**The Cognition of Propaganda:**

An Analysis of the Science Behind Persuasion and the Brain

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 Caffeine and Persuasion

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The connection between persuasion and cognition spans across the full range of how humans encounter, process, and use incoming information. From the substances we put in our body to the cognitive reasoning processes in our minds to the influence of color, language, and emotion, how we experience persuasion is constantly evolving and carries much weight. We may not comprehend how easily we are swayed by the power of these processes, many of them unconsciously, but the research is clear that many mechanisms brain employs are being utilized by outside propaganda to manipulate and persuade. The following papers serve to demonstrate that point, each by presenting evidence and conclusions to show that we are influenced by an array of physical, emotional, chemical, and mental components when making simple, everyday decisions.

Caffeine is the most widespread and welcomed psychoactive drug in the world (James, 1997). The United States estimates of daily intake are between three to seven milligrams per kilograms (Barone & Roberts, 1996) and the most common culprits are coffee, teas, and soda drinks (Bolton and Null, 1981). Barone and Roberts (1984) found that over eighty percent of American adults consume two hundred milligrams per day. Caffeine works its way almost immediately from the blood to the brain, inciting a reaction that brings alertness, focus, and quickness to the task at hand while elevating mood.  The biology of caffeine is as interesting as its effects on information processing, to which research is constantly being obtained, dissected and compiled.  Caffeine is well-known to be implicated in areas of attention, arousal, memory and information processing (Martin, Laing, Martin & Mitchell, 2005). While much research has been dedicated to the effects of caffeine on previously mentioned cognitive and biological processes, little has been studied on how it influences decision making in regards to persuasion. The purpose of this essay is to demonstrate that caffeine levels play an interesting and significant role in persuasion because of how they affects the brain.

Caffeine has many biologically beneficial and detrimental effects. At low doses, central nervous system (CNS) stimulation can cause agreeable disposition as well as improved attention and concentration. At higher doses, it can cause the opposite (Bolton and Null, 1981). It stimulates the frontal cortex, medulla and spinal cord of the CNS and also the medullary, respiratory, vasomotor and vagal centers of the brain (Bolton and Null, 1981).  Caffeine produces its cognitive effects by acting as an antagonist for adenosine, a neurotransmitter that suppresses arousal. Caffeine blocks the adenosine receptor, essentially like a wood block under a break, so that the brain cannot slow itself down and become drowsy. The obstruction of the receptors in the hippocampus and neo-cortex most likely accounts for the alertness associated with caffeine use while its interference with normal activity in the basal ganglia improves reaction time (Freberg, 2009). It is essential to study the biology of this chemical in the brain because if this drug had no effect on neurotransmitters, there would be no cognitive changes that would influence persuasion or many other facets of information processing. A great deal of research demonstrates that moderate amounts of caffeine will increase the ability to process information, which is essential to conducting an attitude change (Perloff & Brock, 1980).

Martin, Laing, Martin and Mitchell (2005) took it upon themselves to study the link between what caffeine does in the brain to how it affects persuasion. Their goal was straightforward: to understand whether or not systematic processing was influenced by caffeine intake. The researchers called upon the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986), which states that attitude change from cognitive elaborations could occur either peripherally (heuristic processing from cues help form decision) or centrally (systematic processing of information to determine its merit), to narrow down reasons for attitude change from persuasion. The researchers wanted to test this model by examining the effects of caffeine on persuasion and see if it matched with peripheral or central processing. They performed two experiments, the first was to examine the effects of caffeine on persuasion and the second to replicate the first experiment but manipulate it by adjusting the quality of the arguments in the message.

The first experiment had two distinguishing features. It used the Elaboration Likelihood Model to create a thought-listing task and it also had both direct and indirect attitude measures taken. Sixty undergraduate females participated and were assigned one of four categories of a two (caffeine vs placebo) by two (direct-indirect versus indirect-direct) design. They were required to forgo caffeine for the duration of the study in order to measure the caffeine intake properly. After answering numerous questionnaires, they were told to drink 330 ml of orange juice, half with 3.5 mg/kg of caffeine and the other half with none.  After forty minutes, they were to read six strong arguments against voluntary euthanasia and list the thoughts (rating them positive, neutral or negative) they had while reading the article. Experiment one confirmed their hypothesis, finding that “moderate amounts of caffeine led to greater agreement with the counterattitudinal message on both direct and indirect attitudes” (Martin, Laing, Martin and Mitchell, 2005, pg. 169). The more interesting finds come from Experiment two.

Experiment two replicated the first one but changed the quality of the argument to check the type of processing involved.  They believed that checking the message quality with the caffeine intake would narrow down whether peripheral or central processing was at play. The procedure was the same as experiment one, except that it was performed in one session instead of two, participants told their opinions towards the different attitudes on the same scale post-message as they did pre-message, they reported their mood and had physiological tests done three different times during the test, the message quality varied, and participants were asked to restate the arguments they could remember. Experiment two demonstrated that participants who had consumed caffeine used systematic processing, but also that the “difference between the strong and weak messages was larger in the caffeine condition than in the placebo condition, indicating that caffeine consumption increased systematic processing to a greater extent than that in the placebo condition” (Martin, Laing, Martin and Mitchell, 2005, pg. 176). The caffeine consumption also increased physiological and self-reported arousal.

