

# ADHD - an investigation

by Youth Rights UK

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## i) Summary

1. ADHD is a Youth Rights issue because the ADHD diagnosis and the prescription of powerful stimulant drugs which often follows the diagnosis are backed by vested interests: the psychiatric profession, governments, pharmaceutical corporations and school-systems, while the children who are labelled and drugged have no say at all in the matter.

2. The ADHD diagnosis does not relate to a real disease entity. It is a construction of psychiatry. This is an example of what the social critic and philosopher Michael Foucault called a dividing practice.

Correlations found by researchers between brain activity and inattention in one group already labelled ADHD and contrasted with another group not so labelled show that people differ and it is possible to categorize this. This is not however an actual disease.

3. The diagnostic criteria for ADHD mainly relate to children not paying attention in school. Our current system of education requires children to be passive, to sit at desks for long periods of time without moving, and to engage in tasks set by the teacher which do not relate necessarily to the child's own interests. The system values uniformity, passivity, conformity and obedience. All children learn the same curriculum regardless of individual interests. This is a state sponsored system of mass education.

It does seem to be the case that many children especially boys find it hard to adjust to such a system. 'Diagnosing' and drugging those who do not adjust is an abdication of responsibility and a way of avoiding the educational and wider societal questions this problem poses.

In fact education should be about helping each child to develop according to their own needs, aptitudes and strengths. Such a system of education would have no need to focus on difference let alone stigmatise some with phoney labels and then drug them.

4. Ritalin which is the drug made by the company Novartis most commonly used to 'treat' ADHD is a powerful stimulant drug similar to cocaine. Other drugs used to 'treat' ADHD are straight amphetamines.

Researchers cannot in fact explain the exact mechanism that makes these drugs 'work'. We suggest that by giving young children repeated daily doses of powerful stimulant drugs with no remission for years on end they are in effect being pinned against a wall. They can never be themselves, they are constantly fighting the high, and thus their 'overactivity' is quashed. What Novartis describe as the 'stabilizing' effect of Ritalin we would say was a brutal regime of subduing children with excessive doses of powerful drugs.

The police strongly advise young people against taking amphetamines even in a single dose. We fail to see how the same drug (or similar drugs) which is so dangerous suddenly becomes safe when manufactured by a corporation and administered by a psychiatrist.

Attempts to explain that ADHD children have different brains and so the drug is

beneficial to them are unconvincing. Even in a study which makes this claim both 'ADHD' and 'normal' people had the *same* reaction to methylphenidate (Ritalin) - just the ADHD group less pronounced.

Even pro-ADHD researchers admit that there is no long-term benefit to a child's educational achievements in taking stimulants.

The drugs cause sleeplessness, nervousness - even feelings of persecution, and loss of appetite. These are direct effects of stimulant drugs which almost all children on them will feel. These are not remote side effects which only happen to a few.

The effect of subjecting a person to this throughout their childhood is incalculable.

5. The ADHD diagnosis harms a child by isolating him from his peers. This social impact of the ADHD diagnosis is simply missed by most psychiatrists and ADHD researchers who clearly have no idea what it means to be a child.

6. A major study in the US into the 'best' treatments for ADHD has found, according to one of the researchers, Dr William Pelham of the University of Buffalo, that there are no benefits at all to stimulant 'medication' of ADHD children over other forms of 'treatment'. This is a major mainstream piece of research which confirms that stimulant drugging of children has no medical justification at all.

## ii) Evaluation of 2 ADHD studies

ADHD is touted as "a proven medical condition". Promoters of the ADHD diagnosis refer to the scientific research. A very common piece of research is brain scan studies which show that the brains of ADHD children are abnormal.

We examine two such brain scan studies here. One is a Positron Emission Tomography (PET) scan study in adults. This is an invasive technique which involves a radioactive tracer. The other is a non-invasive Magnetic Resonance Imaging (MRI) type brain scan which uses the magnetic properties of blood to measure brain activity.

The first study by Volkow *et al* is a study which takes its conceptual model from biological psychiatry. The researchers look for a statistically significant difference in certain brain chemistry between the ADHD group and the control group and attempt to link this with inattention.

The second study by Rubia *et al* is a study which links performance in a certain task to brain activity. Again the ADHD group is compared to a 'normal' group.

Both studies presuppose ADHD and by comparing an ADHD group with a group from which the ADHD subjects have been excluded they accentuate any differences they find. That is the ADHD group is not being compared with a norm which includes ADHD but against a group 'without' ADHD. Both studies are thus loaded to emphasise any differences that do exist. Neither study establishes a disease entity 'ADHD' - both start from the presupposition that there is such a thing and then precedes to investigate it. In this way the researchers never have to demonstrate that a biological disease actually exists.

## **a) Depressed Dopamine Activity in Caudate and Preliminary Evidence of Limbic Involvement in Adults with Attention-deficit/Hyperactivity Disorder** **Volkow *et al.* 1**

The study involved 19 adults 'with ADHD' and 24 'healthy controls'. The study states that the 19 adults had "never received medication". However; the terms of the study allowed people with a prior history of Ritalin 'medication' to have been included had they taken Ritalin for less than 4 weeks more than one year before the study.

The method of the study was to use the radioactive substance raclopride C 11 in conjunction with a PET (positron emission tomography) scan to measure and compare dopamine activity between the ADHD group and the control group, at base, and after the intravenous administration of methylphenidate.

The authors of the study are investigating 'ADHD' from a purely biological point of view. They believe that ADHD exists as a condition and are examining the role of the dopamine system in ADHD. Dopamine is a neurotransmitter activating the dopamine receptor cells called D1 to D5. Neurotransmitters act as chemical 'messengers' between cells in the brain.

The experiment works because the traceable raclopride C 11 competes with endogenous dopamine to bind to dopamine receptors. If dopamine activity is stimulated we would expect less binding of raclopride C 11.

### Conclusions

The study reports three main findings:

a) Depressed dopamine receptor (D2/D3) availability in left caudate (an area of the brain) in the ADHD group compared to the control group.

b) A 'blunted response' to methylphenidate in the ADHD group. Methylphenidate is expected to increase dopamine activity. The finding was that compared with the control group in the ADHD group this effect was less pronounced. This was linked to symptoms of inattention.

c) A preliminary finding of a similar 'blunted response' in other regions of the brain specifically the limbic regions.

### Test deficits

The exclusion criteria for the ADHD subjects for this study allowed subjects to be included if they had received up to 4 weeks medication for ADHD so long as it was more than one year prior to the study.

Previous studies have been undermined by the fact that they did not exclude for medication. One example is "Evaluation of Cerebellar Size in Attention Deficit Hyperactivity Disorder" Mostofsky *et al.*, 1998. This study found that children with ADHD have abnormalities in the cerebellum. 2 However; 7 of the 12 subjects had received stimulant medication in the past. Author Peter Breggin suggest that the abnormalities found were due to damage by the stimulant drugs.

It seems that the authors of this study attempted to exclude for medication and simply found they could not. This should not surprise us at all. The purpose of

diagnosing a child with ADHD is so that they can be prescribed a stimulant medication; the diagnosis allows the drugs to be prescribed. That is the purpose of the diagnosis. If there were no stimulant medication the diagnosis of ADHD would not exist.

It would be possible therefore to comment that the blunted response to methylphenidate identified in this study could be the result of prior use of stimulants by some of the subjects. This is not at all unlikely; it is well known that people build up a tolerance to drugs. Thus the second finding of this study - that ADHD subjects have a blunted response to methylphenidate and this proves an underlying 'disruption' related to DA cells or the circuits which regulate its release - is undermined.

### Contradictory studies

The authors of this study refer to another study which found that increased dopamine activity was associated in adolescents with an increase in inattention and impulsivity. They refer to this finding which is the exact opposite of one of their findings as a 'discrepancy'. The previous researchers suggest that methylphenidate works by decreasing dopamine neurotransmission in ADHD. The study also used a PET scan and raclopride C 11.

Volkow *et al* offer various explanations for the discrepancy; however it isn't sufficient to simply suggest that the dopamine system changes as a person develops. To get round the contradiction they need to explain the different correlation between the dopamine system (DA) activity and the attention measurement. They do this, and can only do this, by suggesting that in adolescents increased dopamine leads to more inattentiveness and in adults to less. In their words "DA's involvement in ADHD could also differ" [between adolescents and adults]. They also point to the fact that in their study the methylphenidate was given intravenously and in the previous study orally. This is an unlikely explanation. It would be more accurate to say that scientists have not discovered with any certainty at all a chemical mechanism to explain symptoms of inattention.

However; both sets of researchers have no doubt about the therapeutic effects of methylphenidate. In the first study methylphenidate is supposed to work by decreasing DA neurotransmission. Volkow *et al* suggest that methylphenidate works by enhancing extracellular DA.

The unfortunate but clear implication is that for these researchers it doesn't really matter what goes on in the brain so long as children are taking Ritalin.

