of cheating can, in severe cases, be expelled and/or fined with up to fifty thousand Euros [7]. And even if discovered many years later, plagiarism can have severe consequences on those who have practised it. For example, recently a Vice-president of the European Parliament[8], as well as two German federal cabinet ministers [9, 10] — one of whom was, ironically, the minister of education and research —, resigned in disgrace after having their doctorate degrees revoked by German universities because of plagiarism committed many years earlier.

Notice that one may commit plagiarism "accidentally" [11], but the consequences may still be severe.

3 Avoiding plagiarism

3.1 Two key strategies

There are two general procedures to avoid plagiarism, while using work done by others (or previous work by oneself): (i) enclosing within quotation marks text directly "borrowed" from a source (for example, copied and pasted), and (ii) "paraphrasing" (that is, re-stating with one's own words) the original text.

Notice that, in both cases, the source must be indicated — according to an appropriate citation style — *immediately following* the quoted or paraphrased text (*not only* at the end of the document). A citation corresponding to a specific passage (whether paraphrased or borrowed word-for-word) should specify the page number (to help a reader or reviewer who needs/wants to verify with the source).

Except when there is a good reason, the original work should be cited, as opposed to "second hand" sources, such as books or survey papers [6, Ethically Questionable Citation Practices]. Citation is a form of crediting (and thanking) the original author for her/his contribution. For example, a citation corresponding to Shannon's formula for the capacity of an additive, white Gaussian noise communication channel should point to the 1948 paper where it was first derived (as opposed to one of the many textbooks or papers where it appears).

The text within quotation marks should be *exactly* as in the source, except that (i) an ellipsis (. . .) may be used to denote omitted original text, and (ii) a clarifying comment may be inserted within brackets, [like this].

It is important to keep in mind that paraphrasing involves a complete re-write of the source text, in the author's own words. Simply replacing a few words here and there with synonyms, and/or changing the order of certain phrases, and/or omitting isolated phrases while keeping the rest is not enough. Even if the author changes most of the original text, any phrase borrowed word-for-word from the original should be enclosed in quotation marks.

Below there are several examples of correct and incorrect (plagiarising) use of sources.

For the management of a collection of reference data, there are software tools (including free ones), some of which interact directly with common text processing systems. See [12, 13].

3.2 Common knowledge

When facts are "common knowledge", in general or within the "target audience" of the work, they may be stated without crediting a source [6, Plagiarism and common knowledge]. For example, certain basic

mathematics facts — such as the formula to find the solutions of a quadratic equation, or to find the area of a circle — or certain historical facts — for example about Columbus' arrival at the Western Hemisphere, — or certain geographical facts — for example, that Paris is the capital of France — can be used or stated without citing a source. Even then, the words one utilises while discussing or using such facts should still be one's own (else one must paraphrase or use quotation marks as discussed above). One should exercise great caution, especially in case of school work, before declaring something "common knowledge". Whenever in doubt, one should provide a citation.

3.3 Excessive "borrowing"

Quotation marks with proper attribution are *not* a license to claim credit for work done by others. A document that is mostly a collection of borrowed text will *not* be viewed as plagiarism, if each borrowed fragment is enclosed within quotation marks and properly attributed to the original authors. However, such collection will most probable *no*t receive a favourable evaluation from instructors or reviewers. If it corresponds to school work, it will most likely receive a failing grade, not because of plagiarism, but because the authors have limited themselves to mostly reproduce word-for-word the work of others. A document submitted for "credit" should be primarily made up of text originally produced by the document's authors.

4 Citation styles

The citation style specifies how to indicate the source of quoted or paraphrased material. Some possibilities include: with a number in brackets, with a footnote, with an author-year combination, like (Smith, 2007), etc. The style also defines the pieces of information to be included in the complete citation of the work to be placed in the reference list, as well as the order and formatting of the various items.

Many citation styles are available. If the work is to be published, the author must follow the style specified by the publisher. For school work, the instructor may specify a style, or may allow the student to choose one. In any case, the author should follow *only one* citation style, in a given work.

For instance, according to the IEEE style, immediately following cited or paraphrased material, the source is indicated with a number in brackets, which corresponds to a complete citation placed in the reference list, at the end of the document. The citation includes information necessary to find the source, such as authors, title, publication date, etc.

Thus, the body of an IEEE paper may include:

> If the graph of $f(x)$ is an "S curve", the ratio $f(x)/x$ is single-peaked [37].

It may also include:

> One must consider that, "As we build larger computers out of smaller components... Computation is communication limited and communication is computation limited."[43, p. 4].

