DOCUMENT SUMMARY

This foundational 2005 paper by Murray, Lesser, and Lawson introduces the theory of **monotropism** as a central explanation for the autistic condition. The authors argue that the diagnostic criteria for autism can be understood as consequences of a monotropic attentional style, characterized by having a few highly aroused interests. This "tight-focus" cognitive strategy is contrasted with a "polytropic" style, providing a comprehensive model that integrates research findings with the subjective experiences of autistic individuals.

FILENAME

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METADATA

Category: RESEARCH **Type:** report **Relevance:** Core **Update Frequency:** Static **Tags:** #monotropism #autism #attention #interest-model #diagnostic-criteria #polytropism #dinah-murray #wendy-lawson **Related Docs:**

- ries_2000_research_report_ras_p53_mdm2_p19arf
- davis_2000_research_report_signal_transduction_jnk_mapk
- cheung_2000_research_report_histone_modification_epigenetics
- ramirez-weber_2000_research_report_cytonemes_cell_signaling **Supersedes:** N/A

FORMATTED CONTENT

Attention, Monotropism and the Diagnostic Criteria for Autism

Abstract

The authors conclude from a range of literature relevant to the autistic condition that atypical strategies for the allocation of attention are central to the condition. This assertion is examined in the context of recent research, the diagnostic criteria for autism in DSM-IV and ICD-10, and the personal experiences of individuals with autism including one of the authors of the article. The first two diagnostic criteria are shown to follow from the ‘restricted range of interests' referred to in the third criterion. Implications for practice are indicated.

Introduction

The diagnostic criteria for autism make a perplexing set. However, atypical strategies for the distribution of attention seem to underlie both sets of diagnostic criteria currently in use. We argue that attention also underlies the patterns of subjective experience reported by individuals on the autism spectrum. There is strong evidence that atypical patterns of attention are a feature of autism. We suggest that the 'restricted range of interests' referred to in the third part of both sets of diagnostic criteria, which we call **monotropism** (Murray, 1992), is central to the autistic condition.

Hypothesis

At any one moment the amount of attention available to a conscious individual is limited. The authors suggest competition between mental processes for scarce attention is an important factor in the shaping of the cognitive process.

Attention may be broadly distributed over many interests or may be concentrated in a few interests. The authors propose that the strategies employed for the allocation of attention are normally distributed and to a large degree genetically determined.

> We propose that diagnosis of autism selects those few individuals at the deep or tight-focus extreme of this distribution of strategies. Furthermore the authors propose that social interactions, the use of language, and the shifting of the object of attention are all tasks that require broadly distributed attention. Consequently these activities are inhibited by the canalization of available attention into a few highly aroused interests.

Our hypothesis is that the difference between autistic and non-autistic is a difference in the strategies employed in the distribution of scarce attention. That is to say, it is the difference between having few interests highly aroused, the **monotropic** tendency, and having many interests less highly aroused, the **polytropic** tendency. An aroused interest is an interest charged with feeling.

Monotropism and Other Attempts to Explain Autism

Three 'cognitive explanations' of autism have been thoroughly researched in recent years: **Theory of Mind deficit**, **Weak Central Coherence**, and **Executive Dysfunction**.

Of these, 'weak central coherence' is the position closest to ours. Research results that favour ‘central coherence' types of explanations in which the drawing together of information is treated as a core problem are generally equally well explained by monotropism in an interest model of mind.

Temple Grandin, who has a diagnosis of autism, tells us that as a child she would be 'Intensely preoccupied with the movement of the spinning coin or lid, I saw nothing or heard nothing. People around me were transparent. And no sound intruded on my fixation. It was as if I were deaf' (Grandin and Scariano, 1986, p. 20).

Plaisted argues that, ‘Narrower concepts and sharper category boundaries ... would reduce the likelihood of activation by associative excitation of concepts that could be brought to bear on making sense of the current array of stimuli' (2001, p. 166). We consider those crucial features of **monotropism**, but would emphasize that these narrower concepts are highly charged with affect: individuals on the autism spectrum tend to be either passionately interested or not interested at all.

> According to our model a corollary of this tight focus is a lack of any generalized structured anticipation: these are people who live in a world in which sudden experiences repeatedly occur. As Ros Blackburn... often describes it, these may have the shocking force of a balloon bursting behind one's head.

So, from our perspective there is no reason to expect a preference for 'local' rather than 'global', or for detail over a whole; rather there tends to be hyper-awareness within the **attention tunnel**, and a general lack of expectation, i.e. hypo-awareness, outside it.

