

## **THE DIAMETRIC MIND**

# **ACTA UNIVERSITATIS TALLINNENSIS**

## **Humaniora**

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**Christopher Badcock**

# **THE DIAMETRIC MIND**

NEW INSIGHTS INTO AI, IQ,  
THE SELF, AND SOCIETY

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ACTA Universitatis Tallinnensis

Acta Universitatis Tallinnensis. Humaniora  
Christopher Badcock  
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into AI, IQ, the Self, and Society

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## PREFACE

This manuscript began generally as a sequel to *The Imprinted Brain*, and specifically with fragments left over after its publication in 2009. [1] Eventually though, I realized that the text was evolving to be much more of a parallel to the original than I had first intended when it was entitled, *The Age of Asperger*, and had been focused mainly on sociological and cultural issues. But when I noticed that I was writing something so similar to *The Imprinted Brain* and had used the same mix of main text with text-boxes to produce a book of similar length and design, I realized that a much better title would be *The Diametric Mind*. In the meantime, much of the text had become devoted to developments of the diametric model of cognition that provides the psychological superstructure to the imprinted brain theory. But I retained *The Age of Asperger* as the title of Chapter 4, which is devoted to sociology.

Sequels are a challenge to a writer because you cannot necessarily assume that every reader has read the first book or retained everything in it even if they have. But at the same time, you do not want to bore those who have read the original with too much repetition. This was a particular problem for me with the first two introductory chapters, where some recapitulation of *The Imprinted Brain* and of the basic literature on autism was inescapable. Fortunately though, I hit on a metaphor which I hope serves to make my introductory material interesting even to readers who have closely studied the first book and are well acquainted with the history and literature I have to summarize.

Sequels also give an author a welcome opportunity to correct errors, but fortunately there is only one of any importance in this case—a remarkable fact in itself, given the many provocatively precise predictions to which the imprinted brain theory and diametric model of the mind give rise and the large amount of relevant

research reported here and carried out since *The Imprinted Brain* was published. Even more to the point, the error in question is not scientific, but relates to Leo Kanner's plagiarism of Hans Asperger's discovery of autism. This is something that has long been suspected, but only recently demonstrated beyond reasonable doubt. Chapter 1 therefore corrects the erroneous account of the discovery of autism that I gave in *The Imprinted Brain* and throughout the book I give full credit to Asperger for his remarkable anticipation of both the diametric model of cognition and the imprinted brain theory—something which makes the title of Chapter 4 even more apt. I also add a text-box expanding on the brief account of the anticipations of Asperger's discovery which I mentioned in *The Imprinted Brain*. This preliminary chapter summarizes the basic findings, history, and import of autism research in order to introduce the reader to the diametric model, which is the subject of Chapter 2, and which exploits another metaphor which follows naturally from the precedent set by Chapter 1.

Where confirmation and endorsement of the diametric model is concerned, rapid developments in the scientific literature enabled me to present much of the material in the second chapter in terms of findings published since *The Imprinted Brain* appeared. By far the most important developments as far as the diametric model of cognition is concerned are its validation in brain-imaging and experimental studies. The former have revealed separate, "anti-correlated" networks of neurons, arguably related to mentalistic versus mechanistic cognition, along with fundamental differences between the brains of autistics as compared to psychotics where grey versus white matter is concerned. I describe this development in Chapter 2 and draw further implications from it in later chapters.

New paradigms should not just fit the facts though, they should also resolve paradoxes and absurdities inherent in existing ways of thinking, and nowhere has the diametric model had more success than with the fraught issue of IQ, as I argue in Chapter 3. At

the time of first formulating the diametric model of cognition—the late 1990s—I was not thinking about intelligence at all. But once I began to develop the new paradigm, I soon realized that almost all of the paradoxes of IQ research, notably the Flynn effect, and sex and ethnic differences in IQ, could be readily and easily resolved.

Chapter 4 applies the diametric model to sociological findings related to modern society, and is prefaced with a discussion of some remarkable anticipations in classic English literature.

Chapter 5 sets out the imprinted brain theory in terms of the latest findings, principally the huge Danish study which could so easily have refuted it, but in fact is by far the most remarkable corroboration to date.

The imprinted brain theory understandably raises the issue of the non-genetic, holistic, environmental, cultural, historical and social factors in mental illness which, as I demonstrate in chapters 6 and 7, the diametric model is ideally qualified to address. Chapter 6 begins with the much-misunderstood issue of epigenesis, and then takes the diametric model into completely new and unexpected territory, notably what you might call the Big Bang Theory of Religion. Chapter 7 shows how literacy and its evolution explains much about the historical and cultural dimension of modern mentalism and how readily the findings fit the diametric model—not least its insight into genius.

