

Stereotypes of autism

Douwe Draaisma*

Heymans Institute, University of Groningen, PO Box 72, 9700 AB Groningen, The Netherlands

In their landmark papers, both Kanner and Asperger employed a series of case histories to shape clinical insight into autistic disorders. This way of introducing, assessing and representing disorders has disappeared from today's psychiatric practice, yet it offers a convincing model of the way stereotypes may build up as a result of representations of autism. Considering that much of what society at large learns on disorders on the autism spectrum is produced by representations of autism in novels, TV-series, movies or autobiographies, it will be of vital importance to scrutinize these representations and to check whether or not they are, in fact, misrepresenting autism. In quite a few cases, media representations of talent and special abilities can be said to have contributed to a harmful divergence between the general image of autism and the clinical reality of the autistic condition.

Keywords: brain; autism; talent

1. INTRODUCTION

In the original publication on the syndrome that was to bear his name, Asperger (1944) introduced his case histories with a series of reflections on the proper methodology of classifying and diagnosing psychiatric disorders. In these pages Asperger grappled with issues that are still very much with us, issues of labelling, description and stereotyping. Some of his considerations on diagnosing and describing autism may help us reflect on the professional and media representations of autism. Specifically, it will be argued that Asperger's Gestalt-like assessment and description of autism, even if it is officially denounced in modern psychiatric practice, offers a convincing model of the way stereotypes may build up as a result of representations of autism. Considering that much of what society at large learns on disorders on the autism spectrum is produced by representations of autism in novels, TV-series, movies or autobiographies, it will be of vital importance to scrutinize these representations and to check whether or not they are, in fact, misrepresenting autism. In quite a few cases, media representations of talent and special abilities can be said to have contributed to a harmful divergence between the general image of autism and the clinical reality of the autistic condition.

2. HANS ASPERGER: THE POWER OF CASE DESCRIPTION

Asperger wrote his case histories at a time when Gestalt psychology had become a formidable force of influence in the German-speaking world (Ash 1995). It certainly shaped his somewhat holistic view on the proper way of classifying and diagnosing psychiatric disorders. Each human being, Asperger argued, must be understood

*d.draaisma@rug.nl

One contribution of 18 to a Discussion Meeting Issue 'Autism and talent'.

as an alloy of traits, as a unique blend of capacities and inclinations. To be a good diagnostician, one will have to develop a sensitivity for what he called the 'Zusammenklang' (p. 78) or Gestalt of the child—his voice, face, body language, intonation, gestures, gaze, expression and diction. The true art of clinical observation was being open towards just anything the other person brings into the diagnostic situation. This Gestalt-like orientation precluded the description of syndromes, in terms of lists or assemblies of atomistic traits. Asperger, consequently, did not scale the boys in his case histories along a single polarity, nor did he articulate a single essence, supposedly shared by all the boys.

This was different in the case of Leo Kanner, who did distil an essence of autism with his evocative descriptions of autistic aloneness, insistence on sameness and islets of ability. But in Kanner's landmark article too, it was the case descriptions themselves that shaped clinical insight.

Asperger introduced his readers to three boys who helped to shape a Gestalt-like stereotype of the autistic condition. The first case history, on 6-year-old Fritz V., presents a lengthy description of his looks, his aggressive behaviour on the ward, his resistance against being tested, his thin, high-pitched voice, his adult-like choice of words, his clumsiness, his irritated reactions to any show of affection, his vacant gaze, his nonsense answers to questions, his precociousness in arithmetic and his abrupt mood swings. The second case history, on 8-year-old Harro L., is considerably shorter. He too is clumsy and aggressive, has the same vacant expression, the smile that no one understands, the strange answers, the precociousness in doing sums, the lack of contact with other children and the adult-like speech. After Fritz and Harro, the case of 7-year-old Ernst K. is even shorter. He cannot tolerate other children, looks straight past objects and people, has a high nasal voice and makes a scene if things are not in the same place as he is used to. Ernst also does sums according to his own methods. There is a fourth case history, on Hellmuth L., but this case is only there to demonstrate that brain damage may result in behavioural symptoms that overlap with those of autism, but in fact should be differentiated from the autism diagnosis.

Asperger's description of Fritz is an implicit invitation to his readers to join him in the act of clinical observation and to note the traits that are part of the Gestalt. Perhaps, trusting that his readers will begin to form some sort of mental image of the Gestalt, the second case history is shorter and the third one is still shorter. Each of these three boys is a unique person, yet they share a profile that sets up a new psychiatric category. What Asperger was aiming at was the construction of a compound image or profile. Once this profile has been pointed out to you, Asperger claimed, you will recognize it at first sight, as soon as the boy enters and as soon as he starts talking.

