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The Art of Trust

Each day we go out into the world trusting that no extraordinary circumstances will occur. We trust that drivers will not run red lights and crash into us as we cross a street. We trust store workers to provide us with safe and adequate foods when we shop. We trust that the individual standing next to us at any given moment will not proceed to attack and mug us. People are able to live their lives comfortably only if they place trust in the individuals in which they contact throughout the day. Without trust, people would not have developed the societies we inhabit today. Without trust, the world would be as untamed as the African Savannah and humans may have gone extinct centuries ago.

So how does the essential process of trust work? What makes trust happen? There are two aspects in science that explain the existence of trust; a neurobiological cause, which deals with the synthesis of a hormone, and a psychological cause, which consists of the abstract thought that morals allow for the expression of trust in humans (Churchland, 2011, pp. 63-95). Is trust merely an effect caused by synapses firing between neurons the within human brain, or is there a psychological factor unique to the higher developed brains of humans?

Trust is created in the mammalian brain through the synthesis of a hormone and neurotransmitter, called oxytocin (Churchland, 2011, p. 14), but the mere manufacturing of this hormone does not guarantee that trust will be exhibited. Instead, trust is mediated and expressed through a person's morals. Therefore, while a human is capable of trusting any individual at any

given time, he or she may not demonstrate trust if he or she does not feel it is within his or her best interest.

Trust is regulated through a person's morality, so a person is willing to trust based on his or her perception of how the person they wish to trust is most likely to react. Normally, if a person believes that the trust they express will not be properly reciprocated, then the person will give little or no trust. M. R. Delgado, R. H. Frank and E. A. Phelps (2005) believe trust is altered through a human's, "neural mechanisms associated with feedback and reward processing and cognitive control, thereby influencing our day-to-day choices" (p. 1616). Put more bluntly, we learn how to trust by observing the outcome of everyday events and deciding if trusting certain individuals or groups would benefit us. This action may go unnoticed throughout a person's day, but humans are constantly and unconsciously evaluating the likelihood that the favors they give to other people will, in some fashion, be returned to them. An act as simple as holding a door open for another person is a demonstration of trust. The trustor, who is the door holder, expects to be compensated with an appreciative word or a smile from the person coming in the opened door.

Humans decide quickly if a person they may interact with appears to be worthy of trusting. If the individual does not feel as though they will be rewarded, such as in trust reciprocation, then they choose not to trust. Additionally, people often trust those with similar morals or culture to their own. In an altered version of the Trust Game, Delgado, Frank, and Phelps (2005) used, "three hypothetical partners depicted as being of good, bad or neutral moral character. The perception of moral characteristics biased pre-experimental self-ratings of trust and behavioral choices as participants chose to be more cooperative with the morally good partner" (p. 1615). Interestingly, feedback processing, which is when the subject observes the

actions of the partner and trusts him or her accordingly, only seemed to be exhibited when participants played with the neutral partners and slightly for the morally bad partners, but not at all for the good partner (p.1615). This surprising data means that the participants trusted the morally good partners almost unconditionally and mistrusted the morally bad partners almost to the same degree. The only partner the participant used feedback processing on was the neutral partner. From this information, it may be reasonably assumed that person's perception of morals play a role in trusting strangers.

In contrast, some biologists feel that trust is dependent upon the regulation of a polypeptide, or a long strand of nucleotides, called oxytocin, which plays a dual role of hormone and neurotransmitter. The Society for Neuroscience (2010) declares that the ancient use for oxytocin was to help with milk production of nursing women and aids in easing the pains of childbirth, and is also prevalent in sexual relationships ("Studies"). The initial functions of this neurotransmitter explains how trust first emerged as oxytocin was produced, milk production increased in mothers and mothers felt a bond to protect the child they had bore. The change in oxytocin levels told the mother's brain to begin trusting the infant to increase the survival rate not only for the individual, but also for the species. Each subsequent interaction between mother and infant only strengthens the maternal bonds of trust through oxytocin levels.

Oxytocin plays an important role in an experiment called the Trust Game. Economist Paul Zak (2008) conducted the experiment thoroughly: subject A is given ten dollars. A then has the choice of whether to take the amount of money given to them or to give an amount of the ten dollars to another subject: B. Any amount A decides to give to B will be tripled before B receives it. At that point, B may decide if he or she wishes to return A's generosity and give an amount of B's money back to A. The amount A receives from B is not tripled; the amount is the

same amount B gives up (p. 90). At least two people must be involved in an interaction in order for there to be trust demonstrated. Avner Ben-Ner and Freyr Halldorsson (2009) explain the roles behind each subject. Subject A will play the role of trustor and subject B the trustee. Since subject A initiates the transfer, he or she exhibits trust. Subject B then exhibits what can be referred to as trustworthiness, which is his or her willingness to return subject A's favor (p. 65). Trust and trustworthiness are not the same, but both must be displayed in order to have a trust interaction. If the trustor does not exhibit trust, no interaction takes place. If the trustee does not return the trustor's favor, trust is broken and the trustor will believe the trustee's morals are deviant from their own and will consequently lose the initial trust expressed on the trustee. Zak (2008) found that 85% of subject As sent some amount to subject B. Of the subject Bs who received money, 98% reciprocated the favor and gave some money back to their partner (p.90). Though subjects could not explain why they provided a favor to a complete stranger, Zak (2008) believed that "being trusted by subject [A]s would induce an oxytocin rise and that those who received greater sums from subject [A]s would experience the greatest increases" (p. 90). This is a plausible reason to assume the validity of the oxytocin theory of trust. Blood samples were taken and tested from subjects before and after the administration of the Trust Game. Zak (2008) noted that oxytocin levels increased when subject B received money from subject A, and that the increase was not due to the money itself (p. 91). Subject A's results are not given in the experiment, which leads one to believe oxytocin levels did not rise in subject As, or that only the levels in subject Bs were studied. This lack of data is significant, as subject A would be the trustor, who displays trust, which is what Zak was purposively experimenting. Subject B was the trustee, and his or her objective was to give back to subject A. Subject B did not display trust, as he or she was aware that he or she would not receive an additional favor after giving back to

subject A. The curious discovery, made by Zak (2008), is that “[i]t is the rise in oxytocin levels, not the absolute level, that seems to make a difference” (p. 91). Even if a person has a high oxytocin level, he or she will not necessarily display a great degree of trust.

