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AN ASSESSMENT OF VIOLENCE IN A YOUNG MAN WITH ASPERGER'S SYNDROME

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Abstract—Asperger's Syndrome is assumed to be closely related to autism. A case of a 21-yr-old man with Asperger's Syndrome who is frequently violent to his 71-yr-old girlfriend is presented. According to a social-cognitive model of autism, this man is predicted to be markedly impoverished in his appreciation of his victim's thoughts and feelings. Interview-based assessments confirm this deficit, and this is discussed as an important factor in the maintenance of his violence.

Keywords: Asperger's syndrome, social cognition, aggression, autism

INTRODUCTION

THIS PAPER concerns the assessment of violent behaviour in a young man diagnosed as suffering from Asperger's Syndrome. The case is of interest because, firstly, only one other study of this kind has been reported (Mawson, Grounds & Tantam, 1985), and secondly, the possibility that violence in people with Asperger's Syndrome may be related to deficits in social cognition has not been examined before. After reviewing the literature on Asperger's Syndrome, we report a test of the hypothesis that underlying this patient's violence is an inability to appreciate the mental states of his victims, a hypothesis based on current models of a related disorder, autism (Baron-Cohen, Leslie & Frith, 1985, 1986; Hobson, 1986a,b).

ASPERGER'S SYNDROME

In 1944, Asperger published his first account of the syndrome now known by his name, which he referred to as "austistic psychopathy". He argued that it shared some characteristics with but was different from Kanner's early childhood autism (Kanner, 1943). Asperger's Syndrome has since been described by others (Wing, 1981; Wolff and Barlow, 1979). The major clinical features include (a) a lack of empathy; (b) naive, inappropriate, one-sided social interaction, and little or no ability to form friendships; (c) pedantic, repetitive speech; (d) poor non-verbal communication; (e) intense absorption in certain subjects such as astronomy or railway timetables, but marked by limited imaginative activities, giving the impression

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of eccentricity; (f) clumsy and ill-coordinated movements and odd posture. The syndrome does not appear in ICD-9 (1978) or DSM-III (1980).

The prevalence of Asperger's Syndrome is unknown, but boys are considerably more likely to be affected than girls, and Asperger at first thought it was confined to males. Wolff and Barlow (1979) found a ratio of 9 : 1 in their clinic, and Wing (1981) reported 4 times as many males. Both Asperger (1944, 1979) and van Krevelen (1971) thought that the condition was genetically inherited from the father, but evidence for its aetiology is at present lacking.

Bosch (1962) considered Asperger's and Kanner's Syndromes to be variants of the same condition, and debate today still centres on whether brighter and older autistic children are different to Asperger cases (Gillberg, 1985; Schopler, 1985; Wing, 1986). Certainly, both syndromes share the following six features: impaired non-verbal communication, impaired social relations, obsessional interests, lack of imaginative play, resistance to change, and lack of empathy. One critical difference is that these symptoms are often not recognized before the age of 3 yrs in Asperger's Syndrome, whereas they are usually present before this age in autism (ICD-I, 1978; DSM-III, 1980).

Asperger (1979) considered the social prognosis to be good, in that such people could use their special skills to obtain employment. Wing (1981) and Wolff and Chick (1980) found however that anxiety and/or depression often occurred in early adulthood as a consequence of painful awareness of their handicap and difference from other people. Of the 22 cases in Wolff and Chick's clinic, at least one had become schizophrenic, and 5 had committed suicide by early adult life. In Wing's sample, of the 18 who were over the age of 16 yrs, 4 had an affective illness, one had an unclassified psychosis with delusions and hallucinations, one had had a catatonic episode, and one had schizophrenia. Two of this sample had attempted suicide. The risk of psychiatric illness in Asperger's Syndrome thus appears to be high. In addition, Mawson *et al.* (1985) report that some people with Asperger's Syndrome commit crimes related to their circumscribed interests (e.g. the chemistry of poisons). Wing (1986) adds that usually these crimes tend to be of an unusual or bizarre kind, such as attempting to drive away an unattended railway engine because of a fascination with trains, or causing explosions and fires because of an all-absorbing interest in chemical reactions.

