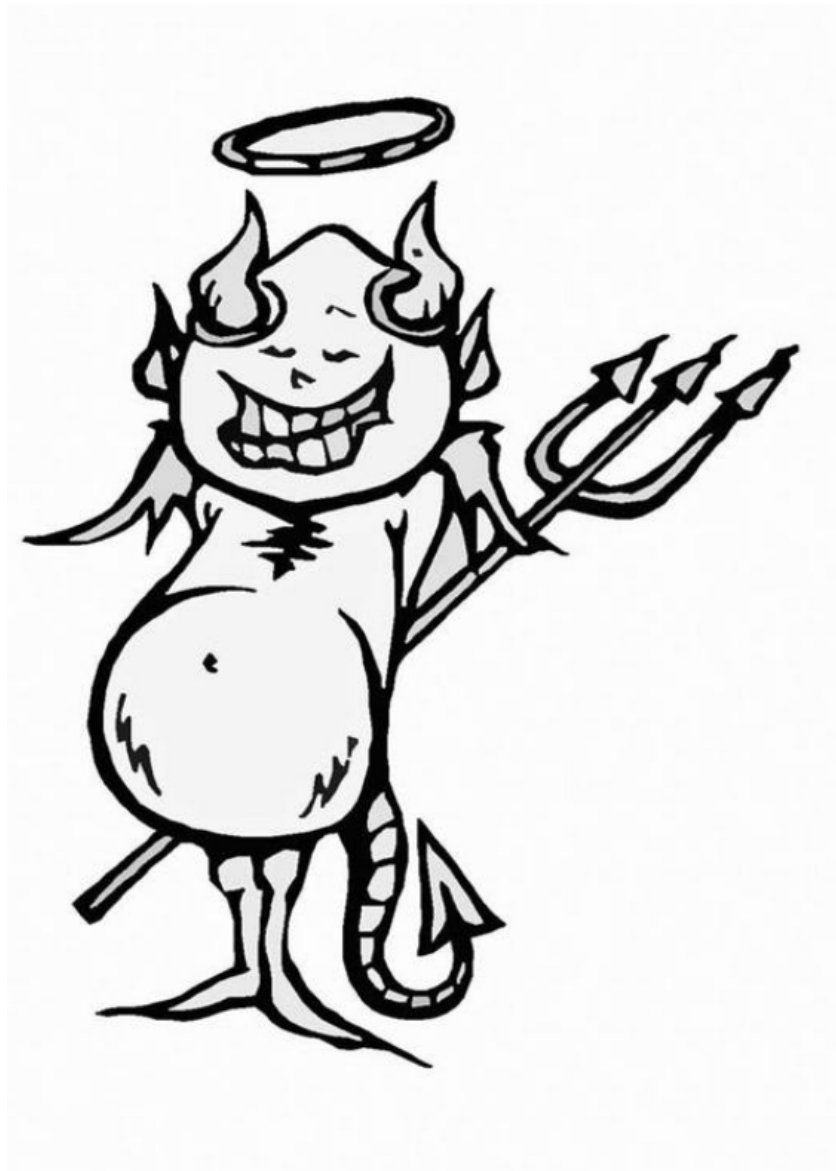


A Devil in Disguise

Harmless Messages Took Our Free Will.



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A study towards the effect of subliminal messages on our free will.

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Executive Summary

This research will investigate the extent to which subliminally received messages are able to influence our free will. In doing so, it will evaluate the following research proposal: “Does Subliminal Perception Influence Free Will?” Therefore the concepts of subliminal perception, free will, but also the concepts of the conscious and unconscious are evaluated.

Subliminal perception is receiving messages below the subjective threshold, but above the objective threshold of human perception. The objective threshold of perception is often referred to as the absolute threshold of perception since below this level no perception whatsoever occurs. The subjective threshold is the point after which perception occurs consciously. For this research it is not important whether primes are presented at or below the subjective threshold. What matter is whether the cues have been processed subconsciously.

Some knowledge of the operations of the various parts of the brain, namely: the conscious and the unconscious is necessary for correct interpretation of the findings presented in this paper. The mind can be seen as an iceberg consisting of a smaller part (the conscious) floating above the water level, and a bigger part (the unconscious) submerged, and thereby obscured from sight. The subconscious has a far greater capacity to process and comprehend information. It has the ability to store any message, presented sub- or supraliminal, in a literal manner. The messages which are perceived get their own place in a complicated network of nodes, and are linked to other nodes, which are activated once a relevant node is called upon.

Free will can be seen as the ability to freely choose among equally beneficial alternative courses of action without any form of external influence. As one might realize, it is hard to determine whether we are ever truly free from external influences. Besides our debatable freedom a so called Readiness Potential (RP) was found. This RP is an electrical pulse which seems to ignite the brain. The brain is activated 550 milliseconds prior to an act. Noteworthy is subjects did not consciously become aware of the intention to act 350 to 400ms after this RP, and 200ms prior to the act itself.

From the findings presented here we can conclude the subconscious can be seen as a database of all information directed at us. This database forms the foundation of our actions, our common sense, and is the source of our inspiration. We seem to react to the present in terms of the information stores in the system of nodes. It is therefore plausible to assume we store everything and are affected by what is coming in. Nevertheless, it is probably a good thing we have our subconscious to rely on, in everyday life there is simply no time to lengthily evaluate everything we encounter.

