Neurodiversity

The theory of farmers and tribes

A new understanding of autism and psychology

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A short evolutionary model proposing the cause of autism and normal behaviour

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This research report is produced with British spelling and contains 3167 words.

Abstract

'Neurodiversity' is an idea that says the way people think is diverse in a similar way to how there are different cultures and that certain behaviours, such as those expressed in autism, are not necessarily disorders. This report proposes to predict the different human behaviours through evolutionary modelling. Autistic behaviour is explained by modelling humans to live in unsociable single-family groups in a harsh food-scarce environment when Homo sapiens first evolved. This original personality has survived to this day and is one of two basic normal personality types that make up the species. The other personality is the tribal or normal mind which is modelled on existing in a later food-rich environment where social cooperation evolved. Taking the two basic personalities together along with a cross of the two, we can propose a logical basis for 'neurodiversity' and the structure of the species.

Introduction

Evolutionary modelling is based on the premise that in just the same way as our bodies have been created through evolution so have our minds. Charles Darwin made this proposal in the words 'Psychology will be based on a new foundation, that of the necessary acquirement of each mental power'. There was something missing in this vision however: not everybody acquired the same mental powers. By splitting psychology into two sets of mental powers we can explain autistic and normal behaviour as both normally occurring. This does have implications. Human biology is relatively reliable, where faults do occur such as in chromosomal or genetic disorders the number of cases is quite limited, this will not be the same for autism with potentially significantly larger numbers involved. There are also ethical and scientific problems with the basis of conventional thinking about autism. These problems are outlined in the discussion and can be resolved by a new way of thinking using evolutionary modelling. I am proposing quite a big shift in thinking that might be a little intimidating to some people especially editors. At the same time however this can be exciting for those that can recognise and want to test what is possibly one of the most significant concepts ever proposed in psychology. I have been testing it for fifteen years and 'The theory of farmers and tribes' seems to hold good!

In the 1940's an experiment was conducted in Minnesota where a group of male volunteer conscientious objectors were subjected to a period of semi-starvation. The research revealed a change to autistic like behaviours in the subjects once the period of semi-starvation commenced. Food became an obsession for the participants. These are comments from some of the men who took part in the experiment. "food became the one central thing in ones life....I mean if you went to a movie, you weren't particularly interested in the love scenes, but you noticed every time they ate and what they ate." "all interest in women and dating was lost: I can tell you, the sex drive disappeared. There was none." Anxiety increased when the upcoming rations were posted. "We dreaded seeing that list for fear that it was certainly going to reduce our rations." Social behaviour decreased "...noticing what's wrong with everybody else, even your best friend. Their idiosyncrasies became great big deals....We became more introverted, and had less energy....reduced coordination" (Kalm and Semba 2005). I propose to take these observations and model a picture of an autistic personality that evolved to deal with starvation.

Method

The method to be used is a little different to that typical in psychology. The method is drawn from the world of physics and is based on Einstein's thought experiments when he was creating his theories of relativity. His methods were based on using imagination (Einstein 1916). He said "Imagination is more important than knowledge. Knowledge is limited, imagination encircles the world". We are going to think in a similar way but hopefully this will be a bit easier to understand than relativity. By looking at things from an unusual perspective sometimes the breakthrough comes. The method worked to explain systems in physics and it can work to explain systems in psychology. It will even explain Einstein's mind itself. We will be guided by his view that 'everything should be made as simple as possible, but no simpler'. Our evolution was not very complicated but it requires two personalities to get it to work.

The Family

I want you to imagine a semi-arid desert from the past and in it was single-family groups consisting of a man a woman and their children. We choose to live in single-family households today because that is how we evolved to live. These single families evolved to behave in a way to maximise their chances of survival in a given environment. Because of the sparse supply of food each family needed as large a foraging area as possible to survive. This meant that each family needed to keep away from other families so they evolved to be unsociable and shy of each other (Hall and Hill 1991). Both parents were required to work to find enough food to rear children. They needed to be bonded together in a monogamous relationship for life. This is the evolutionary purpose of love a foundation of human behaviour. Because there was only enough food to rear small families these people evolved to be sexually restrictive (Bejerot and Eriksson 2014). Survival was only ensured by the constant search for food with the anxiety of starvation the motivating force. These people evolved to be hyperactive obsessive hunters with little variation in routine. The hyperactivity countered the slowing effects of hunger and the obsession meant they just kept on going. Even if hunger was satisfied, and that was rare, the hunt would continue to collect food for the next day in case tomorrow's hunt was less successful. We create the foundation of human capitalist behaviour: Each parent had different roles in the hunt. The man evolved to focus on following a single track from following the tracks left by animals. The woman evolved to be very wide viewing to see opportunistic food sources as they arose. This makes women good at browsing when shopping and men better at focussing on buying single items. Because there was no social contact with other families there was no need for communication and so there was no reason to evolve language. A derivative of this lack of language means these people were totally honest (Baron-Cohen 2007a). Dishonesty comes with language you can't tell a lie without it. These people were highly sensitive (Stewart et al 2009) they had evolved to see in detail, hear and smell more clearly to find the small food sources that existed. They were also more sensitive to pain as they had to remain uninjured or they would most likely die. There was nobody to take care of them if they got hurt. They evolved to have coordination commensurate with a starvation diet which means they were not well coordinated (Fournier et al 2010). There was no hierarchy only the concept of equality. These people took all of their own decisions which meant that they thought logically and saw two choices yes and no. This makes this personality a natural computer coder (Silberman 2015), on and off, one and zero, just two choices. They didn't have to wait for other peoples contributions, were not negotiators and always got their own way. Today this evolution is reflected in a lack of patience and a propensity for tantrums (Matson 2009) in the event of personal desires not being met.

