

## *Chapter Fifteen*

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### *Liberal vs. Conservative Brain Structures*

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One of the more fascinating pieces of research to come out recently has been the work by a team led by Dr. Ryota Kanai of the Institute for Cognitive Neuroscience, University College, London. In their 2011 study,<sup>56</sup> Dr Kanai's team examined MRIs of the brains of political ideologues, and found that there were two main structural differences between the brains of Liberals and the brains of Conservatives. This research further supported earlier work examining differences between the cognitive processes of partisans.<sup>57</sup>

In short, Dr. Kanai and his team found that Liberals possess a smaller amygdala volume and a larger anterior cingulate cortex (ACC) than their Conservative counterparts. This is consistent with other work which has linked amygdala function with political affiliation.<sup>58</sup>

The amygdala is a brain structure most commonly described as being responsible for the generation of fear. This definition is incomplete, however. The amygdala is primarily responsible for assigning emotional significance to encountered perceptions.<sup>59</sup> Likely due to it's assignments of significance to perceptions, it is also strongly associated with the ability to perceive threat, and it is this which leads many to say that it is responsible for the production of fear.

When one encounters a perception about their environment, and that perception is followed by a negative event, the amygdala will record that the perception preceded a negative event, and flag it for significance. This will mark that specific perception for future recognition. Should the perception be encountered in the future, the amygdala will immediately recognize it, and warn the brain that a negative event is likely to follow, so that one may prepare for it.

The most commonly described example would be an event which preceded an attack by a predator. Suppose, for example, one heard grass rustle a short distance away, a stick broke, and then a lion jumped out

and attempted to attack you. If you escaped, your amygdala would assign significance to the sound of grass rustling, followed by a breaking stick. The next time you heard grass rustling, followed by a breaking stick, you would immediately prepare for a lion attack, without the intervention of logical thought.

Due to the amygdala's interconnectedness with other structures within the brain, this response operates upon a very primal, physical level. One individual, known to one of the authors, fell through the ice on a pond, and plunged into the ice cold water after entertaining a friend's dare to go out on the ice. Immediately preceding the plunge, he reported that he remembered the feel of the ice cracking subtly under his feet for a second or so, before it gave way.

For years afterward, he would watch his step carefully in the spring. Small, thin puddles on asphalt, frozen solid during the night, would find themselves in sunlight in the morning. The sunlight would warm the black asphalt, and melt the ice where it met the ground. The melted ice, would drain into the asphalt, while a thin layer of ice above remained frozen, due to the cold air temperatures. As a result, the top of the puddle would be a frozen sheet of ice, unsupported by any ice beneath. When stepped upon, these four or five inch diameter puddles would produce a crushing sensation under the feet.

This individual would carefully watch his step in the spring, as even the small cracking of this unsupported sheet of ice under his feet would send a physical wave of fearful shock up the center of his abdomen, as his amygdala warned him of that stimulus's significance by simulating the sensation of his sudden plunge into ice cold water. So deep was his amygdala's response to that single negative incident, that years later he found it easier to watch where he stepped than to intellectually disregard the stimulus as a neurological false alarm.

The amygdala also assigns significance to less fear related stimuli. In several studies, the amygdala has been found to be involved in the reading of emotion in facial expressions, the judgment of threats presented by others, and the analysis of the intentions of others.<sup>60, 61, 62, 63</sup> The amygdala is therefore crucial to the perception of threat presented by other individuals, likely through attaching significance to, and drawing attention to, subtle indicators of threat in other's countenances.