In a psychiatric practice that has become a discipline of protocols and lists of criteria, Asperger's Gestalt-like method has an antiquated ring to it. But from what is known on the role of prototypes and exemplars in psychological studies of categorization, ever since the work of Rosch (1978), one may infer that it is still a fair description of what a diagnostician experiences as he or she feels the routine in diagnosing autism building up. One gets a sensitivity for the type of boy or girl on the autism spectrum and this sensitivity is fed not just by test results and the five-out-of-eight on a list, but also by the wider domain of traits and behaviours mentioned by Asperger. The stereotype that builds up will be largely implicit, but it partially guides the diagnostic process, as it does the initiation of novice diagnosticians. Along the same lines one may infer that it is a convincing description of the way media representations contribute to the construction of autism stereotypes in a larger audience of lay persons.

3. THE PROLIFERATION OF AUTISM STEREOTYPES

Much has changed since Asperger drew up his case histories in the 1940s. For one thing, among the twohundred children he had seen and who shared this profile, there were no girls. In his view it was an exclusively male disorder. It no longer is. But by and large, Asperger's clinical picture of autism at the more able end of the spectrum still stands. That is, even if the case histories are over 60 years old, these three boys are recognizably members of the family of autism; they clearly fit the image of what experts today view as a 'normal' autistic person. Even if there has been a controversy on where exactly on the autism spectrum they should be positioned, due to idiosyncrasies of the DSM (Miller & Ozonoff 1997), there is no doubt they are on the spectrum. In this sense, much of the stereotype constructed by Asperger is still valid—that is among experts.

Outside, to use a dangerous term, it is a different story. The past 20 years or so have seen a considerable proliferation of autism stereotypes—so much so that one may pause to think whether it is still useful to talk of stereotypes at all. There are now autistic persons as

characters in novels and movies, as the subject of biographies or autobiographies, as vignettes in introductory courses, as exemplars in marital guidance books and as cases in books on special education or as patients in retrospective diagnoses, sometimes as far back as medieval times. It is not just that there are many more persons diagnosed as on the spectrum compared with the situation 20 or even 10 years ago, the spectrum itself seems to have exploded. How did this happen?

In an inspiring series of historical and conceptual analyses, Ian Hacking has identified much of the clockwork behind psychiatric classification (Hacking 1995, 2007). Terms such as the 'looping effect' and 'moving target' are simple names for subtle concepts; they are ways of thinking, analysing and looking. Much as Asperger and Kanner made it easier to recognize autistic disorders once they had articulated what to look for, Hacking specified the processes that cause psychiatric categories to be such shifty things. The very act of labelling initiates a complex interaction between the label and the perception and understanding of the person so labelled. Autism is no exception. Labels such as autism, Asperger Syndrome or PDD-NOS carry connotations and consequences, and these will influence pedagogical and educational practices. This interaction takes shape in a world in which psychiatry is not the only, perhaps not even the most important, force of influence. Today, the processes that shape the general understanding of Asperger syndrome and autism have come to be distributed over persons and institutions, literature and film, education and media. A better understanding of the autistic condition and the talents that may come with it demands that we should carefully observe the intricate interaction between the 'expert' view of autism and the general perception of autism as it manifests itself in the way autistic persons are represented in novels, biographies, autobiographies and movies. That there is such a thing as a general perception of autism, perhaps best thought of as a set of stereotypes, is graphically brought out by what movies need or need not show to explain the autistic condition.

Up until 6 or 7 years ago, many movies featuring autistic characters had a scene in it in which an expert, usually a psychiatrist, explained about autism and savant skills. We all remember the white-coat scene in Rain Man. There is not such a scene in the movie Snow Cake, released in 2006. Alex, the character played by Alan Rickman, comes to spend a few days with Linda, an autistic woman, played by Sigourney Weaver. He is puzzled by Linda's bizarre behaviour and at some point halfway through the movie, when they are in the backyard, Linda jumping up and down on a trampoline, her neighbour confides to him, behind the back of her hand: 'Autistic, but very verbal'. Alex answers with a nod of understanding. That is all. She is autistic and apparently he does not need more information, and neither do we. We understand why Linda is carefully aligning shoes in the hallway, for we all know that autistic people hate it when things are in disarray. We understand why she is fascinated by the spinning of a shiny coin. We understand why she throws a temper tantrum when people try to touch her. There is a scene in which one of the neighbours offers

her condolences, saying 'I'm sorry you lost your daughter'. Linda answers: 'She's not lost, she's dead'autistic people are terribly literal. We do not need a doctor to explain all this. The very fact that the topical white-coat scene was silently dropped from autism movies testifies to the proliferation of autism stereotypes.