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Chapter 1 - Research Provocation

1.1 - Background and Problem Statement

How come some answers just seem to appear into our brain? Why do you know you want to buy the chocolate ice cream you have been craving, but still hesitate? And how come you know these letters are black, and the paper is white?

The answer lies within... Cryptic? Yes, but it definitely is to be found in the unconscious¹ self. Our subconscious is an inexplicable part of our brain about which little is known. It nevertheless has a great impact on our lives, *without* us even being aware of it. It helps you remember the name of the actor you like so much, whose name you have probably mentioned a thousand times before. It helps in making decisions, even ones as complex as the purchase of a house. Additionally, it performs routine tasks such as translating wavelengths into colours or sounds (Leibniz, 1704). This is only touching upon the astounding capability of our unconscious brain. What does this mean? In the words of Park (1999): “We perceive ourselves to have far more control over our everyday lives than we actually do.”

When you think about it, it is not hard to imagine our unconscious assist us in our daily routines. This however raises the question how it does so, and where it gets the information needed to help us the way it does. It appears the subconscious has an amazing, seemingly unlimited, capability to store messages. In doing so it is far more competent than our conscious brain (Dijksterhuis, Aarts, & Smith, 2005). This characteristic is important since we are continuously primed with messages and other stimuli; we literally receive thousands per day (e.g. Bargh & Pietromonaco, 1982). It is physically impossible to consciously attend to all these messages without driving your brain into overload. So if we do store all these messages, what about those we do not consciously, in other words subliminally, perceive?²

Say you actually do base your decisions on information you have previously gathered. Are you then “free” to decide whether you buy the chocolate ice cream? It is commonly believed a person is acting freely when his or her actions are *not* determined by external forces, but are motivated internally (Bargh, 2008). This leaves us with even more questions and uncertainties. In the effort to address the issues mentioned above, this research will focus on the following problem:

“Does Subliminal Perception Influence Free Will?”

¹ The terms Subconscious and Unconscious will be used interchangeably.

² Subliminal messages can be defined as: “messages received below the absolute threshold for conscious perception.” (Dixon, 1971)

1.2 - Research Questions

In order to satisfy the previously stated problem with an answer, this research will consider the following research questions:

- What is subliminal perception?
- What is free will?
- How can subliminal messages influence free will?

1.3 - Relevance

1.3.1 - Academic relevance. Various research has been conducted towards the effects of subliminal primes throughout the years. Results in this field have always proven to be hard to be duplicated or to have a debatable reliability. Recently, Strahan (2002), but also Karremans, Stroebe, and Claus (2006) presented findings proving subliminal stimuli have an effect as long as they relate to a goal the subject previously attained. Bargh (2002) showed even goals can be activated subconsciously by means of subliminal primes. This created a new research opportunities and the field was extended to include researches towards behavioural changes by subtle, subliminal cues. For example primes in the environment such as a scent of all-purpose cleaner (e.g. Holland, Hendriks, & Aarts, 2005; Williams & Bargh, 2008). Yet the question to what extend subliminal cues affect our daily lives still remains.

It is in our daily lives we live with the phenomenon of free will. The issue of free will has been occupying a substantial amount of scientists, great philosophers and other intellects since the beginning of time. Up to today, no scientific evidence exists to show we are free and able to make decisions without external influences. As a matter of fact, to determine if we ever are truly “free” from external forces is a complicated task. This, along with the sensitive nature of the topic could present the reason for the lack of research conducted in this field. People are scared they might not *consciously* be in control. It therefore seems as if some sort of taboo exists on the topic. Understandable, would you ever choose to be manipulated or controlled?

This research will attempt to fill the gap which has been created between the various fields of research mentioned above. The essence of this paper will be to link the field of subliminal perception to the concept of free will. In this endeavour it will be investigated how primes received below the threshold of perception influence our subconscious, and ultimately our free will. This venture will provide a literature base for further enquiries into the field of subliminal influence on decision making and will give new insights in the existence of our precious possession of free will. After all, taboos exist to be defied.

1.3.2 - Managerial relevance. As a manager you continuously attempt to reach out and communicate with other people. No matter whether they are customers, colleagues or subordinates, you have a message they need to hear. It is well known there is more than one way to convey messages: explicit, implicit, but also supraliminal³, and subliminal. The latter two will be in the focus of this research.

Managers should always be interested in new communication techniques, especially those who have the capacity to activate goals with your customers, or with those lower on the company hierarchy, *without* them even being aware of it. Imagine the possibilities of subliminal primes; you could for example activate the goal to work hard with your employees, but also persuade consumers to purchase your chocolate ice creams. Goal activation or persuasion of this sort does not even necessarily have to be achieved by the use of subliminal resources. Simple, explicit, supraliminal messages have the ability to accomplish the same goals when presented in a correct manner. Nevertheless, subtle cues in the environment could potentially prove their worth in terms of altering behaviour. This means there is value in information concerning this subject.

This research will not provide a step-by-step guideline for the creation of subliminal or supraliminal messages to attain desired goals. It will offer insight into the field, and provide inspiration for designing messages which could work for you and your company. After all, it is the ambition of every manager to alter the conduct of people.

³ Supraliminal messages are perceived above the absolute threshold of perception, they are the opposite of subliminal messages.