Chapter 8 discusses the implications of the new model for machine minds, and the final chapter sets out the new view of the self and of psychiatry that the diametric model and imprinted brain theory suggest. Although much of this is speculative, it is speculation whose truth or otherwise should quickly become apparent in the next few years.

Chapter 9 considers the implications all this has for our view of our own minds and psychology and suggests both resurrecting some previously discarded concepts—notably the Cartesian theatre—and some new insights into consciousness seen as an essentially synaesthetic effect. Finally, the diametric model is presented

as a Copernican revolution in both psychology and psychiatry, with the genomics of the imprinted brain theory as its factual basis.

Much of the material here has already appeared in posts on my *Psychology Today* blogsite,<sup>1</sup> and doubtless more will follow. But here I have the space and opportunity to fill in details and discuss issues at a length and in a way that is not possible in blogs. Thanks and acknowledgements to individuals to whom I am indebted for help have already appeared in the posts, and so are not repeated here. However, I owe a particular debt of gratitude to Amar Annus for bringing my text to the attention of the editors of Tallinn University Press, and to Rebekka Lotman and two anonymous reviewers. Needless to say, full responsibility for the views expressed here lie entirely with their author.

*Christopher Badcock*  
21 March 2019

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<sup>1</sup> <https://www.psychologytoday.com/blog/the-imprinted-brain>

## I. ALIEN MINDS

*What is the most important, most surprising, and most awe-inspiring event that you can imagine happening and which would have far-reaching and permanent consequences for the human race as a whole?*

Different people would give many different answers to this question, but among them would most certainly be this one: *first contact with an alien life form*. If life were to be found on another planet, or if an alien form of life were to be found on Earth, we would know for the first time with certainty that life was not unique to our planet and that, as biologists have often speculated, it could evolve independently elsewhere. This in itself would be a remarkable, epoch-making discovery, but how much more remarkable and epoch-making would it be if the aliens were also intelligent, and could communicate with us!

An intelligent alien life form would give us an incomparable opportunity to see ourselves from a completely new vantage point: that of the alien mind, with who knows what consequences for our understanding of ourselves, our own minds and world? If the aliens were of a higher or different order of intelligence to ourselves, they would not only give us a unique opportunity to compare our species with another intelligent one, but might reveal all kinds of new insights into our own form of intelligence—quite apart from giving us the benefit of understanding theirs. And how petty, parochial, subjective, and self-serving might human consciousness begin to seem when compared with a different one from another planet? At the very least, an alien intelligence could be relied upon to be free of the prejudices, peculiarities, and pretences that inevitably compromise the human intellect, and contact with it might open up a completely new era of enlightenment for our species. Indeed, human intelligence itself might be unimaginably altered by contact

with a race of aliens with extra-terrestrial ideas, knowledge, and technologies; and human culture, history, and society would be forever transformed by an encounter with intellects from far beyond our world.

### The aliens have landed!

You cannot go far in reading what people diagnosed with an autism spectrum disorder (ASD) write about themselves before you come across aliens. You soon find them saying things like, “I felt like an alien, as though I had come to earth from somewhere else.” [2 p. 37] Other autistics have called their disorder “wrong planet syndrome,” [3 p. 9] and protest that they “don’t remember signing up for this planet;” [4 p. 119] while books about autism get titles like *Right Address ... Wrong Planet*. [5] An autistic author who entitled her book *Through the Eyes of Aliens* comments that “Many autistic people affectionately, humorously refer to themselves as aliens. They feel displaced on a vast planet, which has a code of life, and understanding they can’t ever quite subscribe to.” She calls them “mysterious Martians who don’t know the culture of the planet they have been misplaced on.” [6 pp. 125, 51] One of the world’s most eminent autistics, Temple Grandin, was described in an essay by Oliver Sacks entitled *An Anthropologist on Mars*; [7] and *Martian in the Playground* is the title of an award-winning book whose author recounts the fantasy of extra-terrestrials suddenly appearing to tell her that “It’s all been a dreadful mistake. You were never meant to be here. We are your people and now we’ve come to take you home.” [8 p. 9] Two other autistic authors gave their account of their “lives in the universe of autism” the interrogative title, *Women From Another Planet?* [4] *Autistic Planet* is the title of a children’s book which describes the home world of an autistic child as a place where all the trains run on time, the only food is popcorn and potato chips, everyone repeats what everyone else says, and people only watch the weather report on the TV news! [9] Perhaps not surprisingly

then, “The online resource and community for Autism” is entitled, *WrongPlanet.net*.