The basic criteria for categorising the autistic personality are: difficulties in socialisation, communication and repetitive behaviour (Baron-Cohen 2008). Each one of these basic characteristics is an evolutionary requirement in this model. There is no inbuilt natural programming for socialisation and communication in the normal sense (Baron-Cohen and Wheelwright 1999): these all have to be learnt. Rates of learning vary and shouldn't really be the cause for concern that they currently are. Today the characteristics required in this model for survival are reflected in different ways. For instance the obsession for food is often replaced with obsessions about other things (Baron-Cohen and Wheelwright 1999) because we are no longer hungry. Anxiety of starvation is replaced with anxiety about other things (White et al 2009). There is a desire for friendship as the group of two people of the same sex and our concept of 'best friend' directly preceded the single family in the overall model of evolution (Brown 2016). As I model evolution approaching the creation

of Homo sapiens I am looking at group sizes reducing from three or four individuals of the same sex with their partners and our concept of 'friendship' to 'best friend' to the smallest evolutionary unit that can survive and reproduce 'the single family'. This adaptation of behaviour was a response to an increasingly harshening environment (Lyons et al 2015) and a reducing food supply. To further understand the differences between autistic and normal behaviour we need to create a further model. We will now model a picture of the tribal or normal personality.

The Tribe

Moving forward in time the climate changed (Lyons et al 2015) and our semi-arid desert turned into savannah. On the savannah were large game in the form of cattle sized animals and human behaviour evolved to access this food source. Hunting large game required the cooperation of several men as cattle sized animals were too large to be caught and killed by a single person. Originating from two brothers cooperating together groups of people grew in number and we see the evolution of the tribe. To be successful as a tribe behaviour evolved so that people could function as a group. They needed to be sociable and so shyness was watered down. People needed to think about what other people were doing around them so the focus and obsession needed to be replaced with other characteristics. They needed to be able to see situations from other people's point of view and empathy (Baron-Cohen and Wheelwright 2004) evolved. With empathy came awareness of personal space and the ability to sympathise with somebody else's position. The tribe needed order for decision making. Hierarchy evolved with a chief at the top to make the important decisions. Empathy meant that decision making needed to take into account the feelings of other people so we get a three way process of yes, no and maybe with these people becoming negotiators. By becoming negotiators there was an accompanying reduction in tantrums (Matson 2009). Each person had their own place in the order. This place was established through successful effort and status evolved to motivate the tribe. Competiveness evolved to drive improvements in status and pride came as the reward. Self-awareness (Frith 2003) was necessary in order for people to know their position in the hierarchy. With self-awareness came manners (Frith 1991) for example, not eating with your mouth open but also many other behaviours to create ease between people and respect for the hierarchy. Order needed to be maintained and cruelty evolved to maintain discipline. Pride was the carrot, cruelty was the stick. Compassion evolved to protect the weaker members. If only the strongest was kept that would lead to a single person and there would be no tribe. Fighting (Matson 2009) became ritualised so that people didn't hurt each other too much. Most children who fight know exactly how far they can go and can control their movements so that they hardly ever cause any real trouble (Frith 1991). The misconception of more aggression in autistic children is simply a lack ritual in fighting and poor treatment making them kick off. Loyalty to ones tribe evolved to cement the group together. There was equality of income as everybody got their fair share of food and the anxiety of starvation was reduced.

With group cooperation, came the need for a tool to coordinate the tribe and we now have the reason for language to evolve. With language came more advanced and abstract concepts. Dishonesty (Baron-Cohen 2007a) was created to protect people's feelings and the 'white lie' was born. Humour (Frith 1991) evolved to pass criticism without causing offence. There is usually a message in a joke. Records of events came in the form of stories. In children this led to pretend play (Frith 1991) with them recreating small stories as language evolved. Conversation developed and with it eye contact (Apoorva et al 2017) so that people knew who was talking to whom. Techniques

required for large game hunting necessitated an improvement in coordination skills in order to use spears. Hunting became very successful and with this came the time for recreation, variation in routine and no more need for hyperactivity. Learning changed from simple observation (Grandin 1995) to learning from other people's words. High status people were the ones to copy in the hope of improving one's own status (Frith 1991). The acute senses (Stewart et al 2009) reduced either because they weren't needed or were counter productive to the common good. The ability to bear pain increased with the risks involved in large game hunting. No longer did serious injury mean certain death as the tribe had compassion and would take care of those that were hurt. Tribal behaviour became very successful in a food-rich environment and reproduction dramatically increased to create the normal mind by sheer virtue of numbers.

