

On Autism and Belief

Unedited posts from archives of CSG-L (see INTROCSG.NET):

Date: Sat Oct 05, 1991 7:40 am PST
From: eprince
Subject: autism

Does anyone have any ideas about new ways of "treating" autism. I joined this conference because of applications to ESL (and I've been too swamped to really get involved). Hopefully, I'll be able to become a more active participant. However, in the mean time, I have an almost 13-year-old now basically non-verbal (limited ASL) autistic daughter. Without spending a long time on history, let me just say that although I do in fact appreciate the contributions the B-mod approach used at the May Institute has made to her ability to learn, I am quite unhappy with their whole approach to communication (purely B-mod, not with a goal of learning any kind of real language). Any ideas or comments?

Thank you Eileen Prince

Date: Sun Oct 06, 1991 10:57 am PST
Subject: CT and autism

[From Bill Powers (911006.1000)]

Eileen Prince (911005) --

Welcome to CSGnet, Eileen. There will be many listening who wish they could dip into the resources of control theory (or any theory) and come up with a solution that would help your daughter. I wish I could. At least you can be sure that many people will be racking their brains trying to think of something useful to say.

The basic problem is that no one who understands control theory has studied autistic people to see how the theory can be applied -- no one I know about. Control theory isn't like most other theories: it doesn't say that if X happens to people, Y will be the resulting effect on their behavior. It's about the way behavior works; it describes relationships of a very general nature between perception and action. At the same time, it is a theory of individual behavior: in order to apply it to an individual, one must determine what variables that individual is controlling and with respect to what internally specified states, and the quality of that control. The hierarchical model suggests a nested stack of types of controlled variables that people seem to be able to control when all is well -- but the particular examples of these types that an individual controls can be discovered only by studying that individual.

Control theory doesn't use categories such as "autism" to explain behavior. To say that a person is autistic is only to say that certain externally-visible patterns of action have struck people as similar enough (and unusual enough) to be lumped into a "disease entity." This does not mean that the same defect exists in all autistic people, or that the symptoms arose from some common history, or that the same treatment will succeed with (and not harm) everyone included in this category. The conventional empirical approach to treating problems as "diseases" is simply to try something on people in a given category and see if it helps a statistically-significant number of them. There is no attempt to analyze what has actually gone wrong -- what the person can still do normally, and what the person can't do. There is no attempt to relate deficits to a model of internal functioning. I suppose the idea is that if you accumulate enough experience with treating people in arbitrary categories, you will eventually be able to look up the symptoms in a big book and read off the treatment that has been effective most often in the past. In my view, this approach is an ill-advised attempt to bypass understanding of the human system and find solutions by relying on guesswork and luck. Before the advent of science it was all we had. Sometimes it works. But there has to be a better way.

If behavior modification helped your daughter, this may give some hints about what is wrong and what is right with her. From the standpoint of control theory, behavior modification techniques work by giving a person control over some variable for the state of which that person has a preference. In behavior-mod, the environment (including the modifiers) is arranged so that this variable can be affected by the person only through performance (or termination) of some particular act. If the person is capable of reorganizing at the level required to do or refrain from that sort of action, eventually doing or not doing the act will become the person's means of controlling the variable. Of course behavior modifiers think of the variable as a "reinforcer" and believe that it is causing the changes in performance, whereas the control theorist sees the performance as the means by which the person controls the "reinforcer" or controlled variable.

If your daughter, during these treatments, modified her own actions in order to gain control over some reinforcer, this tells us several things of importance. First, it tells us that she can perceive the reinforcer (although what she perceives about it may not have been what the behavior modifiers had in mind). Second, it tells us that she had a preference, a reference level, for the state of the reinforcing thing, situation, or whatever that she perceived. Third, it tells us that she is capable of reorganizing at least to the extent of changing her means of controlling that reinforcer, that perception. And fourth, it tells us that the change in action entailed in achieving control did not result in any serious conflicts with other inner preferences (if it had, she would have continued reorganizing and would not have ended up with the same actions).

Of course in behavior modification, the reinforcer is not thought of as a controlled variable. As a result, the kind of control learned must be pretty sketchy. Generally, people whose behavior is being modified are given the reinforcer only when they do something closer to what the modifier wants; their own (other) goals are not considered. The person does not get as much reinforcer as desired, and is certainly not taught how to *decrease* the amount of reinforcer. So the control that is learned is pretty much one-way: one learns how to increase the amount of reinforcer when there is too little of it, relative to the internal reference level for it. Almost nothing is learned about how to control the "reinforcer" both upward and downward as a means of controlling other things.