The researchers hypothesized that systematic processing of a message (central processing in the ELM) would result in more agreement with the arguments, and their hypothesis would seem to be accurate. This is the first time that the direct-indirect relationship was examined within the ELM (Petty & Cacioppo, 1986) but it proved to show central route processing. The thought-listing data from experiment one dealing with indirect and direct attitudes generated more message-congruent thoughts in the experimental versus placebo group. In experiment two, it was evident that systematic processing occurred both conditions but was noticeably higher in the caffeine group.

A later study conducted by Martin, Hamilton, McKimmie, Terry and Martin (2006) replicated the study aforementioned but decided to add secondary tasks in order to center in on whether systematic processing really was used instead of heuristic. The researchers reasoned that when the secondary task interfered with the participants’ capability to process the message, then no attitude change would occur unless caffeine was involved. If the secondary task increases the processing, then the impact of caffeine on the attitude change would have to be through systematic processing. The researchers hypothesized that If the connection between systematic processing and persuasion is true, that means that this relationship should be influenced by tasks that enhance or interrupt this processing, and that the two components in the relationship (caffeine and the secondary task) would enhance attitude change in comparison to just the secondary task by itself (Martin et al., 2006).

The first experiment had an orienting task in addition to the caffeine, where the groups were either asked to cross out every “o” in the text or remember arguments in the message. They drank coffee forty minutes prior to reading persuasive message.  There were sixty women in a two (drink: caffeine versus placebo) by two (message: processing low or high) factorial design. As in the previous study, they were given questionnaires and arguments and had their attitudes measured. Participants did not change their attitude towards the message when the processing was low in either caffeine or placebo conditions but they did change when they were high in either, with the caffeine group reliably larger.  These results reveal that only when the orienting task encourages message processing will there be a greater agreement to the message when one has had caffeine. When the task made it hard for them to process the message, there was no difference in attitude change depending on placebo or caffeine.

The second experiment replicated experiment one, but used a distractor to make sure that systematic processing could not happen in the low processing condition. The low distractor group was required to press a thumb counter when they heard a sound while the high distractor groups were required to press only for high pitched sounds, all while reading arguments . The results were that when the distraction was low, caffeine led to much higher attitude change and argument recall when compared with the placebo condition but when it was high, participants couldn’t systematically process in either the caffeine or placebo conditions.

The results of these studies maintain that caffeine increases persuasion because of the systematic processing involved in understanding a message. While one might say that it is possible that the effects of caffeine happen because it improves mood (Mintz & Mills, 1971) would be false, because the evidence from this study do not support this.  In fact, Martin, Hamilton, McKimmie, Terry and Martin (2006) counter that assertion by saying that if mood was what really influences this processing, then the attitude changes would have happened with or without the ability to process the message, as well as been influenced by various differences in experiments one and two.

As demonstrated by these two studies, persuasion is influenced by the amount of caffeine that people ingest. It increases arousal, information processing, and attitudinal change. When dealing with propaganda, the timing of many things is important. If one has recently consumed coffee or soft drinks, the research tells us that they are more likely to think systematically about the messages being presented to them versus someone who has not consumed caffeine. Propaganda and persuasion are ever-present forces, working their way into the lives of people around the globe. Being prepared to meet it with knowledge and critical thinking is crucial, but having that Starbucks cup in hand has also demonstrated its benefits.

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Using the Availability Heuristic and the Encoding Bias to Persuade