Chapter 2 - Subliminal Perception

Imagine all advertisements to be so persuasive you have no choice but to obey them. Imagine all the goods you would buy, even though you have no use for them. Although this might be hard to take in, various research shows subliminal advertising seems to be capable of attaining goals of this sort (e.g. Karremans et al. 2006; Bargh, 2002). A variety of research has presented results confirming the capabilities of subliminal messages. Nonetheless, research in this field has proven to be a complicated task, and results have demonstrated to be hard to duplicate. Great controversy therefore exists in this field among advocates and sceptics of the technique.

Uncertainty still remains, is it possible messages - you did not consciously perceive – are able to persuade you to purchase goods you do not want? What kind of messages would these be, and where could they be placed? Basic understanding of subliminal stimuli, and the various thresholds of perception is necessary for the correct interpretation of this research. This chapter will therefore explain how we perceive these messages and will further discuss the various forms in which these messages are most commonly presented.

2.1 - Subliminal Perception Defined

“If you can see it, it does not qualify as subliminal” is how Gary Grey (2000) described subliminal messages. This means as long as one is consciously unaware of the stimulus, but instead unconsciously perceives it, the impulse is considered to be subliminal. Therefore, subliminal perception is commonly defined as: receiving messages of insufficient intensity for conscious perception. Subliminally received messages can thus be seen as information presented below the threshold of conscious perception. These messages are however, according to Radford (1988), able to influence conscious thoughts and behaviours.

2.2 - Subliminal categories

In order to create an impression of the field of subliminal perception, some knowledge of the variety of appearances is a necessity. Pratkanis and Greenwald (1988) discuss there is a diversity of ways in which subliminal perception can manifest itself. They presented four distinct categories, namely: subthreshold, masked, unattended, and figurally transformed stimuli. This research does not require an understanding of all these categories. The concepts of subthreshold and unattended stimuli will however be explained. They represent the most common ways in which subliminal messages exhibit themselves.

2.2.1 - Subthreshold stimuli. This type of stimuli is typically presented with such a low intensity the conscious mind is unable to detect them. This research will consider this category in its purest form; you could for example be driving with the radio turned down, and not consciously perceive what is said. Although you might not have consciously paid attention, your unconscious registered it.

Probably the most familiar technique in this category is flashing images. These stimuli are presented so shortly no conscious perception is possible. It has however been claimed unconscious perception does occur in these cases (Kunst-Wilson, & Zajonc, 1980). Extensive research has been conducted towards the threshold where people are no longer able to perceive a stimulus consciously. Shah and Kruganski (2002) found people are unable to consciously detect an object presented for 23 milliseconds or less. Therefore, the presentation of a message any less than 23 ms. leads to neither conscious nor unconscious perception. This point can be referred to as the absolute threshold of perception, which will be explained in further detail later on.

The findings of Karremans et al., (2006) show the use of flashing stimuli could be effective in changing a persons behavior. This reseach proved there is a greater likelihood of significant behavioral changes when the stimulus correlates with a goal the person previously attained. Which means information attained subliminally will be used when it is found meaningfull in a relevant situation. Finally, another research by Hawkins (1970) showed it is possible to envoke a person to experience basic needs such as thirst, all this by means of subliminally flashing messages to a subject.

2.2.2 - Unattended stimuli. Unattended stimuli can best be defined as a figure or message which is “unlikely to be segregated from its figural context” (Pratkanis & Greenwald, 1988). This is an interesting category since a variety of messages could qualify for this type. An advertisement in a bus stop could be considered to be unattended stimuli. You probably will not pay much attention to these advertisements and just drive by them. They will therefore not consciously be segregated, your unconscious however is likely to distinguish them.

Bestselling author Wilson Key (1974, 1976, 1980, 1989) has written a substantial amount on a specific kind of unattended stimuli, called embedded stimuli, which is likely to be the most common form. These messages are conveyed by focusing the subjects attention on another part of the message. According to Key, these messages can be found everywhere in the media. (see Appendix 1. for examples) according to him, messages containing embeds with a sexual nature are better recalled. This claim was defied by Vokey and Read (1985).

Their research showed no significant difference in recall between pictures which did and did not include embedded stimuli with a sexual character.

Critics often say Key saw embedded messages with a sexual nature in every advertisement.⁴ Key presented his findings as scientific facts, he has however, never offered scientific evidence of any kind (Pratkanis, 1992; Moore, 1992).

2.3 - Thresholds

There are various levels of perception, so called thresholds. Discussions in this literary research are largely based on these different thresholds of perception, for stimuli to be processed subliminally they should remain within the borders of these thresholds. Therefore a clear differentiation between these various thresholds is necessary. Dijksterhuis, Aarts, and Smith (2005) proposed two different types of thresholds, the *objective* and *subjective*, these will be discussed below.

2.3.1 - Objective threshold. Is the threshold which needs to be passed for a stimulus to be sensed. In case this threshold is not passed, no perception whatsoever occurs. This is often referred to as the *absolute* threshold for perception. In concrete terms, this means for example images or messages presented less than 23 milliseconds will not enter any sensory system, and will therefore go completely undetected (Shah, & Kruglanski, 2002).

2.3.2 - Subjective threshold. This threshold is the threshold for *conscious* perception. When this threshold is passed, the stimuli is consciously perceived. This means the message is usually perceived supraliminal. In other words, it is consciously detected. Note this does not mean it actually always is perceived as such.