Hans Asperger (1906–1980), the Austrian paediatrician who was one of the first (see Text-box 1.1) to characterize autism as we now know it, and after whom *Asperger’s syndrome* is named, [10] described the typical autistic as being “like an alien,” and one of his cases in particular as someone who looked as if he had just “fallen from the sky,” and “did not really fit into this world.” [11 pp. 78, 60, 66] In fact, during World War 2 Asperger himself was literally an alien, and indeed an enemy one in the political sense of being a member of a population against which the Allies were waging war. Asperger himself survived, but Sister Victorine Zak, a talented nun who he described as the “true genius” of his clinic, [12 p. 86] was killed during an allied air raid on Vienna and buried with the child she was clutching at the time. [13] And appropriately perhaps, Asperger has also since been diagnosed as a case of his own syndrome, making him an alien in terms of this extra-terrestrial metaphor as well. [14]

#### Text-box 1.1. **Early Accounts of ASD**

If the diametric model is to be believed, autism is so fundamental a factor in cognition that it would be remarkable indeed if Hans Asperger had been the first to notice it, and there is plenty of evidence that he was not.

In 1926, the Kiev-based child psychiatrist Grunya Efimovna Sukhareva (1891–1981) published a detailed description of autistic traits in a number of children in a German journal of psychiatry and neurology. She initially used the term “schizoid (eccentric) psychopathy” but later replaced it with “autistic (pathological avoidant) psychopathy” to describe the clinical picture of autism. Her original article was available almost two decades before the case reports of Asperger. Sukhareva’s case reports were based on observations of 6 boys during a 2-year period at the therapeutic school for children with psychiatric problems at the Psychoneurological Department for Children in Moscow. [15]. According to a recent account I am summarizing:

Sukhareva presented structured, elegant and detailed descriptions of the children that were also vivid enough to give the reader the sense of being able to recognize each one of them in the street, or at least in a classroom. Also, Sukhareva noted a paradoxical combination of high levels of intelligence and poor motor functioning in all of her cases. Recent neuroimaging studies of autism spectrum disorder have shown that these areas are indeed implicated in the condition (...).

The children in Sukhareva's case series were admitted to a therapeutic school, and received both social and motor skills training during woodwork, painting and gymnastics classes. This specific training facilitated their progression into an ordinary school and is illustrating how modern Sukhareva was in her ideas of how these children should be helped. [16]

However, even earlier accounts certainly exist [17 pp. 31–34, 18 p. 103]. Indeed, there is evidence of a 5-year old autistic boy having been admitted to Bedlam in 1799. The case was described in a textbook of 1809 by John Haslam, the Apothecary of Bethlehem Hospital, and this may well be the earliest description of autism in the psychiatric literature [19].

But however all this may be, no one studied more cases of ASD or described them in greater and more illuminating detail than did Hans Asperger; and nor did anyone else anticipate the diametric model or imprinted brain theory so strikingly: hence the pre-eminence afforded him here.

Science fiction often portrays alien beings as immediately able to understand and communicate with humans—even to the point of speaking English and having excellent manners! Yet a moment's reflection is enough to show that in reality things would probably be very different. Human technology and material culture might be pretty much self-evident to any intelligent being able to travel here or communicate with us, simply because material culture exploits principles of science and technology which are universal. But we have no way of knowing whether the fundamental principles of human behaviour would be as self-evident to an extra-terrestrial species which might be biologically very different from us. It might



take some time and careful analysis for aliens to begin to understand what are self-evident realities to us, such as the self, consciousness, or personal feelings. The very idea of the mind might be alien to the aliens, whose initial reaction to human beings might be wholly behavioural and completely lacking in the appreciation of mental factors such as intention, meaning, and emotion. In other words, extra-terrestrials might regard us as we might see creatures very different from ourselves, such as plants, insects, or bacteria. And at the very least, actual extra-terrestrials, like human anthropologists who visit foreign cultures, would have to learn our languages and understand our cultural conventions: they would be Martian anthropologists on Earth, if you like.

Admittedly, this is just speculation about something that will almost certainly never happen. But there is a striking parallel to be drawn between alien beings and those diagnosed with ASD, as the titles and comments quoted above suggest. Like real extra-terrestrials might be expected to be, many autistics are either totally mute or have serious verbal shortcomings. There is usually fluent speech in high functioning forms of ASD such as Asperger's syndrome, but there are often also difficulties with conversation skills, such as a tendency to be pedantic or to interpret things literally. Even high-functioning autistics often have difficulty in understanding irony and metaphors, or show an inability to see what is funny in a joke—something that would almost certainly be true of actual aliens also, were we ever to encounter them. This is because irony, metaphor, and jokes rely on people's every-day, common-sense knowledge of the world and other people, and extra-terrestrial visitors to Earth could be expected to be as deficient in this respect—if not more so—as autistics typically are.

