

On the construct of "The Bipolar Child" **proposed by Demitri and Janice Papolos**

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A new diagnostic category is emerging: Childhood Bipolar Disorder.

It was traditionally thought that as few as one in 200 cases of Bipolar Disorder had an onset which could be traced to childhood. Biederman's recent research shows that perhaps on the order of 20% of children identified as ADHD could be on the way to developing full-blown Bipolar Disorder. To make this identification, however, the markers of childhood Bipolar Disorder are destructive rage and irritation rather than the euphoria, elation, and deep depression that characterize the adult form. The proof that the childhood form of the disorder metamorphoses necessarily into the adult form eventually is still outstanding. The model is still too new.

The Bipolar Disorder model is the latest attempt to give diagnostic order and specificity to the most extreme end of the disruptive behavior spectrum. It is of course not the first. Years ago, George Murray of Harvard suggested that temporal lobe epilepsy was under-recognized by mental health professionals by a factor of 25. Clearly he was not referring to overt seizures here, which tend to attract clinical attention, but rather to the sub-clinical seizure activity that can manifest in erratic behavior, severe mood swings, rages and explosive behavior - but goes unrecognized as such. Partly based on Murray's model, we too have emphasized the continuity between overt seizures and extreme behavioral dysregulation. Both are effectively treated with anti-convulsants, and both respond to the same Neurofeedback protocols. The developments in Neurofeedback therapy neatly parallel developments in psychopharmacology. But seizures have remained in the domain of neurology, and other mental health professionals have been reluctant to build on that model.

Over the years we have talked about our own son Brian in terms of his temporal lobe epilepsy, and we generalized from there to severe behavioral disorders. That always had limited appeal as a model for both practitioners attending our classes and for parents of difficult children. Most professionals don't relate readily to "subclinical seizure phenomena," nor are parents thrilled to see the term seizure disorder used in connection with their children unless the diagnosis is obligatory. Talking about seizure disorder in larger terms was a non-starter.

A second major attempt to bring order to this end of the behavioral continuum was by David Comings, who is most closely identified with the spectrum theory of Tourette Syndrome, which includes rages, explosive behavior, the Jekyll-Hyde personality, and severe mood swings among its descriptors. In fact, Comings already pointed out the close correspondence of Tourette symptoms with those of Bipolar Disorder. This more inclusive view of Tourette Syndrome has remained controversial, however. And parents were no more thrilled to have their child described in terms of Tourette Syndrome than they were about sub-clinical seizures.

As I now read Papolos, I find a lot of our son Brian's behavior described there. And to talk about it as Bipolar Disorder rather than seizures makes it more relevant to the mental health professional in general. Papolos is carving out a clinical category that is broadly inclusive, but also has face validity. And parents are rallying around. He includes some of the symptoms we have traditionally associated with temporal lobe seizure susceptibility, some of the same symptoms that Comings assigned as part of the Tourette spectrum, and of course many of the symptoms of Conduct Disorder and Oppositional-Defiant Disorder that are traditionally treated as part of the ADHD-spectrum.

Papolos' model appears to be resonating with both the professional community and a public that is desperate for solutions to intractable behavior problems. In fact, one is tempted to propose that Bipolar Disorder in childhood may be a case of a solution looking for a problem. In recent years, psycho-pharmacologists have increasingly resorted to the stronger medications, anti-psychotics and anti-convulsants, and to poly-pharmacy, to address childhood behavior disorders that would not yield either to the stimulants or to the anti-depressants. In this view, juvenile Bipolar Disorder is what these drugs treat. At one stroke, a kind of conceptual order is brought into this bewildering morass of disparate symptoms.

Childhood Bipolar Disorder appears to be part of a pattern that is increasingly common, that of a clinical category emerging around an effective drug remedy. For example, social anxiety was not an issue until it was found that Paxil treats the condition. Now it is all over the newspapers. In fact, we have so many disorders that two have the same acronym: SAD, for social anxiety disorder and for seasonal affective disorder (neither of which can be found under those names in the Diagnostic Statistical Manual). The need clearly exists to define a disease or disorder that goes along with the new drug remedy. And the need is so urgent that it cannot await the imprimatur of a new DSM committee. The new category of early-onset Bipolar Disorder is so huge one wonders

how it could have been missed for so long. This illustrates another pattern, namely the fact that certain mental health problems really don't get acknowledged until a solution is in sight. How many years has Papolos thought about Bipolar Disorder in this way? It's not clear, but what makes this conceptualization important right now is the existence of Zyprexa and Risperdal, of Depakote and Neurontin, as a means to address these conditions. It is also possible, of course, that it was the drug efficacy itself that compelled a search for the new conceptual unity.