Wolff and Chick (1980) also describe "extreme personal sensitivity and egocentrism associated with callousness towards others" as a general feature of their cases. Wing (1981) agrees that some Asperger cases are oversensitive to criticism and suspicious of others, and a small minority have a history of rather bizarre antisocial acts, perhaps because of their lack of empathy. Four of Wing's sample fit this description. She also gives a description of their social skills deficit:

> "Relations with the opposite sex provide a good example of the more general social ineptitude. A young man with Asperger's Syndrome has no idea how to indicate his interest and attract a partner in a socially acceptable fashion. He may ask other people for a list of rules for talking to girls, or try to find the secret in books (as one of Wing's cases did). If he has a strong sex drive, he may approach and touch or kiss a stranger, or someone much older than himself, and, as a consequence, find himself in trouble

with the police, or he may solve the problem by becoming solitary and withdrawn.'' (p. 116).

We shall describe a case for whom some of these features have a specific relevance.

CASE

Referral

At the age of 21 yrs, John was referred by his father to the Maudsley Hospital Children's Department, London, for advice on whether his son had been or might currently be autistic. He described his son's current problems as: (1) difficulties in communicating; (2) difficulties in adapting to change; (3) obsessional interest in his jaw; (4) violence towards a particular old lady, and (5) general inability to fit into any social group. The obsession with his jaw and the violence were recent problems; the others were long-standing. The recent violence had resulted in an admission to an adult psychiatric ward, where they were finding him puzzling.

Major life events and family history

John's father is successful in one of the professions, and has 4 sons, of whom John is the third. His mother was a language teacher who is reported to have worried about harming members of her family. She suffered from depression and, when John was 11 yrs old, she committed suicide. John apparently saw his mother dead and is reported to have shown little reaction to her death at the time, and describes his feelings about his mother's death as being ''disquieted''. Since then, John has had many dreams that his mother is still alive.

John's father remarried when John was 15. According to his father, John's new step-mother hated him, and he regularly destroyed her property and ran away from home. At 16, he tried to jump out of a window. At 17 he was arrested after a stealing incident and sent to a remand home. Following this, he went to live with his father's sister and trained to work in a garden nursery. When his father visited, he smashed up his father's car and motorbike with a hammer. He was sent to a probation hostel at age 19, and while he was there he was reported to have displayed bizarre behaviours such as continuous mirror-gazing and smearing excreta on the walls. He then went to live with his aunt but after a short period moved in with an aquaintance of hers, Betty, a 71-yrs-old lady whom he describes as his girlfriend. Since then, over the 4 years they have lived together, he has attacked her frequently, and this has resulted in two admissions to his local psychiatric hospital, where he is at present. He has recently expressed the belief that he looks like a werewolf, and this may be related to his obsession with his jaw.

Developmental history

The pregancy and birth were normal. As an infant he did not seek affection. He is reported to have flapped his hands at 3 yrs old. His language was unremarkable in the early years, although he always had difficulty with conversational use of language (and this persists). He showed unusual ability to learn verbal material such as lists. In this respect, John's father described his son as having always been very obsessional: as a boy, he had always been able to list the ''Top 40'' by heart, and could similarly reel off details about cars—their engine capacities, specifications, etc. John's father called it a ''staggering knowledge''. John also new the waveband of every radio station, and the times of each programme on the different stations. According to his father, he has always lacked an ability to know what other people are feeling. As a young child, he showed no pretend play, and did not like puzzles. He was always socially withdrawn. He liked reading and repetitive activities. He has always been physically uncoordinated. At 11 yrs old he would still scream and shout when upset by changes in routine. He has sometimes masturbated in public. John attended ordinary school, and coped with the academic aspects, passing 3 'O' levels and 5 CSEs. John's father explained his son's ability to pass French and German 'O' Levels as ''parrot stuff'', similar to his ability to commit long lists to memory. His peer relations at school were always a problem. He did not complete his 'A' Levels, although his teacher thought he could pass.

DEVELOPMENTAL DIAGNOSIS

Because John's mother is deceased, much crucial detail of his early development has been lost. It is reported that John's mother had been sure that he was autistic even at the age of 4 yrs old. The history we have obtained does not provide clear evidence of early infantile autism since there was no definite language deviance or delay and no definite onset of social abnormalities before 30 months of age (Kanner, 1943; ICD-9, 1978; DSM III, 1980). However, his lack of desire for affection and his difficulty in conversational use of language suggest the diagnosis of autism cannot be ruled out. The diagnosis of Asperger's Syndrome (Asperger, 1944) can be made on the basis of his lack of pretend play, lack of conversational skills, social difficulties, repetitive behaviour, obsessional interest in lists of cars, preference for sameness, and general lack of empathy. In addition, John shows some features that are frequently associated with Asperger's Syndrome (Wing, 1981), namely lack of physical coordination, lack of gesture, pedantic "eccentric" use of words, and poor imagination. Finally, though it cannot be seen as a nomothetic symptom of the syndrome, his unusual choice of girlfriend (well outside of his age-peers) is consistent with this picture.

