

**'First-Person Perspective' and  
Autistic Spectrum Disorder.**

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## **Abstract**

Lynne Rudder Baker describes what it is to be a human person in terms of having a robust first-person perspective that is linked to the human body during that person's lifetime. First-person perspective is described as having two versions that are related to each other in terms of essential, derived and non-derived components that enable us to live in a society with contemporary ambitions.

Within this model there is a prima facie case to suggest that those on the autistic spectrum might not necessarily fit in given the isolation that tends to go hand in hand with those who are diagnosed with Autistic Spectrum Disorder. The diagnosis tends to meet objective criteria that do not sit comfortably with the way those on the spectrum describe their own situation. Baker initially challenges that self-description after considering the work of Temple Grandin and, relying on the development of language ability, comes to see autism as a special case in her paradigm.

Baker forces that special case into her model but it seems to sit awkwardly in the template she has constructed. I will describe some alternative routes to justify her special case category using concepts that Baker purposefully turned away from because of their scientific credentials. These routes are currently under investigation by neuroscientists. Baker chose not to justify her contention using such methodology but I argue that scientific epistemology provides an avenue to sharpen her model further. In so doing we can also establish a neurodiversity agenda that uses philosophical methodology to champion changes in attitudes.

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## **Declaration**

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

# Introduction

Lynne Baker's principle concern is to provide an answer to the fundamental question 'what are we?' The answer will tell us about the circumstances in which we exist and what our persistence conditions are over time; an ontological explanation. The philosophical tradition has tended to offer two broad sets of answers. There is the dualistic version we recognise from Descartes, in which we see ourselves as an immaterial mind that is "... contingently connected to a body" (2000:5)<sup>1</sup>. At the death of that body the relationship must stop and other explanations come into being for the continued life of the mind which are usually regarded as religious in nature. Then there is the materialist, monist variety that probably originates in Aristotle and styles us as being material animals<sup>2</sup>; everything we are would only relate to our animal origin in this model and being a human person becomes merely accidental (Baker, 2000:225). This account would indicate that either I exist without being a person or that I might be a person but without persistent mental properties throughout my subsistence. The end of life sees the complete end of those mental properties.

In the Constitution View (CV) Baker indicates that I am constituted as an animal but I am not *essentially* the same as an animal. Something differentiates me from the rest of the animal kingdom. I have ideas, I like to contemplate my past and my future self and reflect on values that depend on me being a person. I plan for the

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<sup>1</sup> Baker says that this group will include Swinburne, R. (1986). *The Evolution of the Soul*, Oxford: OUP. and Foster, J. B. (1991). *The immaterial self : a defence of the Cartesian dualist conception of the mind*, London: Routledge.

<sup>2</sup> The term 'animalist' would include Olson, E. T. (1997). *The human animal : personal identity without psychology*, New York ; Oxford: Oxford University Press, Olson, E. T. (2007). *What are we? : a study in personal ontology*, Oxford: Oxford University Press. van Inwagen, P. (1990). *Material Beings*, New York, USA: Cornell University Press, Olson, E. T. (1997). *The human animal : personal identity without psychology*, New York ; Oxford: Oxford University Press, Snowden, P. F. (1990). Persons, Animals, and Ourselves. In Gill, C. (ed.) *The Person and the Human Mind*. Oxford, UK: Clarendon Press.

future based on what I have experienced in the past. Fundamentally we are persons (Baker, 2000:227) and what is more, my having ideals, morals and values matter so deeply to us that there must be some other explanation for it. The link between my person and my animal is forged by first-person perspective (FPP), Baker asserts. She details how we are born with a rudimentary state of FPP which changes over time, specifically when I am able to talk of myself in terms of an objectification of my subjectivity.

Autistic Spectrum Disorder (ASD) is commonly portrayed as a lack of empathy for other people which has the unfortunate effect of turning those on the spectrum into socially disruptive behavioural nightmares. Autistic children are usually shown in popular culture as being incredibly withdrawn, silent amongst other children and without a sense of danger. And, they're often incredibly insightful, if not full geniuses. This could present a difficulty for Baker's description of how robust FPP might work in ASD people. The reasoning would run along the lines that if I am not able to conceive of how other people relate to me how can I relate to my own subjectivity in a meaningful way in order to develop a robust FPP? Tied into this is a series of questions about how neurotypical people might be able to rely on language to recognise this objectification and why that route doesn't seem to come about for those on the spectrum. I will look for alternative explanations as Baker herself does relying on descriptions taken from those on the spectrum as language development may not be the only way to form a robust FPP. This of course brings about a discussion about Baker's view of FPP. Why does she use this idea in her overview about how we are constituted? Is there an alternative that might fit the bill more snugly? That will involve looking at how ASD is defined as well; is there a one size fits all definition for a 'disorder' that is claimed to be a spectrum condition?



Almost inevitably an understanding of some of the neuroscience will come into play. Recent advances in fMRI scanning have allowed us to watch the firing of neurons in specific areas of the brain. We can detect some peculiarities in the brains of those with ASD and the controversy about nature/nurture seems to have been put to bed in this regard. However, the neuroscience continues to surprise us and the debate about how certain neurological features work and influence how we might think or memorialise sensory perceptions can only influence how we describe the workings of the mind.

Forging direct links between the physiology of the neural systems and debate about how we think remains controversial but slowly we are coming to understandings about this which are still to be debated amongst the philosophers. Such a debate is not just pertinent in the world of ASD but impacts on approaches to our work with dementia and Alzheimer's and contributes to how we might deal with aphasic brain damage, stroke rehabilitation and how we talk about mental health issues such as ADHD or OCD.

My aim is to adjust Baker's working construction of how FPP is responsible for distinguishing us from other animals. This will ensure that there is no room for a eugenic encounter about the personhood of those with ASD. That adjustment also needs to be inclusive, promotive of equal treatment of diversity and focused on the needs of the disability groups identified rather than viewed as a medicalised objective diagnosis. By adjusting Baker's paradigm we may also see how a philosophical debate can contribute to the continued enhancement of disability rights especially given that the statistics of those on the spectrum prove that ASD is probably the largest minority group in the US (Silberman, 2015).

Chapter 1 concentrates on Baker's model particularly with reference to the Constitution View she champions as an alternative to theories of identity. Chapter 2 will deal with how the medical world has come to understand ASD as a disorder and some of the objections to that from people on the spectrum. Chapter 3 looks at the developing neuroscientific research to hone down our knowledge about ASD as well as encounters with the work of Temple Grandin. Chapter 4 encourages a more diverse viewpoint and challenges some of Baker's underlying assumptions in a reconstructive manner alongside some suggestions for further research in this area.

# Chapter 1. The Terminology of Constitution

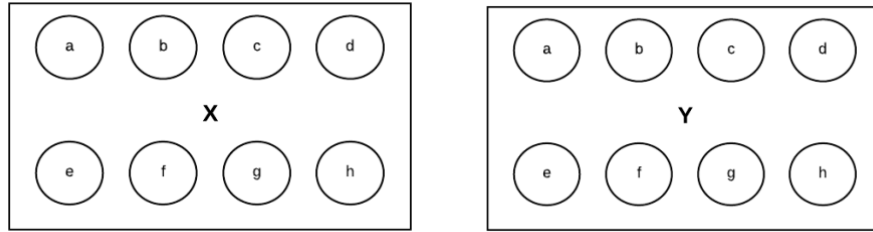
## 1. Material Constitution

Lynne Baker analyses the metaphysics of material constitution in order to account for how objects may be made up. She takes a number of examples and builds them into a model that outlines the relationship between what appears to be two different material objects that share the same space and time and appear to be one single thing. The model is then expanded to describe the relationship between persons and bodies, or what is it that makes human-beings different from other sentient creatures.

The first step must be to understand material constitution - what Baker calls the 'Constitution View' [CV]. This will involve bending our heads around some of the technical language she uses as well as the detailed construct of her models. If we take Peter van Inwagen's description of collective variables as a prologue (van Inwagen, 1990:21ff) we are likely to come to the conclusion that material constitution is not about person identity. Michael Rea attempts to prove this by saying that if the particles [ $ps$ ] that compose  $x$  "are all parts of  $x$  and no two of the  $ps$  overlap" whilst every part of  $x$  overlaps at least one of the  $ps$  then, if the  $ps$  also constitute  $y$  then, necessarily " $x$  constitutes  $y$ " (1995:526). This would make  $x$  and  $y$  identical in this manner<sup>3</sup>:-

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<sup>3</sup> Rea notes that the relationship between  $x$  and  $y$  in this instance would also be symmetrical but this does not take into account any of the properties that constitute  $x$  and  $y$ . Indeed, Rea notes that his view is not a standard view – footnote to page 527.