In any event, juvenile Bipolar Disorder is what these drugs treat. This just replicates what happened in the 1960s with regard to adult or end-stage Bipolar Disorder. If it was Bipolar Disorder then lithium treated it, and if lithium treated it, it was Bipolar Disorder. (Rocks date fossils; fossils date rocks.) Even more significantly, there was never any mention of all the children who were mis-medicated with Ritalin until an alternative was available for those children. Now it is possible to talk about it. And of course the numbers are huge. Papolos estimates up to a third of children labeled ADHD are candidates for Bipolar Disorder; Biederman has published data around 20% just for bipolar alone - not to mention the antidepressant-responders, which are also numerous.

The Papolos treatment of Bipolar Disorder has a sense of urgency about it. The authors, husband and wife, have for a long time had to deal with desperate families. But the suspicion arises that a lot of this problem may be relatively recent in origin, and may even be medication-induced. Papolos points out that both stimulants and anti-depressants can stimulate these behaviors, and what may have started out as an apparently benign case of ADD can with casual (but typical) administration of a stimulant or antidepressant metamorphose into a raging pathology that can be tricky to manage.

Let us acknowledge that the new drugs will be a godsend to many of the parents struggling with these children, just as Tegretol was for our son Brian. However, these parents should have even more reason to consider Neurofeedback as a complementary modality than the parents of the Ritalin kids. Increasingly, it is recognized that pharmacological approaches need to be tailored for different neuromodulator systems in these complex disorders. So a child will inevitably be multiply-medicated, and these medications will have to be continually adjusted. Not a pleasant prospect, when the alternative is straight-forward brain-training.

We of course have been confounded by the same behavioral continuum, and have tried to make

sense of this in the context of Neurofeedback protocols. Our classification parallels that of Emory and Suffin. These authors have been able - through quantitative characterization of the EEG - to segregate these populations into those that are appropriately addressed with stimulants, those that respond to anti-depressants, and those which yield to anti-convulsants and lithium. The bipolar children fall into the latter category.

We consider primarily the arousal continuum, and have developed protocols that essentially normalize the arousal curve much as stimulants or anti-depressants do. For this strategy to work, the person has to be characterizable in terms of a particular pattern of arousal function. In other words, that pattern must be predictably stable. But then there is the entire realm of what we call instabilities, where the brain is susceptible, for one reason or another, to sudden changes in state. Whether such instabilities are thought of as seizure-like, or as more fundamentally mood instabilities, is probably beside the point. The distinction respects the niceties of the professional categories, neurology and psychiatry, but is otherwise benignly irrelevant.

We have reason to be pleased that the Papolos model of childhood Bipolar Disorder is coming to be accepted where the Murray and Comings models were not. Papolos is really (unintentionally) preparing the ground for the acceptance of the instability model - the assertion that instability is the core issue in all of these symptoms, irrespective of what system they impact - arousal, attention, affect, pain, immune system, appetite, glucose regulation, etc. The Papolos treatment is therefore an excellent springboard to our general instability model.

Bipolar Disorder is simply a shorthand descriptor for a certain kind of brain instability, and Neurofeedback is fundamentally a strategy for enhancing brain stability. It rewards the maintenance of continuity in brain state. This accounts for its efficacy in all those conditions for which anti-convulsants have been historically prescribed: seizures, migraines, mania, Bipolar Disorder, schizophrenia, Landau-Kleffner syndrome, and trigeminal neuralgia.

Neurofeedback compares favorably in terms of research history to the use of anti-psychotics and anti-convulsants (in combination) with young children. It is now our turn to ask, where are the controlled studies on such poly-pharmacy? What are the long-term outcomes? We, on the other hand, can point to a thirty-year history of research on Neurofeedback with no negative findings for seizure-like phenomena. Contrast that with the state of research on anti-depressants in children, where only a single study has thus far even hinted at a positive outcome among children.

There is one other significant advantage to Neurofeedback. It is now becoming known that all these profound behavioral instabilities are characterized by hemispheric differences. Pharmacology can only address the brain as a whole. It cannot minister to one hemisphere preferentially. Neurofeedback, on the other hand, can be tailored to the demands of each hemisphere, and it can address specifically the issue of inter-hemispheric communication that appears to be a central issue in the entire instability category, or at least central to its clinical resolution.