

**Simon Baron-Cohen, *The Essential Difference* (London: Penguin, 2004)
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Reviewed by *Torgun Bullen*

Simon Baron-Cohen is Professor of Developmental Psychopathology at the University of Cambridge in the Departments of Experimental Psychology and Psychiatry. He is also Co-director of the Autism Research Centre (ARC) in Cambridge and Director of CLASS, the Cambridge Lifespan Asperger Syndrome Service. *The Essential Difference* is a book written as a result of his interest in and research into autism. Autism is a spectrum of neurological 'disorders' (many prefer to call them neurological variations), which range from a mildly affected diagnosis of 'Asperger Syndrome' or 'High-Functioning Autism' to 'Classic Autism' at the other end of the spectrum.

The behavioural characteristics associated with autism are:

- significant difficulties with social interactions
- significant difficulties in verbal and nonverbal communication
- significant difficulties in the development of play (no imaginative play)
- highly restricted, repetitive and stereotyped patterns of behaviour and interests
- highly resistant to even slight changes in routines

There are many more males with a diagnosis of autism than females. For example, the National Autistic Society cites ratios of 4:1 (a Swedish study in 1993) and 3:1 (the ratio of male to female clients in NAS adult services).

Baron-Cohen states the theory of his book in the opening paragraph:

The female brain is predominantly hard-wired for empathy. The male brain is predominantly hard-wired for understanding and building systems.

Briefly, he defines the concepts as follows: 'Empathizing is the drive to identify another person's emotions and thoughts, and to respond to them with an appropriate emotion.' 'Systemizing is the drive to analyse, explore and construct a system.'

Baron-Cohen essentially believes that autism is behaviour associated with 'the extreme male brain'.

Because of the political sensitivity of the subject, Baron-Cohen hesitated for many years before writing the book. It is easy to see that a theory such as this could be used by extreme right-wingers to further their notion that women are less able than men. For socialists and feminists, perhaps his theories do not make for very comfortable reading. However, observing the typical interests and behaviour of men and women in society, I cannot but wonder whether these differences can *all* be accounted for as purely the result of upbringing.

Why can nearly all men with a home computer quote the relevant numbers about the size of its memory and hard drive, the speed of the chip and all the other hardware details – and most women who own computers just have not bothered to take note? 'It works, it does what I want it to do', seems to be the attitude of most women and they leave it at that. A very competent female computer programmer I knew (with a first degree in computer science) did not know the specifications of her home computer. How many women do you know with gadget mania? How many men? Virtually all the men in the office where I work are obsessed with gadgets. They come in with the latest hand-held devices that do god-knows-what, the more buttons, the better – the faster, the better; the more intricate, the better.

Baron-Cohen is at pains to point out that he is not a 'male supremacist'. He emphasises that there is range of these behaviours; that they overlap to a great degree; that most men and women fall within the broad overlap in the middle, where they are all more or less equally good at empathising and systemising. He quotes very eminent female scientists that he works with and gives them credit for their achievements. He is in favour of encouraging women into the sciences and states the need for us all to consider the individual first and foremost, and what that individual can achieve in life. He stresses that he is only speaking of statistical averages, that there will be women out there with 'typical male brains' and men with 'typical female brains'.

His interest kicks in at the extremes of the abilities, particularly 'the extreme male brain'. Whether 'the extreme female brain' exists is still a subject for research, he says. Most mathematical geniuses are men. Most fanatical collectors are men – the object of the collecting being to construct a system for the collection and to complete it. Men like keeping lists, ordering lists, ticking things off their lists. Take bird watchers, for example, or men interested in the football league tables, or philatelists. These interests are virtually all male interests.

People with Asperger syndrome are often exceptionally gifted, in one narrow area, which can absorb all their energies. This is nearly always on the mathematics or science side of things, hardly ever do they get involved with anything involving the creative use of language or areas requiring good imagination or social skills.