By: Jami Palmer

        The availability heuristic and the encoding bias are two ways humans can have their judgments distorted by outside influences. The book *Cognitive Psychology: Applying the Science of the Mind* defines the availability heuristic as an indicator that humans base the estimates of likelihood or probability on the ease of which we can think of examples (Robinson-Riegler 2012). The encoding bias is a branch of the availability heuristic in which humans place a greater importance on something in their memory due to overrepresentation. Both of these can end up distorting day-to-day judgments and can easily be used against society when people who are looking to persuade others use the research on these phenomena in a certain way. This portion of the book on propaganda and persuasion will be taking a look at these facets of cognitive psychology and how the availability heuristic and encoding bias are cognitive tools we use to make judgments that can be distorted when persuaded correctly.
        The availability heuristic can be easily influenced by what humans hear and see. In two studies done by Shedler & Manis in 2010, they experimented on vividness needed to influence the availability heuristic. In the first experiment, they presented two arguments towards a mother’s fitness as a parent, a vivid and a nonvivid form. The results of this experiment showed “Separate tests revealed no differences between the vivid and nonvivid versions of the favorable items… or between the vivid and nonvivid versions of the unfavorable items” (Shedler & Manis 2010). What this shows is that influence is not specifically tied to how intense a description or an argument is. Since the availability heuristic relies on probabilities people create in their head, just giving a more intense description will not always create a pathway for persuasion. The mind of the human is already wired a specific way and to be influenced does not always directly tie in to how vivid an argument or a persuasion is. It is generally tied to what people already know and see, if we stick to adults. Adults’ minds are already mostly hardwired, so the availability heuristic will best be used in influencing a certain way of thought if the persuaders go with a route that will best run with what a person already thinks. That is how humans are most easily influenced.
        In the second experiment, we see a reversal of what happened in the first on done by Shedler &Manis (2010). Students were presented with names and the schools those names went to and were asked to identify their gender. In the nonvivid portion, all names and genders were at 50% whereas in the vivid portion, where full faced photographs were presented with the names, the numbers were skewed, underestimating the amount of male students at Yale and overestimating the male students at Stanford (Shedler & Manis 2010). This shows almost the opposite of the first experiment unfortunately, proving that using these methods to persuade the cognitive judgment can be unreliable even though in the second experiment, the judgments were swayed in the hypothesized way. This shows that our brains are already hardwired certain ways, as was said before, and can probably only be manipulated and persuaded using certain routes of this particular heuristic. Categorizing people into male and female is very normal for human beings so any chance they get to do it, and correctly, will be latched onto. The way the experimenters influenced the groups here was a brilliant use of information already stored in the humans’ minds. They let the probabilities in the subjects’ heads reroute themselves with the full photographs and extra information given, having them think a certain way about the names given to them.
        Availability heuristics can also be influenced in the subject of morality. In studies done by Hayibor & Wasieleski in 2009, they studied the morality of business corporations and their breaking of ethics codes. They say that, “… the availability heuristic affects the ethical decision-making process through its inﬂuence on the moral intensity of issues” (Hayibor & Wasieleski 2009). Their argument is that personal morality hinges on the estimates of the results we map out in our head. The higher a person is likely to be punished, the lower they are likely to say that something is ‘good’ or ‘bad’ depending on the given situation. The inverse is also true. What this means is that we can be influenced on our moral systems depending on how much we are fed that something is a good or bad thing and how likely we are to be punished for doing something. Humans make a mental map of what is good or bad and it can be influenced if the repercussions change. For example, think of war crimes that are committed. The party that commits them is usually committing them for what they think is a higher purpose, and their morality shifts to fit the new availability heuristic given to them.
        Repetition helps the human mind to encode better. Hill, Lewicki, Czyzewska, & Boss performed an experiment on this in 1989. They had people stare at a flashing screen where they needed to identify a certain number inside of thirty five other characters in a 6x6 grid divided off into four sections. They had to find this number multiple times. In the end of the experiment, they noticed that the experimental group did significantly better than the control group. This is because their number was always in a predictable spot rather than being in a randomly assigned spot like it was in the control group (Hill, Lewicki, Czyzewska, & Boss 1989). This is the encoding bias at work with the availability heuristic as well. The more people see things, the more likely they are to assume that it’s going to be there or be correct. It works its way into our memory and humans will use the predictable nature that it has gained repute for to call it up confidently. This is a way to be influenced very easily. One good example for here in America would be the McDonalds theme song. It’s an easy tune and if the first five notes are ever sung out loud, almost anyone would be able to think the words ‘I’m lovin’ it’ to come right after. It’s been encoded into the minds of Americans and we can easily bring it up and confidently recognize it as normal and correct. That is propaganda and commercial persuasion at work using the encoding bias against someone.
        Another experiment shows that the encoding bias affects not only our memory, but the way we perceive a person. In another experiment done by Hill, Lewicki, Czyzewska, & Boss (1989), they have female students watch a video hard-to-see person movie something for about ten seconds. They were then asked to rate the likeability of the person they watched. Before the experiment was conducted however, in one film, they were told they were watching a long-legged person, in another, they were told they were watching a short-legged, likeable person. They are being directly influenced as to what to think about a person they can barely perceive. It ends up working. “… Subjects rated the stimulus persons presented to them during the testing phase in a manner increasingly consistent with the covariation to which they had been exposed during the training phase” (Hill, Lewicki, Czyzewska, & Boss 1989). What this means is that, they directly responded to what they were told what to think of the person presented to them. We see this in everyday life, especially during political campaigns. Mudslinging, as it is called, is a politician’s way of trying to get people to encode that certain people are bad or not fit for the role they are trying to fill. Sometimes it works, persuading people to think differently about certain campaigners once unsavory things are brought to light, and sometimes it only enforces something that particular citizen had already thought. In the end, it is persuading and propagandizing a certain way of thought, making it very useful. Once the thought is encoded into the mind, it is hard to get it out, as people will bring it back up in their memory the more they hear about the person or the thought they were told to encode.
        The judgment of the performance of others can be manipulated via the encoding bias. The experiment this time is by Hauenstein, & Blacksburg from 1991. This experiment had many people being given a performance to review in multiple settings such as privately versus publicly and immediately versus after a waiting period. The main thing about this experiment though, was when the subjects were told before the experiment that they were going to give a review; they tended to focus on more positive things. If they were not told this until afterwards, they would balance between the good and the bad (Hauenstein, & Blacksburg 1991). What does this say for the encoding bias? It has to do with timing. If people are encoded at certain times with certain bits of information, they are more likely to swing certain ways with those pieces of information being poured into their minds. Going back to the mudslinging example, when is the best time for those pieces of unsavory information to come to light? Before anyone votes, of course. This way, it sticks in the head and the view of the candidates is not objective. The timing of the encodings affects out objectivity and thus taints our judgments calls. This can be manipulated in a positive or negative fashion by the persuaders, but it is an effective way of using the encoding bias to persuade.
        Persuasion via the availability heuristic and the encoding bias is very easy to do. If the science of the mind and how people memorize things is carefully studied, any commercial or political organization can use it against society at large. Many examples have been given in this paper as to how it is already used in our day to day life as an analysis of the usefulness of these two tactics. It’s almost as if there is a war being done against the mind. The use of the pitfalls of the availability heuristic and the encoding bias as shortcuts makes it easier and easier to mold the way people think into a certain fashion.  However, people have these shortcuts for a reason. To remember, quickly and easily, things that have probably been shown to be true. It’s a shortcut for our memory to make when we need to make a judgment call. Even though persuasion can slip in through the cracks and rewire those shortcuts, it’s an effective cognitive tool for all human beings to use.