### A 'biological condition'?

Taking the Volkow *et al* study by itself it would appear to show a correlation exists, at least for this relatively small sample, between a resistance or 'blunted response' to methylphenidate and high scores for inattentiveness. This is the evidence they need to argue for there being a 'disruption' in some aspect of the cells which relate to dopamine release in the ADHD group (and by extension in 'ADHD' patients at large). Their use of methylphenidate as a test (methylphenidate is marketed as Ritalin as a 'treatment' for 'ADHD') creates the possibility of claiming that the research supports the 'therapeutic effects' of methylphenidate. They are able to show, in the experiment, that the ADHD group has a different degree of response, in the brain, to the drug than the control group (non ADHD). This supports the brain deficit /

pharmaceutical benefit model favoured by psychiatry and the pharmaceutical companies which suggests that drugs are making up for deficiencies in brain chemistry. It is not however logical that because (if indeed this is the case) a group of people have a blunted response to a drug that it will be helpful to give it to them. Furthermore, the Volkow *et al* study involved adults. By the authors' own admission opposite findings have been found in another study conducted on adolescents: yet it is studies of the Volkow *et al* kind which are referred to by promoters of ADHD/Ritalin when they cite the 'scientific evidence' to support their case.

The first finding of the Volkow *et al* study, without methylphenidate, showed a lower dopamine receptor availability in the ADHD group. This finding alone could be explained by saying that the ADHD group simply had a tendency to be inattentive and that all the study showed was a correlation between inattentiveness and reduced dopamine activity.

By using methylphenidate as a test in the second part of the study the authors of the paper achieve the effect of bypassing a purely psychological or environmental explanation. The "blunted response" to methylphenidate in the ADHD group, which constitutes their second finding, is a real biological phenomenon. We would assume that this was the purpose of using methylphenidate as a test - to get beyond findings which are susceptible to purely psychological interpretations.

This study, more seriously than others perhaps, does therefore show a biological phenomenon linking a certain kind of functioning in the brain's dopamine system with inattention. There is a kind of attack here; deficits are being hunted down and pinpointed to justify the prescription of drugs.

However the study falls short of providing evidence of any biological cause for symptoms of inattention. Like all studies which focus on the present brain condition of participants and ignore environmental or social factors it is unlikely to be able to conclusively demonstrate a cause of the 'differences' in brain chemistry which are found. Any such differences, short of genetic ones, could be caused by environmental and social factors. This is a limitation of the conceptual model followed by Volkow *et al*. It is a model which looks for chemical deficits and proposes drug solutions. But in reality social and environmental factors can effect the development of a child's brain. Any 'differences' found could be the result of such environmental conditioning and, if this is the case, it is difficult to argue for the mass drugging of children on the basis of a study of this kind.

## A bullet in the war

Amongst the criticisms of the ADHD / Ritalin model are a) that giving children methylphenidate predisposes them to drug abuse and b) that there is no solid evidence of a real biological basis for the 'condition'.

This study strikes at both these criticisms. This study is not a 'neutral' piece of science; it is a bullet in a war. Dressed up as 'objective science' it is a piece of campaigning material in favour of drugging children. The researchers believe in the "therapeutic effects" of methylphenidate are setting out to prove this case.

### a) ADHD and drug abuse

One of the criticisms of Ritalin made by campaigners against the drug is that its use in young children contributes to drug abuse. The US Drug Enforcement Agency has voiced concerns about Ritalin abuse and over-prescription:

"The majority of the literature prepared for public consumption and available to parents does not address methylphenidate's abuse liability or actual abuse". 4

It is in this light that we should understand that authors of the present study writing "The reinforcing responses to methylphenidate were negatively correlated with the DA increases, suggesting that the decreased dopaminergic activity may also be involved in modulating the magnitude of the reinforcing effects of methylphenidate. This association could contribute to the higher vulnerability for substance abuse co-morbidity in adult subjects with ADHD". Co-morbidity is a term meaning the presence of more than one 'condition'.

That is the higher vulnerability of people with ADHD to drug abuse is not to do with the fact that they have been prescribed powerful and addictive stimulants and have thus got used to taking stimulant drugs but due to the same underlying biological deficit which causes their ADHD.

### b) The lack of solid evidence of a biological condition

The Volkow *et al* study states: "the association between the DA response in caudate and symptoms of inattention implicates the caudate in attentional process and is consistent with reports that caudate lesions result in attentional deficits". They cite a study which conducted two autopsies.

However; there is no evidence for lesions in the Volkow *et al* study. The study cited found lesions in two adults who had had complex conditions of which inattention was one symptom. This is not evidence to a scientific standard that actual lesions are involved in symptoms of inattention which attract the ADHD 'diagnosis'.

The inclusion of a reference to brain lesions is possibly an attempt to locate a biological cause behind the dopamine activity findings of the study. A biological cause is important to people who want to establish ADHD as a definitive condition.

The inclusion of these incidental points in this study show how this is not a disinterested piece of research but an act of politics in a war - with childrens' health and pharmaceutical profits pitted against each other.

The researchers who carried out this study operate with a biological model of human

malfunctioning. In Foucault's analysis this is one of the dividing practices which arose in the 18th and 19th centuries; for purposes of social control 'sciences' were developed which sought to divide people into the mad and the sane, the sick and the healthy, criminals and the "good boys".<sup>5</sup> With ADHD psychiatrists have created a category which is not quite 'criminal' and not quite 'mad' but something in between.

### Summary

This study is conducted within the terms of reference of a purely biological model of human functioning. As such it will tend towards proposing biological i.e drug solutions necessarily.

The actual findings of this study link symptoms of inattention to a "blunted response" to methylphenidate. That there are links between 'symptoms of inattention' and functioning of the dopamine system in the brain seems to be established. However; no causal explanation of a scientific standard is offered for the observed phenomena. That the ADHD group had a "blunted response" to methylphenidate does not justify its prescription as a 'treatment'.

This study was reported by ABC news as being an 'ADHD breakthrough'.<sup>6</sup> This would appear to be an example of uncritical reporting.

## **b) Temporal Lobe Dysfunction in Medication-Naïve Boys With Attention-Deficit/Hyperactivity Disorder During Attention Allocation and Its Relation to Response Variability**

Katya Rubia, Anna B. Smith, Michael J. Brammer, and Eric Taylor  
2007 25

### The study: structure

This study is of a different order than the Volkow *et al* study. In this study brain scanning was done using a Magnetic Resonance Imaging (MRI) scanner to detect areas of brain activation during the execution of tasks by a control group and an 'ADHD' group.

This technique is non-invasive and not harmful. It uses magnetic properties of blood to provide a broad picture of areas of brain activation.

The object of the study was to examine areas of brain activation while oddball and standard tasks were carried out and to examine possible differences in response variability between groups. An oddball task is one in which a regular series of stimuli is interrupted by a random one. (Essentially bowling them a googly in cricketing terms). Response variability is a measure of consistency in response times to stimuli.

In this case the oddball task involved presenting the users with a computer screen with arrows pointing either vertically or horizontally or at an angle to the horizontal and users had to press a button indicating direction of the arrow or not press the button if the arrow was pointing up. The full details are attached as Appendix 1.

As with the previous study in this study ADHD is assumed and the study starts with an 'ADHD' group who is compared with a control group. The study thus sets itself up to find differences and confirm the hypothesis of 'ADHD'. This is again, an example of what Foucault has called a 'dividing practice'. By selecting one group who have already been diagnosed and treated for 'ADHD' (patients were drawn from parent support groups, clinics and advertisement) and comparing them with a normal group it is inevitable that differences will be found. By taking the 'norm' to be the group from whom the ADHD children have been excluded the differences between the ADHD group and the norm are attenuated. This is called loading the study.

The previous study, as we saw, approached its subject matter from a perspective of a dysfunction in brain chemistry, which it duly found. This study is interested in comparing areas of brain activation and relating this to response variability. Response variability for any one individual is the variation in their average response times to a series of stimuli.

This study was thus trying to link brain activation with a measure of response variability. MRI scanning because it is in real time allows brain scans to be correlated with a measure of response times to a stimulus. The interest is again in differences between 'ADHD' children and 'normal' but here it is attention behaviours and areas of the brain involved which are being compared rather than biochemistry.

## The main finding of the Rubia *et al* study

The main findings were in summary that the ADHD group showed increased response variability in both standard and oddball tests and this was correlated with reduced brain activation. The actual paper goes into considerable detail about specific areas of the brain which were compared between the two groups - a level of detail which is beyond the scope of this paper.

While we do not dispute these findings they do need to be put in context.

## 'Abnormal' or just not very good at school?

The stimuli test in this study looked at in terms of normal human activities seems bizarre. The explanation is that it is 'behaviourally neutral' to exclude questions of behaviour relating to performance. However; it is possible to design tests which *a priori* disadvantage one group, intentionally or unintentionally.