The issues start to arise when object X and object Y constitute one another but the parts (a-h) relate to the objects (X or Y) in *different* ways; that is to say the relationship between a-h are constructed differently (Rea, 1995:527)<sup>4</sup>. One way we could try to resolve this is by rejecting the assumption that X and Y are necessarily distinct in which case constitution would become a relationship of identity, that is they are actually identical. An alternative is to show that X and Y relate to their parts essentially in different ways – so X relates to parts a-h in ways that are different from the ways that Y relates to parts a-h. This would go some way in explaining what is meant by material constitution not being the same as identity because they both have different internal modal properties – that is to say the substances X or Y could be the same but their form is different. If this were not the case then we would see that a pipe made of copper is no more than the pieces of copper that go into its making. That is tantamount to asserting that pipes can exist whilst in the molten form

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<sup>4</sup> Rea sees five assumptions that underlie puzzles with this relation at its heart – firstly is the existence assumption – that there is an F (human being, ship, cat or statue) and there are particles that compose it –  $(\exists x)(\exists ps)(\exists t)(x \text{ is an F \& the ps compose } x \text{ at } t)$ . The second assumption if the ps compose an F, then they compose an object that is essentially such that it bears a certain relation R to its parts  $(\forall x)(\forall ps)(\forall t)[x \text{ is an F \& the ps compose } x \text{ at } t \rightarrow (\exists z1)(\text{the ps compose } z1 \text{ at } t \ \& \ \square(\forall qs)(\forall t)(\text{the qs compose } z1 \text{ at } t \rightarrow z1 \text{ bears R to the qs}))]$ . The third the Principle of Alternative Compositional Possibilities (PACT) –  $(\forall x)(\forall ps)(t)[x \text{ is an F \& the ps compose } x \text{ at } t \rightarrow (\exists z2)(\text{the ps compose } z2 \text{ at } t \ \& \ \diamond(\exists qs)(\exists t)(\text{the qs compose } z2 \text{ at } t \ \& \ z2 \text{ does not bear R to the qs}))]$ . The fourth assumption is the identity assumption –  $(\forall x)(\forall y)(\forall ps)(\forall t)(\text{the ps compose } x \text{ at } t \ \& \ \text{the ps compose } y \text{ at } t \rightarrow x = y)$  that is to say that constitution = identity, the mereological extension. Finally the Necessity assumption –  $(\forall x)(\forall y)[x = y \rightarrow \square((x \text{ exists} \vee y \text{ exists}) \rightarrow x = y)]$

of the metal and that draws difficult conclusions<sup>5</sup>. Melting is in fact the way in which we end the relationship that the parts have in the existence of the pipe because the *form* of the pipe is only temporary (Blatti, 2012:149). The single object can thus be seen as the instance of two different kinds of things, only one of which carries the essential property through into the object in a one-way process. That form's actual existence ends when it is melted down and the potential for forming new objects becomes possible. This interpretation means that objects X and Y are not identical because they are different in at least one of "... their sortal, modal and temporal properties" (2012:153). Blatti thinks however that a statue having a sortal property of 'being a work of art' cannot be accounted for using this model. For him the parts of a statue for example, are arranged in a way that is constituted by lumps of clay but there is no difference in that arrangement from it being a work of art. Lynne Baker wishes to expose such a difference in the relational properties of statue and clay as a way of illustrating that there is at least one difference that requires an explanation<sup>6</sup>.

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<sup>5</sup> Aristotle for example explains substance (*ousia*) in terms of actuality and potential where potential can only exist when one is aware of the actuality that will eventually come into being. This suggests that actuality is somehow prior to potential which seems to defy common sense. Form can therefore only exist as potential according to Michael Wedin Wedin, M. V. (2000). *Aristotle's theory of substance : the Categories and Metaphysics Zeta*, Oxford: Oxford University Press. If we were to say that the wood that constitutes a table had the potential to be a table or a bowl before it was carved, then it is only at the point it becomes a table actually that the **form** of it makes any sense. In this sense the raw piece of wood has a multitude of potential uses. This is what Aristotle argues in terms of giving actuality priority over potential when it comes to form (Θ.8,1049b4-5). Our copper has the potential to be made into a number of things – pots, pans, coins. But it is only when it takes the form of a pipe that we recognise the actuality of its form.

<sup>6</sup> Outlined in Baker, L. R. (1997). Why Constitution is Not Identity. *The Journal of Philosophy*, 94(12), 599-621. The following argument is upheld at page 602:

- (1) x is essentially an F
- (2) y is not essentially an F
- (3) therefore  $x \neq y$

For the first time Baker uses the argument about the statue of Discobolus cast in bronze. Discobolus is the statue and BP is the piece of bronze that constitutes the statue:

- (4) Discobolus is essentially a statue
- (5) BP is not essentially a statue
- (6) Therefore  $BP \neq \text{Discobolus}$

If (4) is true then being a statue is a property that a statue cannot afford to lose without going out of existence which confirms Leibniz's law. (4) is therefore taking statue to be a substance sortal, a particular kind that is essential for its continued existence.

## 2. Constitution and FPP

### 2.1. Introducing the concepts

Baker explains that her view of what makes us a person has two interlocked concepts, the idea of material constitution and its relationship to specific types of first-person perspective (2000:20). Both need explanation and so I will start with the constitution view and then move on to first-person perspective.

Not only is constitution important to explain what a person is but it is a pervasive relation found in many every day areas Baker tells us. Generally, she explains, “When various things are in various circumstances, new things – new kinds of things with new kinds of causal powers – come into existence” (2000:20). When pieces of cloth are brought into certain circumstances they take on new causal powers, they become a symbol of something that can “... cause a person to fly into a rage or it can bring tears to the eyes” and they can cause varying thing to happen as the result of constituting pieces of cloth. Baker goes so far as to say that constitution is everywhere and applies not only to artefacts and symbols but to natural objects, even to the building blocks of the DNA that constitute genes (2000:21). Constitution is thus a relationship between substance and form in an Aristotelian way; it is a relationship ‘out there’ rather than a creation of the mind<sup>7</sup>. Baker admits as much by giving priority in saying that we are fundamentally material animals rather than immaterial minds that are contingently connected to the body as Descartes would have it (2000:5). As far as a human person goes we therefore need to understand

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<sup>7</sup> Aristotle says that substances exist independently and in their own right but they can be united. They could be ‘said of’ something or they could be ‘in’ something. By ‘in something’ Ackrill describes it as being something akin to the heat in hot water or the courage ‘in’ someone: Categories 1a24-25. Aristotle, Ackrill, J. L. and Aristotle De, i. (1974). *Aristotle's Categories ; and, De interpretatione*, Oxford: Clarendon Press.

the 'inner aspect', how as a human animal we think about things rather than start with the mind and reflect on perception. That focus will lead us to look at how she might reflect and reason about something and then meditate on the idea of herself as herself. In this she objectifies her own subjective reality and the basis for this is a perspective – a perspective I gain by thinking about my body in a first personal way using pronouns such as 'I' and 'me', 'my' and 'mine' and developing a concept of oneself as oneself<sup>8</sup>. To comprehend this we need to take a step back to the material constitution of everyday objects.

## **2.2. The constitution of wedding rings**

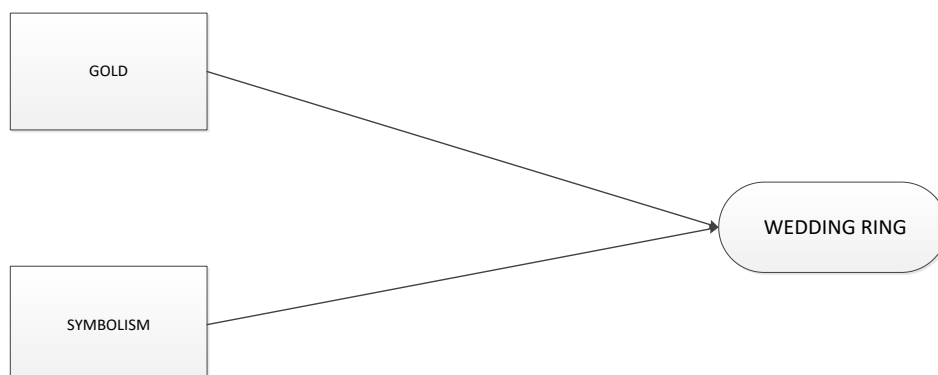
We can see a wedding ring as fundamentally a symbol; a symbol of fidelity between two people who freely choose to be bound by the legal (and sometimes the sacred) bonds of marriage, an outward sign of something internal, what is going on between the couple written large and celebrated by the outside world. This seems a relatively straightforward concept until we delve into a metaphysical description: we can note that a wedding ring is a band of gold of a certain weight and monetary value whilst, at the same time also being something more abstract - a token of a specific relationship between two people. Two things are going on at the same time. The material gold and the symbolic quality share the same space at the same time but can we say that there is a relationship between the two and if so, what is the nature of that affiliation? Are they sharing all the same features at the same point in time or only some parts? What descriptions could we use to distinguish the two

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<sup>8</sup> Baker points out that she does not endorse the claim of Pereboom and Kornblith that these are sort of 'brain states' and as such they directly constitute beliefs even though it does seem to produce an explanation of beliefs that happily sit alongside claims of first-person perspective (2000:21).

things? And how does the material constitution of something relate to its identity? Is there something that defines the object in essence? What seems clear at the outset is that we bring along a series of unreported assumptions about that object's composition to the party (Rea, 1995:525).