AIMS OF STUDY

We predicted that an assessment of John's violent episodes would reveal that John is unable to appreciate his victim's point of view, and that this would also be reflected in other aspects of his relationships. The model underlying this hypothesis proposes that people suffering from disorders on the autism/Asperger's Syndrome continuum are impaired in their ability to appreciate other people's mental states, such as their beliefs and desires (Baron-Cohen *et al.*, 1985, 1986) or their emotions (Hobson, 1986a, b). The violence John has displayed, and his predicted impoverished understanding of his victim's point of view, are seen as related to this more general social cognitive deficit. We shall refer to this as the "social-cognitive deficit" model. This is described in more detail elsewhere (Baron-Cohen, in press). An alternative model predicted that John is able to appreciate the effect of his violence on his victim's mental state (the "wilful" model).

PROCEDURE

The assessment was carried out mainly via interviews with John, his father, and his "girlfriend" Betty. These interviews aimed to elicit information concerning different aspects of his social relationships. The assessment included the following five stages:
(a) Psychometric assessment of John's general intelligence level, to have some idea of what would be expected of his understanding of violence on the basis of his general ability;
(b) An interview-based assessment of John's violence (frequency, antecedents, his feelings before, during, and afterwards, his self-control, and his non-violent problem solving skills);
(c) An interview-based assessment of John's understanding of social norms of violence, the effects of violence, and the notions of friendship, intimacy, and another person's "point of view";

(d) An interview with John's father to determine the reliability of his son's information regarding frequency of violence and John's behaviour during these episodes;
(e) An interview with John's "girlfriend" to determine the same information and additionally to investigate how her responses to his violence might be maintaining the violence.

Interviews were semi-structured, based on the themes outlined in the previous section, and the interviewer then probed in key areas. The interviews were conducted on separate occasions in order to obtain independent accounts. Results of these interviews, analysed by content in a qualitative way, are reported under the two themes of John's violence and relationships.

RESULTS

Psychometric assessment

The results of the WAIS-R, verbal and performance tests are shown in Table 1.

John's Full Scale IQ is in the low average range, and he shows a highly reliable and abnormal verbal-performance discrepancy ($P < 0.01$). On Picture Arrangement, he showed no understanding of the social content of the sequences he had produced. His score on Comprehension was significantly lower than his other verbal subtests: he showed little awareness of the social norms this subtest measures. On Vocabulary, he was unable to define the word "compassion" correctly, offering the definition of it as "lust, or love". Similarly, he was unable to offer anything more than a concrete or literal definition of the proverbs, showing no awareness of them as metaphorical. These features are all consistent with his diagnosis of Asperger's Syndrome. Whilst there is no clear WAIS-R profile associated with this syndrome, this particular pattern of deficits has been found in other cases (Burgoine & Wing, 1983).

During testing, John's movement and posture appeared stiff and graceless. He repeatedly took out a small pocket mirror to look at his jaw. He said he did this about 30 times per day, and that if he was not allowed to do this he would get very anxious. He repeatedly touched his jaw, using strange mannerisms.

TABLE 1. PSYCHOMETRIC ASSESSMENT

WAIS-R		Verbal tests		Performance tests	
Full Scale IQ	80	Information	10	Picture completion	3
Verbal IQ	92	Digit span	8	Picture arrangement	5
Performance IQ	69	Vocabulary	11	Block design	6
		Arithmetic	8	Object assembly	7
		Comprehension	6	Digit symbol	6
		Similarities	9		

John's violence

(a) *Whilst in hospital.* In one incident, a patient asked John for a cigarette and he lashed out, hitting her. On another occasion, he hit a nurse who woke him up when he had wanted to stay in bed. Such episodes occurred at least once per fortnight.

(b) *Towards Betty.* Before coming into hospital John hit his "girlfriend" Betty very frequently, about 2 or 3 times per day, and about 20 times in the fortnight before being admitted to hospital. Usually it was when he was worrying about his jaw, although he was unable to say why this should lead him to hit her. He described one incident:

> "Immediately before hitting her I felt angry and bitter about my jaw . . . I felt boiled up inside. I then asked her if my jaw was alright She said it was, in a deep tone of voice. Immediately, I hit her hard. I enjoy attacking Betty because she is vulnerable and weak. It makes me feel powerful".