In this case the test involves sitting still in front of a computer and pressing buttons in response to an exercise which may seem irrelevant to the student's own system of meaning and into which they have had no input. This of course is precisely the kind of behaviour which is regarded as 'good' in the school system. The test is therefore a very long way from the objectivity which its authors claim for it. What is presented as an objective medical condition is perhaps a much more specific lack of adaptability to the particular way of doing things? Would we see the same results in a test measuring brain activation had the users been allowed to chose their own tasks? This is not a flippant question. This author's experience (as a teacher) of an ADHD student was in fact precisely this; the student did lamentably fail to take an interest in a computer in front of him in a compulsory IT class becoming distracted every few moments but, later, was able to concentrate for one hour without interruption on a model building exercise he had chosen for himself. Apart from the question of personal motivation there is also a question here about two-dimensional and three-dimensional spaces. This author's hunch (as a teacher) about this student was that this student was someone who really thought in 3 dimensions.

The ADHD diagnosis labels people across the board as 'abnormal', 'deficient' and 'unhealthy' quite possibly on the basis of their not being good at one particular activity - the passive, paper and computer-based, learning which happens in schools.

It is important in this regard to note that hyperactivity and subsequently ADHD has only been identified as a condition since after the advent of compulsory education. Indeed the diagnosis of 'hyperactivity' in Britain was made in 1902. It was between the years 1870 and 1902 that elementary education became both free and compulsory in Britain. There is at least a direct historical correlation between the medical antecedents of ADHD and the introduction of compulsory desk-based education for all.

## Medication naïve but not untouched

Unlike in the Volkow *et al* study the ADHD subjects in this study were fully medication naïve - that is there was no prior record of stimulant 'medication'.

We would point out though that the ADHD group were of children who had been 'diagnosed' with ADHD - in some cases probably for some years. They will have received interventions and are all likely to believe that there is something 'wrong' with

them and that it is a biological medical condition. It would be naïve to expect that this conditioning did not effect the self-confidence and performance of this group. At the very least a child who has been told that he is 'abnormal' and has a 'deficit' and is being tested by medical researchers is bound to feel under more pressure than a child who is treated as 'normal'. This could account for the higher levels of response variability in the ADHD group just as much as any underlying condition. Indeed this is precisely the kind of symptom which we would expect from children under pressure.

This study is not taking into account human or psycho-social factors such as the effect of psychiatric labelling on children. In pursuit of scientific 'objectivity' the researchers have lost sight of the existential context for the children being examined. This is not science in the true sense.

This selectivity, the ignoring of important variables, renders its findings of very limited value. The findings could just as well be cited as evidence of differences in performance when children have been told beforehand that they are abnormal and when they have not, as evidence of differences between 'ADHD children' and 'normal children'.

The cruel aspect of the game of diagnosis and 'scientific' studies of this kind is that they are inevitably self-fulfilling. If you set out to separate people and highlight differences you will succeed. These studies are political acts of power not disinterested knowledge gathering.

### The language of the study

Unfortunately this study has all the hallmarks of a particular genre of studies which seem to revel in finding 'abnormalities' in people and exposing 'deficiencies' or deviations from the norm. Again we are reminded of Foucault's talk of 'dividing practices'.

In this study the word 'deficits' is used 5 times and the word 'abnormalities' 8 times. The authors also write of "boys with ADHD compared with healthy boys". In this author's experience of working (as a teacher) with a boy 'with ADHD' he was certainly not unhealthy at all - if healthy means anything to do with spirit and liveliness in a child - and this despite all attempts to drug him with powerful stimulant drugs.

The study is replete with an air of demonstrating abnormality.

### Abnormality

The problem with this revelling in finding 'abnormalities' is where does it stop?

Perhaps children who are not very physically co-ordinated could be shown to be 'abnormal' by virtue of some part of their brain not being as activated as that of children who were physically skilled during an exercise to catch balls (including 'oddballs')? This writer would suggest that the reason this study has not been done is that a physically un-coordinated child is a) not a management problem for adults in the way that 'inattentive' or 'hyperactive' children can be and b) there is no obvious drug treatment for being physically un-coordinated and thus no profit-motive.

An 'abnormality' is a deviation from a norm. The norm which these children deviate from is not a norm provided by nature. We cannot know what nature's norm is. And indeed if the theory of evolution is correct nature introduces modifications of its own

accord so there is thus no 'norm' in nature. The norm which these children deviate from is one to do with social compliance. The craft of Dr Rubia and her colleagues is to provide ammunition for those (psychiatrists and teachers) who are concerned with managing a social norm by defining some as abnormal. A dividing practice.

### Testing for failure

The test as it is designed sets out to look for abnormalities and deficiencies to 'explain' ADHD. The ADHD subjects are contrasted with the "healthy" subjects. ADHD is seen as an illness. There is nothing in the test which explores the possibility that in 'ADHD' subjects (those with more inattention in school-type tasks) there are strengths.

We would suggest two hypotheses which could usefully be explored by Dr Rubia and her colleagues:

i) Instead of the 'behaviourally neutral' and what must seem rather strange and pointless stimuli test, provide a room with a choice of 30 stimulating and enjoyable activities - model-building, reading, racket-ball, a computer activity etc. Allow the young people, all of whom you have treated with respect from the start, in a non-medical environment so they don't feel under pressure, to choose an activity. Measure brain activity during this activity. Our hypothesis is that the ADHD group will be found to be closer to the 'norm' (that is the average in the group from which the ADHD group has already been subtracted) than in the 'behaviourally neutral' test. If you correctly define the norm as the average across all subjects we would expect any difference to be virtually insignificant.

ii) That in this test in some areas of the brain there may be higher levels of brain activity in some areas of the brain in the ADHD group than in the other group.

If there really is a definite 'ADHD' type why assume that it is 'abnormal' and 'deficient'? This study as it is looks like it is, albeit unintentionally, persecuting difference.

### The maturational delay hypothesis

This study explores the maturational delay hypothesis for 'ADHD'. This theory is that "in ADHD patients, brain areas of attention allocation might be delayed in their functional maturation".

The value of this line of inquiry is that by looking into an explanation for the behaviours which get the ADHD label in a developmental sense rather than a missing chemical sense interventions which are humanistic rather than bio-chemical may be pointed towards.

The basis for this in the data of the study relates to the finding that in the control group there is a correlation between age and levels of brain activation which is not found in the ADHD group. In the words of the authors:

"Regions of under-activation correlated with response variability and with age in control subjects but not in patients with ADHD, suggesting that a delayed functional maturation of attention mediating brain regions in ADHD might ultimately account for the typical observed behavioural deficit that is intra-subject response variability."

This is an important finding. We would suggest that it is consistent with a humanistic and educationalist understanding of 'ADHD' which we outline in the section "Problems of inattention in school-age boys: a humane approach".

We note though that this study is only evidence for the 'maturational hypothesis', not proof.

This statement is important coming as it does out of the medical research community and the authors of this paper obviously feel it is important enough to make it the final closing remark of their discussion.

If 'ADHD' is the result of a 'maturational delay' in the development of skills in attention allocation two factors follow directly:

i) The label 'ADHD' is even less valid than previously. Some people develop more slowly than others inevitably; to label every lagging behind as if it were an actual medical condition ("a proven medical condition") is clearly wrong.

ii) The prescription of stimulant drugs is an outrage. A developmental delay will not be ameliorated in any way by the prescription of a stimulant drug. It might however be susceptible to an approach based around teaching attention allocation skills.

### iii) Are these studies science?

The development of the ADHD diagnosis has been carried forward by a large number of medical studies. It is on this basis that the psychiatric establishment can speak about "a proven medical condition" and on this basis that the media echoes their story about ADHD.

These studies as we have discussed tend to start from the premise that ADHD is a real disease entity. The studies tend to either examine a group of 'ADHD patients' or a group of 'ADHD patients' compared with a control group of 'normal' or 'healthy' subjects. The studies presuppose the condition which they set out to prove, which gives them a head-start. By comparing the 'ADHD group' with the 'normal' from whom the ADHD group has already been extracted these studies are more likely to identify significant differences.

These studies are a very long way from empirical open-minded science carried on with no other object in mind than the alleviation of the suffering of children. It would be very naïve to think this was the case. These ADHD discourses of psychiatry are about power - power of the medical research and psychiatric communities in society, power of schools and society over children, economic power of the pharmaceutical companies who manufacture 'treatments'. As Foucault's analysis shows power need not be brutal and destructive; power can and is in Western societies of a 'pastoral' nature, tending towards extracting production from bodies rendered docile by its ministrations. <sup>7</sup>

The first way in which the scientific impartiality of ADHD studies can be seen to be questionable is to do with the financial climate in which research takes place. The medical research establishment is a competitive environment. Prestige and funding may be concomitant on certain studies being carried out and certain results obtained.

