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Intermediate Composition 2089 (013)

22 October 2014

Artificial Thoughts and Concerns: An Analysis of Genres

 How does the world view computers, and in particular, artificial intelligence? To some people, intelligent computers are seen in a relatively realistic mindset, acknowledging that while the capabilities of computers are limited, their abilities are increasing at a steady pace. Others view computers as a danger to society and a threat to their very way of life. The discussions over computers and the impact computers and artificial intelligence will have on the future are different and unending, and the ways in which people discuss such ideas and any opinions or concepts relevant to them are just as varied. People express their views and ideas on artificial intelligence through a variety of media, including radio, newspapers, and academic journal articles, each of which offer a unique way of presenting information to the reader.

 As computers and the idea of computing began to spread and increase in popularity within the 1950s, people began to imagine the various capabilities of computers within the near future. Artificial intelligence, the idea of computers becoming intelligent or sentient, able to think and perceive the world in a similar way to how humans perceive it, has been an area of fascination since the beginning of computing. Various science-fiction books and films portray worlds where computers become sentient, including whatever good or bad could come from it. Whether or not computers could ever be truly intelligent has been the subject of debates for many years; however, even the idea of intelligence and whether or not it is capable of being tested has been questioned. During the 1950s, mathematician Alan Turing proposed an experiment to test whether or not a computer could be intelligent. Referred to as the Turing Test, the experiment tests to see if a computer can be mistaken for a human based on how the computer responds in a conversation with an actual person. While computers were still in their fairly early stages of development, people saw the potential of computers and became invested in their development in an effort to build a better future. As computers advanced, they gained new capabilities and improved in speed and raw computational power, including such recent advancements as IBM’s Deep Blue beating the world chess champion Gary Kasparov, IBM’s Watson competing against top Jeopardy players, and Apple’s Siri integrating itself into every iPhone as a sort of artificially intelligent personal assistant to people everywhere. These advancements also began to raise people’s fears of what computers may be capable of in the future.

Whatever a person’s viewpoint is on modern computing or artificial intelligence, everyone expresses their viewpoint differently, and the media through which those opinions are expressed affects how the author or creator of the piece presents those opinions or information to the reader, and while the information presented may be different, the variety of media used still share their use of rhetorical appeals, albeit in varying degrees and methods of use depending upon the genre. The newspaper article “Computers Jump to the Head of the Class,” by Michael Fitzpatrick, the radio broadcast "In A Landmark First, An AI Program Fools The Turing Test,” lead by Aarti Shahani, and the academic journal article “Computing Machinery and Intelligence,” by Alan Turing, each utilize *ethos, logos,* and *pathos* in a variety of ways, sharing some points of commonality as well as multiple differences.

In terms of *ethos*, each resource attempts to convince the reader or listener that the information being presented is credible, but the ways in which the newspaper article and radio broadcast gain credibility are somewhat less direct than the credibility generated in the academic journal article. In the newspaper article, Fitzpatrick provides information via quoting and paraphrasing multiple people; however, simply quoting what other people have said is no basis for credibility, since the credibility of those people is questionable. That is why when Fitzpatrick introduces the person responsible for the quote, he also provides a supporting statement describing what profession or institute the person is a part of, such as “Kazumasa Oguro, professor of economics at Hosei University in Tokyo,” and “Kenneth Brant, research director at Gartner.” Identifying those referred to in the article as “professor” or “research director” builds the credibility of those people, thus reinforcing the information they offer. This, in turn, builds Fitzpatrick’s credibility to the reader, making what he has to say more believable and likely. Shahani operates in a similar manner, introducing various other speakers providing information to the listeners of the radio show, such as “William Cohen, a computer scientist at Carnegie Mellon.”

Both Shahani and Fitzpatrick utilize this method of improving their credibility, but Turing, on the other hand, introduces very few people in his article and seldom defers to the opinions of others. Instead, he comes up with the majority of the material of his academic journal article himself; this does not mean that he does not improve his credibility, but that rather than try and make readers trust what he says through titles or endorsing others, Turing instead offers nine different counter-arguments to the point he tries to make, addresses each counter-argument in depth, and does his best to refute each one. These refutations improve his credibility by causing the reader to know that Turing has a deep understanding of his topic of discussion and is fully capable of defending his point against a multitude of arguments. In this way Turing differentiates himself from the others in terms of how he builds his credibility.

 Each source manages to build its credibility to the reader, though the way that each one does so is somewhat dependent upon its specific genre. The newspaper article and radio broadcast both rely on bringing in the opinions of others and building the credibility of those speakers in order to build up the credibility of their own specific author or speaker, whereas the academic journal article instead utilizes a system of arguments and counter-arguments in order to verify its own point. The difference in developing credibility between these genres stems from the ways in which each are used. Newspaper articles and radio broadcasts tend to report a wide variety of relevant information produced by other people in a relatively simple manner, and so rather than attempt to build credibility by building upon those points, as academic journal articles tend to do, since they generally are providing new information, newspaper articles and radio broadcasts instead build the credibility of those they reference, as those genres tend to rely more on the information of others rather than their own.