From the findings presented above we can conclude the following:

First, when the stimuli is too weak to pass the objective threshold, no perception occurs.

Second, when the subjective threshold is passed, the stimuli is of such great intensity it is consciously perceived.

Finally, when the stimulus passes the objective, but not the subjective threshold, subliminal perception occurs (Dijksterhuis et al., 2005). The latter form of stimuli will be the focus of this research.

⁴ It is often claimed *a dirty mind is a joy forever*.

2.4 - Research Implications

For this research the main focus will be on those stimuli which pass the objective, but not the subjective threshold of perception. There is a vast amount of messages which have not been perceived consciously, and therefore a great many stimuli qualify for this category. The way messages themselves are presented, either sub- or supraliminal is not of great importance. Please note it is also not of great importance whether stimuli are presented subthreshold, unattended, masked, or even figurally transformed. This research only requires the stimuli to have been *processed* subconsciously by the individual, which often means they are of insufficient intensity for conscious perception.

Considering stimuli which have been processed subliminally will include a large amount of messages to account for in this paper. It includes for example the advertisements at the bus stop you drive by every day, but not really notice, or just do not consciously pay attention to. Or the commercials you are flipping through on the television. But also the message which might be flashed before you at the cinema while watching a movie. It does not matter, every message you receive subliminally will qualify for the consideration of this research.

Keep Reading

Chapter 3 - (Un)Conscious?

It was not until the 18th century the term “unconscious” was introduced by the German philosopher Ernst Platner. Its importance however had been recognized much earlier by many great intellects such as Da Vinci, Dante, and Kepler, to name but a few (Dijksterhuis, 2010). Even more noteworthy, dating as far back as the third century AD the Greek philosopher Plotinus wrote: “The absence of a conscious perception is no proof of the absence of mental activity” (Koestler, 1964). It were some of these same great minds who discussed our ability to freely decide what course of action we seize. Some of them said everything was predetermined and out of our control. Whereas other said we indeed do possess the ability to exercise free will.

To determine how and if stimuli affect our free will, it is important to recognize we consciously perceive to possess free will. Recognizing this requires a basic clarification of how the brain works. The brain can be seen as an entity consisting of two parts: a smaller, and a bigger part. An understanding of these parts, the conscious and unconscious, is considered necessary, these will be explained below.

3.1 - The Conscious Defined

One can either perceive certain stimuli consciously or unconsciously. A subject is conscious of a stimulus when he or she is *aware* of the stimuli and directs his or her attention towards it (Feinstein, Stein, Castillo, & Paulus, 2004). The conscious mind usually operates in a logical, deductive, and sequential order. It often seeks reason for, and tries to justify certain events, it tries for example to validate the purchase of the chocolate ice cream you are longing for (Marcel, 1983). Conscious thought can be recognized since you are aware of the operations the mind is going through, for example when performing a calculation.

The conscious takes an enormous amount of effort to focus on the tasks it is performing, therefore it is limited in the information it can process at one time. Nørretranders (1998) analyzed the findings of Zimmermann (1989), to find the processing capacity of the conscious mind depends on the task it is performing. When one is reading in silence the conscious is capable of processing around 45 bits⁵ per second. When one would read aloud, this amount is reduced to a mere 30 bits/sec.. Even more astounding is the amount of information one is able to process when performing a calculation: No more than about 12 bits

⁵ A bit is a single (basic) unit of information, this term is commonly used in computing. (Dictionary.com, Retrieved April 9, 2010)

per second. These amounts are highly insignificant compared to the approximate 11 million bits our unconscious mind is able to process per second. From these findings we can conclude a substantial amount of our thought occurs outside awareness.

3.2 - The Unconscious Defined

Think of the mind as an iceberg, with only circa 10% visible above water (conscious) and the remaining 90% submerged, obscured from sight (unconscious). This is how the conscious differs from the unconscious. The unconscious is often referred to as the “*sub*”-conscious which literally means “under”-conscious. Which makes sense since the unconscious mind goes through its processes *without* awareness. As mentioned before, the subconscious mind has the staggering capability to process 11 million bits per second. When doing so, it interprets data (stimuli/messages) in a literal manner. The brain stores these messages in a complex network of nodes, which are activated when another, *relevant* node is called upon (Smith-Bassett, & Bullmore, 2006; Gallant, 1993). Our unconscious gathers every message or stimuli we are primed with throughout the day, and puts these messages in the appropriate categories. Please note in this network it is irrelevant whether these messages are subliminally or supraliminally received.

In case for example, an advertisement of L’Oreal Men Expert is presented. This advertisement campaign currently features actor Patrick Dempsey⁶. Perceiving or storing this message will activate various nodes, involving a number of categories such as:

- Actors;
- TV shows;
- Doctors;
- Skin care products, and maybe;
- Hospitals.

But it could further activate nodes such as: Paris, Grey’s Anatomy, race cars, or even Scarlett Johanson or Eva Langoria, who currently are celebrity endorsers for L’Oreal as well. (see Appendix 2. for a pictorial presentation of this example) Although the system seems to be highly complex, our unconscious brain is able to translate its content into useful information.

The possibilities of this system are virtually endless. As a matter of fact, you are probably able to name a lot more (different) items related to the topic. The number of nodes activated is only limited by our own brain performance and previously gathered information.