Baron-Cohen argues that social interaction is very complex, with inputs coming from all directions simultaneously and that the 'rules' (if there are rules) are constantly changing. Systemizing is more rigidly rule-based, whereas 'the rules' in empathizing keep changing:

Consider the rule 'if people get what they want, they will be happy'. Say that you followed the rule and gave Hannah what she said she wanted for her birthday; why is she still not happy? Systemizing just cannot get a foothold into things like a person's fluctuating feelings.

People on the autistic spectrum have great difficulty with the changing 'rules' of social interaction. A typical example quoted in the book is a professor of mathematics at Cambridge diagnosed with Asperger syndrome, doing research into extremely difficult mathematics – but unable to conduct simple conversations on the telephone because he has no concept of polite chit-chat. Social niceties is unknown territory to him; for example, when guests visit him and his family at home, he may suddenly and unannounced disappear into a room to sit and read on his own.

Baron-Cohen discusses evidence for greater empathy in girls from studies made into the play and behaviour of children. In a chapter discussing the difference between the way boys and girls play, he concludes:

On average, boys produce much more antagonistic behaviour, and shockingly, you can see these differences from as early as two years old. As we saw earlier, little boys also tend to have more trouble learning to share toys. In one study, young boys showed fifty times more competition, while girls showed twenty times more turn-taking. These are everyday examples of large sex differences in empathizing.

In order to infer what another person might be thinking or feeling, you need a 'Theory of Mind'. Baron-Cohen says that "A number of studies suggest that by the age of three young girls are already ahead of boys in their ability to infer what people might be thinking or intending – that is, in using a 'theory of mind'."

When people are diagnosed for autism, it usually involves a 'theory of mind' test. For a young child, it may typically go as follows:

The person conducting the test, the child and a third person are in the room. A toy is put away in a toy chest, in full view of everyone in the room. The third person leaves the room. The conductor of the test takes the toy out of the chest and puts it behind some books on a book shelf. The third person enters the room again. If an autistic child is asked where the person who has just re-entered the room thinks the toy is, he or she will usually answer: 'On the book shelf.' Although this is just a simple test, it illustrates the fact that for severely autistic people, it is impossible to imagine what another person's experiences and feelings mount up to. They think everyone else's picture of the world is the same as their own.

People with classic autism more often than not have very little or no speech. Those diagnosed with high-functioning autism can have good or seemingly 'normal' speech, but in most cases developed their speech late as toddlers. Even extremely bright and able people with Asperger's syndrome sometimes have very stilted or odd speech. Baron-Cohen puts forward the theory that the greater female ability to communicate ties in with their relative superiority at using language. About sex differences in the use of language, he says the following:

On average, women produce more words in a given period, fewer speech errors (such as using the wrong word) and perform better in the ability to discriminate speech sounds (such as consonants and vowels) than do men. Their average sentences are also longer, and their utterances show standard grammatical structure and correct pronunciation more often. They also find it easier to articulate words, and do this faster than men. Women can also recall words more easily. Most men have more pauses in their speech. And at the clinical level of severity, males are at least two times more likely to develop language disorders, such as stuttering.

Baron-Cohen puts the sex differences in systemizing and empathizing ability down to social as well as biological factors. If some of these factors are biologically determined, the next question to answer is why evolution favoured different abilities in men and women. He goes on to suggest possible answers to this question.

The important thing to bear in mind in reading this book, is that Baron-Cohen's theory only generalises about men's and women's varying abilities. Of course there are men with very good empathizing abilities and also many brilliant female scientists. The fact that he points out that there is a trend or a tendency in abilities and interests for either sex, does not mean that he therefore wants to exclude either sex from entering any field of study.

Of what interest is all of this to socialists? I think it is interesting for a number of reasons. For many years, most of the socialist movement adhered to something very close to a 'blank sheet' theory of human behaviour. When we were born, as males or females, all of our subsequent behaviour would be determined by society, none of it would be shaped by the genetic component – so the theory went. This is quite clearly wrong. Of course the environment is very important, but so are our genes. As socialists, our fear of the label 'genetic determinism' is so strong that I am concerned that we sometimes ignore recent important research – such as the research currently being conducted into autism.