Then, at the end of the paper one may find:

> References
>
> ⋮
>
> [37] V. Rodriguez, "An analytical foundation for resource management in wireless communication," in *Global Telecommunications Conference, IEEE*, vol. 2, pp. 898–902, Dec. 2003.
>
> ⋮
>
> [43] T. M. Cover and J. A. Thomas, *Elements of Information Theory.* John Wiley & Sons, Inc., 2nd ed., 2006.

Thus, according to the IEEE style, the paper title must be enclosed within quotation marks ("An analytical foundation..."), and the periodical or conference name where the paper is published must be italicised (*Global Telecommunications...*). However, a book title (*Elements of ...)* should be italicised.

For the complete description of the IEEE citation style see [14]. For information about other common styles, such as the APA, Chicago, and MLA ones, see [15, Review of Documentation Styles] and/or [16, Citation Formats].

5 Examples

Original	Wrong use	Correct use
The rise of industry, the growth of cities, and the expansion of the population were the three great developments of late nineteenth century American history. As new, larger, steam-powered factories became a feature of the American landscape in the East, they transformed farm hands into industrial laborers, and provided jobs for a rising tide of immigrants. With industry came urbanization, the growth of large cities (like Fall River, Massachusetts, where the Bordens lived) which became the centers of production as well as of commerce and trade. This example is provided by [17], using text from p. 1 of Lizzie Borden: A Case Book of Family and Crime in the 1890s by Joyce Williams et al., 1980.	*The increase of industry, the growth of cities, and the explosion of the population were three* large factors of *nineteenth century* America. As steam-driven companies became more visible in the eastern part of the country, they changed *farm hands into* factory workers *and provided jobs for* the large wave *of immigrants. With industry came the growth of large cities like Fall River where the Bordens lived which* turned into *centers of commerce and trade as well as production.* Comment: Writer retains most of original text (italicised by us for emphasis), but uses no quotation marks to indicate "borrowing", mostly replacing a few words with synonyms and changing the order of certain words. Additionally, the writer cites no sources. (S/he also altered the meaning of certain phrases.)	Fall River, where the Borden family lived, was typical of northeastern industrial cities of the nineteenth century. As steam-powered production shifted labor from agriculture to manufacturing, the demand for workers "transformed farm hands into industrial laborers," and created jobs for immigrants. In turn, growing populations increased the size of urban areas. Fall River was one of these hubs "which became the centers of production as well as of commerce and trade" (Williams, 1980, p. 1). Comment: Notice use of quotation marks to indicate a few phrases retained from the original.
The human face in repose and in movement, at the moment of death as in life, in silence and in speech, when alone and with others, when seen or sensed from within, in actuality or as represented in art or recorded by the camera is a commanding, complicated, and at times confusing source of information. The face is commanding because of its very visibility and omnipresence. While sounds and speech are intermittent, the face even in repose can be informative. And, except by veils or masks, the face cannot be hidden from view. There is no facial maneuver equivalent to putting one's hands in one's pockets. Further, the face is the location for sensory inputs, life-necessary intake, and communicative output. The face is the site for the sense receptors of taste, smell, sight, and hearing, the intake organs for food, water, and air, and the output location for speech. The face is also commanding because of its role in early development; it is prior to language in the communication between parent and child. This example is provided by [4] using original text from p. 1 of Ekman, Paul, Wallace V. Friesen, and Phoebe Ellsworth. Emotion in the Human Face: Guidelines for Research and an Integration of Findings. New York: Pergamon, 1972	Many experts agree that *the human face*, whether *in repose* or *in movement, is a commanding, complicated, and* sometimes *confusing source of information. The face is commanding because* it's visible *and omnipresent.* Although *sounds and speech* may be *intermittent, the face even in repose* may give information. *And, except by veils or masks, the face cannot be hidden.* Also, the face is the location for sensory inputs, life-supporting intake, and communication. Comment: (i) The writer omits many phrases from the original, but adds very little that is new (italics highlight text directly copied from the original, which should have been enclosed by quotation marks). (ii) Besides, the writer cites no sources.	According to Ekman, Friesen and Ellsworth "the human face in repose or in movement ... is a commanding, complicated, and at times confusing source of information. The face is commanding because of its... visibility and omnipresent. While sounds and speech may be intermittent [that is, on-and-off], the face even in repose can be informative. And, except by veils or masks, the face cannot be hidden...". They also point out that the face is the location for sensory inputs, life-supporting intake, and communication. (Ekman et al., 1972, p. 1). Comment: This version (*not* given in [4]) still summarises the original, but correctly encloses within quotation marks text borrowed word-for-word, and provides a citation. The ellipsis "..." indicates that some text in the original has been omitted. The brackets indicate that the phrase inside was *not* in the original text (it has been added by the writer as a clarification).