⁶ Patrick Dempsey is better known as Dr. Sheppard from the TV show Grey’s Anatomy.

3.3 - Research Implications

Notice how reading the previous example brings other, related items or characteristics to mind. They seem to just “appear” into our brain. This is only partially true. They emerge to our *conscious* brain. Our *unconscious* suggested them because they seemed relevant to this certain topic. Understanding the difference between the conscious and unconscious is important for the correct interpretation of the results this research will present. To summarize, conscious and unconscious perception differs in the fact we are unaware of it (Freud, 1922).

Keep Reading

Chapter 4 - Free Will

Many philosophers, scientists, and other intellects are convinced free will does not exist. Society however, is based on the principle of free will (e.g. the legal system), people live with and experience freedom. They are inclined to think they are the origin of their actions, and assume to have the ultimate say in what goes on in their daily routines, or choices they make (Wegner, 2003). It is however hard to say whether we actually do possess free will. A lot of our actions are of a habitual or automatic nature, we therefore do not always consciously go through these types of actions.

One may wonder how many procedures we perform while on “auto pilot”. It usually is not until something out of the ordinary occurs we become consciously aware of what we are doing. Which bears the question, are we acting either freely, or willingly, or neither? However many have a basic understanding of the concept, it is important to have a clear comprehension of what the concept of free will entails and how it will be used in this research. Presented below will be an explanation of the concept of free will, where after a clarification of the difference between freely and willingly is offered.

4.1 - Free Will Defined

People have been deemed to hold the ability to freely choose among alternatives, they perceive to be able to consciously determine their path of action without external influences. Free will is consequently often described as: the ability of someone to choose among equally beneficial alternatives in situations where the subject is not acting under coercion. This means a person is believed to be free when he or she can act without external influences or oppression, it requires the act to be motivated from within the individual (Bargh, 2008).

Libet (1999) took a similar approach in his research on the readiness potential, the details of which will be explained further in this chapter. In his research, he suggested free will to depend on two aspects.

First, no external control or cues should be present to affect the occurrence or emergence of the act.

Second, he required the subject to *want* the act. It should have been performed willingly, on the person's own initiative. This definition allows the exclusion of involuntary performed acts which could occur due to some disorder, such as Parkinson, Huntington, Tourette, etc.

This gives us an operational definition of free will: The action should be performed both free from external influences and willingly by the subject.

4.2 - Subconscious Activation

The initiation of an act always seems to occur consciously, you think about moving your finger and then your finger moves. Appearances however, can be misleading. Libet, Wright, & Gleason (1982) investigated how the processes of voluntary acts (acts of free will) occur. Their findings were remarkable. The so called Readiness Potential (RP) was discovered, which is an electrical charge which ignites the brain sort of speak. This charge occurs approximately 550 milliseconds (ms) prior to a voluntary act (i.e. moving a finger). This is not very interesting per se, were in not the subjects did not *consciously* become aware of their intention to move until 350 to 400 ms after the RP, but approximately 200 ms before the movement (Libet, 1999). From these conclusions we can derive apparent acts of free will are unconsciously activated.

4.3 - Freely or Willingly?

In paragraph 4.1 a definition of free will is discussed, where a distinction is made between freely and willingly. It is important to note there is a considerable difference between acting freely and acting willingly. Freely can mean being able to act without the presence of some other, coercive, external force (Ogletree, & Oberle, 2008). Therefore no cues, stimuli or other events should have occurred which could initiate or affect the act.

Acting willingly or intentionally on the other hand is the capability to make, change, and evaluate decisions (Donagan, 1987). To act willingly does therefore not mean a person is acting freely. When you are willingly staying in a room which has been locked without your knowledge, you are not staying there freely. Consider the following: would you as a rational being, freely chose to preform an act you do not want to preform? A noteworthy amount of factors could be considered to initiate an act, take the disorders mentioned before, but other unwillfull acts such as muscle spasms, or reflexes should also be considered.

4.4 - Research Implications

This research considers the power of free will, and the subliminal forces which are potentially driving them. Thus a clear comprehension of these two principals is required. Regarding free will, this research considers an act to be free when the actions have been performed both free from external influences and willingly. This approach, which usually is accepted as the universal term for free will, will function as the base for further discussion.

Discussion

Have you ever had a sudden urge to eat a chocolate ice cream? Out of nowhere it hit you, you *need* an ice cream. Where did this sudden longing come from? Although some early, infamous, research towards subliminal perception may have turned out to be fictive (Westin, 1967), later research showed subliminal messages are indeed able to influence choices we make (e.g. Karremans et al., 2006; Strahan, 2002). But how are they doing this? To what extent do these messages work?

The focus of this research has been on those messages which pass the objective, but not the subjective threshold of perception. Note however those messages which have the *ability* to be processed consciously, but go unnoticed in the clutter of other stimuli fall in this same category. Messages, whether received sub- or supraliminal are stored in our subconscious mind, the stimulus gets - *while we are unaware of it* - its own place in the network of nodes as explained in Chapter 3.