Behavior modifiers will usually focus on some action that a person is doing that is annoying or dangerous to others, or harmful to the person herself. The *output* is to be changed. But under control theory, the output is far less important than the consequence it is being used to create and maintain. If we see an autistic child (I have seen some but know little other than that) sits silently rocking back and forth for hours, there are two ways we could interpret what we see. As behaviorists, we could say that this rocking-behavior is what we want to change; we would then find something -- candy, praise, pretty lights -- that the child is known to like and withhold it until the rocking lessens, then give it as a reinforcer for lessening the rocking. This would "shape" the rocking out of existence. However, if the rocking were an essential means of controlling something else, it would eventually reappear, or some other behavior aimed at the same result would appear -- not necessarily one that would be approved.

As control theorists, we would try to guess what perception is being maintained by the rocking actions. We would try supplying that perception ourselves, as a disturbance, until we found something that would cause the rocking to stop. At that point we would be providing what the rocking was providing, so the child's rocking efforts are no longer necessary to maintain the perceptions. The most simple-minded possibility is that the actions are providing the physical sensations of rhythmic rocking. So we would hold the child and do the rocking ourselves. If the child's muscles relax, we would know that this is what she was controlling for. The technical definition of a reference level can be stated as "that level of input at which output becomes zero." When you have what you want you stop trying to get it.

The question then becomes "how much rocking is enough?" For starters, if I were serious about finding out, I would be willing to guess anything up to 24

hours or until I dropped. Then I would start again, and go on until the child decided that doing something else was more important.

And what if the behavior is head-banging? Do we get a hammer and do it for the child? Obviously not -- but we might try some bumping with the rubbery side of a hand. We mustn't think that we're so smart that we can guess what another person is controlling for without some kind of test of the guess.

I think that the aim of any therapy based on control theory would be to give a person more and more control of things that matter to him or her. With an autistic child, it may be hard to figure out what the child wants and is trying to get. But when you start thinking as a control theorist, it may not prove as hard as it seems: you just have to notice the obvious. I've heard (with some astonishment) a parent say of an autistic child doing something bizarre, "Oh, he's just trying to get attention." What is wrong with giving the child attention? If doing so causes the bizarre behavior to cease, you know that this is precisely what the child wanted. The next thing is to see what the child does with the attention once he has it. I think you would find out something about the child's goals, and about what is preventing their attainment. When you understand what a person wants, you understand what that person is doing. And the more you understand of that other person, the more like you that person seems and the better you will be able to help.

I'm not trying to suggest how your daughter should be helped -- only to show how a person acquainted with control theory would make a start. Control theory can only help you understand what is going on; it can't predict what you will find. There may be problems with which you can only cope, not cure. But I should think that if you were to learn the principles of control theory and use them in interacting with your daughter, you would learn more than you know now and might well think of things to do that would not have occurred to you otherwise. At the least you would begin to think of your daughter (I'm sure you do already) as a person trying with great difficulty to accomplish things for herself instead of as an organism shaped by what is done to it -- the behavior-mod view. Despite its name and the awful engineering jargon that goes with it, control theory leads us to respect and nurture the individual will, to see others as sharing our own human condition, and to see the attempt to control others as the ultimate insult to the integrity of a living system.

I hope that control theory has something in it that will ease your plight.

Best regards, Bill Powers

Date: Sun Oct 06, 1991 6:16 pm PST
From: eprince
Subject: CT and autism

Dear Bill:

Your message is probably the most refreshing comment on autism (in quotations) and many other aspects of learning, freedom, ... that I have read in a long time. I plan to download it and print it out when I get to my office (and printer) tomorrow.

I cannot respond fully until I have a chance to really look at it, (I've only read it twice, quickly), but I need to (1) thank you for your time and concern: (2) let you know that I in now way subscribe to Bmod theory, but that I have found that to a limited extent it works in getting Katy to start to focus on learning and then, as I think you were saying, the task itself draws her in and becomes the goal. Also, the reinforcer they use is in fact far less important than setting up the expectation that she can succeed because the task is being given to her.

There is much more that I want to say, but I'm going to control myself now and sign off until I've had a chance to digest and think about your message.