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Emotion and Persuasion

By: Korri Sansen

In everyday life, we experience hundreds of advertisements a day. Whether those ads come to us via the Internet, radio, television, or billboards they are attempting to persuade us. Some might argue that the best way to persuade an individual would be to appeal to their emotions. These persuasive advertisements that we frequently see are intended to make us take the time to listen and take action towards whatever important message they are trying to convey. Why might our emotions control our decisions versus a cognitive approach?

With our wide range of emotions, keeping them aside when making a decision often times seems impossible. Emotions affect our cognition in numerous ways and often make us do things that we wouldn’t typically do. For example, fear makes one shy away from risk while anger may facilitate risk-taking behaviors (Lerner & Keltner, 2001).

A study conducted by Griskevicius, Shiota, and Neufeld (2010) extended on this research by using seven different positive emotions (i.e., anticipatory enthusiasm, contentment, attachment love, amusement, awe, nurturant love, and neutral control) to find out which ones would facilitate systematic or heuristic processing. Three hundred and ninety-eight undergraduate college students were included in their study. They were all to write about a personal experience where they felt one these emotions. Next, they were presented with a proposal which was being considered by the administration where each senior would have to take a comprehensive exam in each major. Administration was considering student opinions. The proposal was approximately 1,000 words long with nine strong and weak arguments supporting the proposal. Griskevicius, Shoita, and Nuefeld found that anticipatory enthusiasm, amusement, and attached love were all linked to heuristic processing while feelings of awe and nurturant love linked to systematic processing. Those linked with a heuristic processing approach was more likely to endorse weak arguments than those who had used systematic processing.

The emotions of an individual play a major role in how they perceive any type of persuasive message.  For example, when a person is in high spirits they don’t want anything that may take them away from that experience. According to *the cognitive capacity view*, a person with a positive affect is limited in their processing capacity, resulting in the use of heuristics or simple processing (Mackie & Worth, 1989). This has been thought to also account for a possible reason why happy people do not elaborate on persuasive messages. Other sources have found that the true reason for a lack of elaboration in happy people may be because there is little reason to invest so much energy when they already have a high affect. In order for happy people to keep their moods up, when processing a persuasive message, they focus on the message’s mood maintaining attributes.

According to Sinclair, Moore, Mark, Soldat, and Lavis (2010), when happy people were presented to an unlikable source, they were equally persuaded by both strong and weak arguments. Researchers thought this may be happening because cognitive capacity view did not let the happy individual fully process the argument cognitively. However, when happy people were presented to a likable source, Sinclair et al. found they were only persuaded by strong arguments. This information indicates that happy individuals are using systematic processing which makes them more sensitive to information that will keep their moods elevated than information that could bring them down. Additionally, Sinclair et al. found that individuals with a negative affect tend to scrutinize messages in much more detail and have deeper processing. Sad people were more likely to engage in problematic information and process everything much more carefully because it serves as a distraction from their unhappiness. They were much less information as it came.

An individual typically processes outside information in one of two ways: affectively or cognitively. An affective orientation is one that typically responds to messages which appeal to emotion, while a cognitive orientation appeals to thinking and logic.

In today’s typical speech, the word “think” or “feel” is often times used interchangeably (i.e., “I feel something is wrong”, “I think something is wrong”). However, Mayer and Tormala (2010) conducted two studies that showed that, in fact, these two words are not interchangeable and gender may play a role in affective or cognitive orientation. Their study had a focus on processing fluency, determining whether cognitive or affective messages had the greatest persuasive impact.

Study 1 included 65 participants which were taken from a nationwide database of people who expressed interest in being involved in an online experiment where the main method would involve self-report (Mayer & Tormala, 2010). They were then assessed whether they had an affective or cognitive orientation. Next, the participants had to read an essay about blood donation benefits (i.e., it could save a child’s life) and then decide whether or not they would take favorable action to donate their own blood. The results of this study showed that individuals who were more affectively oriented had a stronger emotional appeal and those cognitively oriented had a strong thought based appeal. This result has backed up prior evidence that matching a message to an individual’s particular way of thinking is easier for them to process it in the brain and is more persuasive than mismatched messages to orientation. Advertising executives or individuals using any type of propaganda could find this type of information beneficial for future ventures because it states that in order to maximize the persuasiveness of a message; it would be smart to incorporate both affective and cognitive aspects in order to appeal to the largest targeted group.