Original	Wrong use	Correct use
The tenacious particularism of the Italian state gave rise to a wide variety of constitutional solutions and class structures throughout Italy. Even conquered territories and those swallowed up by bigger neighboring powers often managed to retain much of their internal organization as it had been. If power changed hands, the instruments and forms of power usually remained the same. Since the economic needs of such territories did not suddenly alter with a change of government or master, those classes which had been important before the change tended to continue to be important afterwards as well. Only when the nature of the change was economic and social might there have been a reversal in the relationships of classes; but even in this there was no sudden revolution in the structure of classes.	In his comprehensive study, Renaissance Italy, Peter Laven discusses the peculiar organization of Renaissance city-states: "The tenacious particularism of the Italian states gave rise to a wide variety of constitutional solutions and class structures throughout Italy. Even conquered territories and those swallowed up by bigger neighboring powers often managed to retain much of their internal organization as it had been"(130). This means that *if power changed hands, the instruments and forms of power usually remained the same. Since the economic needs of such territories did not suddenly alter with a change of government or master, those classes which had been important before the change tended to continue to be important afterwards as well. Only when the nature of the change was economic and social might there have been a reversal in the relationships of classes; but even in this there was no sudden revolution in the structure of classes.*	In his comprehensive study, Renaissance Italy, Peter Laven discusses the peculiar organization of Renaissance city-states: "The tenacious particularism of the Italian states gave rise to a wide variety of constitutional solutions and class structures throughout Italy. Even conquered territories and those swallowed up by bigger neighboring powers often managed to retain much of their internal organization as it had been. If power changed hands, the instruments and forms of power usually remained the same. Since the economic needs of such territories did not suddenly alter with a change of government or master, those classes which had been important before the change tended to continue to be important afterwards as well. Only when the nature of the change was economic and social might there have been a reversal in the relationships of classes; but even in this there was no sudden revolution in the structure of classes."(130)
This example is provided by [4] using original text from Laven, Peter. Renaissance Italy: 1464-1534. New York: Capricorn, 1964.	Comment: (i) The writer encloses with quotation marks some borrowed text, and correctly credits the source. But then s/he continues borrowing from the source without quotation marks or attribution (observe the italicised text).	Comment: The corrected version is *not* given by [4] .
Because the intracellular concentration of potassium ions is relatively high, potassium ions tend to diffuse out of the cell. This movement is driven by the concentration gradient for potassium ions. Similarly, the concentration gradient for sodium ions tends to promote their movement into the cell. However, the cell membrane is significantly more permeable to potassium ions than to sodium ions. As a result, potassium ions diffuse out of the cell faster than sodium ions enter the cytoplasm. The cell therefore experiences a net loss of positive charges, and as a result the interior of the cell membrane contains an excess of negative charges, primarily from negatively charged proteins.	*Because the intracellular concentration of potassium ions is high, potassium ions tend to diffuse out of the cell. This movement is* triggered *by the concentration gradient for potassium ions. Similarly, the concentration gradient for sodium ions tends to promote their movement into the cell. However, the cell membrane is* much *more permeable to potassium ions than* it is *to sodium ions. As a result, potassium ions diffuse out of the cell* more rapidly *than sodium ions enter the cytoplasm. The cell therefore experiences a loss of positive charges, and as a result the interior of the cell membrane contains* a surplus *of negative charges, primarily from negatively charged proteins.*[1](p. 204).	A textbook of anatomy and physiology[1] reports that the concentration of potassium ions inside of the cell is relatively high and, consequently, some potassium tends to escape out of the cell. Just the opposite occurs with sodium ions. Their concentration outside of the cell causes sodium ions to cross the membrane into the cell, but they do so at a slower rate. According to these authors, this is because the permeability of the cell membrane is such that it favors the movement of potassium relative to sodium ions. Because the rate of crossing for potassium ions that exit the cell is higher than that for sodium ions that enter the cell, the inside portion of the cell is left with an overload of negatively charged particles, namely, proteins that contain a negative charge.
This example is provided by [6] using original text from Martini, F. H., & Bartholomew, M. S. (1997). Essentials of Anatomy and Physiology. Upper Saddle River, NJ: Prentice Hall (p.204).	Comment: Writer retains most of original text (denoted by italics), but uses no quotation marks to indicate "borrowed" text. Although superscript points to a footnote that gives the source, this is still plagiarism.	Comment: The number 1 in superscript points to a footnote that specifies the source, including page number.