Best, Eileen

Date: Tue Oct 08, 1991 5:18 am PST
From: goldstein
Subject: PCT and autism

Date: 10/07/91

As a clinical psychologist, I have worked with some autistic people in special education settings, developmental centers and one child in my private practice. As a parent, I have the experience of a child with special needs.

However, I do not present myself as an expert on autism. Based on my experience with autistic people and interest in PCT, I wanted to write an answer to your post.

In my opinion, Behavior Modification is the most useful psychological approach that I know about at the present time for helping autistic people to learn. At some point in the future, PCT may make a contribution to this area. At the present, I would not look to PCT as a source of new assessment or treatment. It may, however, provide a new set of ideas which you could apply when observing your daughter. A new assessment or treatment method could follow from understanding your daughter better. I would like to refer you to the following book for helping autistic people develop language:

The Autistic Child: Language development through behavior modification by O.Ivar Lovass. New York: Halsted Press, 1977.

There may be an updated version of this book by now. This book contains specific instructions for specific language objectives.

I am sure that at your daughter's school they must employ the services of a speech and language pathologist. These are the professionals who have the most practical knowledge about teaching language to people who have not acquired it spontaneously or who have lost it through stroke, accident, etc.. As in other professions, not all speech and language pathologists are equal. You have to compare what you want from them with what kinds of experience they have actually had.

Also, the use of American Sign Language has been found to be helpful in some cases. I think that you mentioned you are aware of this. One reason is that it is possible for another person to help produce the sign while this cannot be done with the spoken word. This does require you to learn the signs as your daughter learns them. Some parents have a negative attitude towards it. I think that ASL can help the autistic person learn some general things about communication. However, your daughter may be well beyond this point.

I second what Bill Powers said about applying Perceptual Control Theory to autism. If you start with some easily identifiable actions and ask the question of what experience this action is controlling, you may learn something new about your daughter. Don't forget that some of the experiences may refer to body states, such as fear, as well as states of the environment. Make a guess about what experience is being controlled. Do or say something which should alter the experience which you guess is being controlled. Observe whether your daughter's action restores the experience which you disturbed to its original state. In PCT, this procedure is called the Test for the controlled variable.

Here is a slightly different approach. If you find out what kinds of experience your daughter can and cannot control you will be in a better position to understand and possibly help her. The levels of perception are a good starting point. Using the levels of perception, ask yourself to think of examples where she demonstrates the ability to control at each level. If when thinking about a level, you cannot come up with any examples, then perhaps she cannot control at that level at this time. This would be a starting point for focusing reorganization efforts. It takes a while to grasp the different perceptual levels. The people on CSGnet would, I am sure, be glad to help you learn the levels.

Date: Tue Oct 08, 1991 10:17 am PST
From: eprince
Subject: PCT and autism

Thank you for your message, which I will be downloading, printing and fully responding to soon. Just to say that your assumption that the school (which is not a bad one) employs experts in language is unfortunately not really correct. Yes, they employ a Ph.D. in communication who truly believes that she knows all there is to know about helping autistic people to communicate (note: not to use language of any kind) and, most unfortunately, that she knows what their limitations are. Basically, her approach is to say that if something has not been documented to work with a child at Katy's "level of functioning" then she will not try or encourage its being tried either. This is, as I have said, very unfortunate. To be continued, and thank you again.

Eileen

Date: Tue Oct 08, 1991 1:41 pm PST
From: marken
Subject: PCT, behavior mod and autism

[From Rick Marken (911008)]

David Goldstein (911007) writes:

> In my opinion, Behavior Modification is the most useful psychological approach that I know about at the present time for helping autistic people to learn. At some point in the future, PCT may make a contribution to this area. At the present, I would not look to PCT as a source of new assessment or treatment.

I hope the behavior mod types are as generous to us in the future.

> I would like to refer you to the following book for helping autistic people develop language:

> The Autistic Child: Language development through behavior modification by O.Ivar Lovass. New York: Halsted Press, 1977.

Boy, this is like "ol' profs week" on CSGNet. I took child development from O. Ivar when I was an undergrad at UCLA. I was very impressed. Finally, a psychologist who could really get something done. And with children yet: children who really needed help.

Of course, I know better now. Actually, I knew something was wrong even back then, but I had to learn control theory before I could articulate it.