Another experiment done by Mayer and Tormala (2010), included 74 undergraduate students. Their study was intended to determine whether affective or cognitive orientation was differentiated by gender and whether or not the two orientations are processed in the brain any differently. The results of the self-report showed that women were more emotionally oriented than men and were more persuaded by emotional messages while men were more impacted by thought framed messages. Another important finding in this study was that although affective and cognitive messages were more powerful to different genders, they aren’t interpreted any differently at a conscious level in the brain. Neither framing made the message any more convincing.

Regardless of how a person may think or feel about a particular situation, the two words are not interchangeable at all. Depending on who is receiving the message makes all the difference in its persuasiveness and impact.

A study done by Clarkson, Tormala, and Rucker (2011) compared the effects of cognitive and affective matching in persuasion. Their study included 115 undergraduate students that were randomly assigned to an orientation prime (e.g, affective vs. cognitive), attitude consensus (e.g., high vs. low), and a message frame (e.g., feel vs. think). They then were given a negative message, reminded to focus on their emotional or cognitive response, and report their attitude toward the topic. Later, the experimenters tried to see if they could change the minds of the participants by reading a positive message related to the topic. The results indicated that when an individual was certain about their way of thinking in regards to a particular topic, they were resistant to openness if the message was of mismatched orientation but openness was boosted when the message matched the individual’s orientation.

        While emotions play an important part in how the brain processes incoming information, many of those emotion-based messages are derived from a television commercial, billboard, or ad in a newspaper. An extremely important resource to advertisers is their use of color because the use of color alone can elicit a completely different emotional response thus altering the perception of a message.

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Language in Persuasion

By: Danielle Smyth

Without language our basic communication and knowledge throughout the world would fail to thrive and ultimately exist. Language is the core binding that keeps humanity together through communication and expression. In essence, language can be defined within the realms of a specific set of symbols and principles, and with the combination of the two together, to form the allowance of comprehension and communication. The very use of language can be used to communicate desires, wants, needs, and appeal. Without written and oral communication via language, propaganda and persuasion would cease to exist.

With that in mind, another important note to be mentioned is the addition of language extremity and the way people process language through propaganda persuasion. In layman language terms, “linguistic extremity” is coined as the term used to define how extreme language can be used to indicate strong attitudes and judgments. In one study done by Blankenship and Craig, the use of linguistic extremity is evaluated, and in particular, the way that extreme language use can prove to be more convincing and persuasive than a weak use of language. The goal of the study was to see if students were more likely to sign a petition when strong (extreme) language is used versus a weak argument, using weak language. Within a persuasion setting, it would appear that the more extreme the language, the more likely people are to respond or react. For example, if someone was criticizing you, or speaking to you using a harsh tone, you are more likely to pay attention and react, than if someone was to casually pick up a conversation with you. So, to prove this type of thought process, Blankenship and Craig set out to prove that the more extreme the linguistic messaging and intent, the more likely someone is to respond. In essence, the study consisted of one hundred and forty nine psychology students whom were either assigned to the language, control versus extreme, or two, the argument quality, strong versus weak. Moreover, participants were asked to evaluate editorials and then asked to rate the quality of the said editorials. Specifically, some participants were exposed to one condition where the words, “much more, extremely, very, wonderful” were infiltrated into the editorial message. Hence, in the reverse study, words such as those mentioned, were omitted in the message. Corresponding to the linguistic extremity condition, the argument quality was looked at as well. Here, the messages contained arguments that were either weak or strong in supporting nuclear power as an energy source (Blankenship et al 296). These varying types of messaging were supposed to manipulate the participant into feeling passionate and within agreeance to supporting nuclear power, or, the person felt no resolve or feeling toward the situation at all. Consequently, the results proved the hypothesis to be true. The participants in the extreme language group were reported to favor and promoted the message considerably more than the control group. In terms of the attitudes of language, the group differences were quite significant in that the participants expressed more emotion towards the extreme language condition, overall than the group with the weak attitude. Overall the experiment proved that extreme manipulation of an argument and the extreme language within the condition leads to a heightened amount of processing. As an umbrella finding of the entire study, the extremity of manipulation does in fact increase message processing.

Another point to be made concerning language persuasion in propaganda is how our propagandists and advertisers appeal to their audience. As discussed by Marvin Bressler, is the thought that propaganda persuasion is so influential due to the linguistic devices used. These linguistic devices appeal to our emotions and obscure thoughts (Bressler 2). Furthermore, propaganda relies on linguistic devices such as the use of name calling, testimonial, band wagon, card stacking, and plain folk terms to successfully influence audiences. Firstly, the persuasive use of the language propagation term, ‘plain folk’ appeals to ‘everyday people’, which, when using this term, makes the audience feel like the propaganda is appealing specifically to them and their life. This type of language propagation makes the ad appeal closer to home. In addition, name-calling is also a popular form of language persuasion, because it refers to condemning or supporting an idea without giving evidence or factual information. Another popular form of persuasion is also bandwagon, which refers to the appeal that, ‘everyone is doing this, or everyone is buying this or doing that’ appeal. In a sense, this is the appeal to people that want to feel popular, hip, or within the loop within a specific circle or type of people. These types of language persuasion are used in everyday life, in every commercial, magazine ad, or newspaper. Infiltrated into our everyday routines is a product or service that has been thrust upon us by producers and manufacturers that have mastered the ability to persuade via language. Furthermore, our society and global cultures make us feel compelled to socially identify with a certain group or orientation in which we want to be a part of. People as consumers are compelled to buy into language persuasion within propaganda because as humans we want to find a place to fit into.