The amygdala has also been found to be responsible for belligerence or docility of an individual. In one early experiment,<sup>64</sup> the temporal lobe of the brain (which contains the amygdala) was removed in monkeys. One of the two monkeys so treated was described thusly :

*“Prior to the operations he was very wild and even fierce, assaulting any person who teased or tried to handle him. Now he voluntarily approaches all persons indifferently, allows himself to be handled, or even to be teased or slapped, without making any attempt at retaliation or endeavouring to escape....”*

*“Every object with which he comes in contact, even those with which he was previously most familiar, appears strange and is investigated with curiosity. Everything he endeavours to feel, taste, and smell, and to carefully examine from every point of view.... His food is devoured greedily, the head being dipped into the dish, instead of the food being conveyed to the mouth by the hands in the way usual with Monkeys. He appears no longer to discriminate between the different kinds of food ; e.g., he no longer picks out the currants from a dish of food, but devours everything just as it happens to come...”*

*“About this time a strange Monkey, wild and savage, was put into the common cage. Our Monkey immediately began to investigate the new comer in the way described, but his attentions were repulsed, and a fight resulted, in which he was being considerably worsted. The animals were, however, separated and tied up away from one another, but our Monkey soon managed to free himself, and at once proceeded, without any signs of fear or suspicion, again to investigate the stranger, having apparently already entirely forgotten the result of his former investigation.*

Of the other monkey to have his amygdala removed, the researcher wrote :

*“But the creature shows the same change of disposition that was manifest in Monkey No. 6 [the previous case above]. She appears to have lost, in great measure, intelligence and memory. She investigates all objects, even the most familiar, as if they were entirely unknown, tasting, smelling, and feeling all over everything she comes across. She is tame, and exhibits no fear of mankind, but shows uncontrollable passion on the approach of other Monkeys, so that it is now necessary to shut her up in a cage by herself. Like Monkey No. 6, she now invariably*

*devours her food by putting her head down to the platter, instead of employing the hands to convey it to her mouth. Moreover, her appetite is insatiable, and she crams until her cheekpouches can hold no more."*

It is interesting that both monkeys displayed a combination of docility, intense curiosity and analysis of even that which they were already familiar with, desire to explore the novel, and a voracious appetite.

Combined, these traits would produce an individual which avoided confrontations, searched out that which was novel, investigated everything they came in contact with, and was desperately driven to consume whatever resources could be acquired whenever they became available, regardless of palatability.

This would result in a psychology programmed to avoid confrontation, and be intellectually willing to explore creative new sources of resources (which would aid in conflict avoidance), rather than continue to aggressively battle for the same resources everyone else is seeking.

This willingness to explore new sources of resources would also correlate with research showing that the specific allele of the DRD4 gene (the 7R allele) which is associated with a predisposition to ideological conditioning towards Liberalism<sup>65</sup> (and which will be discussed later), is associated with novelty seeking,<sup>66, 67, 68, 69</sup> and is highly elevated within migratory populations.<sup>70</sup>

Thus, the Liberal's desire to explore an issue from every possible angle may likely be derived from a deeper, base urge to seek out and explore the novel, so as to identify new, untapped resource streams. Such a novelty seeking, exploratory urge, would be designed to aid an r-selected individual identify new and unique resource streams in an environment they are already familiar with. This urge produces a mindset prone to examine the familiar from every angle, obsessively searching for something noteworthy that it hasn't noticed before.

All of these traits would be immensely advantageous to an Anticompetitive, r-selected psychology that was suddenly confronted with a resource depleted, K-selected environment.

In another experiment, monkeys with damage specifically to their amygdalae, were found to be unable to read social cues, or respond to

threat stimuli. As a result, they were described in the research as, “*retarded in their ability to foresee and avoid dangerous confrontations.*”<sup>71</sup>

Some have reported that the inability of those with amygdala deficiency to judge other's intentions is a result of an instinctual tendency of such individuals to avoid eye contact. In avoiding eye contact, such individuals subconsciously deprive themselves of perceiving emotional cues which manifest in the area surrounding the eyes of peers.

Oddly enough, such individuals only avoid examining the area surrounding the eyes on images which contain a recognizable face. In images of inverted faces, such individuals examine the eye area freely, and do not exhibit any tendency to avert their eyes.<sup>72</sup> Of course such instinctual aversion to eye contact would correlate with the hypothesis that Liberalism is an Anticompetitive strategy designed to help less physically competent specimens seek Darwinian success while avoiding any direct competition or conflict with peers, as might be averted through the aversion of eyes, and avoidance of eye contact.