Let's push the analogy further. The gold wedding ring we are clear, is made from a precious metal, formed into a band worn on the third finger of the left hand by those who have gone through the social recognition of 'marriage'. The rituals are there to be sure but without the agreement of the community there is no marriage. The symbolism extends beyond the understanding of the couple because it is the symbolism invested by the outside community in this band of gold. For the deist there is the added symbolism in that it is seen by that community as an outward sign of God's grace bestowed in the sacramental ceremony of marriage; it is a relationship condoned by the Almighty. There is thus a relationship between the gold and the notion of its symbolism. The ring is clearly just one physical thing but it appears to comprise two different kinds of thing at the same time and yet material object 'a' is the same substantial thing, or being, as object 'b'. If we categorise the two types of things separately we can then organise our reasoning to show the conceptual parts that directly overlap and the parts that don't.





One way to separate the two conceptual analyses is to pause and think about how each object would cease to be the object it is, how the object is destroyed - its persistence conditions. The gold itself could be melted down and formed into a new ring or a plain ingot of the metal from which other gold items can be derived<sup>9</sup>. The gold continues to exist if its shape is changed. It still is represented by the abbreviation of Au, atomic number 79 in the Period Table. On the other hand, the symbolic nature of the kind of thing a ring is will cease to exist when it is re-formed into an ingot. This establishes a relationship between the two concepts that sees 'parts', or kinds, of the objects as being more than just physical parts or kinds. The metal-gold-kind persists differently over time from the symbol-ring-kind whose existence comes to an end when the metal-gold-kind is melted down. The kinds of objects we are now dealing with are not identical because they are of different types of things with different properties. They meet Blatti's objection in that the properties differ and so we are not dealing with identical objects; the metal-gold-ring-kind having different sortal properties from the symbol-ring-kind. Lynne Baker draws out another difference in the relational properties between the two in the next example.

### **2.3. The constitution of flags**

Baker extends the model by describing how national flags are made up from pieces of innocuous cloth (2007:35). But a flag is much more than a numerical aggregation of bits of material. How do the constituent parts of the cloth relate to the imagery of the flag? Here again we can say that we have two material objects

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<sup>9</sup> When something is derived from something else there is a relationship between the two objects. That relationship is paronymous of objects because a quality "... is in a certain way derivative ... because of something that is has and ... is identical with the name of that something". When objects are 'in' something they are not Aristotelian substances themselves – something being pink would fit the bill. Aristotle, Ackrill, J. L. and Aristotle De, i. (1974). *Aristotle's Categories ; and, De interpretatione*, Oxford: Clarendon Press. Page 72.

sharing the same time and place; a piece of white cloth with some parts dyed red and a flag that, in certain special circumstances represents England and can cause some emotional reactions when waved about in certain circumstances. Intuitively it seems more likely that only specific parts of the cloth and the flag happen to ‘coincide’ and it will help to draw the case out more in metaphysical language.

The formal case for the constitution of a flag allows Baker to categorize  $x$  as the dyed cloth and  $y$  as the flag; both being coincident in space and time. She describes the cloth of which the flag is made having ‘cloth’ as its primary-kind and the flag having ‘flag’ as its own primary-kind. Each object having just one primary-kind that is so fundamental to the object as to be seen as an essential qualifier; without it the object goes out of existence (Baker, 2002:35). To become ‘the flag’, the piece of cloth needs to be in a set of circumstances that forge its new form; the piece of cloth has to be in ‘flag-favourable circumstances’ (Baker, 2002:35) <sup>10</sup>. This model gives us a relationship between ‘flag’ and ‘pieces of cloth’ that is moderated by the flag-favourable circumstances which means that there are occasions when  $x$  does not constitute  $y$  (that is, when those circumstances are not present). The times when

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<sup>10</sup> LRB proposes the following definition of constitution Baker, L. R. (2002). On Making Things Up: Constitution and Its Critics. *Philosophical Topics*, 30(1), 31-51.:

$x$  constitutes  $y$  at  $t$  = df. There are distinct primary-kind properties  $F$  and  $G$  and  $G$ -favourable circumstances such that:

- (1)  $x$  has  $F$  as its primary-kind property and  $y$  has  $G$  as its primary-kind property; &
- (2)  $x$  and  $y$  are spatially coincident at  $t$ ; &
- (3)  $x$  is in  $G$ -favourable circumstances at  $t$ ; &
- (4)  $\Box\forall z\forall t[(z \text{ has } F \text{ as its primary-kind property} \ \& \ z \text{ is in } G\text{-favourable circumstances at } t) \rightarrow \exists u(u \text{ has } G \text{ as its primary-kind property} \ \& \ u \text{ is spatially coincident with } z \text{ at } t)]; \ \&$
- (5)  $\Diamond\exists t[(x \text{ exists at } t \ \& \ \sim\exists w[w \text{ has } G \text{ as its primary-kind property} \ \& \ w \text{ is spatially coincident with } x \text{ at } t])]; \ \&$
- (6) if  $y$  is immaterial, then  $x$  is also immaterial.

the constitution is fully achieved are describes as having "... intentional states, certain kinds of social and political entities and certain conventions" (Baker, 2000:42) For a flag there are existential circumstances that are needed for the flag to exist as such and these are necessary rather than just sufficient. It is therefore a one-way, asymmetric relationship because those circumstances do not pertain to the pieces of cloth. A flag exists as a representation of a national, unified symbolism and it is related to the intention of the designer.

Baker notes a number of further interesting things about these circumstances; firstly, we have to note that in the constitution view of flags we have two material objects that are spatially coincident. There is no immaterial object here but that in itself does not mean that there are no such things as immaterial objects. Indeed, she tells us that immaterial objects must be constituted only by immaterial things. If we then assume that human bodies are material then Baker is able to deny the Cartesian person comprises material and immaterial parts – that is the material human body and the immaterial soul (Baker, 2000:43). For Baker the body is one material being and the person is another with the exactly the same constitution relations as the simple flag<sup>11</sup>. This is an attempt to avoid the assertion that Baker's model is really a modified dualism that emerges out of the metaphysics<sup>12</sup>.

Secondly Baker says that the modalities ('it is necessary that' and 'it is possible that') are entirely context dependent. If we took our flag of Saint George to Mars, the Martians would be likely to only perceive the pieces of cloth and have no idea of the cultural context that makes it a flag. These circumstances are external to

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<sup>11</sup> That is to say, the body is material and contingent whilst the person is also material but necessary.

<sup>12</sup> Challenged by Hasker, W. (1999). *The emergent self*, Ithaca, N.Y. ; London: Cornell University Press. where he ultimately decides that Baker is an 'emergent dualist' despite her protestations to the contrary.

the material objects themselves. They exist beyond the constitution relationship itself. Flags are symbols of groupings of people, like nationalities or political associations and as such the flag of Saint George relates to another quality; its nature is drawn from something else, something beyond the relation of physical constitution (this sense of ‘nationhood’) whilst still remaining a physical entity. We thus have a new distinction to work with – how two relationships can lend properties to the other and ultimately to decide where those properties come from. Baker uses the idea of an internally resulting property and contrasts that with properties that arise from a relationship that is external; she refers to the internal resulting property as ‘derived’ and contrasts it with ‘non-derived’. Inevitably this gives rise to the notion that derived properties are somehow essential to the nature of the object.

## **2.4. The Constitution of Statues**

### **2.4.1. Essentialism**

Baker tells us that she needs to appeal to the essential properties of things to draw out her view of constitution and to do that she turns to Michelangelo’s statue of David. What does it mean to have a property essentially?