A paper entitled "Relationship between drug company funding and outcomes of clinical psychiatric research" by Robert E. Kelly Jr, Lisa J. Cohen, Randye J. Semple, Philip Bialer, Adam Iau, Alison Bodenheimer, Elana Neustadter, Arkady Barenboim and Igor I. Galynker published in *Psychological Medicine* 2006 set out to examine the question of the relationship between pharmaceutical company funding and scientific results. In the author's words: "Pharmaceutical industry funding of psychiatric research has increased significantly in recent decades, raising the question of a relationship between pharmaceutical company funding of clinical psychiatric studies and the outcomes of those studies." The results of this study which reviewed abstracts of papers in psychiatric journals over a ten year period were "The percentage of studies sponsored by drug companies increased from 25% in 1992 to 57% in 2002. Favourable outcomes were significantly more common in studies sponsored by the drug manufacturer (78%) than in studies without industry sponsorship (48%) or sponsored by a competitor (28%)." And the conclusion of the authors was "These data indicate an association between pharmaceutical industry funding of clinical studies and positive outcomes of those studies. Further research is needed to elucidate the mechanisms underlying this relationship."

We would additionally suggest that a pharmaceutical company need not directly fund a particular study for its authors to feel that there is a benefit to them in producing results which will be favourable to a pharmaceutical company. Possibly a subsequent position or research grant may be made available to the author of a favourable study. This may be especially the case in the United States where there is a close

association between the American Psychiatric Association and drug companies. 8

In an environment where drug company money funds research it is inevitable that studies will promote a model favourable to them. While ADHD promotion studies in this atmosphere may not actually be falsified it remains the case that the overall picture is likely to be skewed in favour of those studies which appear to promote the biological deficit pharmaceutical benefit model. These are the studies which will be done.

Of the two studies we have examined the first has for its conceptual context the biological-deficit pharmaceutical-benefit model, while the second is more open to a psychological and developmental account of 'ADHD' - though it also takes ADHD as a real disease entity. We would tentatively note that the first study took place in the US where there is a more commercial atmosphere than in the UK.

But the more serious problems with these studies are the conceptual framework they operate in.

Neither of the two studies we have looked at have demonstrated a biological causation for a condition 'ADHD'. The Volkow *et al* has shown (if we overlook some 'discrepancies' between the Volkow *et al* study and another similar one and if we overlook the failure to completely exclude subjects with prior exposure to stimulant 'medication' from the Volkow *et al* study) correlations between inattentiveness and a 'disruption' in dopamine cells or regulatory circuits. The Rubia *et al* study has shown that in children diagnosed with ADHD in a certain medical setting with a test of a certain precise kind the ADHD group show greater response variability to stimuli and this is linked to under-activation in parts of the brain compared to the nice healthy control group. The studies document differences - differences which are attenuated by the dividing structure of the studies. This is not the same as investigating an actual disease entity. To record correlations between a behaviour and neurochemistry or brain activation does not quite make the grade as a 'medical condition'. ADHD is a construct of psychiatry. As such the ADHD concept is not a scientific one.

What might establish ADHD as a medical diagnosis would be to identify a biological causation for the behaviour, such as a virus, and this has not been done.

If the exploratory model is biological the only explanation it will offer is biological. It is interesting to see that despite so much effort going into these studies how little actual fruit they bear in terms of effective solutions or 'treatments'. We would not dispute that by trying hard enough it is possible to produce studies which do really show biological correlations between inattentiveness and brain chemistry or brain activity. However; the conclusions that are drawn in practice from these studies are not justified by the actual findings - the mass labelling and drugging of children with stimulant drugs.

The lack of clarity in what is meant by ADHD being 'real' we would suggest comes in part from a socially conditioned acceptance of medical diagnoses extended to psychiatry. People should be aware however that when a doctor says a child 'has measles' and a child 'has ADHD' these statements are not equivalent in value.

A view which is not based around dividing people (into 'normal' and 'abnormal') was given by William Carey a Professor of Paediatrics at the University of Pennsylvania at a conference organised by the US National Institute of Mental Health (NIMH) in 1998. His view was that ADHD "appears to be a set of normal behavioural

variations".<sup>9</sup> The point is that in the game of psychiatric labelling any behaviour can be targeted and designated a condition. That brain-scans can link the behaviour to certain types of brain functioning does not "prove" the condition. We would indeed expect behaviours to have biological correlates.

The diagnosis for ADHD in any individual case is based on subjective criteria which have been defined by the American Psychiatric Association. As Dr Mary Block writes "ADHD was literally voted into existence by the American Psychiatric Association"<sup>10</sup> The day-to-day definition of ADHD is essentially a child who is an irritant to his teachers and parents through not being able to sit still and complete assigned tasks. There is no biological 'test' for the ADHD 'diagnosis'. It is little more than a reflection of a teacher's, parents and psychiatrists' assessment of a child's behaviour in terms of their expectations and is notable for its lack of engagement with the child in terms of his own experience. This is not to say that the parents may not feel that their child's behaviour is 'real' and a problem but there is no need to step from here to a medical diagnosis.

It is not valid science to exclude from an appraisal of the ADHD diagnosis proposed as a real disease entity the social context in which the proposal is made. A holistic view does not exclude MRI brain scan type studies necessarily but it asserts for a full understanding of what the ADHD diagnosis is we must understand its social context - a questioning which could lead to the view that the medical diagnosis was not valid or useful even if there is some biological evidence of brain activity or chemistry linked to inattention. The primary social context for the ADHD diagnosis is the school and secondly the home. In both these environments children are being measured against the expectations of adults. The ADHD diagnosis - whether it takes the biological deficit or developmental delay line - simply does not examine the whole situation in which the diagnosis is made. Both explanations home in on supposed flaws in the child as if the expectations against which they are failing are absolutes. But why should we accept this? Perhaps the expectations need adjusting? We do accept this simply because the proposed patients are children and there is an embedded social prejudice that children should fit into adults' needs without the adults needing to make any adjustments. But this is not scientific.

It is not an absolute that a child should always adapt to school. If a child does not fit in it is the responsibility of his or her educators to adapt the education to the child. Only once this has been tried and failed would it be valid to consider a medical explanation for 'symptoms of inattention' but indeed no attempt has been made in this direction at all by mainstream educationalists or psychiatry.

We outline such a more scientific and humane approach in section viii) in this paper.

The studies we have looked at and others are an attempt to define a medical basis for the phenomenon of inattentive children who can't sit still and finish a task. But showing correlations between 'symptoms of inattention' and brain chemistry or brain activation is not really addressing the social and existential problem. It is an attempt to medicalize a social problem and in the case of drug 'treatments' to solve it through drugs. Because these solutions are not actually addressing the problem we should not be surprised that drug 'treatments' do not in fact improve the child's educational achievements.

First and foremost the approach to what manifests primarily as a problem in education should be an educational one. When the problem is medicalised social

predjuices are uncritically accepted and the apparent 'objectivity' of the science is a blind.

#### iv) Ritalin

Ritalin is the drug most commonly prescribed to "treat" ADHD. Other drugs used include Dexedrine, Adderall, Desoxyn and Gradumet which are all amphetamines and Metadate and Concerta which like Ritalin are similar to amphetamines.

We focus on Ritalin which is the most commonly prescribed drug for ADHD.

We have attached as Appendix 2 the evaluation of Ritalin by the US Drug Enforcement Agency in 1995 in full. The main points are:

- Ritalin is a stimulate pharmacologically similar to amphetamines and cocaine.
- Ritalin use predisposes users to cocaine's reinforcing effects. (This isn't quite saying that Ritalin use leads to cocaine addiction but that someone who uses cocaine who had previously been prescribed Ritalin would be set-up for dependency).
- Ritalin abuse is common and the consequences severe.
- There are substantial side-effects which include violent behaviour, tics, and increased blood pressure. (See the Appendix for the full list).

#### How does Ritalin work?

There is no scientific explanation even within the confines of the bio-chemical ADHD model itself for how methylphenidate (Ritalin) is supposed to work. The authors of the Volkow *et al* study wrote "The findings of reduced DA (dopamine) release in subjects with ADHD are consistent with the notion that the ability of stimulant medications to enhance extra cellular DA underlies their therapeutic effects in ADHD". In a separate study "Methylphenidate-evoked changes in striatal dopamine correlate with inattention and impulsivity in adolescents with attention deficit hyperactivity disorder" by Pedro Rosa-Neto\_ *et al* researchers found: "In conclusion, the results link inattention and impulsivity with sensitivity of brain DA receptor availability to an MP (Methylphenidate) challenge, corroborating the hypothesis that MP serves to potentiate decreased DA neurotransmission in ADHD". This study was conducted on adults and the Volkow *et al* study on adolescents. Nonetheless these are exactly the opposite findings. Volkow *et al* refer to this as a 'discrepancy'. They attempt to explain it away by suggesting that "DA's involvement in ADHD could also differ" - between adults and adolescents. This is just implausible; brains may change but this is a 180 degree change they need to explain away. It also seems unlikely that the difference in the route of administration of methylphenidate between the two studies - one oral one intravenous is sufficient to explain this finding.