In part, this may be because people with ASD often seem to be more interested in things, machines, facts or ideas than they are in people and their affairs, and it is not difficult to imagine that visitors from another planet might also lack the central concern with itself and its doings that is otherwise distinctive of the human race. And

again like any actual aliens you could realistically imagine and who would almost certainly be physically very different from us, people with ASD are poor at recognizing and interpreting emotional expressions, gestures, and body language. Just like actual extra-terrestrial visitors to Earth would inevitably be, autistics are outsiders in relation to much of what goes on in normal human communication and are socially isolated and marginalized in their interactions with others. The result is that others perceive them to be weird, childish, or callous, and ask questions like “What planet is he from?” or “Who beamed her down?”

Critical autistic behaviours include poor eye-contact and gaze-aversion; inability to respond normally to facial expression and body-language; poor comprehension of other people’s intentions and states of mind; lack of empathy and inability to form friendships and join in group activities; and self-absorption in a single interest or enthusiasm. As Asperger realized from the beginning, all these symptoms and signs could be seen as having an essentially social dimension, and the Social Responsiveness Scale, adjusted for age, attempts to measure the extent of autism in both adults and children (see Text-box 1.2).

**Text-box 1.2. The Adult Social Responsiveness Scale**

Checklist items specially worded for the adult version of the Social Responsiveness Scale [20] are as follows (ticks and crosses indicate what would be expected from an autistic subject):

- Seems too dependent on others for help meeting basic needs.
- Perceives and appropriately responds to changes in people’s tone of voice and facial expressions.
- Shows unusual sensory interests (such as smelling his/her fingers frequently) or strange repetitive ways of handling or manipulating small items within reach.
- Is able to imitate others’ actions and demeanour when being prompted to do so for the sake of social appropriateness.

- Does not join group activities or social events unless forced to do so.
- Has difficulty relating to family members.
- Has difficulty relating to other adults.
- Enjoys and is competent with small talk.
- Generally gets interested in what others around him/her are interested in.
- Does extremely well at a few intellectual or computational tasks, but does not do as well at most other tasks.
- Isolated: tends not to leave his/her home.
- Concentrates too much on parts of things rather than seeing the whole picture.
- Touches or greets others in an unusual way.

Extra-terrestrial visitors to Earth would naturally lack a pre-existing understanding of our planet's history and conventions, and as a result would probably seem limited in their ability to generalize or to relate specific things to the overall picture—or perhaps I should say *our* overall picture—of life on Earth. As a result, we would perhaps find the aliens notably backward at first in understanding things in their proper context, and they would probably strike us as somewhat retarded in their ability to think as we do. Their initial approach to things would probably be highly visual, factual and particular, and they would probably seem pre-occupied by details that seemed irrelevant to us thanks to their alien background and unfamiliarity with human languages and ways of thinking. They would probably take things highly literally, and perhaps seem somewhat childlike and naïve in their understanding of the ways of our world.

For example, you could readily imagine newly-arrived aliens asking leaders of world religions that idealize altruism and care for the poor why they lived like princes in palaces, or why places of worship remain empty and locked at night while homeless people sleep on the street. They might express puzzlement at the fact that those who profess to believe that the afterlife is a preferable place should take just as much care as anyone else to avoid going there.

And aliens might find it hard to understand how members of professions ostensibly motivated by a desire to alleviate suffering and cure illness should nevertheless demand such high fees for their services. You could readily imagine how simplistic, naïve, and even childish all this would seem on the part of actual aliens—but also how inevitable such responses would be if they completely lacked any existing understanding of our world and simply took us and our pretensions at face value.

Autistics too are deficient in an ability to see things the way other people do, and can seem naïve at best—or foolish at worst—for the same reason. As Asperger commented,

the autistic individual needs to create everything out of his own thought and experience. More often than not this results in defective performance, even in the more able autistic individuals. [11 p. 56]

But as he also noted, there is a positive side to this, adding that “This is, of course, precisely what makes the achievements of autistic people so often particularly original and delightful.” [11 p. 62] And as I pointed out at the beginning, this is what would also make the insights of intelligent extra-terrestrials so valuable to us: they would be seeing our world and us from their own, totally alien, and completely original viewpoint.

As a result of their unfamiliarity with our world, intelligent aliens would not necessarily show much interest in many things that we find important, but might instead focus their attention on objects that seemed to us peripheral, insignificant, or bizarre. And they might do this with an intensity and single-mindedness that we found hard to understand. Where their own behaviour was concerned, they would probably do many things with a rigour, regularity, and repetitiousness that we might not comprehend in the least—a bit like anthropologists amazing the natives by their insistence on writing everything down, taking photographs, or washing their hands. Autistic people are just like this, with single-minded interests