The essential properties of object *x* are those without which *x* cannot exist (Baker, 2000:35), they are persistence conditions. Michelangelo’s David is essentially related to the art-world<sup>13</sup>– in a world without art David couldn’t exist “Even

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<sup>13</sup> The art-world is a short hand expression for the idea that we can represent the world we see in representational images. The understanding of those images is socially specific to time and place. Mary Beard suggests that there may be conflict between Christian imagery used in the early church and the debates about doctrine that are found in the Councils of the history of Church from Nicea 325 CE to Chalcedon in 451. The details are not pertinent to this paper but Mary Beard points to a mosaic in San Vitale, Ravenna that shows in images the discussion going on at the time about the nature of God. In the apse there is an image of the young, beardless Jesus, the son of God. In the centre of the ceiling, Jesus as the lamb of God. At the entrance arch is the bearded all powerful Jesus, God the father. Pictorially this is a very different account from the western notion of the Trinity that we find debated in the great Patristic debates of Christian thinking Beard, M. (2018). *The Eye of*

a molecule-for-molecule duplicate would not be David” (2000:36)<sup>14</sup>. However, Michelangelo’s David could have been moved to Paris or Milan and it would still be that particular David; some properties that David has are merely accidental whilst others are essential<sup>15</sup>. If a manor house dismantled during the seventeenth century English Civil Wars has had its stone reused to build new houses it has stopped being the manor house in itself (in a *de re* manner) although the house when it was rebuilt a century later using the original, old stone is still the manor house even though it has been completely rebuilt from new materials (a *de dicto* essentiality). Being related to the art-world is an essential property of a Picasso painting but if the art-world were to go out of existence then the Picasso painting doesn’t mysteriously disappear. Having a certain shape is essential to Michelangelo’s David but Baker points out that if a meteor just so happened to have the same shape it isn’t an essential property of the meteor.

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*Faith*, London, UK: Profile Books Ltd. Page 137.

She also notes the period of transition between the colossal statuary of Ancient Egypt at the time of Ramesses the Great, the Greek statue of Phrasikleia from 550BCE and the Greek first century portrait statues that concentrate on what we would call realistic presentation. We are unclear why the changes came about from a cultural angle but “... this whole story shows one of the ways that ancient people interpreted statues and paintings of human beings; not as passive art works but as active players with roles to perform in the lives of those who viewed them ... the history of art is not just a history of artists ... it’s also a history of the men and women, who ... looked and interpreted what they saw, and the changing ways in which they did so. Baker does not carefully define what she means by the art-world other than to use the concept as a conduit for non-derived influences. This reflects Aristotle’s categorisation of things to some extent. In ‘Categories’ Aristotle’s first distinction is to discover truths about non-linguistic items so that we can use language to distinguish between homonyms, synonyms and paronyms. Homonyms referring to what the words signify. That is useful in distinguishing between a picture of a man and a man himself. They are the same image but not the same thing, the image is derived from the actual person Aristotle, Ackrill, J. L. and Aristotle De, i. (1974). *Aristotle’s Categories ; and, De interpretatione*, Oxford: Clarendon Press. Page 72.

<sup>14</sup> Baker characterises this “x has F essentially if and only if at any possible world and at any time at which x exists, x has F at the world and at that time” (2000:36).

<sup>15</sup> This difference is explored by Aquinas as explained by Marilyn McCord Adams in Adams, M. M. (2010). *Some later medieval theories of the Eucharist : Thomas Aquinas, Gilles of Rome, Duns Scotus, and William Ockham*, Oxford: Oxford University Press. Page 9. Composite substances get their being through form. Material substance is not simply an aggregate of two actual things but one thing in itself, per se and a potency for being actualised through its form. Any form added after that ‘event’ is an accidental event. A plant may be constituted by matter and form however the animating principle is added as a result of the form and would therefore be seen as an ‘accidental form’. This runs contrary to Aristotle’s identification of plants and animals.

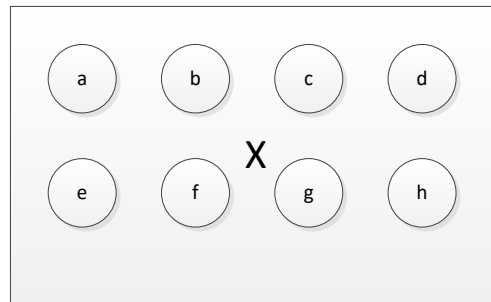
Baker's essentialism is summed up by saying that everything that exists has essential properties. Some things have relational properties essentially whilst others have intentional properties essentially. Other objects have properties that rely on conventions, language or other aspects of culture essentially and "one thing may have a certain property essentially, while another thing may have [the] same property contingently" (2000:39). There is almost a mix and match of property types and that mix and match means that her pragmatic outlook arising from her views in *Explaining Attitudes* (1995) allows for a mixture of essential, contingent intentional or relational properties in exactly the same physical thing. However, in this particular case "... it is ... in virtue of its [essential] relational properties that David exists. Even if it is also in virtue of its relational properties that Piece exists, there remains the irreducible difference between them: Piece could exist in the absence of an art-world; David could not" (2000:3).

#### **2.4.2. Primary Kinds**

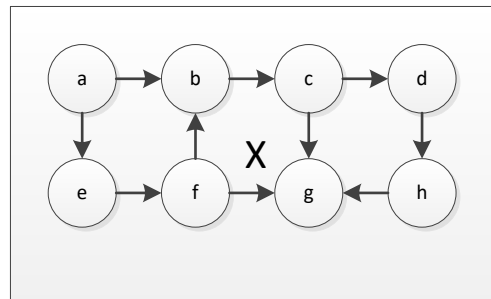
Under what conditions does one thing come to constitute a completely new thing as opposed to simply acquiring a new property? Baker distinguishes them in the following way "If x constitutes y, then y has whole classes of causal properties that x would not have had if x had not constituted anything" (2000:41). David has a host of causal properties that it would not have had if it remained as a piece of marble and so Baker needs to develop the account of primary kinds which we noted in the case of flags.

At the outset we have a primary-kind called 'piece of marble' which has properties that are internally derived without any influence beyond the marble. Its colour and weight are derived from the calcium carbonate of which was created millions of years ago. Diagrammatically this may look like this where each of the

internal properties is designated by a letter (its whiteness can be represented as (a), its weight (b) and its specific gravity (c) and so forth:



The internal properties could be described as relating to each other in this manner:



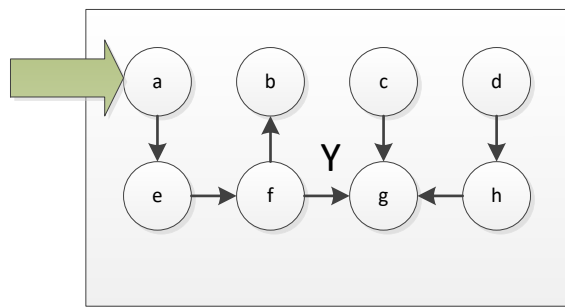
So, (a) relates to (b) and (e), (b) relates to (a), (c) and (f) and so forth. There are no relationships beyond the confines of the object and those relationships are described as totally internally derived to the object. The relationships here are essential to make X what it is, marble. If (a) failed to relate to both (b) and (e) then X would no longer be marble<sup>16</sup>. The constitution is entirely dependent on the way in which the parts relate to each other and the persistence condition of marble hangs on that relationship; it is not only essential to the constitution of marble but it is

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<sup>16</sup> We might chose to describe the molecular constitution of calcium carbonate (marble) -  $\text{CaCO}_3$  has one atom of calcium held to one atom of carbon, held to 3 atoms of oxygen. The valency of oxygen means that 2 neutrons are held in one orbit and a third in another 'outside' the first orbit that neutron is 'shared' with the neutron in the carbon. If the atoms did not related to each other in this way then we would no longer have a molecule of calcium carbonate, it would become a molecule of something else.

necessarily essential to the continuance of the marble as a primary-kind. It is as if the molecular construction of the marble is represented by the standard chemical formula  $\text{CaCO}_3$  with one atom of calcium, one of carbon and three of Oxygen related to each other by the sharing of electrons in their outer shell<sup>17</sup>.

On the other hand, the statue can also be shown to have different connections or properties using exactly the same parts but relating to those parts with a differing affect:



We may say that (a) no longer relates to (b) in the same way because it has developed a relationship with something beyond, and outside the object Y and the relations between (b), (c), and (d) have also been changed without a material change to the parts within the box. The statue Y, is now in relation to something outside, something that is not derived internally. Baker describes this relationship as being “non-derived”, however note that this relationship can be an essential one.

For Baker the context of the relationship is key to understanding its modal qualities (2000:43). In our statue/marble model ‘it is necessary that’ and ‘it is possible that’ govern the persistence conditions of each and we need to observe this in more

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<sup>17</sup> The most stable structure for the electrons is an octet of electrons in the outer-most shell of the atom. Calcium has 2 electrons in the outer shell, Carbon 4 and Oxygen 6. By sharing electrons across the elements they can associate as a strong chemical bond by achieving a noble gas structure.



detail before proceeding. Each quality could have relational properties that are essential or contingent and it will take some analysis to work out which is which.