The fact is that researchers who favour "treatment by stimulant medication" and the companies who market stimulants for children are not phased by the fact that they cannot explain just how these stimulants are working.

Novartis claims "Stimulants affect the brain's chemistry, causing it to work more effectively." but the truth is they could not offer a clear and definite account of how Ritalin makes the brain's chemistry "work more effectively". This is marketing speak and sufficiently vague to avoid a law-suit. It is not science.

Given the dangers inherent in taking Ritalin and the fact that researchers cannot explain clearly the mechanism by which it is supposed to work it seems extraordinary that it is so widely prescribed, indeed at all. This hit-and-miss approach with a powerful drug with dangerous side-effects is the same attitude that as a society we castigate illegal drug users for.

Anyway, does Ritalin help with anything (even if we don't know how)?

The major side-effects of Ritalin and amphetamines include sleeplessness, loss of appetite, and nervousness. The supposed benefit is an improvement in concentration. This is what Novartis claim for Ritalin:

"Stimulants affect the brain's chemistry, causing it to work more effectively. This helps a child to be less impulsive and reduces over-activity. It also increases attention span. "

Adult users of amphetamines do report an increase in concentration. However; this is related to short-term use for a single session. The use of Ritalin as a "medication" means that a child is taking it every day quite possibly throughout their childhood. This is not a single use to help cram for an exam for example as some adults use/abuse street amphetamines (or illegally obtained Ritalin) or for a military mission (the US military used amphetamines during Vietnam); this is every day. Day in day out. One of the known effects of taking amphetamines is a crash; after the artificial high there is a "crash", a come-down, when the user feels tired. Even street users of cocaine and amphetamines usually allow themselves to go through this crash period and recover before taking another dose. Children subjected to Ritalin "medication" treatment can never recover from one dose before the next does comes. Possibly this goes on for 10 or more years.

Peter Breggin quotes research by James M. Swanson - an ADHD/Ritalin promoter, who was also one of the contributors to the Volkow *et al* study, as writing in 1993 after carrying out a review of the literature that, concerning Ritalin "No improvement in long-term adjustment - Teachers and parents should not expect long-term improvement in academic achievement or reduced anti-social behaviour" and "long-term beneficial effects have not been verified by research". 11 This finding has been starkly corroborated by recent research by Dr William Pelham of the University of Buffalo who found "there were no beneficial effects -none" for treating ADHD children with stimulant drugs over other forms of treatment. 12

A review in the American Psychiatric Press *Textbook of Psychiatry* also quoted by Breggin states "Stimulants do not produce lasting improvements in aggressivity, conduct disorder, criminality, educational achievement, job functioning, martial relationships or long-term adjustment". 13

Breggin also quotes a 1995 study by Richters *et al* for the National Institute of Mental Health as saying "the long-term efficacy of stimulant medication has not been demonstrated for *any* domain of child-functioning".

The 1998 NIMH conference on ADHD stated that there was no information on the long-term outcome of drug treatment.

There is no plausible explanation for how a cocaine like drug repeatedly administered is going to improve school-work and even advocates of Ritalin admit as much in the

long-term.

Sadly and tragically the most likely reason for the acceptance of Ritalin is that children are being tortured by the administration of a powerful stimulant drug day in day out - never being able to recover from one dose before the next one hits - into losing their spirit and life and this is interpreted as being "stabilized".

Children on ADHD do indeed become less active - and this is then claimed as having a "stabilizing" or "calming" effect. In fact this is not from the point of view of the child's feelings but from the point of view of adults' requirements for their behaviour. It is the behaviour which is "calmed" not the child's feelings. This is crude behaviour management using and indeed misusing stimulant drugs. Ritalin is a stimulant; it is not just "called" a stimulant.

In essence then we would suggest that "stimulant medication" has no medical justification or benefit at all and is simply a technique used for exhausting over-active children to better comply with adult's wishes.

That this can be done is in large measure due to the fact that the victims are children who cannot argue against or prevent what is being done to them. Should they try no doubt a psychiatrist would be on hand to diagnose that as well as having ADHD the child also has "oppositional-defiant disorder".

#### Harmful effects of Ritalin and children are not mice

The known contra-indications and side-effects of Ritalin are well-known. The DEA statement we attach as Appendix 2 is one such listing. The US Physicians Desk Reference provides another. Ritalin is linked to deaths from heart disease. Children on Ritalin do not grow properly. Novartis tell an explicit lie on their website about this when they say it is a myth that Ritalin stunts growth. It does. This is corroborated for example by recent research by Dr William Pelham <sup>12</sup>. That children may start to 'catch-up' after they come off Ritalin does not exonerate Ritalin from stunting children's growth.

A child who is on Ritalin may as a result behave aggressively. The likelihood is however that this will be taken as further evidence of his 'ADHD'.

The evaluations of the harm done by Ritalin and other stimulant drugs are well-known and widely acknowledged in the official literature. Novartis is obliged to carry warnings about some of these risks on the product label.

However; these evaluations of harm generally miss one of the most destructive aspects of the ADHD/Ritalin gagging of a child. Developing children are very sensitive to being 'normal' and fitting in with their peers. To tell a child that he is ill; has a serious deficit within him and then to make him report to the medication room during school hours to take his pills is cruel. The effect is inevitably to isolate the child from his peers, again, a factor which will be likely to lead to more aggression, which, again, is likely to be taken as further evidence of his 'ADHD'.

This factor should be the first that anyone with a sensitivity to children should consider. Nonetheless it appears not to be considered at all by those who promote ADHD/Ritalin and who base their evaluation of harm purely on what happens at the biological level. Here is an example. Dr Dave Coghill a lecturer in child and adolescent psychiatry at Dundee University is reported by the BBC on 3 September

2006 as saying of stimulant medication "By inhibiting impulsive behaviour in children with ADHD it allows them to socialize and develop normally".<sup>14</sup> Leaving aside the point that since Ritalin stunts growth and causes sleeplessness they will certainly not be developing normally this is a shocking lack of awareness of children's experience from someone who is charged with caring for children. Once you have labelled a child with ADHD the one thing they won't be doing is socialising normally. They're the one in the class 'with ADHD'. Different. About the worst thing that can happen to a child in socialization terms. Some people it seems really do see children as laboratory animals.

## v) Marketing ADHD and stimulant "medication"

Novartis makes hundreds of millions of dollars each year from sales of Ritalin. The exact amount is not disclosed in its accounts <sup>15</sup> in its accounts. Novartis and other pharmaceutical companies are industrial profit-making corporations operating in a competitive environment. Simple business logic indicates that these companies will seek to maximise the market for their product, which they do by stimulating demand.

One report by a pharmaceutical market intelligence company argued that it was necessary to raise awareness of ADHD. Novartis has a huge interest in seeing the widespread acceptance of the ADHD diagnosis. The ADHD diagnosis is the lever to sell Ritalin. More diagnoses of ADHD means more Ritalin sales.

Drug companies like Novartis have tentacles throughout the medical world. On the one side they sponsor research. On the other they have a sales force working to sell their products to psychiatrists.

The psychiatric profession is distinguished from other social care professionals by having a license to prescribe drugs. It is inevitable that the psychiatric profession is supportive of neuro-biological models of "mental illness" in the same way that psychotherapy supports environmental explanations. This is in their self-interest.

Thus the psychiatric profession and the pharmaceutical companies have a common interest in promoting drug treatments. Psychiatry is the management of social norms. Increasingly this is done through drugs.

Ciba (Novartis is its parent company) has given significant sums of money to CHADD. CHADD (Children and Adults with Attention Deficit Disorder) is the US parent support group which supports the use of Ritalin.

ADDISS, the UK parent support group for ADHD has also received funding from drug companies who make ADHD drugs though much less substantially than CHADD. <sup>16</sup>

Parents faced with expert advice and the "support" of organisations like ADDISS are likely to be led towards the ADHD / stimulant medication route. After all most people are brought up to accept medical advice unquestioningly. A pill given as "medication" by a "healthcare professional" may seem a sensible option. That the pill is just an amphetamine or amphetamine like substance and that no clear explanation can be offered for how it is supposed to work medically is lost in the mystique of the diagnosis.

School teachers may find that an improvement though it says something about the current system of education that a pill which is known not to improve academic results but simply make children sit more quietly should be so welcome. It is in the self-interest of teachers (some teachers) to support the ADHD diagnosis.

Governments may welcome the ADHD / stimulant medication model because it represents a profit opportunity for their corporations and perhaps because they have a sense that it is something to do with social control, which is a good.

The problem for the child who can't sit still and concentrate in the way required by the current school system is that a lot of people, professions, businesses and government - a lot of people with power - have a vested interest in promoting his or

her being medically diagnosed and pharmacologically coshed. The child who is on the receiving end of this "stimulant medication" does not have any say at all.