Many psychologists and propagandists alike feel that language is the chief master in consumer propaganda. Especially since language plays a vital role in everyday life and the understanding of language is the key communicator across the world. Consequently, language power is the constructed idea that associates specific and intended speech markers with the specific social powers of the speaker. In one study done research proved that speakers that use powerful language are more likely to be judged and rated as a person with higher intelligence, competence, credibility and social ability (Areni et al 2). In this study, speakers were judged by an audience. Two different audiences’ were exposed to two different types of speakers. One speaker had a great language prowess, whereas the other was powerless in terms of his language capabilities. The findings proved interesting. Essentially a speaker’s style and substance determined their ability to persuade their audience. To test a speaker’s power of language, participants were asked to evaluate their speaker on a three-item, seven point scale, and using descriptors like, “timid/assertive, powerless / powerful, weak/strong”. The findings proved the hypothesis correct, in that the participants involved with the powerless speakers, deemed the speaker to be overall powerless and ineffective. On the reverse side of the study, participants involved with the powerful speaker were exceedingly more likely to declare them proficient and powerful. Overall, when the speaker with the powerless language ability was introduced to his audience, the response tended to be negative. In contrast to the powerless speaker, the powerful speaker proved to captivate the audience and demand influence over the participants. The results of the study essentially showed that the effectiveness of persuasion was determined by the style use and substance of the speaker. The overall determining factor of whether or not an audience responded positively to their speaker was based on how strong the speakers’ use of language appeared to be. In conclusion of the study, powerless language negatively affected attitudes, whereas the powerful speakers positively affected the audience and their attitudes.

Language and its power as a biasing influence can be a strong determinant in the way in which people respond, answer, react and appeal to propaganda. Language persuasion is a major contributing factor towards the way in which audiences respond towards propaganda. Cognitively speaking, language is the major gateway to understanding and communicating. Without the very use and concept of language, persuasion and propaganda would cease to exist.

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The Influence of Color in Propaganda

By: Arianna Gutierrez

The interaction of different wavelengths of light in the eye allows humans to perceive the phenomena known as color. People associate color with emotions, feelings, and tastes, and therefore by properly utilizing colors in tools of propaganda, the message can be much more impactful upon an audience. In order to improve the influence that propaganda has on an audience, the way that color is interpreted by the brain must bestudied. By increasing the knowledge of cognition and color, the effect of propaganda is increased dramatically.

Argillo and Roberson examined the connection between color language and the recognition of colors. The application of this research could help advertisers design brand labels that are easier to recall.

In the first experiment, two volunteers sat across from each other. One volunteer was shown an array of sixteen colors and was asked to memorize the location and color of each tile in the array. The colored overlay of the array was then removed, and the other participant randomly selected tiles in their array, and the first volunteer had to recall the color of the said tile (Agrillo & Roberson, 2008). In the second experiment a participant sat in a dark room for a few minutes until his eyes adjusted to the lack of light. A focus point was then displayed on a screen in front of him, and then a color was flashed on the screen. The participant watched a total of sixteen colors on the screen, and then was asked to recall the location and color of each flash (Agrillo & Roberson,2008).

The researchers discovered that, in fact, colors with simpler names are easier to recall. Therefore colors such as red, blue, and green are easier to remember, and influence the audience more so than colors such as indigo, magenta, and feldspar (Agrillo & Roberson,2008).

This concept could explain the widespread success of the Soviet propaganda during the Cold War. The findings of this study suggest that because the USSR propaganda predominantly featured the color red, it was easier to recall and had a more significant impression upon the denizens of the country.

Another study by Treisman and Gormican examined feature analysis, and determined what qualities of objects are primarily identified when they are observed. The study included eleven separate experiments, with one focusing on color. The researchers aimed to establish a theory on what aspects of color aid in search, and how humans discern between varying colors.

Participants were presented with an image featuring multiple color dots, 6mm in diameter. Colors were shown in pairs, red/magenta, blue/turquoise, and green/lime. The participants were timed in their responses when asked to identify two colors that were either complementary, or opposite. The response latencies for colors that complimented each other were much slower than colors that were opposites, due to the time needed to discern between the similar hues (Treisman & Gormican, 1988).

The research provides insight into the cognitive processing that occurs when humans are exposed to colors. The researchers discovered that there are separate neural pathways for different colors (red is processed differently in the brain than blue). Also the study showed that people have a much harder time processing images when the colors used are very similar (Treisman & Gormican, 1988). This may be due to the fact that the brain and optical system have to work harder to find differences in the image. Pictures where the colors are opposite (such as a movie poster featuring the infamous blue and orange color scheme) are easier to process, more appealing to look at, and make a larger impact in the audience’s brain.

Advertisers wishing to create an image with multiple colors that will make a lasting impact on their audience should heed the results of this study. Applying chromatic tones that oppose, rather than compliment each other assist in persuasion due to the cognitive processes that are used when exposed to these colors. However, this effect may be overridden if the clash of the tones offsets the aesthetics of the image. A logo that features similar colors may still be more appealing and more persuasive if it is designed better.