The material marble has properties the very existence of which makes it 'marble', its primary-kind which is not derived from anything else; let us say its whiteness or its weight is its primary-kind. Creating a statue from the calcium carbonate allows that primary-kind to be 'carried over' into the statue and the whiteness and weight remain parts of it. However we are aware that statues can be glazed or gilded so the whiteness cannot be described as somehow essential to its statue-ness because there is another primary-kind that the statue takes on, a primary-kind which is to be found outside the internal structures of the marble, a primary kind that is not derived from the marble. The quality of whiteness may be essential to the persistence conditions of the lump of marble but not to the statue; it is a *de re* quality to the statue; the statue 'borrowing' the derived properties from the marble (Baker, 2007:37). The statue is borrowing the derived properties because the persistence conditions of the statue reveal that the non-derived properties (the external relationship with the art-world) will cease to exist when the statue is reduced to its derivative properties only. Over time the marble retains its essential qualities whilst the statue does not - the sense of 'loaning a property' implies a fixed time period during which the statue owns such a property. It is a temporary arrangement because if the statue were to be destroyed the primary-kind returns to its nascent form, the marble.

The qualities of the statue on the other hand take their derivation from beyond the marble itself in the skills taken to create it and the statue's relationship to the world of art, as a work of sculpture. Without the existence of the art-world the sculpture would cease to exist. A statue of the Biblical hero David is totally

dependent on the art-world and scriptural/cultural narrative for its subsistence conditions and we note that its persistence conditions are now contingent, that is to say the statue of David persists only as long as it remains a recognisable piece of religious art. The nature of the statue suggests that the relationship between the marble and the statue is an asymmetric one, it works only in the direction of the derived properties having no impact on the non-derived properties of the marble and not the other way about (Baker, 2000:44). Baker says that the usual assumption is that something is the thing that it is by the nature of its non-relational properties. David's existential position places the statue in relation to the circumstances in which it was created. It does not gain its ontological conditions by virtue of its material relations to something else alone. The statue does not exist in isolation to the external world (Baker, 2000:44).

## **2.5. Mereology**

The disparity in the persistence conditions intimates that we are dealing with two different objects that share all their parts with the exception of those persistence conditions. Can we say that persistence conditions are 'parts' in a mereological sense? Such a relationship between the properties ensures that the two primary-kind properties are bound together in a unified relationship that we are assured persists irrespective of whether those properties are to be had derivatively or otherwise (Baker, 2002:36).

This delineation lies at the centre of LRB's thesis: David and the marble are both three-dimensional material objects of different kinds. That difference can be expressed in a number of ways. Reductionism and modalism appear unimportant in LRB's model because she is adamant that even if  $x$  constitutes  $y$  at  $t$ ,  $x$  is not a subset of  $y$  at  $t$ . To constitute  $y$  does not mean that  $y$  is composed totally of  $x$  as the

mereologists would argue because the essential identity of *y* is independent of the parts that constitute it. In turn, that must mean that the constituted object, *y*, has different causal powers, different persistence conditions or essential properties – relational or intentional properties; *y* is a new object that is related to *x* but is not the same as it (Baker, 2007:32).

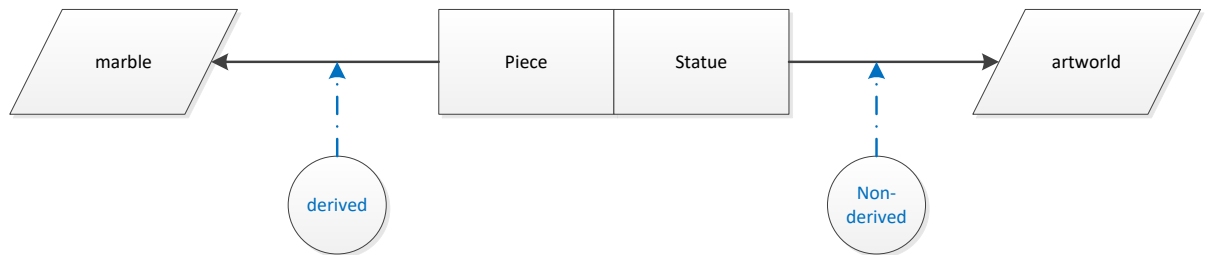
Constitution in this sense may appear to be a matter of relations between things and its parts but Baker does not wish approach constitution in terms of mereology (Baker, 2000:179) because that approach doesn't appear to show a synergy that she wants from material constitution<sup>18</sup>. Peter van Inwagen defines mereology as a sum of the *x*s where “the *x*s are all parts of *y*, and every part of *y* overlaps (has a part in common with) at least one of the *x*s” (1990:29). This simply does not do the job that Baker requires as a description of the parts of a flag does not distinguish that flag from the pieces of cloth that make it up. For Baker the nature of statues, flags, wedding rings “... are not determined by the nature and existence of their parts, in general mereological supervenience or mereological determination has no claim to be the basis for metaphysics” (2000:179) and she takes issue with both Jaegwon Kim (1993:54) and Dean Zimmerman (1997:440) in this respect.

Some may say that on the face of it the relation of constitution appears to be that of identity in disguise but she argues that such similarity lies only at the surface. If that were not the case then *x* would equal *y* necessarily and no new object is created. To further this she explains that some properties are excluded from the ability to be created derivatively and these include “alethic” and “identity” properties

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<sup>18</sup> She disagrees with David Lewis that a sum is “... nothing over and above its parts, so to describe it you need only describe the parts” –Lewis, D. K. (1991). *Parts of classes*: Basil Blackwell. at page 80

(2002:36). This allows constitution to do something new; the relationship between primary kinds allows the persistence conditions of another primary kind to govern the existence conditions of the constituted object in an asymmetric or irreflexive way (2000:44).



To finally cap the matter we can turn to some art works that really emphasise this. Marcel Duchamp’s 1917 Dada work ‘fountain’ was intended to highlight what he saw as the bourgeois concepts of the contemporaneous art-world. What he actually created was a porcelain urinal with the ascription of ‘fountain’. Most of the critics of the time just didn’t get it – it was just a urinal, nothing more. For them, the art-world did not include such intimate objects and that is where their perception stopped. The persistence conditions of the art-world did not encompass the work at all, at any time, present, past or future. For the more adventurous the world of art had changed profoundly during the First World War. Gone were the prissy Edwardian values based on an outdated class system; a stark realism was taking hold that included a sense of the surreal. For the adventurous this was indeed a work of art and the persistence conditions of that world had changed indeed, ultimately including Tracey Emin’s unmade bed<sup>19</sup>; proving that the concepts of ‘what is art’ changes over time and social setting.

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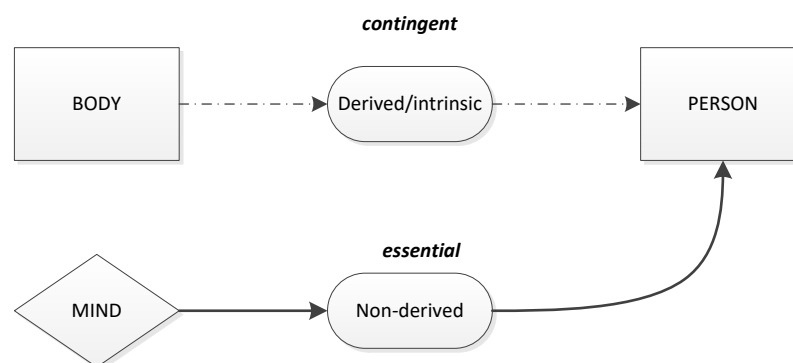
<sup>19</sup> 1998 ‘My Bed’; shortlisted for the 1999 Turner Prize and still valued by Emin as her most important work.

## 2.6. The Constitution of Persons

Baker makes a new move and uses the model she has established with artefacts and applies it to answer the question ‘What makes us human?’ This key move is inspired by the material dualist argument that continues to impact on metaphysical philosophical discussions of this type.

Baker’s solution is to be found in the Constitution View where the physical body is compared with the contingent qualities of the marble in the artefact scheme. The person is obviously derived from the workings of the body whilst that person is also the sum of experiences stored in the mind as memory. These memories are essential to the differentiation of one person from another and distinguish us from each other as a product of the nurturing and experiences we have undergone<sup>20</sup> and are the result of the workings of the physical body, that is to say the neurons that make up the brain. This qualifies my brain activity as a derived characteristic.