John's violence occurred every time he visited Betty, over 4 years. He generally slapped her face: She said "the right hand comes out so fast! It's a shock to my system every time it happens". Other episodes have been more violent, such as jumping out of the chair and thumping her on the back as she was walking out of the lounge to the kitchen, or pushing her onto the floor and sitting on top of her.

Betty said she did not know why John hit her. She said:

> "I never ask him why he hits me. I just sit in a state of shock after if has happened, with my heart palpitating. I'm very frail, so it really affects me. But I never let on about my feelings. He wouldn't understand about my feelings. His violence is uncontrollable—he doesn't know his own strength. When I've recovered we just act like it never occurred. I suppose I spoil him! I provide for him. He's company. I'm always willing to listen to him. We're very close. He makes me coffee, so that I don't have to get out of the chair so much. It's an effort, now I'm old. I make him useful. He'll do anything I ask him to do."

She said John's violence was not made worse by alcohol. She thought it might be related to frustration, but often his violence seemed to her to come out of the blue. She confirmed that his preoccupation with his jaw related to his violence, in that he would sometimes ask her if his jaw looked alright, she would of course reassure him, and then later in the same conversation he would slap her face. She indicated the various mirrors in the lounge and in the bedroom where he would rush about 20 times per day, to look at his jaw.

John's father confirmed that his son's violence had been going on for years in the relationship with Betty, but had only recently come to light because Betty had covered it up before.

When asked how Betty must feel when attacked, John said "tense and upset". In response to the question of what she would be thinking when he was hitting her, he replied "She loves me very much. She'd feel the love between us was shattered. I love her. I'm fond of her. She visits me twice a week. She worships me like I worship my father." The only ways he could think of stopping himself hitting her was by having a cigarette or helping her to do the housework.

(c) *Towards others.* John's father said his son had very poor self-control, and hit people when he felt frustrated with anything, or "paranoid" about his jaw. On this latter point, John was open to reassurance. He felt his son also became more aggressive if there were more people present—that John's anxiety increased as a result of social contact. Any change in routine could make John aggressive.

John had been violent to objects for at least 6 years: to his stepmother's furniture and her car, the latter taking place at John's grandmother's funeral; to his father's car and motorbike; and to his younger brother's clothes (John is reported to have slashed them, "out of jealousy"). These objects clearly relate to salient people in his life.

He had also been violent to his brothers when he had lived with them in a shared flat for a time. In one incident, his younger brother Sam had been showing John how to put some batteries into a tape recorder and John still could not do it; Sam showed him again and John tried again, unsuccessfully. He felt very angry, and put his hands around Sam's neck, trying to strangle him. John said "I wouldn't have killed him". (John's father, however, said that John had to be pulled off to save Sam's life).

When asked, John could not think of situations where hitting someone might either be acceptable. After more prompting, he thought of the situation where someone hits you first: "Then it's alright. Or if someone tries to take your last cigarette. She deserved to be hit." In response to the question of what constitutes unacceptable violence, he said that hitting a vulnerable person was bad. He saw Betty as vulnerable.

John's relationships

(a) *With Betty.* John described his relationship with Betty as "close", and called her his girlfriend. He said that he prefered older women, and that he would like to get married one day, preferably to an older woman. He described his newest relationship in hospital, which was with another elderly woman of 78 yrs old.

Betty described her relationship with John as one of boyfriend and girlfriend, and said she felt that age was irrelevant. She referred to him as "Johnny darling" throughout. She said John was very gullible, and she enjoyed being able to correct him, like a mother or a grandmother. At other times she described their relationship as having "the closeness of lovers". She missed John while he was in hospital, and visited him at least once a week. She did not think he was odd in any way, or different to other young men of his age. On probing, she recalled that, when he telephoned her from hospital, he never expressed any interest in her emotions, or talked about his own feelings. He only talked about facts.

(b) *His understanding of relationships.* In response to the question as to what made a relationship a close one, John said it was one in which you could do things together, spend time together, have cups of tea and cigarettes. He said a friend was close if one had known the person a long time. In hospital the patients and nurses were his close friends because he had known them a few weeks, and all the girls at the Technical College had been his girlfriends, because he had seen them every day. He was unable to say in what way a friend was different to an acquaintance.