Problems with shifting cognitive set are one of the most robust findings in autism research. It is an ‘executive function deficit', which research has repeatedly reaffirmed. We see this as a corollary of extreme task focus; indeed Bryson et al. (1997) also cite results showing 'if anything superior maintenance of set' in research subjects on the autism spectrum.

Monotropism and the Diagnostic Criteria for Autism

We believe that our use of the concept of an interest both conforms closely to colloquial use and corresponds with the use of interest that appears in the diagnostic criteria of DSM-IV and ICD-10.

Criterion 3: Restricted repetitive and stereotyped patterns of behaviour, interests and activities

I. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or in focus.

We suggest that the restricted, repetitive and stereotyped patterns of behaviour and activities and the restricted interests mentioned in this criterion follow from the monotropic tendency.

> It's as if I am tuned in to watching out for the birds. If a bird flies past, over or in front of me, it 'catches' my attention immediately. It doesn't matter what else is going on, within or without me, my interest is the birds. I can watch them for hours, and during this time I am in a state of intense joy. Sometimes this intensity makes me cry.

Polytropism implies the existence of many co-aroused interests constantly establishing and reinforcing connections between each other. **Monotropism** results in large areas of potential information not being registered. A monotropic interest is much more closed than a typical interest. By contrast, monotropic interests are deep basins of attraction where attention gets caught, and may be expressed in a thought or action over and over again.

II. apparently inflexible adherence to specific, nonfunctional routines or rituals III. stereotyped and repetitive motor mannerisms IV. persistent preoccupation with parts of objects.

> To a person in an attention tunnel every unanticipated change is abrupt and is truly, if briefly, catastrophic: a complete disconnection from a previous safe state, a plunge into a meaningless blizzard of sensations, a frightening experience which may occur many times in a single day.

These familiar and reassuring actions include a variety of those behaviours sometimes referred to as ‘stimming', e.g. humming, rocking, handflapping.

Criterion 1: Qualitative impairment in social interaction

All of these 'qualitative impairments in social interaction' concern the absence of the usual acquired behaviour of aligning or coordinating one's emotions and actions with those of other people (Jordan, 1999). In social discourse people take turns in determining, moment by moment, the current common interest (Murray, 1986). Monotropic individuals may never learn how to participate, for a number of reasons. The basic reason is the patchy and partial awareness that results from monotropic focus.

> Although I certainly understand the concept of ‘friend’ now, as a child I didn't understand this. Even the concept that other people were separate to me, was not considered. If I thought a thought I believed others would know what I was thinking. Therefore, they must have known what I needed. Failure to meet my needs resulted in my feeling angry, hurt and unimportant. Even now, as an adult, I need to frequently check this out.

In a monotropic child, recognition of the existence of others will occur only in so far as other people are engaged with fulfilling the interests which preoccupy that child. Otherwise the existence of other people, like the existence of everything outside the tightly focused monotropic attention tunnel, may not impinge at all.

Criterion 2: Qualitative impairments in communication

These unusual features of communication can be traced back to monotropic perceptions and thought patterns that fragment understanding, so that features of the environment which seem obvious to people with diffuse rather than tightly focused attention may be entirely missed.

> In order to hear what others are saying I often need to look away from them. I do this because if I look at them, whilst they are talking to me, my listening to what is being said is interfered with by my attending to their facial expressions.

Conversations are sequences of events on several levels: phonetic, phonological, syntactic, semantic, and pragmatic (adjusted to each other's current interests). Unless language becomes an object of interest it will take monotropic individuals longer to realize that language is meaningful.

Speech imposes interest on the hearer. Speech is used between individuals to align interests. This is how speech is typically used, and for most people it is an agreeable experience. Just as some people perceive tickling as painful and invasive while most see it as entertaining and funny, so some people find the manipulative use of language painful and invasive.

Conclusion: Implications for Practice

> I think that for many of us diagnosed as being on the spectrum of autism, the demand of having to 'pay attention' to so many things, simultaneously, is a nightmare. We tend to focus upon one thing at a time and this might mean we 'miss' lots of superficial information that gives context to much of life (conversation, expectation, realization). However, when one understands this, it should make relating to us less troublesome.

The following heuristics have emerged, which we consider to be useful irrespective of the level of functioning of the individuals concerned:

- Motivate connections with other people, and positive views about society, through the individual's interests: ‘Start where the child is.’
- Ensure connections are acquired through the pursuit of an individual's own interests; endogenously motivated links will be stronger and more stable.
- Improve understanding in order to correct false or partial connections.
- Reduce task demands in complexity, time pressure and irrelevant stimuli.
- Make tasks meaningful: if tasks and ideas are conveyed in small portions, ensure that the overall relatedness of the parts is understood.