Webster and Kay created a study to determine the emotions that are perceived when people are presented with certain colors, in this case green and blue. The researchers wanted to provide evidence that a color that combines green and blue, such as teal, is ambiguous and leaves the audience unsure of what message an advertisement is trying to present.

This experiment used an electronic monitor to display the vivid colors of blue and green for participants. The monitor displayed a block containing five circles; two of the diagonal corner circles were blue, while the other two were green. The last circle in the middle was ambiguous and the color was left up to the participants to decide (Webster & Kay, 2012).

Researchers found a longer response time when the exact color was equivocal and was left up to the interpretation of the participant. The volunteers were so concerned with identifying the exact color that they had little ability to recall the block as a whole.

The results of this study show that when marketing a product, focal colors are easier to recall as opposed to vague colors. This leaves consumers able to associate a color with a brand logo.

Marshall, Stuart and Bell questioned whether there was a correlation between color and the reason for selecting a product. The result of this data can be linked to better marketing for target consumers based on well-liked colors.

For this experiment forty-three children were placed in a simulated shopping environment, where they were asked to choose one soda can, one packet of biscuits and a box of cereal (Marshall, Stuart & Bell, 2006). The shopping area included nine sets of these products, each in a different solid color. The children were then asked why they made the choices that they did (Marshall, Stuart & Bell, 2006).

The researchers concluded that the products picked by children were related to their color preference (Marshall, Stuart & Bell, 2006). However where this preference came from is unknown, because of the lack of recognition of brand logos. It is possible that their color preference comes from socialization and the environment to which the subjects were exposed.

Children in pre-school have a high color preference for the color pink. Companies wishing to market to children in this age group should design product packaging based on the results of this study. Mattel may have taken this into consideration when designing the containers for their Barbie products.

Huang, Lin and Chiang evaluated the relationship between color preferences and recall performance. The inferences of this data can be used towards the creation of memorable brand images.

In the first experiment, the participants’ visual acuity was examined, as was their color vision, with the Ishihara Color Test. After the volunteers were deemed free from color insufficiencies, groups of 20 people were presented with 21 colors on a sheet of paper. In a quiet classroom, they were asked to name the top five colors they preferred, along with the five colors they least preferred (Huang, Lin, Chiang, 2008). The researchers made two groups of color preference from the first experiment; a group of the five most preferred colors, and a group of the five least preferred. These two groups were then incorporated into a second experiment. Participants were given ten minutes to memorize 24 logos and the number and color that corresponded with it. Immediately after, 24 cards with one number, four logos and six colors were given to the volunteers. The task required the recollection of each logo and color, which was paired with each number (Huang, Lin & Chiang & 2008).

The researchers determined that brand logo familiarity was not significant, however, high color preference logos were greatly remembered compared to those made with a color of low preference. Therefore, it is possible that the amount of visual processing is longer for logos with high color preference, leading to a higher accuracy of recall.

Brands wishing to be successful must be designed with the results of this study in mind. Logo familiarity is important to marketing companies and anyway they can improve this is important to them. By using colors that are preferred by the majority of their audience, they can both improve brand recall and logo familiarity.

These studies all provide evidence of the importance of color in relation to propaganda. When designing propaganda, the use of colors with simpler names make it easier to recall the information presented (Agrillo & Roberson,2008). Also, studies have shown that consumers have a harder time processing images that use similar colors, as compared to colors that are opposite (Treisman & Gormican, 1988). Moreover, it was determined that brand familiarity was insignificant compared to the color preference in the ads presented (Huang, Lin & Chiang & 2008). By mastering the use of color, propaganda can be more effective at influencing an audience and it has the potential to make a greater impact in their minds.

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Persuasion Through the Appeal to Reason

By: David Anderson

Persuasion is a complex subject and the methods used to convince a person of something are varied and diverse. Advertising agencies carefully modify the color, language, and message in their propaganda in order to fully captivate and influence the audience. In addition to these techniques, advertisers also *appeal to the reason* of their audience in order to provide better support for their message.

 Reason is defined as the arrival at a conclusion based on some given information (Robinson-Riegler, & Robinson-Riegler, 2011). The appeal to reason is the method of persuasion that focuses on using a logical argument. An example of this is if a doctor is trying to convince a patient to quit smoking, they present to them a list of sources that show the increased health risks caused by cigarette smoke. This technique is widely used as it leads the audience to a specific conclusion by presenting facts, and arguing against “facts” is much harder than protesting against an opinion.

 Reason is an extremely complicated concept, and because of this there is no simple method of explaining how the brain actually “reasons.” Most of the research on cognition and reasoning focuses on how humans reason regarding conditionals (for example, *if A then B)*. In these experiments the volunteers accurately assume that given situation *A*, then they can conclude *B* (Evans, Newstead & Byrne, 1993). By understanding how the brain actually reasons, then advertisers and marketing agencies can understand how they can target their ads so that they properly influence their audience.

 A study by Arjun Chaudhuri and Ross Buck analyzed the cognitive processes behind reason and persuasion with a special look at how advertising strategies are utilized to target these specific processes. The researchers observed several advertising strategies such as product information strategies, spokesperson strategies, mood arousal strategies, and status appeals to gain insight into the basic tools used in persuasion (Chaudhuri & Buck, 1995).