The person schema



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<sup>20</sup> For the sake of this work we should bear in mind that the way memories are laid down is complex matter that is not yet fully understood. We can track which neurons appear to be fired when a certain sensory perception is first registered. However we have to be mindful that the retrieval of memories is highly likely to be the product of different neural pathways from memory creation.

What makes me the person I am is born of the fact that I am fundamentally a material animal and that any animal grows within a given social setting. For Baker, the human animal must have a way of being related to both the internal and the external environments (that is the internal milieu, or the 'self' and the world that is external to it) and if she can find out how to bring those ideas together she will have the necessary nexus. This is a key idea for her, and it sits easily with her existing theory on derived characteristics from the discussion of the nature of artefacts<sup>21</sup>. When my animal body comes to an end, what makes me 'me' also comes to an end; the persistence of my human person would therefore depend on the persistence of my animal person (2000:6). But something jars because we are aware that our bodies change over time whilst our person continues to develop. Intuitively we consider that our existence depends not on our bodies but on our person.

The CV is able to adopt propositions from both sides of the materialist divide to form a synthesis which sees 'me' as a human person constituted by a human body but where my persistence conditions depend on my person rather than my body (Baker, 2000:6). This must mean that being a person has some other fundamental source in the same way that artefacts are related to an external situation. She describes this new element as a 'first-person perspective' (FPP), the component that not only distinguishes us from other animals but is also the source of my being for "... I would cease to exist if that first-person perspective were no longer exemplified" (2000:6). 'Human being' and 'human person' become different entities in this paradigm and the terms cannot be used interchangeably, Baker tells us. Like

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<sup>21</sup> We must be aware at this stage that Baker sees the mind and the physical activity within it in terms of the neuron activity as actually a product of the body in that the mind is produced from the way we store memory in the brain. This will be discussed in Part 3.

Locke, Baker distinguishes between a man and a person, where 'person' is a thinking being able to consider itself, hence the notion of FPP tying it altogether.

FPP has two chronological stages for Baker. There is the "rudimentary stage" exemplified by human infants and other mammals that mature into a "robust stage" at roughly the stage of development when communication skills appear to develop, especially the profound skill of language use (2013:30). In humans this is directly related to the acquisition of language skills from the age of about 18 months. These stages can also correspond to the acquisition of self-consciousness from ordinary consciousness which is also likely to be dependent on language construction. Consciousness is not likely to be the result of a single activity because it involves the complexity of "... receiving and responding to sensory inputs, imagination, inner experience and volition" (Carroll, 2016:319). Nor is it Daniel Dennett's "Cartesian Theatre" with a tiny homunculus running the show like something from the Wizard of Oz. Carroll describes it as more like "... rambunctious parliaments, populated by squabbling factions and caucuses, with much more going on beneath the surface than our conscious awareness ever accesses" (2016:321). I will delve into that area in Part 3 when discussing Daniel Kahneman's work.

Baker explains that consciousness, or rudimentary FPP, is held by human persons largely unknowingly and it is also held essentially whilst animals hold it contingently<sup>22</sup>. She tells us with growing confidence that a specific way of understanding FPP is uniquely human because it distinguishes the human person from other animals. An animal acts from a first personal need without consciously

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<sup>22</sup> This is a tricky divide for Baker to uphold without some modification as it could mean that those beings who only hold FPP in its rudimentary form are not able to form a fully human person if we see the construct in a totally binary fashion.

distinguishing itself from other objects in the environment as human beings do, in the sense that Carroll defines consciousness. But human persons are able to conceive of themselves as themselves, an objective view of the self and it is that perception that is fundamental to being a human person, marking us out from other sentient creatures. FPP therefore brings together the human animal and human person in a unity that is advantageous in explaining CV. We should note though that FPP may well be an essential quality to the human person but it emerges from within, it is a product of the mind, emerging out of a derived sense of rudimentary self but with the ability to look in on itself in a non-derived manner. This will lead her into choppy waters later.

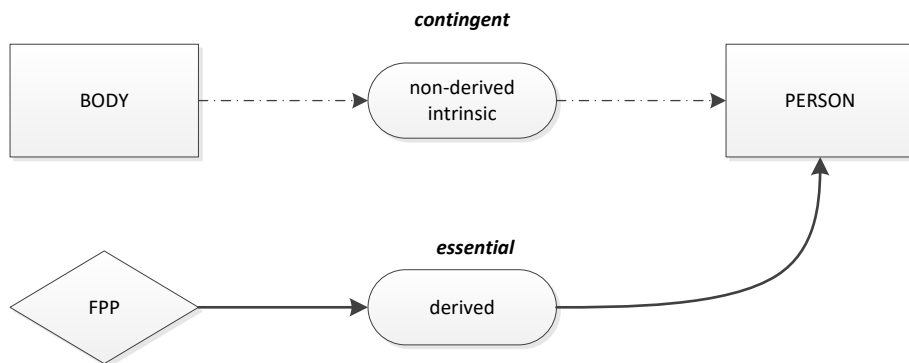
Baker is now able to advance her argument by visualizing the same space occupied at the same time by both a human body and a human person united as one, a 'unified thing' (2007:68) that fulfils Aristotle's hylomorphism, that is two substances held together by a form. We can apply her reasoning without fear of two separate persons emerging; the 'human person' is the primary-kind of 'ourselves' whilst the human animal becomes the primary-kind of our bodies (Baker, 2007:37). Furthermore, I am not two persons because constitution is a relation of unity and I am essentially a person whilst my body remains a person but only contingently because when my body no longer constitutes 'me' it is no longer a person. The persistence conditions of objects x and y therefore differ in the same ways as the lump of clay and the statue – one set is essential whilst the other is time limited and therefore contingent.

At first glance this all appears well reasoned and a clear, coherent extension of the artefacts reasoning but there are some difficulties which, crucially show how Baker is treating persons and bodies differently from artefacts.



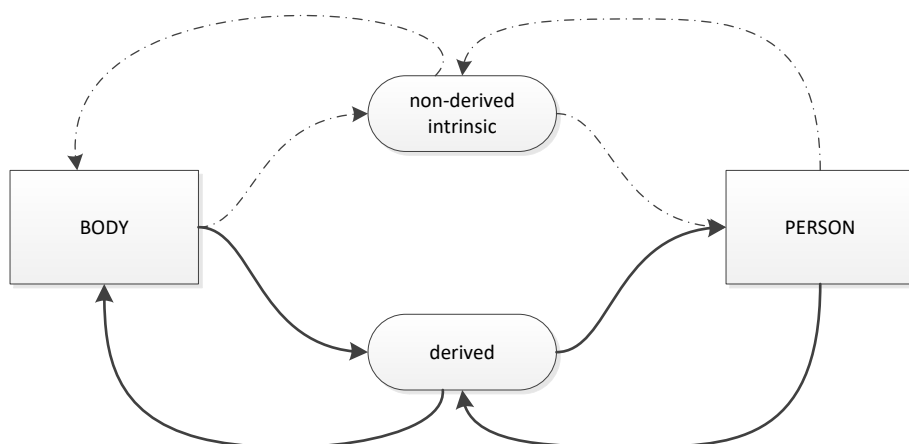
If we use the persons schema diagram above and superimpose the elements of Baker’s reasoning from *Persons and Bodies* (2000) we can distil a sense of how the model should come together using FPP in place of ‘mind’:

The persons and bodies schema



This schema however doesn’t seem to fit with the model that emerges from *The Metaphysics of Everyday Life* (2007) because on the face of it there appears to have been a critical reworking of the model when the FPP element is excluded. LRB tells us that I am a person “... nonderivatively and a human animal derivatively; and your body is a human animal nonderivatively and a person derivatively” (2007:38); FPP has taken a back seat and melted into the background and we now have the following situation:

Persons and bodies from 2007



This bears little comparison to the original description of artefacts from 2000 and raises a question about the validity of FPP in the equation in the first place. It strikes me that Baker has realised that the mind is a product of the body and needs to be encompassed by that term. If I am correct then why should the definition of FPP create difficulties for Bakers' constitution view after all?

Constitution is a relationship of properties that is crucially from unity rather than just a spatial or temporal coincidence - when  $x$  constitutes  $y$  there is a unified thing,  $y$ , as constituted by  $x$  (2000:46).  $X$  has no independent existence as long as it constitutes  $y$ . If it continues to exist when  $y$  has failed to exist it has its own, separate existence. During the period that  $x$  constitutes  $y$  the identity of the thing it constitutes is determined by the identity of  $y$  – that means we are people constituted by a particular body but we are not identical with our bodies, each has distinct properties. Put another way,  $x$  and  $y$  are only related in a constitutional way if either  $x$  constitutes  $y$  or  $y$  constitutes  $x$ .  $X$  can have properties that are wholly derived from  $y$  or its own properties which are non-derived. To have a property derivatively can be shown as "...  $x$  has  $H$  at  $t$  derivatively if and only if  $x$ 's having  $H$  at  $t$  depends wholly on  $x$ 's being constitutionally related to something that has  $H$  at  $t$  independently of its being constitutionally related to  $x$ " (Baker, 2000:47). Our height is derived from the

bodies that constitute us. It is my body that has the property of being 5'10" and so I have that property derivatively; however, according to Baker this now means that both my body and my person have the property of being 5'10" tall derivatively (2000:47)<sup>23</sup>. So how can we define a derivative property?