Even though we believe we are no creatures of habit (e.g. Grunert, 1996), nothing is less true. Our unconscious appears to be driving our decisions and our actions (Bargh et al., 1996). So the question still remains: do the messages we receive throughout the day, consciously or not, have the ability to influence our behaviour or the choices we make? In other words, is it possible these messages affect our free will? The results of the variety of research currently available points in different directions. Whereas some findings show subliminally received messages are capable of influencing us (e.g. Monohan, Murphy, & Zajonc, 2000), other show only moderate effects, or none at all. As a matter of fact, Patkanis, & Aronson (1992) reviewed over 200 academic articles and did not find any evidence subliminal messages are able to significantly affect attitudes or behaviour. Nevertheless, more recent research does show there is a relation between the extent to which subliminally received messages work and the relevance to the situation, but also the duration of the prime (e.g. Schlaghecken, & Eimer, 2004; Bargh, & Chartrand, 1999). Schlaghecken & Eimer (2004) show subliminal primes are capable of systematically biasing (free) choice between alternatives. No effect of this sort however was observed when the primes contradicted previously attained objectives. These findings indicate subconsciously processed messages are nonetheless able to affect our free choices to a certain extent. It appears they are capable of doing so as long as the message corresponds to an already existing goal. (e.g. Karremans et al., 2006; Holland et al., 2005)

People always seem to be pursuing goals (Bargh, & Morsella, 2008). This could be anything from getting a chocolate ice cream because you are longing for one, to finish writing a paper. Sometimes we even seem to be doing so at the unconscious level. People do not always appear to be aware of the activation of a goal, or even their pursuit to obtain such a goal (e.g. Holland et al. 2005). It seems plausible goals and motivations can be subliminally activated and the pursuit of these goals could occur unconsciously as well. Bargh, Gollwitzer, Lee-Chai, Barndollar, and Troetschel (2001) demonstrated this in their research. They proved goals can be subliminally activated and their pursuance displays the same levels of persistence and flexibility as conscious goal pursuit does. When subjects were for example primed with words related to politeness they behaved more politely than those who were not exposed to these primes. Remarkable is success or failure in accomplishing the goal (whether consciously pursued or not) has similar effects on the mood of the person.

Conscious thought is usually recognized as something a subject him- or herself is doing. They assume they do so since thoughts are presented to our conscious in a meaningful sequence. What is failed to notice however is the thoughts seem to appear to our conscious. The subconscious presents thoughts in such a way they bear sense (Fingarette, 2008). In a conversation for example you say things which are relevant to the discussion. You say these things in a swift and coherent flow, along with the correct grammar and intonation, this occurs naturally. Whatever is said however had to come from somewhere. The memory can be seen as a database of your experiences and previously gathered knowledge (e.g. Smith-Bassett, & Bullmore, 2006; Gallant, 1993). You *remember* them during discussions and conversations as they seem to appear to the conscious mind. Therefore, even though you might consciously “think” about what you want to say, the issues discussed only become conscious on the initiative of the subconscious (Libet, 1999).

Various research has shown not only goals can be affected by means of subliminal primes, other human qualities we are so proud to possess can be affected unconsciously by stimuli which are in plain sight. Capabilities such as making judgments, expressing affection, and competitiveness are subliminally alterable according to some researches (e.g. Shah, & Kruglanski, 2002; Bargh, 2002). Imagine you are participating in a research. On your way over you bump into a lab assistant who is struggling with text books, notes, and a drink. She casually asks you to hold her drink as she has her hands full. You take her cup of hot coffee and during the remainder of the elevator ride you realize the coffee is nice and warm. During the research itself you are asked to evaluate a person based on character traits. Since the lab assistant asked you to hold a warm drink like coffee, you more are likely to rate the person as

friendly, warm, or nice. Whereas when you were to hold an ice-cold can of soda, you would not be as positive about the person. You would be more inclined to rate him as standoffish, cold, or maybe even unfriendly (Williams, & Bargh, 2008). This research was well designed and performed, the lab assistant for example was unaware of her true role. But also the findings presented an inignorable significance in results between those subjects who were asked to hold a warm drink versus those who held a cold drink.

Given the previous example it is likely explicit elements in our surroundings seem to be capable of affecting our feelings towards people and objects, but also mood, etc. Other examples of this can be found in how a store atmosphere invites to buy, or the doctors waiting room gives a tranquil feeling. Some researchers doubt the extend to which specific environmental cues are capable of influencing customers subliminally. Upon entering a store for example there are so many different variables present it is hard to determine the effects of changing a particular one (Bellizzi, & Hite, 1992). Nevertheless, a tremendous amount of research has been performed into this particular field of marketing, of which a vast amount of results prove we unconsciously pick up colors and sounds change our mood accordingly (Donovan, Rossiter, Marcolyn, & Nesdale, 1994).

The issues mentioned above are examples of the extraordinary capabilities of subliminal primes, of which the discussion could be dragged out to eternity.

Because maybe, as Freud once claimed, the ego is no master in its own house.

Conclusions

It is because we want to structure our lives and to be free from external influences we desire to possess free will; we want to be in control of our actions. All evidence however points to the contrary. Consider the readiness potential discussed in Chapter 4, our acts are unconsciously activated before we become aware of them. We also learned in Chapter 3 our unconscious is a large collection of information we previously encountered (paragraph 3.2). It is this information on which the subconscious bases the suggestions made to the conscious. Which is necessary since we *react* to our environment, and therefore are at the mercy of external factors. The subconscious presents the necessary steps for a certain decision to our conscious brain, we therefore get the *sense* we control these thoughts (e.g. Fingarette, 2008; Grunert, 1996). It is even debatable whether pure conscious thought exists. Thought, when defined as producing meaningful associations and ideas, is exactly what is done unconsciously and *presented* to the conscious (Jaynes, 1976). This means the result of thinking, not the actual thinking itself *appears* to the conscious.