4. AUTISM AND SAVANT SKILLS

In each of Asperger's three cases, there was mention of some special talent or ability, a Sonderinteresse (p. 90). Fritz, Harro and Ernst all did sums in a precocious way, two of them with methods of their own device. With other boys Asperger had seen calendar calculating, memorizing tram schedules and one boy with a gift for mathematics who went on to study mathematics and wrote a dissertation on a calculation error in the work of Newton. Asperger emphasized that whatever there are in terms of special abilities may help social integration. But it is important to note that among the family traits of autism, version Asperger, savantism was not included. Most experts would agree that this is still the case. Even if savantism mostly comes with autism, the majority of cases of autism do not have savantism.

In movies, however, there are hardly any autistic characters *not* having savant skills. In the opening scene of Mozart and the Whale (2005), Donald, one of the leading characters, is driving a cab. Less than two minutes have passed when you have seen four things that will strike you as odd. He starts talking to his two passengers and keeps on talking even when it is clear they do not listen because they are having a conversation among themselves. Then, after a mere glance on his watch, he calculates to the minute how long it has been since he is employed: 'Seven days, nine hours and thirty-seven minutes'. He goes on to explain that he can see the entire fleet of cabs and their relative distances before his mind's eye ('The trouble is, I just can't not see it'.), and finally, when he hits a car parked in front of him, he just walks away from the scene and leaves his passengers to themselves, saying he has a meeting scheduled. All of this is intended to introduce him as a person with Asperger's syndrome: two out of four clues have to do with savant skills.

Later on in the movie Donald explains to the other members of his autism support group: 'By the time I was two years old, my parents basically got the drill: I wasn't exactly what they were looking for in a child. I wasn't normal'. Then the movie cuts to a childhood scene that shows just in what way young Donald was not normal. A couple of kids ask him how much is 5589 burgers times 3972 divided by 17 and he instantly produces the correct, 10-digit answer. Other members of the support group have savant skills as well. One boy remembers all kinds of trivia on any day you care to mention: temperature, humidity and so on. Mozart and the Whale is a love story. It is in no way essential to the plot that Donald or anyone else should have savant skills. In movies, savantism has become the quick way of pointing out that autistic people are being dealt with.

The action thriller Mercury Rising (1998) is another case in point. The plot hinges on the savantism of Simon, a 9-year-old autistic boy. His almost supernatural pattern-recognition skills allow him to crack

even the most sophisticated cryptographic code, including a new two-billion dollar encryption code called Mercury, developed by the American government. This makes Simon a liability. He becomes the boy who knows too much. To protect the lives of thousands of secret agents all over the world, it is decided to have him eliminated.

In one of the pivotal scenes, the head of the encryption project calls in the two cryptographers responsible for leaking the code. It turns out that they had run 'a standard validation protocol', including 'double sets of paired Cray supercomputers, fricking velociraptor machines chewing at Mercury 24 hours a day'. But they wanted to do one final test, to make sure that the code was 'geek proof' too. So they slipped a message in 'one of those egghead word games' in a 'geek magazine' called Puzzle-line, a message readable only for someone who is able to decipher Mercury. When they explain this to their chief, he says that apparently this is exactly what has happened: a 9-year-old kid from Chicago has cracked the code. And then he yells: 'Not only is he nine years old, he is handicapped! He is autistic!' One of the cryptographers replies: 'Yes, that explains it!' This infuriates the chief even further:

- 'So our two-billion dollar code is an open book to people of diminished capacity?'
- 'Oh no sir, autism isn't synonymous with diminished capacity. Autistic people..., they're shut off. But it is not unusual for an autistic person to be a savant'.
- 'Ah, savant!', says his fellow-cryptographer, as if this explains everything.

The tenor of the scene is quite simple. There are two options for an autistic person: either he is mentally handicapped, an egghead reading geek magazines, or he is a savant with mental powers exceeding those of two Cray supercomputers spinning numbers 24 hours a day. It is either diminished capacity or superhuman capacity, but nothing in between.