The thesis that diminished amygdala development produces a diminished ability to perceive and gauge threat, and that this is a neurological correlate of Liberalism, is also consistent with the fact that Conservatism predominates among members of the military,<sup>73, 74</sup> a vocation which requires the perception and prioritization of threat, as well as the rapid elimination of it - an occupation this theorem would predict would be likely to exhibit the increased amygdala development of K-type Conservatism.

There is further research into amygdala function which would support the notion that Liberalism is associated with the r-type psychology of diminished competitiveness, early mating, promiscuity, and low investment parenting.

Kluver Bucy Syndrome is a psychological illness associated with diminished amygdala function.<sup>75</sup> It is associated with docility (an absence of aggression) and hyper-sexuality (frequent mating with inappropriate objects or partners), demonstrating a linkage between the amygdala and tendencies towards promiscuity, as well as conflict aversive behavior, such as docility. Amygdala lesions are also associated with diminished investments in child rearing.<sup>76</sup> Together, tendencies

towards docility, promiscuity, and low investment parenting are three of the four elements of the r-selected psychology, indicating that amygdala dysfunction is the neurological mechanism by which nature likely imbues the r-type psychology in humans. Only early childhood mating is missing, and it could be argued that those who exhibit hyper-sexuality would also likely exhibit an earlier age at first intercourse than peers.

When examining the amygdala's role in political ideology, it is important to understand this structure's purpose and operation. The amygdala provides what is called an aversive stimulus. Activation of this aversive stimulus is conditioned, through being exposed to an event, and then suffering a negative outcome immediately following it. The more sudden and negative (read traumatic) the outcome, the more the amygdala will flag the preceding piece of information, so if it is ever encountered again, you will pay attention to it, and prepare to deal with the negative event which follows it.

In small quantities, the aversive stimulus the amygdala provides will flag incoming information, marking it as significant, and drawing attention to it. For example, in looking at another person's face, there is a tremendous amount of information being presented to your brain. If you notice that an individual makes a small sneer expression, and then hits you in the face, your amygdala will flag the sneering facial expression. Should you encounter it again, within the flood of information one receives in examining another person's face, your amygdala will draw your attention to it, through a sudden application of aversive stimuli. In response, you will notice the expression, prepare to be hit, and then take appropriate action to either avoid or curtail your opponent's attack.

This aversive stimulus can also provoke a psychologically uncomfortable state. Thus it can regulate behavior, provoking behaviors which are not immediately satisfying or are even uncomfortable to perform. The amygdala will accomplish this by making failure to perform them more uncomfortable than simply performing them, through the application of aversive stimulus. Through this controlling mechanism, the amygdala can provoke such non-hedonistic behaviors as strenuous high investment child rearing, personally costly moral acts, costly acts of loyalty, and other behaviors which require the motivation of an inner force.<sup>77</sup>

This behavior controlling, aversive stimuli which the amygdala provides can also make otherwise pleasurable, hedonistic activities unpleasant, thus dissuading one from simply following their more base urges to acquire pleasure. From dissuading selfishness and disloyalty, to making one empathetically prevent potential harm to others, many of the behaviors we engage in which are not personally advantageous (and are even altruistic) have their root in the amygdala. As this book maintains, it is the K-selected group Competitor who is motivated by Darwin to be the altruist within our species, and here we see the mechanism by which this is made so. A more highly developed amygdala is designed to more widely apply aversive stimuli to force the group Competitor to abide by costly, altruistic rules under a wider variety of circumstances.

It is for this reason that morality and moral judgment,<sup>78</sup> moral emotions,<sup>79</sup> and empathy,<sup>80</sup> all are associated with amygdala function or volume.

Additionally, a voluminous body of research is accumulating showing that amygdala deficiency is a fundamental element of the immoral, unempathetic behavior seen in psychopathy, most likely due to the resultant deficiency in aversive stimulus failing to constrain behavior within appropriate societal norms.<sup>81</sup> Thus amygdala deficiency does appear to be involved in the exhibition of more selfish, less altruistic behavioral drives, partly due to a diminution of empathy, and partly due to a lack of behavioral constraint by aversive stimuli.