Additionally, oxytocin was introduced artificially to subjects via nasal spray. After conducting the experiment with a group of subjects with induced oxytocin levels, Zak (2008) noted that the subjects who were given oxytocin, “gave 17 percent more money to their partner. More tellingly, twice as many dosed subject [A]s (nearly one half of them) as controls exhibited maximal trust: they transferred all their money” (p. 91). These statistics may show that the increase in oxytocin, even though the neurotransmitter is administered artificially, may correlate with a greater degree of trust. This would prove that oxytocin levels are the primary cause of trust.

However, there are faults with this experiment. When oxytocin was administered artificially, Zak (2008) iterates that some of the subjects who are given nasal oxytocin do not exhibit any change in the amount of money, or trust, that is given to their partner (p. 91). This may lead researchers to question the validity of oxytocin’s role in altering trust during human interactions. If there are exceptions to oxytocin levels affecting trust, then how can one be certain oxytocin regulates trust at all? This lack of absoluteness degrades the strength behind the oxytocin theory.

If oxytocin levels were the cause of trust, the objects people come in contact with each day, such as their cars or ATMs, would be trusted. This is not the case. Humans do not, or cannot, trust non-sentient objects. We instead trust the people who operate or who created the machines. Ben-Ner and Halldorsson (2009) have found that humans do not trust machines of any sort (p. 71).

Most humans have grown up with in a “normal” society, where they learn how to act. We are taught from a young age what is right and what is wrong by society’s standards. These morals carry with us throughout our lives and influence how we behave, and hence how we trust. There is no better example to help illustrate the importance of how morals are necessary in trust between humans than to show what happens when people lack them entirely. The children Justin Leiber describes are ones who grew from a young age without the morals and values instilled in most “normal” humans through social norms. The first feral child Leiber (1997) discusses became known as Victor. Victor was discovered when he was about twelve in the year 1800 near Aveyron, France (p. 327). It was apparent from his animal nature that he had lived in the woods for years; his behavior was quite hostile toward people. After physician J. Itard began to teach the young boy some of the values of the time, such as eating properly, Victor began to learn and trust (Leiber, 1997, pp. 327-328).

The second child Leiber (1997) describes is Genie, a thirteen-year-old girl. This child had been secluded for years in a small room in the back of her parents’ home, a majority of the time spent restrained to a potty chair. She was beaten by her father every time she uttered a sound and so she was unable to speak when she was discovered (p. 328). When she was discovered, Genie was without morals or trust. She feared all people. After some time in a state ward, Genie began to learn the values necessary to function around people (p. 328). She began to trust the people she saw daily. The act of teaching her to be civilized seemed to teach her trust as well. After some dispute over custody, during which time Genie lived with different people almost daily, Genie regressed from the morals she had learned from the stable families and physicians from earlier days. After stability was reestablished and good families were caring for Genie, she progressed further than before, but eventually reached a plateau (pp. 328-329). This

limit was probably due to Genie's late beginning with proper contact and trust with humans. This information illustrates how the flex of trust was congruent with the flex of morals and values in Genie. This adds to the strength of the moral theory of trust.

Finally, Leiber explains the case of Helen Keller. Keller had become deaf and blind at the age of eighteen months and lived in a sort of isolated world for the next six years, with her family becoming more and more distant from her (p. 331). When Anne Sullivan arrives to become Helen's teacher, Sullivan educates her pupil, "[t]hrough a series of disciplinary battles, which eventually require isolation from anyone but Sullivan, [after which] Sullivan gains control of Helen's behavior"(pp. 331-332). This isolation from her family allows Sullivan to teach Helen the morals and behaviors necessary to live among and fit in with others. Through much work, Sullivan is able to teach her pupil the etiquette necessary to live a normal life. Helen eventually exceeds everyone's expectations by learning multiple languages and eventually becoming a successful writer (p. 333-335). Helen wrote of how she felt during her beginning years of isolation, in which she calls herself a

'Phantom' before she acquired a rudimentary vocabulary, and as 'Helen' until she had secure sentence making abilities and thus the secure narrative sense of 'I,' personality, and continuity, suggests that, in Keller's view, her personhood *began* only when she had full-fledged language. (p. 335)

Helen was an exception to all other cases in that she was on both sides of the argument. She knew what it was like to be without any morality or personality, both of which are learned and essential for trust formation. She eventually became an educated, well-rounded woman. Her statements give credibility to the stance that morals are what make a person human and trusting.

These three cases help bring to light how essential human morals are in allowing a human

to properly function and trust in society.

Without the morals taught from birth, the behavior known as trust would be nonexistent. Psychologists often believe that trust is based upon the morals a person learns throughout their lifetime, and a biologist would lean toward trust being controlled by the levels of the neurotransmitter and hormone, oxytocin. While it is true that oxytocin is essential in order to have the capability to trust, it alone is not sufficient. The behaviors human beings are taught from birth are the final piece of the puzzle; morals allow people to be civilized enough to establish a trust in one another, whether for bartering for goods or simple socializing. Morals allow for the establishment of trust between individuals, which allows individuals to interact and form groups, which in turn helps to create the civilized world we live in.

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