Perhaps we would like to think that perpetuating the autistic savant stereotype is something movie-makers do and experts warn against. However, this is not the case. Publicity campaigns for movies often feature experts as advisors. In Mercury Rising there are several allusions to science backing up the theme of autism. In an early scene, Simon is in the Chicago Neuropsychiatric Learning Center, a name that is kept in view for about 3 s. This may not seem a long time, but in movielanguage it means: 'Watch out! Important clue!' In the 'extras' on the DVD, director Harold Becker says how fortunate he was that the head of Pediatric Psychiatry at the University of Chicago, a world renowned authority, was willing to act as an advisor. The advisor then talks about the way he coached and supported Miko, the young actor playing the Simon character, and how he let him spend time with autistic children in a school for special education. It is clear that he wanted to help Miko to play the autistic character as convincingly as possible. There is nothing actually wrong with what he has to say about autism, the problem is, rather, in what he is *not* saying, and perhaps should have been saying, namely that savantism is rare among autistic persons. As a rule, movie-makers seem to have no trouble finding scientific authorities who are willing to endorse rather than correct the Hollywood stereotype of the autistic savant.

In general, there is a strange discrepancy between the research that directors, script writers and actors put in when they make a film featuring autistic persons and the actual characters they come up with. Actors insist that they invest months of preparation to study the movements and reactions of autistic persons, script writers read scientific articles on autism, directors call on consultants, they all want an absolutely sincere and truthful rendition of autism; what they come up with is an autistic character with freak-like savant skills, unlike anything resembling a normal autistic person. The stereotype of autistic persons being savants is without doubt one of the most striking discrepancies between the expert's view and the general view of autism.

Is there any harm in that? It is often mentioned that the stereotype of the autistic savant raises expectations to an unrealistic level, causing disappointment and frustration for the many autistic persons not so gifted. In a subtle analysis of movies featuring autism, Stuart Murray, father of an autistic son, makes it clear that it is mostly the savantism that constitutes the 'worth' of autistic characters. Without their savant skills there would not be much of a plot, or social life for them either (Murray 2008). Anthony Baker, who is also father of an autistic son, pointed out that when he tells people that his son is autistic, they usually ask whether he is a savant as well. When he answers that he is 'just' autistic, it is as if people think that his son is doubly challenged (Baker 2008). Baker also argues that ever since Rain Man, movies on autistic savants propose 'a computational, non-human model of the autistic brain' (p. 236), as if autistic thought processes are machine-like. This robotic view of autistic persons-remember Simon's performance surpassing the combined efforts of two Cray supercomputers-may reinforce the myth of autistic persons having no true feelings.

5. DIFFERENTLY GIFTED OR NOT SO DIFFERENT AFTER ALL

Quite a few novels and movies suggest that autistic people may teach the non-autistic a wise lesson. Often these lessons are said to follow from the condition itself, for instance by suggesting that the lack of social skills also eliminates much that is artificial, phoney or plainly dishonest in normal social communication. The archetypical example, again, is Rain Man (1988). Initially, Charlie Babbitt, played by Tom Cruise, is a selfish, egocentric character, who takes the death of his father without any signs of sorrow and only pays attention to messages that are relevant to his business of importing fancy sports cars. At the end of the movie he has established a loving relationship with his lost brother and has learned to listen to other people. A more recent example would be the lesson that Christopher, the protagonist of The curious incident of the dog in the night-time (2003), is teaching us. Mark Haddon provided his inner world with little more than a few primary emotions, such as sadness or happiness. With these poor instruments Haddon lets him navigate

among people who fine-tune their behaviour to the feelings and expectations of other people, or at least have the ability to do so. Such a world, you will find, empathizing with Christopher, is confusing. You come to understand why he hates lies and fantasies; his world is complicated enough as it is; he has little use for alternative versions of reality. Your empathy quickly changes into sympathy and pity, because it turns out that he has been told many a lie by people who *can* operate with alternative versions of reality—if that suits them better. In this respect, *The curious incident* is really a novel on the deficits in non-autistic lives. The movie *Snow Cake* holds a similar lesson, for instance, when autistic Linda looks with disgust at her neighbours socializing after the funeral of her daughter.

Sometimes this line of reasoning is taken one step further. In the extras on the DVD of *Snow Cake*, Sigourney Weaver talks about Linda's character, saying that she is 'refreshingly frank', 'straightforward', 'upfront about her feelings about things' and that she 'doesn't waste time on social rubbish'. She hints at Linda's moral superiority, even if some would feel that these are behaviours that follow from the condition and that there may not be much of a choice in it. If people do not lie because they can not, they are not on a moral spectrum.