Modern psychology has come to recognize a great deal of human functioning is rooted in subconscious processes. Various research on priming has shown for the activation of the unconscious it does not matter as to whether or not the message itself is presented subliminal, its meaning however has to be perceived as such (e.g. Bargh et al., 2001; Karremans et al., 2006). It does not matter whether we are driving down the street, talking to another person, or watching television, we are continuously subject to primes. These primes, whether they are smells, sounds, or sights have the ability to trigger memories and other concepts in our minds which we gathered over the years (Bargh, 1999). It are these primes which keep us in touch with our environment and give us tools to react to what we encounter.

Everything described in this paper leads to one conclusion: In most activities we use knowledge we have gathered before the particular event. You did not however necessarily have to gather this knowledge consciously. This information forms your common sense and the source of your inspiration. They have been build up throughout the years by primes from your environment. This vast amount of data which has been build up seems to initiate our acts of free will as Libet et al. (1982) proved. Given the previously presented findings it is highly plausible subliminally received messages and primes affect our thinking. We *react* on the present in terms of stimuli we picked up in the past. Our intuition is based on knowledge and skills, obtained from our environment, intuition therefore is something which is learned over the years. It obtains a broader foundation, or might change throughout our lives as we

are exposed to more, and a greater variety of stimuli. Whether messages are subliminally received or not, it is stored in our subconscious (see also chapter 3), and one is definitely affected by what is coming in.

Given the discussion in the previous chapter it certainly seems as if our very judgments and emotional states can be influenced by occurrences we *could* consciously perceive (see also: Kay, Wheeler, Bargh, & Ross, 2004). This does not mean the conscious is worthless, it means it can be bypassed. You can compare it to hotwiring a car: However it is possible to start a car without the keys, does not mean keys do not exist or are useless.

So yes, given all the findings and discussions presented throughout this paper one can conclude cues in our environment we subliminally perceive are capable of affecting our ability to act out of free will.

The truth therefore is it probably is a good thing we have a subconscious mind to help us out. It is nice to know the plane is on auto pilot when the captain is absent.

Keep Reading

Final Remarks

Throughout this research you have been subliminally primed. Surprised? The paper has a watermark added to each page. Are you not convinced? Find a half empty page, for example the previous one. Look halfway down the page, if you look hard you will be able to distinguish the words: “Keep Reading”. If you are reading a digital version of this research lower your head to increase the contrast. Given the fact you made it to the end of this research, being exposed to subliminal primes seems to have a positive effect on your motivation and will to read every single letter.

It is a good thing the subconscious exists to help us. The writing of this very research was mostly an unconscious process. As I have been working on this research, I read a variety of papers and researches to acquire information for my unconscious to ponder on. It is the products of this pondering I became consciously aware of and wrote down (e.g.: “I have to use the article of Jaynes to get this point across.”), but not the actual pondering itself.

Finally, I hope you realize you have not been able to read this paper out of free will. Not even necessarily because you have been subliminally primed. Think about it, it is highly likely you read it to evaluate it, use its results in a work or further research related setting, maybe you read it for pure leisure. No matter why you read it, you had a goal in mind while doing so. The reason behind reading does not really matter, all I hope is you have been reading this research willingly.

Research Limitations

The fields of subliminal perception and free will are hard to conduct research in. It is impossible to create a situation mimicking the real world in a lab. Contrasting a lab setting, the real world is noisy, busy, and complex. Lab results will therefore always be subject to debate. Fazio, Sanbonmatsu, Powell, and Kardes (1986) looked at the way in which real life versus lab evaluations were made. They concluded much, if not all verdicts on objects or situations are made in an immediate, unconscious, almost automatic manner. In the real world there simply is no time to lengthily evaluate everything we encounter. We could therefore conclude we *need* the unconscious to help us in our daily lives. If we consciously had to deal with everything we encounter we would lose ourselves in the clutter.

While conducting this research it was difficult to find different researches with results pointing in the same direction. Designing and conducting a research which is both reliable

and replicable has proven to be a difficult task in these various fields. Consequently clear and solid answers were missed during the conduct of this research, which caused the research to be based largely on interpretations of a considerable variety of research. Future research should therefore aim to investigate how real life, every day choices are made and under what kind of circumstances and influences. An academic research in line with the experiment of Derren Brown, as explained in the next paragraph, is desirable. The aim of such experiments should be to research the impact of our environment on for example creative tasks, decision, attitudes, or behaviour.

Let it Entertain You

British mentalist and sceptic Derren Brown shows exactly what has been discussed throughout this research. In his television program for the British Channel 4, he invited two marketers to participate in an experiment. The marketers are brought over to a “secret” location by taxi. During their taxi ride they were exposed to a variety of primes, likely to occur in everyday life. During their creative task they use an astounding amount of messages they picked up during their taxi ride.⁷ (A recap of the episode can be found via this link: <http://www.youtube.com/watch?v=ZyQjr1YL0zg> which is encouraged to be watched.) Although the actual research quality of the images shown are debatable, it nevertheless shows exactly what subliminal perception seems to be capable of: Influencing your subconscious to determine conscious thought.