He was asked to describe how friendships develop. He gave the following account:

> "First you meet in a place, like a pub, disco, or something. Then you talk. You say 'Hello. What's your name? Would you like a drink?' At the end you say 'What's your address?' Then you phone each other. After you meet each other a few times, then the friendship develops. You arrange to meet each other in a regular meeting place. Then you have contact with the person's family. For example, you meet a person on a Friday. She gives him his phone number [pronoun error]. Then you see her family on the Saturday".

DISCUSSION

John's intellectual assessment shows a characteristic profile of highly discrepant verbal-performance scores, and an overall IQ in the (low) normal range. Within the autistic continuum, this places John in the subgroup of people without general developmental delay. On the basis of his verbal IQ alone, one would expect a normal understanding of violence.

However, despite his intellectual level, he shows remarkably little awareness of what Betty might be thinking about him during the violent attacks, or of her feelings as a victim, and he has very few non-violent skills for solving interpersonal problems. His understanding of legitimate violence is also poor, with no appreciation of how his victim would feel or think. He appears to have some norms of what is good or bad (e.g. hitting vulnerable people is bad), but this does not appear to curb his violence towards Betty.

John's notion of friendship appears superficial. His description of the development of friendship has the quality of a computer program and, like his description of violence, is similarly confined to behaviour, with no mention of mentalistic terms such as thoughts or emotions. It is of interest that on a test of socio-emotional understanding which requires the subject to produce facial and vocal expressions of four basic emotions and recognize them in others, John also performed poorly (Patrick Bolton, personal communication).

The interview data thus provide support for the social-cognitive deficit hypothesis regarding John's violence and relationships. The data provide no evidence for the rival hypothesis, that John's violence is "wilful".

Betty's account contains clues to explain the maintainance of John's violence, in terms of her not discouraging it in any way. Betty reports she provides no feedback to John following his attacks, so he has no opportunity to learn what is acceptable. Whether corrective feedback would be effective in cases such as this has not been tested. Their relationship appears to be based on John reducing Betty's loneliness, and her tolerance of the violence in order not to lose him. For John, it is an unthreatening relationship in which he is accepted, in a place where there is very little change and very little social contact (Betty has few other visitors). That Betty herself is somewhat unusual is reflected in the fact that she was unaware that John is different to other people in how he relates socially, whilst other people recognize this abnormality immediately.

Antecedents to John's violence include social anxiety, anxiety about his jaw, anger and frustration, and an inability to cope with change. The violence is more common towards people with whom he is "close" (family, Betty, etc.), and this may imply that such people are more at risk of being attacked. When attacking Betty, he also appeared to derive some pleasurable feelings of power from it. The different factors associated with his violence are summarized in Table 2.

While the primary cause of his violent feelings cannot be ascertained, it is likely that one powerful factor in maintaining them is his deficit in social cognition. This is consistent with current theories of social behaviour in autism (Baron-Cohen *et al.*, 1985, 1986; Hobson, 1986a, b), with which Asperger's Syndrome is thought to overlap (Wing, 1986). It should be noted that because of the doubt over whether the diagnosis of this case should be Asperger's Syndrome or autism, the claims made in this paper

TABLE 2. FUNCTIONAL ANALYSIS OF JOHN'S VIOLENCE

A. ANTECEDENTS
1. Historical [?] (mother's suicide?).
2. Internal states
a. Anxiety (about his jaw and social contact);
b. Anger;
c. Frustration.
3. Changes in routine (related to anxiety?).
B. TARGETS
1. Family (step-mother, brother).
2. Family's property.
3. Girlfriend (Betty).
4. Others (nursing staff, patients).
C. REINFORCING FACTORS
1. John's social-cognitive deficits
a. In appreciating other people's mental states;
b. In solving interpersonal problems;
c. In knowledge of social norms.
2. Internal consequences (feelings of power).
3. Other people's responses (Betty provides no corrective feedback).

regarding violence in Asperger's Syndrome may be equally relevant in regarding violence in autism.

The refutation of the "wilful" hypothesis concerning violence in Asperger's Syndrome has obvious parallels to explanations of "antisocial" behaviour by people with other disorders, such as kleptomania and pyromania. As such, the social-cognitive approach adopted here may not only suggest where to begin social skills training in cases of Asperger's Syndrome, but may also be useful in approaching other disorders.

This case shows the importance of Mawson *et al.*'s (1985) prediction that many people who come to the attention of secure units because of violence may have Asperger's Syndrome. A study of the prevalence of such cases in prisons and secure units would be worthwhile. Finally, whilst this study explores some of the factors that may underlie the violence in this case of Asperger's Syndrome, the question as to why some people with this diagnosis are violent and others are not needs further investigation.

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