Baker achieves this as follows:

If H is not a truth property or an identity/constitution/existential property then:

x has H at t independently of x's constitution relations to y at t = df

x has H at t; and

Either (1) (i) x constitutes y at t, and

(ii) x's having H at t (in the given background) does not entail that x constitutes anything at t

Or (2) (i) y constitutes x at t, and

(ii) x's having H at t (in the given background) does not entail that x is constituted by something that could have had H at t without constituting anything at t (2000:49).

The consequence of this is that x having H at t is saying that x has H because it is constituted by something that could not have had H at t unless it constituted it (2000:50). The relationship is one of dependence, of unity and this leads us to this statement:

2) x has H at t derivatively = df There is some y such that:

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<sup>23</sup> What Baker calls downward derivation – her example is that of the Dean of the school who has the right to be at the head of a procession. The right does not derive from his body, but his position as head of the school. However without the body the person does not exist as so there is an upward sense of derivation at play.

it is not the case that: x has H at t independently of x's constitution relations to y at t; &

y has H at t independently of y's constitution relations to x at t (Baker, 2000:97).

This guarantees the interdependence of x and y at t through the relation of constitution. For an object x and a property F, if x has F but not derivatively then x has F nonderivatively. If x is constitutionally related to y and x has H derivatively then x appears to 'borrow' the property H from y.

We are clear about this in the everyday language we use to think about how happy we might feel if we were to use the verbal form "I feel happy today" but also using the language of planning for the future when I ponder if I will be happy in a year's time. This secondary use of "I" reflects my ability to think of myself as "I" looking in on myself as a separate entity. I am able to associate the two ideas of "I" together without recourse to the use of a name or any other third person sense of supervening identity. To be a person we have to have the *potential* for FPP irrespective of being able to have intentional states (such as belief, desire etc.) as animals are likely to have such states as well as human persons<sup>24</sup>. That is the second branch of this equation for human persons are constituted by having human bodies and that body maintains the potential to create intentional states. What makes a body one person's rather than another is the ability to refer to the first-person perspective from within that very body. That body feels pain, moves and expresses internal desires and beliefs in the very behaviour it exhibits. This is

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<sup>24</sup> This is using the reasoning of Aristotle's *Metaphysics* again. It is only in actuality that I can recognise that there was a potential in the first place – see footnote 5.

different from the way in which another animal, no matter how closely related biologically, feels, moves or behaves. The body then supports first-person intentional states and the neuroscientist is responsible for determining the conditions in which a human organism is able to create and maintain those first-person intentional states (2000:93). Baker sees this as establishing the relationship between derived intentional states and non-derived ones that cannot exist in themselves without reference to the substance of a derived intentional state<sup>25</sup>. What makes something a human body is its biological properties arising from the DNA and its relationship to the external, growing environment; the epigenetic factors. The persistence conditions of the body remain whether or not it is related directly to a person for even at death the corpse is still a human body even though the personhood would then be in doubt<sup>26</sup>.

If a Body constitutes Smith at t = df

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<sup>25</sup> It would be impossible for someone who has been confined in a black and white room to be able to conceive of the colour red without having first-hand experience of that colour. Reading about it alone would not be enough to allow the mind to conjure it from nothing. This means that a non-derived thought references experiences already stored in the memory; references that have been experienced through the derived mechanisms in place to allow derived, rudimentary-type thoughts to have meaning to the rudimentary thought process. For example, the behaviour that makes us search out food is triggered by a perception of hunger. Such a perception needs to be associated with the external agent, the agent that will satisfy the longing, food. The need can only be satisfied when the neonate has been taught how to satiate the need by external behaviour that demands it knows that food will take away the hunger.

<sup>26</sup> At this point Baker defines the constitution of the human person as follows:

Let being an F be x's primary-kind property, and let being a G be y's primary-kind property, where being an F ≠ being a G, and let D be G-favourable circumstances. Let F\* be the property of having the property of being an F as one's primary-kind property, and let G\* be the property of having the property of being a G as one's primary kind property. Then:

(C) x constitutes y at t = df

- (a) X and y are spatially coincident at t; and
- (b) X is in D at t; and
- (c) It is necessary that  $\forall z[(F^*zt \ \& \ z \text{ is in } D \text{ at } t) \rightarrow \exists u (G^*ut \ \& \ u \text{ is spatially coincident with } z \text{ at } t)]$ ; and
- (d) It is possible that:  $(x \text{ exists at } t \ \& \ \sim \exists w[G^*wt \ \& \ w \text{ is spatially coincident with } x \text{ at } t])$ .
- (e) If y is immaterial then x is also immaterial (Baker, 2000: 95).

- (a) Body and Smith are spatially coincident at t; and
- (b) Body is in intrinsic and environmental conditions at t conducive to development and maintenance of a first-person perspective; and
- (c) It is necessary that: for anything that has the property of being a human body as its primary-kind property at t and that is in intrinsic and environmental conditions at t conducive to development and maintenance of a first-person perspective, there is some spatially coincident thing that has the property of being a person as its primary-kind property at t; and
- (d) It is possible that: Body exists at t and there is no spatially coincident thing that has the property of being a person as its primary-kind at t; and
- (e) Neither Smith nor Body is immaterial. (Baker, 2000:96)

Now Baker goes further to clarify the distinction between what she means by environmental and intrinsic conditions by referring us to brain development in infant humans (even though she has previously said she wouldn't do this but rather leave it to the pediatric psychologists!). The environmental conditions are thus "... those in which the infant naturally develops various senses of 'self', as described by developmental psychologists" (2000:96). For her analysis, the first-person perspective emerges out of the psychologist's ideas about how children develop this sense of self, particularly in the first two years of life. These emergent properties are derived, and are derived in the sense that they have their origins in the way a child is

born with some innate properties which are nurtured into that sense of self, that rudimentary first-person perspective that is so important to Baker's work<sup>27</sup>.

A baby may well be born with blue eyes and we are aware that this is a product of the interaction of the child's parents' DNA. Baker would say that the child has blue eyes "in virtue of the fact that she is constituted by a human organism" (2000:97); she has the property derivatively. To have such a property means that she holds it independently of the external constitution relationship to the world 'out there'<sup>28</sup>.

We hold our person properties nonderivatively and as a result we hold our first-person perspectives nonderivatively. This fulfils (1)(b)(2)(ii) above – my having FPP does not mean that I am constituted by something that could have had FPP without constituting anything at all because having FPP necessitates being a person. On the other hand, we have a derived relation with the fact that we are animals derivatively and conversely we are derived from being animals independently of their constitutional relationship to us.

A contemporary neo-Cartesian is likely to look to the brain and determine which discrete parts of the brain are involved in the neural processes that ultimately influence our beliefs, desires and intentions contributing to what makes us a 'person' (Baker, 2000:3). For Descartes the immaterial mind was the key to this understanding rather than seeing the brain as part of the physical body whereas others still focus on the mind and attempt to update the Descartes heritage. Baker

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<sup>27</sup> It is highly likely that these are the very particulars that have contributed to the success of human-kind in that they are very characteristics which natural selection has favoured in the long-term development of homo sapiens.

<sup>28</sup> In the same way that Aristotle can describe Socrates as having pink within him in 'Categories'. Pink is not a substance in itself.

looks to what she describes as a first-person perspective (FPP) as the lynch-pin in understanding what it is that makes us human persons.

A human's ability to experience an inner life is a FPP. Baker tells us that we may well be born with this ability and when it is developed through childhood experience our self emerges which helps to distinguish us from other living creatures. The world we experience as our inner life is different from the religious idea of an immaterial soul because it is not wholly independent from the world 'out there'. "Our inner lives ... are not conceptually, temporally, or ontologically prior to the rest of the material world" (2000:59). FPP is the foundational idea behind accounts of consciousness in both a psychological and philosophical context.