Behavior mod is a great example of control in action. The behavior modifier (bm) has a reference for the kind of behavior he/she wants to see. There is a discrepancy between this reference and the actual behavior (the bm wants to see speech but what he/she perceives is silence). So the bm does things which should produce speech -- these are the tools of the behavior modification process. One tool is withholding something that the child wants (finding out what this is is usually the toughest part of the process). Then the bm waits for "approximations" to speech and gives the reward only when the desired (reference) approximation occurs. It's alot like steering a boat into a slip using only the motor. The boat just drafts around, it has no rudder. The direction of the boat depends on local currents and the amount of puch given by the engine. You (the bm) can control the boat by giving it power (reward) when it is pointing in the "right" direction. You withhold the power (reward) when it starts to point away.

There can be no simple rules for doing either task (training the kid or docking the boat) because the effect of your actions depends on other factors that are operating at the same time (disturbances). For example, gunning the boat when you are oriented 20 degrees left of slip may push you even further to the left if the current is also pushing the boat left. The same acceleration might move the boat right into the slip if the current is pushing

the other way. Same with the kid. Rewarding a particular sound (like "hel") may lead to a repetition of "hel" that sounds more like "hello" (the reference word) or to no repetition or to a new sound completely. So there can be no rule in Lovass' book that says "In order to get the kid to say "hello" always reward him/her after saying "hel" unless he/she has previously made a closer approximation to hello". Control can't work this way. That is, you cannot generate a particular response to a particular stimulus. Instead, you must continuously adjust your actions (rewarding - withholding or turning the engine on and off) to keep your perception (of what the kid is saying or where the boat is going) approaching your ultimate reference for what you want to perceive.

The problem with the behavior mod approach to dealing with organisms (ALL ORGANISMS, including those that have been categorized as "autistic") is that it ignores the fact that the organism being controlled is ALSO a controller.

Behavior modification is a recipe for almost certain conflict between control systems (the bm and the controllee). "Almost certain" because most bms realize that there is a problem when they start to get into conflict with the controllee. I think the bm is usually willing (if they are even close to being human) to readjust their references for what they want to see the controllee doing. Even Lovass said ultimately that his success depended on having the following attitude towards his autistic children .. "load 'em up wit luv" (he has a charming norwegian accent).

So I am reluctant to recommend behavior modification as the best current approach to dealing with so called autistic children. The reason is that some people might actually blindly follow its precepts -- which could be quite ugly for both parent and child.

Best Regards Rick

Date: Tue Oct 08, 1991 2:36 pm PST
From: eprince
Subject: Richard S. Marken's comments on BMod

> "So I am reluctant to recommend behavior modification as the best current approach to dealing with so called autistic children. The reason is that some people might actually blindly follow its precepts -- which could be quite ugly for both parent and child."

I couldn't agree more. The problem (at least the main one I've had with BMod practitioners) is with blindly following and not thinking or considering alternative approaches. And, although accountability is probably higher than with other approaches (others that I know of), there is still the ultimate fudge, as with their failure to deal adequately with my daughter's water and bathroom recurring phobia - - the fudge is that it must be something in the environment (the antecedent) that has set the phobia in motion, but unfortunately we don't know what it is because it must be very subtle....

Eileen Prince

Date: Sun Jan 15, 1995 9:52 am PST
Subject: Long Sunday thoughts: ... autism

[From Bill Powers (950115.0600 MST)]

Bruce Abbott (950114.1930 EST)-- RE: Habits, association.

A word about getting other psychologists to explain these control phenomena.

Mary recorded a PBS "Frontline" program on "facilitated communication" with autistic children; I saw it last night. After spending half an hour showing how beautifully it works, the program then turned to the problems. The problems arose when all over the country, autistic children were communicating that they had been sexually abused by father, mother, sibling, grandfather,

grandmother, teacher, and just about everyone else. Children were being removed from their parents and being put in foster care.

So a lawyer got a psychologist to think up a test to see who was originating the communications, and the psychologist came up with a dilly. He showed one picture to the facilitator and another to the autistic child. When both pictures showed the same object, the autistic child and facilitator pecked out the keys on the alphabet board to produce the right name of the object. When the objects were different, however, the name that was written was the name of the object the facilitator saw. In 180 trials where the pictures were different, there was not a single instance of the "communicated" name being the object the autistic child saw. This was repeated over and over; in all the tests where the pictures were different, there was not a single instance of the communicated word describing what the child saw. What was communicated was ALWAYS what the facilitator saw.