6 For further reading

To learn more, see also [4, 5, 6, 11, 17, 18] as well as [16, Avoiding Plagiarism] and [19, Academic writing: Avoiding plagiarism]. Especially recommended to researchers is [6].

References

[1] "plagiarism". Oxford Dictionaries. Accessed 27 June, 2013. [Online]. Available: http://oxforddictionaries.com/definition/english/plagiarism

[2] American Association of University Professors. (2013) Statement on plagiarism. Accessed 28 June 2013. [Online]. Available: http://www.aaup.org/report/statement-plagiarism

[3] "plagiarize". Merriam-Webster.com. Accessed 27 June 2013. [Online]. Available: http://www.merriam-webster.com/dictionary/plagiarizing

[4] Northwestern Univ., "Academic integrity: A basic guide," Evanston, Illinois, 2012, accessed 27 June 2013. [Online]. Available: http://www.northwestern.edu/provost/students/integrity/Academic_Integrity_Basic_Guide.pdf

[5] Univ. of New South Wales. (2011) Avoiding plagiarising: Following the path to good academic practice. Sydney, Australia. Accessed 27 June 2013. [Online]. Available: http://www.lc.unsw.edu.au/onlib/plag.html

[6] M. Roig, "Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing," 2002. [Online]. Available: http://ori.dhhs.gov/education/products/plagiarism/

[7] State of North Rhine-Westphalia. (2013, 26 June) Gesetz über die Hochschulen des Landes Nordrhein-Westfalen. [Online]. Available: https://recht.nrw.de

[8] Deutsche Welle. (2011, 15 June) University of Heidelberg finds Koch-Mehrin guilty of plagiarism. [Online]. Available: http://dw.de/p/11atR

[9] ——. (2011, 6 May) University says ex-defense minister 'deliberately cheated' on thesis. [Online]. Available: http://dw.de/p/11Ayd

[10] ——. (2013, 13 February) Wanka appointed German education minister in wake of Schavan plagiarism scandal. [Online]. Available: http://dw.de/p/17dv3

[11] Univ. of Arizona. (2013) Accidental plagiarism - Don't let it happen to you. Tucson, Arizona. Accessed 27 June 2013. [Online]. Available: http://www.library.arizona.edu/tutorials/accidental_plagiarism/

[12] Wikipedia contributors. Reference management software. Accessed 10 July 2013. [Online]. Available: http://en.wikipedia.org/wiki/Reference_management_software

[13] ——. Comparison of reference management software. Accessed 10 July 2013. [Online]. Available: http://en.wikipedia.org/wiki/Comparison_of_reference_management_software

[14] IEEE. (2009, September) IEEE citation reference. [Online]. Available: http://www.ieee.org/documents/ieeecitationref.pdf

[15] Univ. of Wisconsin. (2013) The writer's handbook. Madison, Wisconsin. Accessed 27 June 2013. [Online]. Available: http://writing.wisc.edu/Handbook/

[16] Harvard Univ. (2013) Harvard guide to using sources. Cambridge, Massachusetts. Accessed 27 June 2013. [Online]. Available: http://isites.harvard.edu/icb/icb.do?keyword=k70847&pageid=icb.page357682

[17] Indiana Univ. (2013) Plagiarism; what it is and how to recognize and avoid it. Bloomington, Indiana. Accessed 27 June 2013. [Online]. Available: http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml

[18] Massachusetts Inst. of Technology. (2013) Avoiding plagiarism. Cambridge, Massachusetts. Accessed 27 June 2013. [Online]. Available: http://writing.mit.edu/wcc/avoidingplagiarism

[19] A. Gillett. (2013) Using English for academic purposes: A guide for students in higher education. [Online]. Available: http://www.uefap.com

A Test: for each question, select *the best* answer (only one)

1.

Original	As used
In conventional wireless communications built around base stations, transmit-power levels are controlled by the base stations so as to provide the required coverage area and thereby provide the desired receiver performance. On the other hand, it may be necessary for a cognitive radio to operate in a decentralized manner, thereby broadening the scope of its applications. In such a case, some alternative means must be found to exercise control over the transmit power.	Haykin explains that "In conventional wireless communications built around base stations, transmit-power levels are controlled by the base stations so as to provide the required coverage area and thereby provide the desired receiver performance." (Haykin, 2005, p.209). However, a cognitive radio may need to operate in a decentralized manner, which would broaden the scope of its applications. In that case, other means must be found to control the transmit power.