⁷ Brown did the same for the SciFi Network. (A recap of this episode can be found through this link: <http://www.youtube.com/watch?v=f29kF1vZ62o&feature=related>).

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Appendices

Keep Reading

Appendix 1 - Examples of Embedded Stimuli



Figure 1. The ice cubes in this advertising allegedly spell the word “sex”.

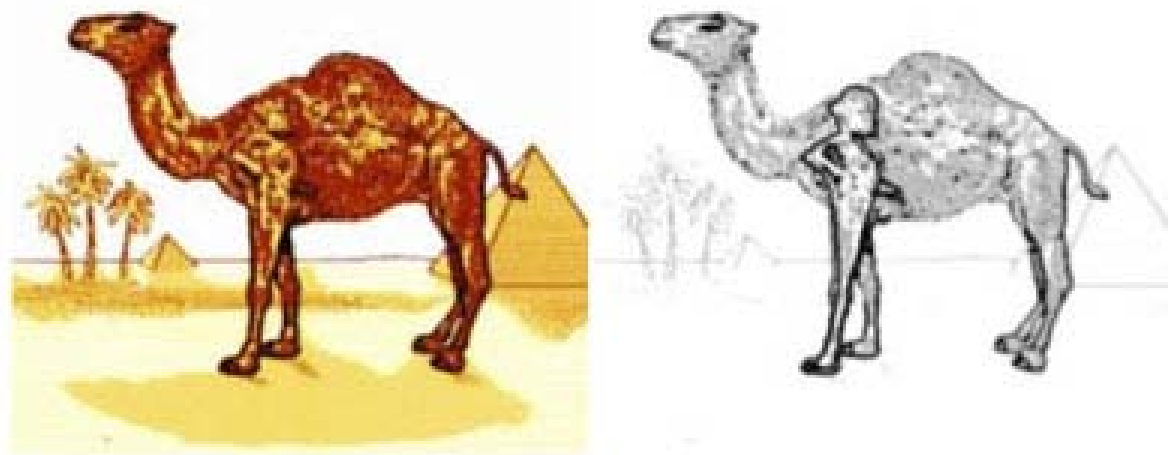


Figure 2. The camel (Joe) in the logo of the equally named cigarette brand supposedly contains a man holding his erection.

Appendix 2 – Network of Nodes

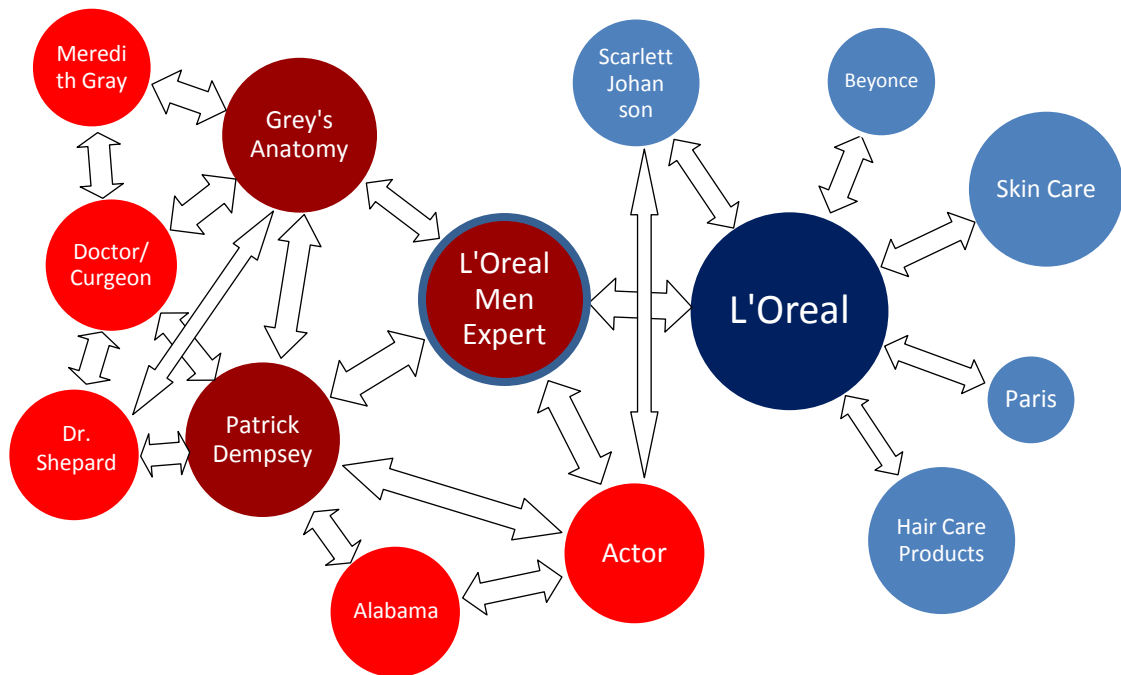


Figure 3. An *example* network of the L’Oreal Men Expert advertisement featuring Patrick Dempsey.

Explanation. The light blue nodes are antecedent to the L’Oreal node, and are activated when thinking of L’Oreal.

If one for example tries to think of the name of the actor, more nodes will become activated. This is represented by the red nodes. The size of the nodes are relative to its importance in this network (Anderson, 1983).

Note: The node “L’Oreal Men Expert” should be light blue as well as red.