Conventional thinking is that all children pass through uniform stages of development including the toddler tantrums and with autism they seem to get stuck with a developmental disorder (DSM-5). The model so far has predicted the cause of autistic behaviour and normal behaviour. It has predicted the cause of language and a socialist personality that takes care of each other. There is something missing though and that is the natural cause of mathematics and the capitalist personality. We are going to take the autistic personality and question the convention of a developmental disorder? We will create a third part of the model and take a final picture that gives us the structure of the species.

The Farmer

Not everybody evolved into tribal behaviour: some people kept the original mental programming from the desert. This behaviour survived starvation: it could certainly have survived in a better environment. Whilst the tribe was evolving its socialist behaviour the people that had kept the earlier programming evolved along a capitalist route. These people became farmers and the first true capitalists. They were never hungry now and had far more than they could ever eat. The creatures they farmed were a similar size to sheep as this is the largest animal a single person could kill by themselves. The farmer and the tribe had little to do with each other. There was however to come a change in the environment to more arid conditions (Lyons et al 2015). The large game reduced in number and the tribe began to struggle to find enough food. They had by now become not very innovative due to the way their minds had evolved. They had to think like other people in order to fit into the tribe. There are reports of extremely high-achieving individuals in the fields of maths, physics, which has to include Einstein and computer science with few if any equivalents from the humanities (Baron-Cohen and Wheelwright 1999). The risk of loss of status through being seen to make mistakes precluded the innovation necessary for the tribe to survive here on its own. It was now that the farmer and the tribe cooperated together through trade. The tribe provided the farmer with protection from other tribes who were also hungry. The farmer provided the tribe with food. With the concept of trade came the necessity for the farmer to keep track of animal numbers in order that the family didn't run out of stock. We have the evolutionary cause of the natural ability to count (Luculano et al 2014) and the basis of mathematics. The tribe provided us with language and farmer with maths the basis of our educational system. The farmer was the capitalist and the tribe the socialists. This is the basis of our existence today. The current wealth creating technology revolution coming out of Silicon Valley (Silberman 2015) is driven by the capitalist personality with their natural computer coding, maths abilities and obsessions necessary to get difficult ideas to work. To say that these people have a developmental disorder defies common sense!

Finally I want to take the model and give it an actual home. This home is in Africa from a very long time ago prior to human migration. This means that the different personalities are found across races but not necessarily equally (Heejoo et al 2015). It is the balance of personalities that gives rise to psychological differences between races and creates the different cultures (Brown 2016). Studies have shown that the climate in Africa has changed from arid to fertile conditions and back again as the world has warmed and cooled (Lyons et al 2015). By creating this structure in Africa it means that people had the necessary maths and language abilities to create the different civilisations separately. For instance Rome and China developed quite independently of each other (Brown 2016).I think that the model is not just my imagination but is what actually happened. Since then there have been countless opportunities for the two personalities to cross-breed. Because of all the genetic alterations, recently estimated at three to five hundred (Masataka 2018) although it could be more, needed to make the normal personality from the earlier personality, one might expect a mixture of characteristics in a cross of the two. The Autism Spectrum Quotient, the test for autism spectrum disorder, shows a normal distribution when applied to a large population (Baron-Cohen 2008), suggesting a mixture of characteristics has occurred with people inheriting bits from each personality.

Discussion

Conventional thinking believes that the differences between autism and the normal personality are caused by a disorder or condition. It hasn't been able to explain how all this has happened in seventy years and it never will! The reason is conventional thinking has made a fundamental mistake. That mistake was made right at the start and it was the concept of eugenics. The original work on autism was done at a time when eugenics was part of the current thinking. Both Kanner's and Asperger's founding work on autism were published just a year or two before the end of the Second World War. The basis of Asperger's work in particular is especially troubling coming from the race hygiene policy in Nazi-Austria (Silberman 2015) (Czech 2018). There was no master race or logical basis to Nazi-science where it concerned people. To be fair to Asperger he did point this out in his original paper by his method. 'It dispenses with a system built according to logical points of view because such a system does not for us appear to correspond to the reality of life' (Brown 2016). This part was left out in the translation (Frith 1991). Revelations of the holocaust after the war put an end to the scientific validity of eugenics; it would seem however that the basis of autism slipped through the net. Just renaming Asperger's observations as autism spectrum disorder (Baron-Cohen 2018) as happened in the DSM-5, doesn't get around this fundamental problem. Children in England are suffering from being labelled with a mental disorder or condition with no basis to it. They are being sidelined into special schools according to the Department for Education (DFE 2019) in what is starting to look like education race hygiene to me. This report proposes a theoretical basis for a much needed replacement for conventional thinking. Human psychology isn't actually made out of a single normal personality. It is formed from two normal personalities which creates the 'neurodiversity' and structure of the species.

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