Since the amygdala is intimately involved in perceiving the emotional status of others, and it is capable of applying an aversive stimulus to create a psychic discomfort, one would naturally expect that it would play some role in empathy. In empathy, one perceives emotional cues indicating a discomfiting emotional state in others, and reflexively creates a discomfiting emotional stimulus in the observer.

Since the amygdala is involved in perceiving the emotional states of others, as well as providing a behavior-controlling, aversive stimulus, this would indicate that an amygdala deficiency would impair the production of empathy. Indeed, diminished amygdala activation is highly associated with a lack of empathy,<sup>82</sup> and volume deficits have been associated with such unempathetic psychologies as Antisocial Personality Disorder.<sup>83</sup>



Interestingly, decreased amygdala volume has also been associated with the inability to control anger and violent behavior, once it is initiated.<sup>84</sup> This is likely due to the fact that the behavior controlling aspects of the amygdala are also responsible for the control of the expression of anger. So although the amygdala is responsible for alerting us to anger-inducing stimuli, when angered, it is the aversive stimuli provided by the amygdala which controls our urge to engage in violence. Thus it would appear those with more developed and active amygdalae would perceive anger triggering cues more effectively, yet also be more prone to constrain anger once it is initiated. Conversely, those with amygdala deficiency would be less likely to notice anger inducing cues, and become angry, but once angered would be less able to control behavioral manifestations of it.

The anterior cingulate cortex (ACC), which was shown by Dr Kanai's team to be larger in Liberals, is involved in a wide variety of neurological tasks, though it is generally described as a neural alarm system. In this role, it signals when something is wrong, or some perceived stimulus requires more detailed analysis.

The ACC has been noted as being activated very strongly during periods of physical pain,<sup>85</sup> and is shown to be very strongly activated during the psychological stress of social exclusion.<sup>86, 87, 88</sup> It is also activated by perceptions of unfairness,<sup>89</sup> a stimuli very similar to social exclusion, at least to those of narcissistic tendencies who are socially excluded, such as more selfish r-type individuals would tend to be when in the presence of K-type groups of altruistic group Competitors. Such r-type individuals would be socially excluded, it would seem unfair, and they might even be excluded through force, which would incur physical pain. All of these, occurring during childhood, would stimulate this structure, presumably developing it, and increasing the perceptions of these stimuli in adulthood.

The ACC has also been noted as being highly active during the production of envy, when viewing others with access to superior quantities of self relevant resources.<sup>90</sup> It is safe to assume that an r-selected individual, living within competitive, K-selected species would often experience such an envious emotion when out-competed. This would thereby increase the development, and functionality, of such a structure. If this occurred during critical developmental windows in childhood, it would alter the development of this structure, increasing



the ability to perceive envious stimuli and increasing the sensations of envy so evoked, in adulthood.

More easily engendering a state of envy would increase the willingness of such an individual to violate rules, and pursue a more direct, less honor-driven path to competitive success. That such unsuccessful individuals would tend to be socially excluded in childhood would explain this neurological linkage between envy and the psychological pain of social exclusion.

Additionally, one who had well developed the ACC (which appears to create a perception of social exclusion), might tend to carry a constant, subtle perception of being socially excluded from their in-group, thereby diminishing their drive to exhibit loyalty to their in-group - a psychological trait of Liberals that is well documented by John T. Jost.

Thus the r-type Liberal would likely carry a subtle sensation of being socially excluded as well exhibit a heightened predisposition towards envy. Combined with less aversive stimuli to constrain behavior, this all would produce a more desperate psychology, willing to do what is necessary to win personally, regardless of such notions as loyalty to group, honor among peers, fairness in competition, or justness of action.

Under the tenets of this work, this is exactly how the r-selected organism would evolve to behave within both individual competitions with peers, and group competitions with out-groups. The r-strategy's goal is simply fast reproduction, regardless of any rules, mores, or even standards of the quality of the offspring produced.