 Each source also varies in its use of *logos*, the logical appeal. In the academic journal article, Turing appeals to the logic of the reader throughout the entirety of the piece, to the point where almost everything written has some sort of rationality behind it and is meant to be relatively unbiased in the presentation of his argument. In fact, the nine arguments previously mentioned work not only toward the credibility of the information, but to the logic and rationality of it as well. In the arguments, Turing gives an in-depth and accurate description of each argument, making sure that the reader understands precisely what the argument’s points are against Turing’s argument. In understanding the argument, the reader will then be able to understand exactly what Turing’s counter-argument is refuting, as well as the reasoning behind his refutation. An example of this is the mathematical objection against Turing’s idea, that “there are a number of results of mathematical logic which can be used to show that there are limitations to the powers of discrete-state machines” (444). Turing continues to give a complete description of the objection and cites the sources of said objection as well. In response to the objection raised, Turing answers, “that although it is established that there are limitations to the powers of any particular machine…without any sort of proof, that no such limitations apply to the human intellect” (445). By presenting the objection in an accurate and in-depth manner, Turing is able to reveal a rational and reasonable objection to the reader, which in turn allows him to rationally counter such an objection. Through his indication that no proof has been offered as to the lack of limitation of the human mind, Turing thus appeals to logic by refuting the assertion that humans are not limited in their ability to solve problems, which in turn means that a machine can in fact behave like a human while still being limited in its problem solving capabilities.

 While the academic journal article appeals heavily to *logos*, the newspaper article and radio broadcast rely on it to a much lesser degree. The newspaper article includes some objectivity and rationality, such as the statement that “advances in speech recognition, translation and pattern recognition threaten employment in the service sectors – call centers, marketing and sales – precisely the sectors that provide the most jobs in developed economies.” This statement implies a logical and reasonable progression: as computers improve in their ability to speak like humans, jobs which require such skills will be under threat of being taken by computers, which are a much cheaper form of labor compared to humans. Most statements throughout the newspaper article, however, are derived from the speakers being quoted, and most of their statements, while based around some level of understanding of the subject matter, are fairly opinion-based. In turn, the radio broadcast offers almost nothing in terms of *logos*, relying much less on the objectivity of the event in discussion and instead on the emotions and opinions of those speaking within the broadcast.

 The appeal to logic generated within each genre varies greatly, with the academic journal article appealing almost entirely to logic, the newspaper article relying on it much less, and the radio broadcast using very little logic at all. The differences in the use of logic varies based on the type of genre being used. Academic journal articles tend to be discussions of facts and are primarily interested in the objective presentation of ideas, along with reasonable discussions of their validity and what possible ramifications such ideas may have in terms of the subject area of the idea itself. Newspaper articles instead offer a somewhat objective presentation of facts but with a small additional entertainment value, as newspapers must be popular among readers in order to compete economically, and therefore must be enjoyable to read. Radio broadcasts go even further in the entertainment side, as each radio station competes with others for viewers, but radio has the added constraint of being in generally an audio format, and so the presentation of complex information or objective facts would not be beneficial in a format which traditionally cannot be experienced again, such as re-reading a newspaper article or academic journal article.

 The emotional appeal, *pathos*, is diverse in its use among the sources as well. Shahani’s radio broadcast appeals to emotion to a great extent through the biased and hyperbolic language used throughout. Utilizing such subjective language as “digital trickery,” “nonsense responses,” and exaggerative phrases, including “horrible first date to a good first date,” in describing the improvement of chatbots and artificial intelligence, and “surrender to our computer overlords,” brings about powerful emotional responses in its listeners. Describing the way in which the test was passed as “trickery” and the type of responses given as “nonsense” implies a fairly critical and biased opinion against the results, thus indicating an emotional response. Using such vivid images as the “horrible first date” and the “computer overlords” creates strong emotions within the reader by connecting the ideas in the radio show with powerful ideas experienced in real life by themselves or others. Fitzpatrick’s newspaper article has a similar use of emotional appeals, such as the use of vivid language, including “way beyond a catastrophe” and “manpower to silicon power.” Listing the future as a potential “catastrophe” and connecting human power to the power of computers produces strong emotions in the same way as the radio broadcast’s use. These emotional responses create a feeling in the reader or listener that is largely negative to them, as intended by the author or speaker of the piece itself. This negativity is thus connected to the information provided by the sources, swaying the views of the readers or listeners to presumably the author’s or speaker’s views. In contrast, Turing’s academic journal article utilizes almost no *pathos* whatsoever, relying almost entirely on both *ethos* and *logos* instead throughout the entire argument of the academic journal article.

 The differences between the uses of *pathos* in each source varies depending upon the genre. Radio broadcasts and newspaper articles tend to rely more on *pathos* than the other appeals because they must entice the listener or reader very rapidly in order to convince them of their information. Academic journal articles, however, use very little *pathos* throughout their work, as they instead must convince their more discerning readers via a fairly objective and concise argument, as opposed to the arguments of radio broadcasts and newspaper articles, which tend to convince listeners and readers who are less knowledgeable on the subject matter and thus less discerning. Ethos also tends to build a connection between the piece itself and the reader or listener of the piece, thus enticing the reader or listener to become involved with the piece and gain an attachment to it. Radio broadcasts and newspaper articles need this attachment in order to compete with other sources of the same genres, but academic journal articles do not use such attachment, as their viewership is not competitive among others and is already highly specialized for use.

 Despite the common subject matter of artificial intelligence, each source provides the information in a different way. Each genre focuses on different amounts of *ethos, logos,* and *pathos* depending on the goal of each medium as well as the types of viewers. While each source has its similarities, depending upon the genre itself, the type of information presented as well as the purpose of presenting such information may be vastly different.

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