Cohesion

In most academic contexts, good writing allows readers to understand a paragraph the first time they read it. The writer's logic should be immediately clear, without requiring the reader to guess at connections between sentences or ideas. This sense of flow is called cohesion.

Many writers mistakenly believe that cohesion is created by words and phrases such as *moreover, nevertheless, on the other hand*, and so forth. Ironically, such "connectors" are often used not to create good cohesion but to cover up bad cohesion. To avoid this trap, focus on your subject choices to build strong links from sentence to sentence. Here are the basic principles:

1. **Use a limited set of character subjects.**[1]

2. **Put the familiar information at the beginning of each sentence.**

Before we analyze these principles, let's more fully understand the problem of bad cohesion. Try reading the following passage aloud. (The subjects of each clause are underlined.)

Bad Cohesion Sample

Encryption is the key to privacy in the digital era; secure online banking, trading, and purchasing are made possible through this tool. Law enforcement costs, however, accompany the use of encryption. While the hacking of your bank account by a criminal might become impossible due to encryption, legal access to that criminal's information might also be impossible for the same reason. Consequently, the implementation of tools among technology companies that allow encryption to be bypassed when needed as part of an investigation has been pushed by law enforcement personnel. On the other hand, reluctance to comply—owing to fear of customer backlash—is widespread among those same technology companies.[2]

Now have a look at the same text written following the two principles of cohesion. Read this paragraph aloud and notice how much more clear and pleasant it is to read. (Again, the subjects are underlined.)

Good Cohesion Sample

Encryption is the key to privacy in the digital era; it makes secure online banking, trading, and purchasing possible. The use of encryption, however, comes with law enforcement costs. While encryption may make it impossible for a criminal to hack your bank account, it may also make it impossible for law enforcement to gain access to that criminal's information […]. In response to these issues, law enforcement personnel have sought to push technology companies towards implementing tools that would allow them to bypass encryption when needed as part of an investigation. Technology companies on the other hand […] have been very reluctant to comply, fearing the backlash of customer reaction they believe would accompany it.[3]

With this good sample in mind, let's now examine the two principles of cohesion in detail.

1. Use a limited set of character subjects.

The grammatical subjects in the good sample are the three main characters of the paragraph: encryption, law enforcement, and companies. These are the protagonists of the passage—the specific people, things, or concepts that *do* something in this context. In each case, the grammatical subject corresponds to the actual subject in the world—a key feature of clear writing.

Some may criticize the good cohesion passage for repeating words a few times. It is true

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[1] Note that the term "character subjects" is drawn from Joseph Williams's classic book *Style: Lessons in Clarity and Grace*. For more on character subjects, see the EWC handout called "Clear Sentences".

[2] This paragraph was adapted from the Cook Barr paragraph for the sake of highlighting the effective cohesion of the original.

[3] Cook Barr, A. (2016). Guardians of Your Galaxy S7: Encryption Backdoors and the First Amendment. *Minnesota Law Review*, 101(301), 301–339.

that good writers vary their word choice when possible—for example, by using pronouns, synonyms, or related terms. But some words simply must be repeated for a text to stick together.

*Writing Tip: Before writing a paragraph, make a short list of the main characters involved in what you are about to describe. As you draft (or later edit) your paragraph, check whether your grammatical subjects correspond to your list of characters.

2. Put the familiar information at the beginning of each sentence.

The second principle complements the first in that the main characters of your paragraph are often the people, things, or concepts that are most familiar to the reader anyway. This second principle, however, goes a step further. Notice in the good sample how some character subjects are first introduced at the end of one sentence (in the predicate) and then used as a subject in a later sentence. For example, the character subject "law enforcement personnel" is easy for the reader to process because it was already introduced in a previous sentence. The same holds for "technology companies."

The second principle should also guide your use of connecting words and phrases. In the bad sample, the phrases "consequently" and "on the other hand" are weak attempts to cover up bad cohesion. In the good sample, in contrast, the phrase "In response to these issues" provides a meaningful bridge, picking up familiar information from the previous sentence to set the scene for the next sequence of action.

As a final point, keep in mind that this familiar-to-new principle sometimes calls for passive voice rather than active. While strong writers prefer active voice, the passive is often an essential tool for creating good cohesion. As an exercise, scour this handout for passive sentences and note how they aid cohesion.

A tool to diagnose cohesion

Below is a second example of excellent cohesion from Nobel laureates Francis Crick and James Watson. This passage is from their seminal paper describing the double helix structure of DNA.

As an exercise, underline every word until the verb in each clause (we've done the first two):

> _We wish to put forward a radically different structure for the salt of deoxyribose nucleic acid. This structure has two helical chains each coiled round the same axis (see diagram). We have made the usual chemical assumptions, namely, that each chain consists of phosphate diester groups joining beta-D-deoxyribofuranose residues with 3',5' linkages. The two chains (but not their bases) are related by a dyad perpendicular to the fibre axis. Both chains follow right-handed helices, but owing to the dyad the sequences of the atoms in the two chains run in opposite directions. Each chain loosely resembles Furberg's model No. 1; that is, the bases are on the inside of the helix and the phosphates on the outside._[4]

Now ask yourself for each sentence, Do the underlined words follow the principles of cohesion? In this case, they certainly do. Try this technique in your own text, and if the underlined words lack cohesion, consider rewriting.

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[4]Watson, J. D., & Crick, F. H. (1953). Molecular structure of nucleic acids. _Nature_, 171(4356), 737–738.