The idea of autistic persons teaching wise lessons is often presented to imply that we should stop viewing autism as a set of deficits or even as a condition at all. This may take the shape of portraying autistic persons as simply having a different set of talents, equally valuable as normal talents. And sometimes autistic persons are presented as being not so different from us, after all, or, to say the same that we are all in a sense autistic. Clearly, these are two contrasting views; still, one often finds them in blissful harmony, sometimes on the same page, in the same scene. This is what Alan Rickman says about how he thinks Linda's autistic behaviour is related to normal behaviour: 'I think the thing is we're all on a graph of autism. Frankly, I recognize things in the rules of autism which are things that I do, you know, any kind of little obsessive behaviour, or repetitious things, or, you know, if you rearrange all the things on top of a piece of furniture, make them line up, that's pretty autistic.' In stereotypes such as these, the characteristics of autism blur into normal behaviours, contributing to the 'fuzziness' of the concept of autism.

6. THE VALUE OF LIMITS AND LEEWAY

Both the 'freak' savant stereotype and the 'in a sense we're all autistic' stereotype misrepresent autism, but they do so in opposite directions. The former stereotype draws autism in the realm of the exceptional and the spectacular. The latter stereotype suggests that autism is largely co-extensive with normal, non-pathological behaviour and is perhaps not even a disorder at all. What both stereotypes have in common, though, is that they tend to complicate the efforts to delineate autism as a psychiatric category with more or less specific limits and diagnostic criteria.

A further complication may result from representations of autism in the work of persons who are themselves autistic. A case in point is Daniel Tammet's

autobiography Born on a blue day (2006). Tammet, diagnosed with Asperger's syndrome, describes the rigid obsessions, the ritualistic acts and compulsions, the intense fascination with simple movements such as a spinning coin, the peculiar preference for lists of facts, such as the capitals of the world, and many more of the traits that ever since the work of Asperger have shaped the Gestalt of this syndrome. What are especially touching in his book are the examples of ways of thinking that one ordinarily finds in the professional literature only in the shape of test results. Lacking a 'theory of mind', children with Asperger's syndrome find it difficult to handle 'false belief' situations (Baron-Cohen et al. 1985), usually brought out in Sally Anne type of tests. Tammet relates a well-known Russian folktale, 'Stone Soup', which was completely incomprehensible to him as a child: 'I found the story very puzzling at the time because I had no concept of deception and did not understand that the soldier was pretending to make a soup from a stone in order to trick the villagers into contributing to it. Only many years later did I finally understand what the story was about'. (Tammet 2006, pp. 64–65).

This is a layered passage. It is a convincing demonstration of the difficulties a child with Asperger's will have understanding what is going on in other people's minds. On the other hand, the reader might wonder whether without such a 'theory of mind', Tammet would have been able to write about his failure to understand the story as a child, or about his present interpretation of his earlier lack of understanding. This is a wonderful instance of the looping effect: a scientific hypothesis on a central deficit in the mental functioning of a person with Asperger's explains to Tammet why he did not understand the gist of the story as a child. Tammet's autobiography clearly demonstrates why Asperger's syndrome is such an evasive concept. The very fact that limits may shift as a consequence of looping effects characterizes this syndrome as the type of diagnosis with uncertain boundaries.

In some cases the diffuseness of limits may be a blessing in disguise. It is partly due to the dedication of his parents and teachers that Daniel Tammet has been able to expand some of the limits of his condition. In his book he uses metaphors, he makes jokes, he analyses his inner life—he does all kinds of things a person with Asperger's is not supposed to be able to do. This is the inspiring, uplifting consequence of limits that are not nailed down in a standard: they invite patients, parents and teachers to test whether these limits are really permanent, whether deficits can be eliminated, compensated or outgrown and whether special talents may be a key to social integration. The persons diagnosed with autism and their loved ones may try to push these limits, transforming the disorder in the process.