Pharmaceutical companies are marketing stimulants, known to be dangerous, as a daily pill for hundreds of thousands of children - millions including the US. The pills achieve no lasting positive effect. Claims that they somehow replace a missing chemical in the brain are spurious because the evidence is contradictory and the mechanism is "not fully understood". It is too good to be true; nature has missed out with chemical X and here it is in an easy to swallow pill made by man (well, the profit making company Novartis).

As we have discussed methylphenidate probably "works" because the child is literally pinioned to the wall by being placed in a state of never-ending high and thus becomes less "overactive". It effects their behaviour to move it closer to the social norm - passive sitting in class. It does nothing to increase their well-being.

## vi) UK Police Advice about taking amphetamines

The drugs most frequently prescribed for ADHD are: 17

- Ritalin (methylphenidate) - manufactured by Novartis.
- Concerta and Metadate (longer acting preparations of methylphenidate)
- Dexedrine and DextroStat (dextroamphetamine also called d-amphetamine)
- Adderall (a mixture of d-amphetamine and amphetamine)
- Desoxyn (methamphetamine)
- Gradumet (a longer-acting preparation of methamphetamine)
- Cylert (pemoline)

In 2004 there were 359,100 Ritalin prescriptions in the UK almost all for children. 18

Ritalin is a stimulant similar to amphetamines.

Nervousness and sleeplessness are known side effects of Ritalin use. The Federal Drug Administration (FDA) issued an advisory against Ritalin in connection with cardiac problems in August 2006 following 25 deaths. 19 Other reports include psychosis and tics. In the US Physician's Reference a warning is given about the risk of drug dependence in 'emotionally unstable patients'. A full list of side effects is available in the US Physician's Reference.

This is what Thames Valley Police have to say about amphetamines: 20

### Effects:

- amphetamines are stimulants
- whilst under the influence of the amphetamines, users may appear unusually confident, anxious or energetic. Their heart-rate and breathing may be faster than usual, and their appetite may be suppressed
- symptoms of use include tiredness, lethargy, weight loss, disturbed sleep and mood swings.

### Risks:

- overdose can be fatal
- the comedown, resulting in tiredness and depression, can last for days
- long-term use puts strain on the heart
- sleep, memory and concentration are all affected in the short-term
- users can experience panic and hallucinations after repeated high doses
- use can trigger mental illnesses such as psychosis (loss of contact with reality) and paranoia (the feeling of being followed, watched or victimised)
- long-term users can become dependent
- amphetamines can suppress the appetite leading to weight loss, which leaves the user susceptible to a wide range of infections

(Plus two others specifically relevant to illegal drug use e.g. dirty needles).

Dr Peter Breggin has compiled a list of harmful reactions to stimulant drugs based on professional sources including the Drug Enforcement Agency (DEA) and Food and Drug Administration (FDA). 21

Almost all of the reasons not to take amphetamines cited by Thames Valley police are known side-effects or risks of taking Ritalin as evidenced by the table produced by Peter Breggin including the risk of cardiac damage. Since Ritalin is similar to a stimulant (not just "called a stimulant" as Novartis prefers to say) this is consistent. In the case of the ADHD drugs which are amphetamines the link is even more direct.

It is difficult to see how a stimulant drug (or similar drug) can be viewed as thoroughly harmful when it is taken illegally but as having "a stabilizing effect" when taken as part of a "total treatment programme", which is the claim made for Ritalin by the manufacturer Novartis.

We would suggest that the vaguely worded "stabilizing effect" claim is made because it is irrefutable. Novartis could claim for example that Ritalin use improves school-work. However; there is no evidence that Ritalin in fact does this. 22 A "stabilizing effect" is a subjective claim which cannot be falsified. It is probably designed to appeal to worried parents; after all what worried parent would not want their out of control son or daughter to be "stabilised"?

As far as "stabilizing effect" goes we would take this to be what Rie et al., cited by Breggin referred to as "the typical suppressive behaviour effects" of the drug.

On the face of it the advice of Thames Valley Police is not to take amphetamines. Ritalin is similar in effect to an amphetamine. We would advise readers not to take Ritalin or to allow it to be given to their children.

## vii) Dissenting voices from within the establishment

There is a substantial volume of criticism from within the medical and paediatric establishment in the United Kingdom about the ADHD/Ritalin diagnosis.

Here is a small selection:

Dr Sami Timimi who is a consultant and adolescent psychiatrist reported in the Daily Express 17 June 2007:

"This is shocking and not a wise way to spend money. By using Ritalin, doctors avoid addressing the real issues that are causing a child's behavioural problems. It is like putting a sticking plaster on a huge wound... We could be storing up big problems for this generation of youngsters."

and in the Daily Mail on 29 January 2006:

"There is no evidence to suggest there is a medical condition called ADHD. It is a cultural concept, which is creating a market in various labels. Families will go to a doctor and if he or she doesn't believe in ADHD they can find another one who will. There's money in it. I have a problem with disability allowance being given for this diagnosis".

Professor Steve Baldwin who died in the 2001 Selby rail crash is reported in the Daily Express 17 June 2007 thus: "He believed that ADHD as a biological brain disorder did not exist and that symptoms caused by a number of social and psychological problems could not be treated with pill. He described the massive rise in Ritalin prescriptions as 'a public health scandal'".

Professor Peter Hill, a consultant in child psychiatry, is reported in the Daily Telegraph 18 September 2005 like this: "[He] believes that the concept of ADHD has become popular 'partly because it offers an alternative explanation for antisocial behaviour other than imperfect parenting'". He does however take the line taken by many psychiatrists that methylphenidate 'undoubtedly works for some children'. We have already examined that 'works' does not mean improves educational achievements .

Dr Gwynedd Lloyd, head of Educational Studies at Edinburgh University is reported by the BBC on 3 September 2006 as saying "I think in 10 years time we will say that ADHD was too simple an explanation for many children.. We will ask ourselves what we were thinking giving these children amphetamines".

Priscilla Alderson, who is Professor of Childhood Studies at London University, is reported in the Daily Mail of 29 January 2006: "There has been a very rapid increase in the alleged incidence of ADHD, but instead of knee-jerk diagnosis, people should look at the changes in society that have contributed to it, including longer school days, children spending less time at home with families and reduced opportunities for them to let off steam by playing outside".

## viii) Problems of inattention in school-age boys: a humane approach

In 2004 there were 359,100 Ritalin prescriptions in the UK. 23

There has been a massive increase in Ritalin use since 1990 in the US and UK. In the UK the number of Ritalin prescriptions has grown by more than 180 times.

The ADHD diagnosis seems to wear off when children become adults. (Though there are some attempts being made to promote Adult ADHD). One reason for this may be that the actual problem which the ADHD diagnosis is addressing is boys being inattentive and "over-active" in school. Once they are no longer in school and bothering teachers it becomes less of a problem so there is no need to diagnose them. It is also the case that adults are free to discontinue Ritalin prescriptions. Again; the purpose of the ADHD diagnosis is to facilitate the prescription of Ritalin and other stimulant "medication". If the patient is not going to take the drugs then there is little point investing time and effort in making the diagnosis.

That boys get diagnosed "with ADHD" so much more than girls is not surprising. In education girls perform better than boys. There are more female than male teachers in schools. The atmosphere is one which favours quiet co-operation; not physical activity and risk taking. This kind of behaviour is disruptive to the quiet conduct of a sedentary class.

The concern about hyperactive children is linked to their behaviour in class and at home more than to their educational achievements. The essential problem seems to be that some children, especially boys aged 5-16, can't sit still and apply themselves to a task when they are asked to. Instead, they may get up. Or they may stay seated but go off-task in some way.

Obviously this is not compatible with the way education is delivered in our current system.

Paying attention is of course linked with impulse control - which is something children learn to develop in the family. Undoubtedly some parents are better at teaching their children impulse control than others. Undoubtedly some children are more inclined to be impulsive than others. If you really want it is probably possible to demonstrate a hereditary factor in impulse control.

We would suggest that first and foremost there are two humane and responsible ways to deal with inattention in children:

i) Help teach children whose impulse control and attention-giving is not so good how to improve in these areas. Help the parents to teach their children these skills.

A 2007 study by the US NIMH called "Project Achieve", while still working within the ADHD diagnosis model has nonetheless shown significant improvements in young children in social skills, aggression (a decrease), and most importantly literacy skills, achieved through behavioural programmes alone. This is notable since the research even by pro ADHD/Ritalin enthusiasts is that stimulant "medication" does not improve school-achievement in the long-term.

We would also add that children may be inattentive at school because they are under pressure or have problems outside the classroom, or because they have fallen behind. Before pointing a finger at a deficient child - something we seem to love to do

- the individual child's whole life situation should be considered in an understanding and sympathetic manner.

ii) Recognize that if it really is the case that there is a type of people who do function differently in terms of attention that there is no justification for labelling them as ill and making them submit to the current school system in a drugged condition. Rather, the responsibility of educators is, as it is with any child, to help them achieve their best and adapt the teaching methods as necessary.