ACC activation is also seen during the exhibition of empathy.<sup>91</sup> Interestingly, given the ACC's role in fostering feelings of empathy, and the amygdala's role in detecting empathetic cues, and then forcing one to behave in an empathetic fashion, this may point to neither political psychology as being optimally designed for the performance of unbridled, true empathy. This would be consistent with the premise that all Darwinian strategies are designed to be selfish, to some degree or another.

Conservatives will perceive the emotions and pain in others better, allowing a better perception of the appropriate time to be empathetic. Due to their larger amygdalae, Conservatives will also have

a better psychological force motivating them to act on empathetic feelings, through empathetic behaviors. However their smaller ACC will lead them to feel less empathic sensations of psychic pain.

This will produce an individual capable of perceiving when to be empathetic, capable of enduring discomfort while performing the sacrifice of empathy, but less motivated by the emotional stimulus of empathic sorrow. This would be consistent with a psychology prone to compete with others, and view those who lose the competition as receiving of a fate that is fair, and necessary, in some fashion. Since under this theory, the primary drive among Conservatives towards altruism will be specifically-directed loyalty to peers, and not aimless empathy for everyone, this information is consistent with this theory.

Liberals, due to diminished amygdala volume, could be expected to be less capable of correctly perceiving when to feel empathy. They will also have less psychological force motivating the personal sacrifices consistent with true empathetic behavior. Thus Liberals may support higher taxes in principle, yet seek to lower their own personal taxes, regardless of their stated stance, due to a combination of strong feelings of empathy for the poor, combined with a lack of aversive stimulus driving them to sacrifice personally. Similarly, they bemoan the plight of the poor, yet they give less than Conservatives do, to charity.

This is consistent with the observations that Liberals engage in less charity,<sup>92</sup> yet demand higher taxation on others so as to serve empathetic ends. Their larger ACC drives empathetic feelings, yet their diminished amygdala is not able to apply sufficient aversive stimulus to provoke a personal sacrifice which would cost them. As a result, they seek to satiate their overwhelming empathetic drive without enduring any personal cost by using other people's money.

Thus, the Liberal's larger ACC could be seen as a psychological force motivating one to seek to help another, if triggered by the amygdala. However, their less developed amygdala will leave them hesitant to engage in personal sacrifice to this end, and thus more likely to seek to force the sacrifices necessary onto others.

The role of the ACC in the production of envy would also serve to explain frequent left-wing calls to "tax the rich," or engage in other forms of what is referred to as "class warfare" and income redistribution from successful to unsuccessful. Combined with an overdeveloped

empathy that is only triggered by extreme stimuli, this all produces an individual overwhelmed by the sight of the very poor, unable to sacrifice themselves to assuage their empathetic drive, and simultaneously envious of the rich, whom they wish were not so wealthy. Clearly, heavily taxing the rich to give money to the poor is a perfect solution to such a psychology. It is no wonder that half of our nation pays no taxes, while we are continuing to raise the taxes on those remaining citizens who do.

There is considerably more research being done on the role the ACC and amygdala play in some personality disorders, which as time goes on should shed further light upon the role these structures play in both political affiliations.

Deficits in both the amygdala and ACC would appear to be involved in Antisocial Personality Disorders,<sup>93</sup> where the individual neither feels empathy nor abides by common social rules. In this case, the amygdala deficit is hypothesized to diminish the ability to perceive distress in others, as well as diminish conditioning to abide by social rules. Meanwhile diminished ACC volume likely impairs such an individual's ability to feel empathy. The result is an individual who cannot perceive distress in others, couldn't feel empathy if he did, and whose behavior is unrestrained by societal rules of decency. Combined, this produces a pronounced personality disorder, distinct from the more nuanced (and accepted) competitive Darwinian strategies one sees within both common political ideologies.

In the Conservative, heightened awareness of other's emotional states combined with the behavior-constraining aversive stimuli produced by the amygdala, will serve to prevent psychopathy. In the Liberal, enlargement of the ACC will increase feelings of empathy, also avoiding this condition through the introduction of a conflicting urge to balance their lack of aversive stimuli.