At the same time, talents and abilities may introduce conceptual complications, especially on matters such as definition, labelling and classification. This may sound like a philosopher's concern, with little bearing on the practicalities of living with autistic persons—or being an autistic person—but that would be a mistake. Talents are part and parcel of the processes that shape the various labels of autism. In a chapter called 'Mark Haddon's popularity and other curious incidents in my life as an autistic'—some strange loops are definitely there—Burks-Abbott writes that the Curious incident has become the new Rain Man. When he tells people that he is autistic, 'the first question they ask is, 'Have you read *The curious incident of the dog in the night*time?' as if that were the best example of a book written about autism' (Burks-Abbott 2008, p. 295). He adds that by now there are dozens of books on the autistic condition written by autistic authors, but that lay audiences seem to prefer fiction by a non-autistic over the non-fiction by an autistic. This goes to show that the images and stereotypes constructed by novels and movies may eclipse those of experts, be they psychiatrists, paediatricians or autistics.

We have seen that these stereotypes are very diverse and in the manner of all stereotypes misleading, as far as a particular individual's behaviour is concerned. In cases where they do seem to offer a fair and reliable reflection of the autistic condition, such as Daniel Tammet's representation of Asperger's syndrome, stereotypes may still contribute to the lack of specificity in the description and diagnosis of autism. This is a consequence that should not be taken lightly. Putting disorders on a spectrum is always a reassuring thing to do, it allows for leeway, margins, fine-tuning and revision in the light of later developments. But there are also persons who live outside this happy universe of sliding scales and gradients. These are the people who are forced to make dichotomous decisions, often in a professional setting. Should this child be admitted to special education, yes or no? Should I employ this person, yes or no? In The Netherlands, the past 5 years have seen a quick rise of forensic cases where the defence pleaded for milder sentences, arguing that the criminal act was in some way a consequence of a disorder in the autism spectrum. This happened in a great variety of crimes, ranging from fire-setting, stalking and sexual abuse to manslaughter, and an equally great variety of adduced causal links (Draaisma 2008). Even if it is doubtful whether these links really exist, the relevant fact here is that they were introduced in pleas and that the judge will pass sentence partly on expert's reports and partly on what he thinks he knows about autism based on general stereotypes and perceptions of autism. That is why it is vital to scrutinize media representations of autism and to see to it that we do not allow these stereotypes to stray too far from the clinical reality of autism. The unrealistic stereotype of autistic savants having supercomputers for brains, to mention but one example, may create the myth of autistic persons having no feelings. In the realm of talent this may have no harmful implications, but in the realm of forensics this myth could have grave consequences. What is meant here has a name. It is called the Thomas Theorem. It says: 'If men define situations as real, they are real in their consequences'. (Thomas & Thomas 1928, pp. 571–572).

REFERENCES

Ash, M. G. 1995 Gestalt psychology in German culture, 1890-1967: holism and the quest for objectivity. Cambridge, UK: Cambridge University Press.

Baker, A. D. 2008 Recognizing Jake: contending with formulaic and spectacularized representations of autism in film. In *Autism and representation* (ed. M. Osteen), pp. 229–243. New York, NY/London, UK: Taylor & Francis.

Baron-Cohen, S., Leslie, A. M. & Frith, U. 1985 Does the autistic child have a 'theory of mind'? *Cognition* **21**, 37–46. (doi:10.1016/0010-0277(85)90022-8)

Burks-Abbott, G. 2008 Mark Haddon's popularity and other curious incidents in my life as an autistic. In *Autism and representation* (ed. M. Osteen), pp. 289–296. New York, NY/London, UK: Taylor & Francis.

Draaisma, D. 2008 Who owns Asperger's syndrome? *Sartoniana* **21**, 23–48.

Hacking, I. 1995 *Rewriting the soul*. Princeton, NJ: Princeton University Press.

Hacking, I. 2007 Kinds of people: moving targets. *Proc. Br. Acad.* **151**, 285–318.

Haddon, M. 2003 The curious incident of the dog in the nighttime. London, UK: Jonathan Cape.

Miller, J. N. & Ozonoff, S. 1997 Did Asperger's cases have Asperger disorder? A research note. *J. Child Psychol. Psychiatry* **38**, 247–251.

Murray, S. 2008 Representing autism. Culture, narrative, fascination. Liverpool, UK: Liverpool University Press.

Rosch, E. 1978 Cognition and categorization. Hillsdale, NJ: Lawrence Erlbaum.

Tammet, D. 2006 Born on a blue day. A memoir of Asperger's and an extraordinary mind. London, UK: Hodder and Stoughton.

Thomas, W. I. & Thomas, D. S. 1928 *The child in America*. New York, NY: Knopf.

MOVIES

Mercury Rising. 1998. Dir. H. Becker. Mozart and the Whale. 2005. Dir. P. Næss. Rain Man. 1988. Dir. B. Levinson. Snow Cake. 2006. Dir. M. Evans.