You might be thinking "fraud," but that is not what it was. What it was was BELIEF. The facilitators, trained in a university program devoted to facilitated communication, cooperated fully in the tests, confident that the results would dispose of all questions about facilitated communication. When they saw the experimental results, they were completely devastated. One woman said that several months had to pass before she could keep from bursting into tears every time she thought about it. A man said that the experience was just like dying for him: everything he believed in and valued was destroyed. This was a widespread reaction, because many facilitators participated in the tests. They were not frauds; they desperately wanted to help the autistic children, and they really thought they were restoring them to normal communications and a normal life. They were sure the tests would vindicate their work.

The outcome was that many facilitated communication programs around the country were shut down, and the people went back to the old methods, just trying to help a little. But the most important fact was that many parents and facilitators banded together to survive what they saw as an unfair and biased attack. They simply ignored the results of the tests, despite the 100% proof that all the communications originated from the facilitators and none from the autistic children. They continued to believe that their children were conversing with them, learning Shakespeare and algebra, and earning As in high school and college (yes, college), always, of course, with a facilitator present.

By now the moral of my story is probably evident. When we come up with demonstrations that positively prove that behavior is the control of perceptions, we may think that gaining support is simply a matter of showing the evidence and letting it speak for itself, after which the conventional psychologist will say, "Oh, yes, I see. How interesting. I guess I'll have to use that interpretation now." That is not what will happen. What will happen is that some people will be profoundly shaken, even devastated, by these demonstrations, if they are capable of admitting what their own eyes are telling them. In many instances their careers will be destroyed and they will be unable to continue the kind of work they had always done. Everything they had thought they had accomplished in life, helping people or furthering scientific knowledge, will lie in ruins. Not everyone will be so destroyed, but many will.

And what of the rest? What about the people who look at the demonstrations and simply refuse to believe them? These, I am afraid, will be in the majority. Their reactions will range from indifference to outrage. They will behave just like those facilitators and parents who could not bear to face the implications of the tests, who said they just KNEW that facilitation worked and had brought their sick children back to life. And psychologists will behave this way for very much the same reasons.

So, Bruce, when you start handing out your data to other psychologists to analyze, I hope you will be prepared for the consequences. This could cause very great problems for you. You could find yourself labelled as a nut and isolated from your colleagues. You will be attacking the very foundations of many beliefs, no matter how kindly your manner or how gentle your persuasion. If the PCT model of behavior is anywhere close to the truth about how behavior

works, then practically every other conception of it is wrong. You don't have to say that. The data will say it, to those who can stand to see what they mean. Those who see it will be your triumphs, but those who refuse --- they will be a problem.

Best to all, Bill P.

Date: Sun Jan 15, 1995 2:30 pm PST

Subject: Re: Long Sunday Thoughts

[From Bruce Abbott (950115.1630 EST)]

>Bill Powers (950115.0600 MST) --

> Mary recorded a PBS "Frontline" program on "facilitated communication" with autistic children; [quote cut]

I saw this myself some time ago, and was quite impressed with it. It strongly reminded me of the old "Clever Hans" story, in which a retired German mathematics professor had become convinced that his horse could reason and even solve problems in arithmetic. In that case also, it was a psychologist (Oskar Phungst) who showed that Hans "knew" the answer to a question being posed to him only if his owner or the audience did AND the horse could see them.

But speaking of autism, here in the department we have an associate faculty member and full-time clinician with whom I was conversing a few days ago about (what else?) PCT. I mentioned that it would be interesting to conduct a study on autistic children to determine how their control systems differ from those of more normal children, and suggested that the differences most likely involve fairly high levels in the heirarchy. It turns out that the guy works with autistic children in his practice and that there are apparently defects in the low-level control systems as well. He became very interested in what I had to say and asked about whether our library has a copy of B:CP. I lent him my copy.

There may be a very nice opportunity here for some research, which would apply the Test to determine what perceptions young autistic children control as compared to non-autistic kids of the same age, and how well they are able to do it. It also would be interesting, I think, to sit one of these autistic kids down at a computer terminal and have him or her run through some of the tracking tasks.

Regards, Bruce

Date: Sun Jan 15, 1995 5:49 pm PST

Subject: Re: autism

[From Bill Powers (950115.1815 MST)]

Bruce Abbott (950115.1630 EST) --

> But speaking of autism, here in the department we have an associate faculty member and full-time clinician with whom I was conversing a few days ago about (what else?) PCT. [quote cut]

> There may be a very nice opportunity here for some research, which would apply the Test to determine what perceptions young autistic children control as compared to non-autistic kids of the same age, and how well they are able to do it.