There is here a problem of large proportions; the current education system is a mass one. All children are expected to follow the same curriculum. The nature of that curriculum is largely based around sitting in class-rooms being lectured to. Paulo Freire in his book *Pedagogy of the Oppressed* called this the 'banking system of education'. Essentially the model is that children are blank vessels to be filled up with knowledge. In the UK currently they are then tested at regular intervals to see how well they have absorbed this knowledge. The knowledge itself is divided into units each unit graded as being appropriate for a certain age range and further divided into levels within that age range. How this education system has arisen, its operation as what Foucault has called a disciplinary system (of power relations), its relationship to the economy and the state are subjects beyond the scope of this paper. The essential point to note here is that under the current system children who do not fit in are effectively taken away, drugged and labelled and then brought back into the classroom in a pacified state. This allows the current education system to continue without questioning itself.

In reality if teachers did respond to the inattentive child in the manner I suggest above, finding projects and activities which suited the child and which he could excel at, it is the case that most of the elements of the current system of education would be brought into question. The very nature of class-room based learning, the relationship between the teacher and students, the way in which the teacher acts as the mediator of state-approved knowledge and the idea of a set national curriculum suitable for each child would all need to be questioned.

If education was based around drawing out each student's abilities rather than forcing each child into the same mould, education would have to become more of a collaboration between teacher and student. As individual interests took precedence over a mass curriculum the power of the state would be weakened. There might be an increasing distaste amongst young adults for boring repetitive kinds of employment and employment; the actual nature of the economy could be challenged.

We would suggest that one of the main reasons for drugging school-age boys who are 'overactive' in class is because of the challenge they throw up directly to the setup of the education system, by exposing some of its deficiencies. By 'diagnosing' them, and 'treating' them we allow the current setup to carry on unchallenged - the deficit is in the children, not the school we say. By making this a medical diagnosis and claiming we are 'helping' children we ensure that there are no arguments against the suppression. By making the diagnosis a medical one we cover up the brutality and political nature of what we are doing. We portray ourselves as only trying to help these poor, ill, children. Because this is a capitalist society, inevitably some corporation is making millions out of the exercise for the benefit of their investors - for example the chemical company Novartis.

Some of these problems have become more apparent as the school-system gets more pressurised, more test-focussed, more rigid in its delivery of the curriculum and

as school-days have got longer. All of these will be factors which will mean that more and more children whose ability to give the kind of attention required in school is at the lower end of the range will fall off the edge. The ADHD diagnosis is there waiting to catch them and drug them back into compliance.

Behind this is the inability or unwillingness to see that the kind of education we force on children is unsuitable for many. Boys in particular learn better when they can see practical relevance of what they are learning and achieve real tangible results - not just marks in an exam scheme. It is no surprise then that boys more than girls are 'diagnosed' ADHD.

If as many as 20% of boys (in some districts in the US) are thought to have a condition which means they can't learn in school is it really not time to consider what might be wrong with that education system?

The underlying problem is that in the West the education system is largely monopolised by the state who designs and orders a curriculum based on its agenda, in particular a desire for conformity and obedience. People who do not fit into this frame-work are diagnosed as failures ('abnormal'). The role of psychiatry is to facilitate this process.

An education system which was geared around the needs of each young person and around helping each young person to develop to the full in terms of their own abilities would not find it necessary to label anyone as abnormal. The education would be adjusted to suit and there would be no need.

The state is never likely to support this kind of education; if the state is paying for the education it will want to ensure that the curriculum meets its purposes. Conformity and obedience are then promoted often in the name of "standards". In Britain in the 19th century when the state started to fund local voluntary schools which had previously been organized in an *ad hoc* manner the state required those schools to be inspected and to teach more a more uniform curriculum. This uniformity strengthens the state. It is understandable that the state should link funding to meeting its own purposes but the price is that difference which does not seem to be consistent with the aims of the state is not tolerated.

We would suggest that labelling and drugging children whose differences place them outside the acceptable range is an inevitable part of a mass state sponsored system of education under pressure to get results which has access to pharmaceutical technology and a class of medical practitioners willing to sanction drugging children for social reasons. Such a system of education may speak about diversity but in truth it cannot tolerate diversity.

Real children have often have a range of talents and abilities which are completely unrecognized by the mass education system. A child who struggles to pay attention in a lesson about spreadsheets might do very well at building a model kit. In doing so he might develop practical skills which could lead to his success in later life.

The mass system of education is designed to produce young people who fit into society and contribute to the economy meeting its present and anticipated requirements. However; because it is a mass system it operates blind with respect to the individual. A more flexible approach may still help children develop skills which are relevant to economic life. Indeed how much more useful economically is our model-builder likely to be than a drugged and demoralised child 'with ADHD'? However, it is true that such a system is not consistent with the centralizing

organizing tendency of the state. Our model builder will go his own way; and this is what the state cannot accept.

In conclusion we would see that the ADHD diagnosis is linked irretrievably to mass state education. In fact it is not just the current mass education system but the state itself which sponsors that education system which is in need of revision.

In the meantime home-schooling and small, local, voluntary education initiatives provide the best opportunity for all children and young people to develop in their own ways and especially those whose differences would lead them to be 'diagnosed' and drugged in state education or otherwise marked as 'abnormal'.

## ix) One last word: Alternatives to Ritalin

As we have discussed the ADHD 'diagnosis' is a construct of psychiatry. There may be young people who are more inattentive than others in the execution of certain types of tasks especially school-based ones (possibly but not definitely because they are developing more slowly) but to 'diagnose' this as an illness is an act of power. This power is concerned with the management of people through division and the sustaining of certain existing social norms.

We would promote an approach to education that looked to provide education which supported each child in ways corresponding to their own needs and make-up. In such a system the question of 'diagnosing' or labelling children would just not come up.

However; we note that there is an intermediate stage of strategies of behavioural interventions for 'the ADHD child' which do not resort to drugs.

These strategies do not receive the kind of mainstream media support that the pharmaceutical companies enjoy.

We are listing three here without making any particular recommendation or even assessment; we simply wish to show that there are non-drug options even within the mainstream of the ADHD diagnosis.

### i) The Dore Method

This is a commercial programme which teaches exercises designed to stimulate parts of the brain. It would appear to be at least consistent with the maturational delay hypothesis of ADHD which we came across in the Rubia *et al* study.

The programme does seem rather costly and some of the claims seem rather to play into the kinds of parental anxieties about their child's performance that underlie an ADHD diagnosis.

Nonetheless the programme is unlikely to cause the kinds of harm and damage that long-term use of stimulants like cocaine and Ritalin do.

### ii) The Da Vinci method

A book by Garrett Loporto which focuses on the positive in the 'ADHD child'. The thesis is that ADHD reflects a certain temperament which is one shared by many great artists and entrepreneurs and that this temperament can be understood and managed for success.

We have not read the book but it certainly has the benefit of focussing on the positive and of putting power into the hands of the individual rather than into psychiatrists and pharmaceutical companies.

### iii) Behaviour therapy

We would be concerned with an approach which stigmatised the child with the diagnosis and which saw him as having a deficit to be corrected. Nonetheless if parents feel this is the case they should certainly explore behaviour therapy with a

psychologist (not an untrained private 'psychotherapist') before drugs. As we have discussed, even promoters of ADHD/Ritalin have conceded that there are no long term educational benefits to taking stimulants. There is evidence that behaviour therapy can increase educational achievement.

#### A word of warning: the scam of the mixed treatment model

Novartis, who manufacture the stimulant drug Ritalin (not 'called' stimulant as Novartis prefer to say; it is a stimulant, similar to cocaine - see what the US DEA has to say, Appendix 1) claim that 'treatment' for ADHD is most effective when it combines drugs with behaviour therapy or other therapies. The UK Department of Health and NICE (National Institute of Clinical Excellence) both support this line.

This is a line of defence designed to promote the endless prescription of Ritalin in the face of scientific evidence.

Novartis is probably well aware of the uselessness of their product Ritalin to help children with their education. Dr William Pelham of the University of Buffalo has recently (12 November 2007) stated that data from the major NIMH (US National Institute of Mental Health) sponsored Multi-modal study into ADHD treatments shows that there are "no beneficial effects" of taking stimulant drugs for ADHD or, again "There's no indication that medication's better than nothing in the long run." 24

This major study monitored 600 children over many years and was sponsored by the NIMH and intended to provide definitive answers about the 'best' treatments for 'ADHD'. The evidence from this study is that drugs do not help.