Is important to note that both Conservative and Liberal psychologies will maintain an element of personal competitiveness, however. The Conservative will feel less empathy, while the Liberal will perceive it's necessity less, and exhibit less willingness to sacrifice on it's behalf. That both psychologies would maintain elements of personal competitiveness is what one would expect of individuals created in the

Darwinian environment, and designed to pursue specific competitive Darwinian strategies.

Finally, note how a working knowledge of this information is capable of explaining a wide range of political behaviors and inclinations. For example, Conservatives find one of the more vexing aspects of Liberal policy to be the refusal to perform simple discriminations between good and bad in individuals. From Liberal support for criminals through support for lax sentencing, Liberal support for terrorists through limitations on their detention and rendition, to the Liberal's opposition to Airport Security performing targeted screening based upon perceptions of threat, to the Liberal's desire to eradicate human judgment from punishment through the imposition of zero tolerance laws – the Liberal opposes the use of human judgment to access threats and make discriminations, maintaining that such judgment is inherently flawed, and that such a flawed mechanism is highly prone to produce injustice.

It is possible that Liberals are correct in their assertions, at least from their perspective. If the Liberal actually lacks sufficient development of a brain structure (the amygdala) that is necessary to perceive and judge threat, then it is possible that when the Liberal contemplates looking at others and judging threat, they see a mechanism which is, in their personal experience, wholly flawed.

Thus, unable to imagine what it would be like to perceive threat, the Liberal assumes everyone lacks such an ability, and therefore Conservative assertions of the threats posed by others must also be wholly illogical and flawed as well. To the Liberal, the main difference between the ideologies is the Conservative's inability to perceive their own cognitive limitations, and their cruel willingness to punish others based upon what they refuse to acknowledge are inherently faulty assessments.

Thus it should be considered that Liberal's reject Conservative assessments of the threats posed by other individuals not out of purposeful spite, or malice, or even a conscious desire to curry favor with threats. Rather, Liberals reject such assessment simply because they are unable to perceive the threats others present, and they assume any assertions of such an ability by others are not due to any superior

cognitive perception, but rather such assessments are due to flawed and erroneous fantasies of omniscience resulting from intellectual inferiority.

Perhaps, if everyone lacked an amygdala, then frisking old grandmothers at the airport, or creating litmus tests for punishments to be applied absent any personal judgment of the accused, or stripping all Police Officers of personal discretion would be the most logical courses of action. If threats could not be accurately judged, then such random searches or litmus-test applied rules would be preferable to a flawed system of inaccurate targeting prone to randomly punish innocent people.

Much more of the Conservative/Liberal divide will become easily understandable, if one grasps the purposes of the ideologies in nature, and the underlying biological mechanisms by which these strategies are produced. What the effects will be, of this information's dispersal, will be interesting to observe.

In summation, the amygdala is involved in the triggering of aggression/competitiveness, sexual libido, and investments in child rearing. That it is associated with the genesis of all of the behavioral characteristics found in both r/K selection strategies and political ideology is strongly suggestive that political ideologies are related to these more primitive reproductive strategies. That the amygdala's level of development within humans is associated with adoption of one ideology or the other, is further evidence that our political ideologies and r/K selection strategies are at least associated, if not exactly the same animal, simply viewed from a more intellectual perspective.

A final note of caution. The brain is an amazingly complex organ. The amygdala, for example, has discrete regions, with many different purposes, and many connections to other areas of the brain which are responsible for a vast array of processing functions. Although we have presented a very simplified argument here, which we believe accurately summarizes the neurological basis of political ideologies, this is merely a starting point for future research, based upon the best understandings to date.

In the future, it is reasonable to expect that the general picture presented here will come into considerably clearer focus, especially as functional neuroimaging comes into it's own as a research tool, and is

applied to this issue. All readers should eagerly anticipate the revelations that this will bring.

55 See: Jost, J. T. (2006). The end of the end of ideology. *American Psychologist*, 61 (7), 651–670.

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## *Chapter Sixteen*

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