From p. 209 of S. Haykin, "Cognitive radio:...", *IEEE J. of Selected Areas in Comm.*, vol. 23, no. 2, 2005.

The usage of the original passage is best described by which of the following?

(a) Correct because author uses quotation marks and gives a citation

(b) Not plagiarism, but incorrect because the citation does *not* follow the IEEE style

(c) Incorrect but *not* plagiarism: the author obviously tried to do it right!

(d) Plagiarism because the text outside the quotation marks is too similar to the original

2.

Original	As used
Traditionally the design of wireless systems has focused on increasing the reliability of the air interface; in this context, fading and interference are viewed as nuisances that are to be countered. Recent focus has shifted more towards increasing the spectral efficiency; associated with this shift is a new point of view that fading can be viewed as an opportunity to be exploited.	Traditionally the design of wireless networks has focused on raising the reliability of the air connection; from this viewpoint, fading and interference are viewed as nuisances to be countered. Recently, the emphasis has changed towards greater spectral efficiency; this has brought a different viewpoint: fading can be an opportunity to be exploited. (Tse and Viswanath, 2005, p.2).

From p. 2 of D. Tse and P. Viswanath, *Fundamentals of Wireless Commun.* Cambridge Univ. Press, 2005.

The usage of the original passage is best described by which of the following?

(a) Plagiarism, because the text is too similar to the original, in spite of the citation

(b) Correct because author gives a citation, and changes several words

(c) Not plagiarism but incorrect: page number must be *outside* the parenthesis

(d) None of the other answers

3.

Original	As used
In the binary symmetric channel, the receiver does not know which symbols are flipped. In the erasure channel, on the other hand, the receiver knows exactly which symbols are erased. If the transmitter also knows that information, then it can send bits only when the channel is not erased and a long-term throughput of $1-\epsilon$ bits per channel use is achieved. From p. 525 of D. Tse and P. Viswanath, *Fundamentals of Wireless Commun.* Cambridge Univ. Press, 2005.	A major difference between the erasure channel and the binary symmetric channel (BSC) is that while the receiver knows which specific symbols are erased, it does not know — under a BSC — which symbols have been flipped. If the transmitter has the same knowledge, it transmits only when it knows that no erasure will occur and, on average, successfully transfers $1-\epsilon$ bits per channel use [13, p. 525].

The usage of the original passage is best described by which of the following?

(a) Not plagiarism but incorrect, because the citation, [13, p. 525], does not mention the authors

(b) Plagiarism: it uses the words channel and transmitter many times outside quotation marks

(c) Correct because text is significantly different from the original and a citation is given

(d) None of the other answers

4.

Original	As used
Shannon surprised the communication theory community by proving that the probability of error could be made nearly zero for all communication rates below channel capacity. The capacity can be computed simply from the noise characteristics of the channel. Shannon further argued that random processes such as music and speech have an irreducible complexity below which the signal cannot be compressed. This he named the entropy... From p. 1 of T. M. Cover and J. A. Thomas, *Elements of Information Theory.* Wiley, 2nd ed., 2006.	Shannon contribution is crucial. "Shannon surprised everyone by proving that the probability of error could be made nearly zero for all communication rates less than channel capacity, which can be computed simply from the noise characteristics of the channel. Shannon further argued that random processes such as music have an irreducible complexity, which he named the entropy, a fundamental concept." [11, p. 1]

The usage of the original passage is best described by which of the following?

(a) Correct because author uses quotation marks and give a citation

(b) Not plagiarism but incorrect because the text enclosed by quotation marks must be exactly as the original (except where indicated by appropriate characters)

(c) None of the other answers

(d) Plagiarism because text enclosed by quotation marks is too similar to original

5.

Original	As used
The first wireless networks were developed in the Pre-industrial age. These systems transmitted information over line-of-sight distances (later extended by telescopes) using smoke signals, torch signaling, flashing mirrors, signal flares, or semaphore flags. From p. 1 of A. Goldsmith, *Wireless communications.* Cambridge Univ. Press, 2005.	Wireless networks originated in the Pre-industrial age. On these systems, information was transmitted over line-of-sight distances (later made longer by use of telescopes) using smoke signals, signal flares, flashing mirrors, semaphore flags or torch signaling. (Goldsmith, 2005, p.1).

The usage of the original passage is best described by which of the following?

(a) None of the other answers

(b) Plagiarism, even with the citation, because the text is too similar to the original

(c) Correct because author gave a citation, and changed or added more than three words

(d) Not plagiarism but incorrect because every citation to an electrical engineering book *must* follow the IEEE style