Indeed the initial published findings of the multi-modal study which reported that 'medication treatment' alone or combined behaviour/psychosocial therapy and 'medication' were 'better' than behaviour/psychosocial therapy alone or community support (with or without 'medication') alone was largely relying on subjective assessments of 'better' by teachers and parents. The teachers and parents were asked to assess children in relation to their anxiety symptoms, 'oppositonality,' parent-child relations and social skills. Under the heading of 'academic achievement' the only area which showed any improvement under any treatment was reading. According to Peter Breggin who quotes private correspondence with Professor Bertram Karon Professor of Psychology at Michigan State University the figure for reading is based on an incorrect statistical analysis. 26 That is; the mixed treatment model has **not** been shown to be effective in a reliable and significant sense in improving academic achievement. Overall the claims for 'better' relate to subjective assessments by teachers and parents. Starkly missing from the survey is an element of self-reporting by the children themselves about their experience and an objective method of assessment. As we have discussed already teachers may be biased towards valuing a subdued child as one who is 'better' - perhaps under a social skills heading? The same may apply to parents who might report a more subdued child as having less 'oppositonality'. In a sense then the multi-modal study was constructed in such a way that existing social biases which might favour the ADHD/Ritalin model were favoured. Breggin points out that an opportunity was lost to do measurements of the harm of stimulant drugs; there was no testing for cardiovascular problems, tics and no testing for mental functions of attention or memory (using standard

psychological tests).

By arguing for a mix of treatments including drugs the promoters of Ritalin (not 'called' a stimulant as Novartis prefer to say; it is a stimulant, similar to cocaine - see what the US DEA has to say, Appendix 1) and other ADHD stimulants provide themselves with a position that can't be falsified. The defence is that if a study shows that drugging children has no beneficial effects they can claim that this was because the drugs were not combined with some non-drug therapy. Of course the exact non-drug therapy which has to be delivered alongside the drugs for them to work is unspecified, allowing a position of endless retreat: the drugs will work if only combined with the right non-drug therapy, which is yet to be determined.... This is a position which can never be falsified and thus is designed to allow the unlimited production, distribution and sale of Ritalin.

We see here NICE and the Department of Health working in conjunction with a profit-making business to swamp children's minds with dangerous drugs in the face of mainstream scientific evidence.

## Appendices

### **Appendix 1: fMRI Oddball Task in the Rubia *et al* study**

"The task was explained to the participants and practiced once before scanning. Tasks were presented on a mirror within the scanner. A keypad was used for button response recording. A rapid, mixed trial, event related fMRI design was used with jittered inter-stimulus intervals and randomized presentation for optimal efficiency (28).

The oddball task consisted of 208 stimuli that were presented in the centre of the screen for 600 msec, followed by a blank screen adding up to average inter-trial-interval of 1.8 sec (jittered between 1.6 and 2.4 sec). In 76% of trials the stimuli were horizontal arrows pointing either left or right with equal probability and subjects were instructed to press the right or left button that corresponded to the arrow direction with their right or left thumb. In 12% of trials, and unpredictably (pseudo-randomly), slightly tilted arrows (at a 23° angle) appeared on the screen and subjects were instructed to also press the button according to arrow direction as to the high frequency go trials (oddball trials). In another 12% of trials, arrows pointing upwards appeared and subjects were instructed not to press a button (no-go trials). All target stimuli were at least 3 repetition times (TR) apart from each other to allow adequate separation of the hemodynamic response (see [5] for details).

In the event-related MRI analysis, brain activation to the successful standard trials was subtracted from brain activation to the successful oddball trials. Results on brain activation and group differences in brain activation in response to no-go trials have been published elsewhere (5)."

The numbers in curved brackets refer to references in this study, not reproduced here.

## **Appendix 2. U.S. Department of Justice Drug Enforcement Agency (DEA) Drug and Chemical Evaluation Section, 1995**

### **Methylphenidate (Ritalin®) - Overview**

1. Ritalin is a Schedule II stimulant, structurally and pharmacologically similar to amphetamines and cocaine and has the same dependency profile of cocaine and other stimulants.
  2. Ritalin produces amphetamine and cocaine-like reinforcing effects including increased rate of euphoria and drug liking. Treatment with Ritalin in childhood predisposes takers to cocaine's reinforcing effects.
  3. In humans, chronic administration of Ritalin produced tolerance and showed cross-tolerance with cocaine and amphetamines.
  4. Ritalin is chosen over cocaine in self-administered preference studies in non-human primates.
  5. Ritalin produces behavioural, physiological and reinforcing effects similar to amphetamines.
  6. Ritalin substitutes for cocaine and amphetamines in scientific studies.
  7. Children medicated with Ritalin who tried cocaine reported higher levels of drug dependence than those who had not used Ritalin.
  8. Ritalin abuse is neither benign or rare in occurrence and is accurately described as producing severe dependence. Sweden removed Ritalin from its market in 1968 because of widespread abuse.
  9. More high school seniors were abusing Ritalin than those taking it medically prescribed.
- Side-effects of Ritalin: increased blood pressure, heart rate, respirations and temperature; appetite suppression, weight loss, growth retardation; facial tics, muscle twitching, central nervous system stimulation, euphoria, nervousness, irritability and agitation, psychotic episodes, violent behaviour, paranoid delusions, hallucinations, bizarre behaviours, heart arrhythmias, palpitations and high blood pressure; tolerance and psychological dependence and death
10. Ritalin will affect normal children and adults the same as those with attention and behaviour problems. Effectiveness of Ritalin is not diagnostic.
- CHADD, non-profit organization, which promotes the use of Ritalin, also receives a great deal of money from the drug manufacturer of Ritalin. CHADD does not inform its members of the abuse problems of Ritalin. CHADD portrays the drug as a benign, mild stimulant that is not associated with abuse or serious side-effects. Statements by CHADD are inconsistent with scientific literature.
11. The International Narcotics Control Board expressed concern that CHADD is actively lobbying for the use of Ritalin in children.
  12. Ritalin is one of the top ten drugs involved in drug thefts and is being abused by

health professionals as well as street addicts.

Quoted from No More ADHD 2001 Dr Mary Block p 24/5

## Notes

1. Depressed Dopamine Activity in Caudate and Preliminary Evidence of Limbic Involvement in Adults With Attention-Deficit/Hyperactivity Disorder

Nora D. Volkow, MD; Gene-Jack Wang, MD; Jeffrey Newcorn, MD; Frank Telang, MD; Mary V. Solanto, PhD; Joanna S. Fowler, PhD; Jean Logan, PhD; Yeming Ma, PhD; Kurt Schulz, PhD; Kith Pradhan, MS; Christopher Wong, MS; James M. Swanson, PhD

*Arch Gen Psychiatry*. 2007;64:932-940.

2. Peter R Breggin. Talking Back To Ritalin. 2001. Perseus Publishing.

3. Methylphenidate-evoked changes in striatal dopamine correlate with inattention and impulsivity in adolescents with attention deficit hyperactivity disorder

Pedro Rosa-Neto, [Hans C. Lou](#), Paul Cumming, Ole Pryds, Hanne Karrebaek, Jytte Lunding and Albert Gjedde

[NeuroImage Volume 25, Issue 3](#), 15 April 2005, Pages 868-876

4. Breggin p95. *ibid*

5. Michel Foucault. The Subject and Power 1982. From Essential Works Volume 3. edited by James D. Faubion. Penguin.

6. ABC News Yahoo report 5/8/2007

7. See for example Michael Foucault, Discipline and Punish. Penguin 1991.

8. Breggin Chapter 14. *ibid*

9. Breggin p 13. *ibid*

10. Dr Mary Block. No More Ritalin. 2001. Block Books. p 15.

11. Breggin p 127. *ibid*

12. Dr William Pelham University of Buffalo. Involved in the NIMH sponsored Multi-modal study reported by BBC 13/11/2007 <http://news.bbc.co.uk/1/hi/uk/7090011.stm>

13. Breggin p 125. *ibid* quotes Popper and Steingard 1994

14. <http://news.bbc.co.uk/1/hi/scotland/5308292.stm>

15. Breggin p 222. *ibid*

16. Daily Telegraph 9/10/2005

17. Breggin p 28. *ibid*

18. Daily Telegraph 22/4/2006 <http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/04/21/nrital21.xml>

19. BBC <http://news.bbc.co.uk/1/hi/scotland/5308292.stm>

20. [http://www.thamesvalley.police.uk/news\\_info/drugs/Amphetamine.htm](http://www.thamesvalley.police.uk/news_info/drugs/Amphetamine.htm)

21. Breggin p 32. *ibid*

22. Breggin p 83 *ibid* cites Rie et al., 1976a and Rie et al., 1976b

23. Daily Telegraph 18/9/2005

24. <http://news.bbc.co.uk/1/hi/uk/7090011.stm>

25. Temporal Lobe Dysfunction in Medication-Naïve Boys With Attention-Deficit/Hyperactivity Disorder During Attention Allocation and Its Relation to Response Variability

Katya Rubia, Anna B. Smith, Michael J. Brammer, and Eric Taylor  
2007

Biological Psychiatry Vol 62

26. Breggin p 146. *ibid*