As Tom Bourbon has discovered, even people with terribly discoordinated motor behavior can in fact do tracking tasks in a recognizeable way -- you should probably get your friend in touch with Tom directly, to discuss his observations and how he would go about setting up an experiment.

IF you can get autistic people to do the tracking task at all (1 cursor, of course), I would be electrified. My impression (uninformed) is that it's hard to get them to pay attention to any task. If you could get them to do a tracking task, or any kind of instrumented control task, you would know what they are perceiving and you would know what their intention is. These tracking experiments are awfully simple, but when you think about them, they provide a NONVERBAL window into at least one little aspect of a person's internal experiences, a window that with patience and persistence could probably be opened wider. If I were to watch an autistic person doing a control task, I would feel that I was sharing an experience with that person, possibly the first kind of contact I would ever have had past that baffling exterior.

I hope we can all follow through on this. It may be another frustrating dead end, but considering the plight of autistic people, it's worth a good try. One can easily understand how the facilitated-communication people let their hearts lead their heads. Of course we would have to be extra-careful about that.

Best to all, Bill P.

Date: Mon Jan 16, 1995 1:39 pm PST
Subject: Re: autism

[Martin Taylor 950116 13:50]
>Bill Powers (950115.1815 MST)

I recommend (re-)reading Donna Williams' "Nobody, Nowhere," and to a lesser degree the follow-up "Somebody Somewhere." Donna many times notes that autism seems (from the inside) to be largely a problem of controlling one's perceptions; the inner (imagination) world is much easier to control than the outer, and the autist has what she sees as a very impoverished set of perceptions of what we would call higher-level constructs. She sees many blades of grass rather than a lawn, for example, and sees almost nothing of what we would call emotion in other people. The autist does control in the outer world where possible, using repetitive actions or laying out symmetrical sets of objects and the like; but has great problems "controlling what she cannot perceive." (I put that in quotes because it's obviously not a good phrase, but I don't know how else to put it). We, non-autistic people, want the autist to seem to control perceptions the autist hasn't developed. The autist doesn't know what it is that we expect them to be perceiving and controlling.

As a therapist for autistic children, Donna takes advantage of her inside knowledge of what autism is about, allowing (helping in the non-interfering sense) them to control something that they CAN control, and (it seems to me) allowing them a perception THAT they are controlling a perception. And she avoids so far as she can getting them into a situation in which they think they are being asked to control a perception they don't have or can't consistently affect.

Never having seen an autistic child at first hand, I can obviously not make any informed comments. But I do think that Donna Williams' writings should be a major sourcebook for anyone seriously interested in the subject. Also, as I mentioned in Durango 93, I think "Nobody, Nowhere" is a textbook of PCT.

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Last observation on autism: There is a condition known as "hyperlexia," almost the inverse of dyslexia, though it often occurs in children in families that have a history of dyslexia. "The hyperlexic child has general language and cognitive problems but nevertheless learns very early to read. The child reads avidly, even though he may be classified as autistic, not reacting much to people and things in the world around him. (Healy, et.al. 1982)... Hyperlexics may be much better than normal skilled readers at recognizing words composed of mutilated letters (Cobrink, 1982)...Although hyperlexics are highly skilled in recognizing words, they are poor in integrating words into sentence contexts (Richman & Kitchell, 1981)... Many hyperlexic children are autistic, and autistic children tend to lack LH specialization for language

(Dawson et al, 1982)." (from Taylor and Taylor, The psychology of reading, Academic Press 1993, p254)

[Internal references: Healy, Aram, Horwitz & Kessler, 1982, A Study of hyperlexia, Brain and Language, 17, 1-23. Cobrink, L., 1982. The performance of hyperlexic children on an "incomplete words" task. Neuropsychologia, 20, 569-577 Richman & Kitchell, 1981. Hyperlexia as a variant of developmental language disorder. Brain and language, 12, 203-212. Dawson, Warrenburg and Fuller, 1982, Cerebral lateralization in individuals diagnosed as autistic in early childhood. Brain and Language, 15, 353-368.]

Remember that Donna Williams was very good at music, but often found that either spoken or written language "turned off" for her under stressful conditions.

> I hope we can all follow through on this. It may be another frustrating dead end, but considering the plight of autistic people, it's worth a good try.

Is it worth trying to make contact through Donna Williams? I imagine that her publisher could pass on a letter so that she could participate if she felt it useful to do so.

Martin