I am coming to the conclusion that, in general (again, I emphasise, 'in general'), women provide the social 'glue' that makes our communities and homes pleasant places to be in. It is a contribution that is woefully underestimated in our society, but one that should be celebrated and emphasised in our efforts to bring about a revolution. If we want to grow our movement, a competitive, 'fight-club' type of environment is not going to be attractive to most women (or to a lot of men, for that matter).

There is not going to be uniform behaviour in socialism. Behaviour will be shaped by the environment but also by a genetic component (like, in all probability, autism). Because our behaviour will vary, there will also in all likelihood be some anti-social behaviour that we will need to keep in check by a system of 'rules' or 'socialist law'.

For a fuller explanation of the theories behind *The Essential Difference* it is a good idea to also read *Mindblindness* by Simon Baron-Cohen. A short summary of it follows.

Mindblindness: An Essay on Autism and the Theory of Mind
Simon Baron-Cohen

Normal humans everywhere not only 'paint' their world with colour, they also 'paint' beliefs, intentions, feelings, hopes, desires, and pretences onto agents in their social world A growing society of cognitive scientists has concluded that humans everywhere interpret the behaviour of others in these mentalistic terms because we all come equipped with a 'theory of mind' module (ToMM) that is compelled to interpret others this way, with mentalistic terms as its native language. We are 'mindreaders' by nature, building interpretations of the mental events of others and feeling our constructions as sharply as the physical objects we touch.

So say John Tooby and Leda Cosmides in their Foreword to this book. In it Baron-Cohen develops his interpretation of the mental modules necessary to play 'social chess' – to be able to put oneself in the place of somebody else, to make reasonable guesses as to their mental states and to take action accordingly.

'Neurotypical' people are able to use these modules to good effect, to show empathy and understanding of others when needed, to join a new social group or conversation without too many problems, to share jokes and witticisms, to understand sarcasm. Sometimes the ability to understand quickly the intention of others can save one's life.

Autistic people find these social situations most of us take for granted a struggle and a constant puzzle. Although many understand and make jokes, most things are taken seriously and literally. They are vulnerable to people out to cheat and deceive, as they do not pick up the signs.

Baron-Cohen groups the modules necessary for a full range of mental state concepts into four (a brief summing up):

The Intentionality Detector (ID)

The ability to predict the movement of an animal (or human) in terms of where it is going and what its goal is – then possibly take avoiding actions.

The Eye-Direction Detector (EDD)

The importance of eyes to animals – the EDD's function is firstly; to detect the presence of eyes, and secondly, to detect the direction of the eyes. (What is the object of interest?)

The Shared Attention Mechanism (SAM)

This is the ability to confirm that the other animal and the Self are both interested in a third object.

The Theory-of-Mind Mechanism (ToMM)

This is a system for inferring the full range of mental states from behaviour and for turning all mentalistic knowledge from all modules into a useful theory. For example, it is capable of understanding pretence, '... a host of studies show that around the age of 18-24 months human toddlers begin to pretend and recognize the pretending of others, and this seems to mark a qualitative change in their play.'

Mindblindness explores why mind reading is an evolutionary advantage, discusses whether our nearest relatives, the chimpanzees and the apes, have a TOMM and explains why Baron-Cohen and his research team believe that autism is caused by having a TOMM which does not function 'normally'.

The book has a long and interesting chapter on 'The Language of the Eyes', discussing the vast range of emotions we are able to convey with our expressions in and around our eyes. He lists an impressive English vocabulary for describing the meanings the eyes can convey and quotes poetry, like the following passage from Ralph Waldo Emerson in 'Conduct of Life: 5. Behavior':

An eye can threaten like a loaded and levelled gun, or can insult like hissing or kicking; or, in its altered mood, by beams of kindness, it can make the heart dance with joy.