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Media Critique 4

The first article, self titled “Nucleic Acids”, has no specific author or publication date, describes mostly the occurrence and nomenclature of nucleic acids. It describes how the term nucleic acid is the overall name for DNA and RNA, members of a family of biopolymers, and is synonymous with polynucleotide. They were named for their initial discovery within the nucleus and for the presence of phosphate groups related to phosphoric acid. Although first discovered within the nucleus of eukaryotic cells, nucleic acids are now known to be found in all life forms including within bacteria, archaea, mitochondria, chloroplasts, viruses, and viroids. All living cells contain both DNA and RNA, except some such as mature red blood cells. The basic component of biological nucleic acids is the nucleotide. Nucleic acids were discovered by Friedrich Miescher in 1869. Experimental studies of nucleic acids constitute a major part of modern biological and medicinal research.

The original was actually an abstract of a book written by Ralf Dahm called “Discovering DNA: Friedrich Miescher and the Early Years of Nucleic Acid Research”. Upon reading the abstract and part of the actual book, the grey literature site was actually very faithful. Most of the information was very accurate, and the grey literature did a good job of portraying the facts about nucleic acids. It goes more in detail about how Meischer made the discovery of nucleic acids, and the different speculations about the discoveries he made. It was interesting to me to see just how accurate the grey literature was compared to the black literature, because you tend to think that grey literature would not portray some information correctly.

The second article, about carbohydrates, again with no author or date, was focused on the discovery of the structure of carbs. A carb is a biological molecule consisting of carbon, hydrogen, and oxygen atoms, usually with a hydrogen oxygen atom ratio of 2:1. It explained that some exceptions did exist, such as deoxyribose, a sugar component of DNA. Carbs are technically hydrates of carbon; structurally it is more accurate to view them as polyhydroxy aldehydes and ketones. It also explains how carbs are divided into four chemical groups: monosaccharides, disaccharides, oligosaccharides, and polysaccharides. Monosaccharides and disaccharides are smaller carbs, commonly referred to as sugars. Monosaccharides can be linked together into what are called polysaccharides in a large variety of ways. Many carbohydrates contain one or more modified monosaccharide units that have had one or more groups replaced or removed. For example, deoxyribose, a component of DNA, is a modified version of ribose; chitin is composed of repeating units of glucosamine, a nitrogen-containing form of glucose.

The black literature of this article I was actually able to trace back to an article written by Perdue University titled “Carbohydrates: The Monosaccharides”. This article was definitely more detailed than the article of grey literature, and gave a lot more examples of different kinds of carbs. The information in the article of grey literature was all correct, many pieces of information was just left out. The grey literature piece was more broad, while the black literature piece was very detailed and did not leave anything out. I found that the piece of grey literature had a few gaps in it, while the black literature was very specific. It also went into much more detail about the actual shape and structure of the cabs than the first piece did. In general, the piece of grey literature was more general and more of a summary, with the piece of black literature was very detailed.

The third article, about proteins, focused singly on the biochemistry of them. It again had no author or publication date. It described how Most proteins consist of linear polymers built from series of up to 20 different amino acids. All amino acids possess common structural features, including an a-carbon to which an amino group, a carboxyl group, and a variable side chain are bonded. The amino acid in a polypeptide chain are linked by peptide bonds. Once linked in the protein chain, an individual amino acid is called a residue*,* and the linked series of carbon, nitrogen, and oxygen atoms are known as the main chain or protein backbone.

The black literature for this article was focused on the relationship between lipids and proteins, and went into more detail about their relationship. The grey literature was in no way incorrect, but it added information from a lot of different places, rather than just one source of black literature. The source of grey literature was very faithful, seeing that all the information was correct, but it did not include all of the information that the source of black literature had to offer. In many cases, I believe that if one is to use black literature as a source, it should use all of the information it has to offer, not just pick and choose some. But overall, the grey literature article was a good source on proteins, and how they function.

The final article, titled “Lipids”, with again, no author or publication date, explained where lipids tend to be found throughout daily life, and what they actually are. The main biological function of lipids include storing energy, signaling, and acting as structural components of the cell membrane. Lipids have applications in the cosmetic and food industries as well. Lipids can be broadly defined as hydrophobic small molecules, which allow them to form structures such as vesicles or liposomes. Lipids are commonly referred to as fats, but in reality fats are only a subgroup of lipids called triglycerides. Lipids also encompass molecules such as fatty acids and their derivatives, as well as metabolites such as cholesterol. It also explained how lipids must be obtained from the diet one intakes.

I traced this article back to an article written in the Indian Journal of Biochemistry and Biophysics, called “Studies of Lipid Fatty Acids”. This was a very lengthy article, which explains the need for grey literature. The information in the grey article was mostly all correct, and it was also presented in a much simpler manner than the original. Although it is important to always know where your information came from, this assignment has shown me that grey literature may not be a bad thing. I used to think that it was a waste of time to read an adaptation when I could just read the original, but the truth about grey literature is that it presents it in a way that is easier to read and it gives you accurate information in the process. Grey literature is more beneficial than black literature because it gives you the important information, without all the extra unneeded facts.