 The researchers showed participants advertisements that either used a reason-based method of persuasion or an emotion-based method of persuasion. They measured the stimulus response of the participants in order to determine which method elicited that fastest response (Chaudhuri & Buck, 1995). The study also included a measure of the recall of each of the ads. After a short period of time, the participants were asked to remember specifics of the ads that they viewed (Chaudhuri & Buck, 1995).

 The results of this study showed that when presented with a reason-based method of persuasion, the response time of the participants was significantly longer than when they were presented with emotion-based methods. This shows that when observing an advertisement that featured an appeal to emotion, the participants reacted quickly, almost off their instincts (Chaudhuri & Buck, 1995). Ads that called to the audience’s reason took longer to process, as they had to process the information presented and use their brain to analyze the details. When asked to recall the specifics of each ad however, the participants showed much more clarity when remembering the ads that featured an appeal to reason. The increased time taken to process these ads appears to help plant the idea in the participants’ mind and facilitates the learning of the specific message (Chaudhuri & Buck, 1995).

 When constructing propaganda, attention must be paid to the meaning behind the information presented. As Chaudhuri and Buck’s study shows, when the message includes an appeal to reason, it is recalled with more clarity and for a longer time than if it uses an appeal to emotion. This is extremely useful as the goal of propaganda is to present information that influences a specific audience, and by increasing the length of time that the information is remembered, the effectiveness of the propaganda is also increased (Chaudhuri & Buck, 1995).

 Another study by Buck, Anderson, Chaudhuri, and Ray (2004) took a second look at the difference between emotion and reason in persuasion. They referred back to the 1995 study previously mentioned by noting that rational, or systematic processing was determined to be the most effective in creating a persuasive argument. This specific research focused on the actual cognitive processes that take place when considering a specific piece of propaganda. The researchers aimed to provide a specific answer to the findings of the 1995 study, in order to understand the association between successful propaganda and rationality better (Buck, Anderson, Chaudhuri & Ray, 2004).

 The study used the affect-reason-involvement (ARI) model, and the Communication via Analytic and Syncretic Cognition Scale (CASC Scale) to explain the interactive role of reason in the analysis of propaganda (Buck, Anderson, Chaudhuri & Ray, 2004). The researchers examined the use of condoms to map the specific processes of both emotions and rationality in the brain. By noting how the subjects responded to questions regarding the use of prophylactics the researchers were able to identify two persuasion processes that occur in the brain. The first is a rational process that utilizes analytical cognition, and the second is an emotional influence process that invokes memory and processing systems that are different from those used when a person is rationalizing (Buck, Anderson, Chaudhuri & Ray, 2004). The researchers applied researcher from Tucker (1981) who postulated that there are two types of cognition, syncretic cognition and analytic cognition. Rationality is processed using analytic cognition and when propaganda makes a rational argument, it is through this pathway that the information is understood (Buck, Anderson, Chaudhuri & Ray, 2004).

 By identifying the different ways that emotions and rationality are processed in the human brain, advertisers and marketing agencies can better suit their ads to have a greater impact upon the audience (Buck, Anderson, Chaudhuri & Ray, 2004). Emotional ad campaigns, while faster to process for the viewers, are less impacting than rational campaigns. Syncretic cognition does not allow for the information to be preserved in long-term memory, as is this case with analytic cognition which means that emotional ads cannot be recalled as accurately, nor for as long as rational ads (Buck, Anderson, Chaudhuri & Ray, 2004).

 Analúcia Schliemann (1999) provided an extensive report on the cognitive processes that occur in the brain during the examination of a “reasonable” argument. She postulated that reasoning developed in humans when people attempted to solve problems without relying on their instincts (Schliemann, 1999). Almost every other animal on Earth uses instinct as the basis for decision making, and what separates humans from most other animals is the ability to look at scenarios while examining all possible methods of approach (Schliemann, 1999).

 Schliemann states that around the time that humans began to use logic and reason, their ability to store more memories was also developing, and she believes that the two are inherently linked as such. When reasoning, humans activate the hippocampus and any information that is deduced is stored in this area of the brain (Schliemann, 1999). This can be applied to propaganda, as any information presented in a logical form is more likely to be retained in the hippocampus (Schliemann, 1999).

 The goal of propaganda is to influence a specific audience while seeming unbiased. By utilizing an *appeal to reason* and presenting facts, propaganda can be both unbiased and have a large impact upon whoever is observing it. The process of understanding propaganda that features an appeal to reason does take a longer amount of time, but this also helps secure it in the audience’s memory, allowing for recall at a later time (Chaudhuri & Buck, 1995). Additionally, when the brain interprets an idea that requires reasoning, it activates the hippocampus, which stores the information that the person is exposed to in long-term memory (Schliemann, 1999).

 Propaganda is a powerful tool used by governments and marketing agencies in order to convince a group of people that a war is justified, or that they should purchase a specific product. The process of persuasion is influence by the language used, the colors shown, the methods by which the information is presented, and the state of mind of the audience. Persuasion is by no means a simple concept to grasp, and the act of persuading an audience requires multiple levels of understanding. It is only when the idea is taken apart and inspected at a micro level then a better comprehension can be achieved. By studying the research collected in this paper, those wishing to create propaganda will have many more tools available to them in order to create the most effective persuasive piece possible.

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