## **2.7. FPP and consciousness**

The notion of consciousness "... is notoriously obscure" (Armstrong, 2004:607) because it is typically difficult to analyse; it is not even clear if we are referring to a process, a quality or a sort of entity, and the language we use about the concept is equally opaque. This would go along with Carroll's basic reasoning (2016). Armstrong however tells us that it is clear that Descartes got it wrong; consciousness is not the root cause of mentality. To explain mentality in terms of consciousness probably puts the cart before the horse. Consciousness it would appear is a sort of supervening term for all sorts of different things that go on at a mental level<sup>29</sup>. One of those important things is the way we link consciousness with perception. If we can perceive what is going on in our bodies or in the immediate

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<sup>29</sup> Someone who is sound asleep is understood to be unconscious yet still having a mind with a full set of beliefs and sets of experience acquired knowledge bases. An unconscious person also retains memories, skill sets and has likes and dislikes, attitudes and desires and emotions all of which are causally switched off during sleep.



environment, then we are likely to be conscious. However there seems to be layers of this thing we call consciousness. We have distinct episodes where we know we are conscious and yet our perception seems to be in doubt. Armstrong uses an example of the long-distance lorry driver who whilst driving at night can elicit a sensation that he has been driving more than half asleep. A sudden jolt alerts us to the idea that we've been driving as if in this automated state, seeing the road ahead and performing breaking and gear changes without fully engaging our conscious perceptions. We seem to have a primitive level of mental functioning that engages a different part of our awareness at a more primal evolutionary stage than our everyday perception or at least at some inner level that we are not fully aware of (Armstrong, 2004:611). Armstrong conjectures that there is a difference between 'minimal consciousness' and 'perceptual consciousness' but neither of those corresponds with our automatic driver. Our automatic driver seems to be functioning with some skill and is guided by perception but with no other apparent mental activity. In Armstrong's scheme of things this means that consciousness is somehow graded according to perception. He speculates that this notion may well represent the consciousness of many animals whose central nervous systems are less developed than ours. He then ponders further by asking just what is it that the driver lacks when in this base state of mental functioning? It would appear to be something that lacks perception beyond awareness of our "... current environment and/or our current bodily state; it is perception of the mental" (2004:611). That perception lacks sense perception for we are clearly seeing the road ahead and hearing the noise of the car but it is somehow introspective and different from sensory perception. We may feel we are on automatic pilot but we can only do this when we have working memory of the road and the conditions ahead.

Baker wants to focus on this sense of introspective perception. For her consciousness is evident through consciousness of the self, as distinct from the human sensory perceptions that enabled our driver to get safely from A to B. It would appear that a two-track explanation for consciousness seems to have some traction in our everyday experience. A conscious person thus becomes truly self-conscious only when a first-person perspective is used to think of oneself "... as a subject distinct from everything else" (Baker, 2000:60). All sentient beings are conscious but only some are self-conscious and that demands sentient beings who are capable of having first-person perspectives about themselves.

The brain may well be the organ we use to think but "... the thing that thinks, that has an inner life – is neither an immaterial mind nor a material brain: it is the person" (Baker, 2000:3). And further, she aims to place the development of the person in a social setting by concentrating on the notion of 'in certain circumstances' so that we can reinterpret the nature/nurture argument.

Baker offers a solution in which the human person is constituted by a human body but with which the person is not identical. The constitution view that arises from this is rooted in the notion that we are able to form a first-person perspective that has the capacity to change over time until it becomes robust and it is that vigour that creates personhood and creates the circumstances in which we can distinguish us from other sentient creatures.

## **2.8. Common sense psychology and perspective**

Baker sets out her stall in terms of a "common sense psychology" or a practical realist narrative that tells the story of the richness of human experience as understood by the mind. Displayed in her basket of wares are the building blocks of

what we call propositional attitudes, that is the beliefs, fears and expectations that allow us to describe, explain and predict activities in the world (Baker, 1999). What is crucial to this account is that common sense psychology is not a methodology in the way that scientists would know it - something that can be isolated and tested and the tests repeated to analyse its properties. Scientific method would be used to explain how we react to external events using chains of causation as a means of rationalisation. These causal chains can be seen as the properties of human agents and as such are so complex that science alone doesn't seem able to full account for the whole picture. Baker endorses this view rejecting reductionism and eliminativism as a fundamental concept in her description of FPP choosing instead to describe how we develop such a perspective as a psychological kick off point (Baker, 2013). This is coupled to the engine of material accounts of the human person as a sort of driving force that is responsible for our physical actions.

As we have already seen for Baker, most physical things are more than just the aggregation of the particles and their associated properties in a mereological sense. My house has a sale value that is based on the macro economic situation of the day; to be frank, it's a matter of supply and demand. This property is 'explanatory', it doesn't relate to the cost of the land or the bricks and cement used in its construction. If I were able to move my house to a different location the value would inevitably change. The relation between house prices and bricks and mortar is ambiguous because the relationship of value is beyond the constituent parts.

My driving licence is a collection of molecules that constitutes paper and ink but there is no relationship that supervenes on the licence that comes close to explaining its function. The property of being a driving licence does not supervene on the fundamental physical properties in a direct way. The physical properties of the

licence do not relate directly to the endorsements of my driving licence nor tell me anything about the power of the car I drive. These upper level properties are not explicable by physical science. What's even more peculiar is that it doesn't really matter that the properties of my driving licence are not explicable by science. The explanatory properties of the licence depends on relations to other properties at the same level rather than at a lower level of molecular structure (Baker, 1999:6). This requires further elucidation.

The ontology of science, Lynne Baker tells us, is concerned with a complete list of what exists (2013:3). The methodology of science though may well be characterised only by what is described as objective phenomena and thus 'internal' or subjective characteristics are likely to be overlooked. Such a distinction will therefore largely ignore what the mind conjures, the so-called 'problem of other minds'. We cannot know for sure whether anything has a mind and if minds exist at all we can't necessarily agree on what actually exists beyond the confines of each mind - the 'qualia problem'. Objectively we cannot agree on what the mind is because we only sense it for ourselves, subjectively. If the mind is subjective we have to introspect to experience it and the only way that this could be done up until now was to observe behaviours. But behaviours are the end products of thoughts and agent reaction. Thoughts and feelings are not immediately observable from behaviours; they become spectral, the realm of subjective reality and because you can't see them, they become what we can describe as illusion or even fantasy. This sense of illusion does not sit comfortably with Baker and she contends that this cannot be a "... sufficient account of reality" (2013:30) because we maintain a perspective that is essentially first personal.

The property of robust FPP develops out of the rudimentary until one can conceive of oneself in the first person, using 'I' thoughts and 'I' sentences to reflect on the self. There is thus a range of first person phenomena and many of them stretch beyond the subjective phenomena of the rudimentary FPP. FPP thoughts thus include thoughts about myself (I am glad I live in the UK) but also capture much more rudimentary stuff like 'I saw someone running'. FPP thoughts can therefore link the internal world with the external one in such phrases as 'I wish I were a celebrity or film star' – that demands a sense of oneself as oneself as well as a perception of what a movie star is. I could not be a movie star in a world that didn't construct movies. There is therefore a sense in which some FPP thoughts are related to the world 'outside' the objective world however subjective the measurement may be.

## **2.9. Robust FPP**

FPP thinking does not imply that there is some sort of separate non-material entity such as the self, the soul or an ego "What one thinks of from a first-person perspective is oneself, an embodied person" (Baker, 2013:36) which is something non-linguistic animals cannot perceive even though they may show self-recognition in mirrors. So what does Baker mean when she talks of FPP in relation to her theory of mind?

The new-born human child may well be conscious but she has no concepts at all, let alone an idea of what it is to be self-conscious. As the person develops she moves from a rudimentary first-person perspective to gain a more robust concept that comes from a unique ability that humans have – to view reality from a subjective viewpoint (Baker, 2013:128). Without language a person is unable to refer to herself at all and yet a rudimentary FPP allows a baby to develop mental activities that are

distinctly first personal. The development of language moves the child from the realm of rudimentary perspective into the robust form. It is not until the middle of the second year of a child's life that the concept of 'me' emerges and from there grows the ability to evaluate actions that are triggered by a symbolic 'me' (Smith, Cowie and Blades, 2003:39). We are told by the developmental psychologists that it is the grasp of language that enables us to think of ourselves in the first person, giving us a self-concept that is one step removed, a symbolic me that I can associate to myself.

We need to start our exploration in a social setting. Cognitive tests on humans and orangutans find that the only place where humans out score orangs is in social skill acquisition. This involves the learning of social skills such as communication and understanding the intentions of others in the social group; other skill acquisition develops in the same way for both human and nonhuman subjects. Play in both species helps us to understand the making and use of tools, pretence, self-recognition and learnt symbolic representation. The skill of deception is also learnt early on by both chimpanzees and humans. This is a key skill in social settings but it demands a sophistication that is indicative of something else happening in the brains of the observed. A classic example is found in the behaviour of chimpanzees when an adult finds a bunch of bananas that only he has noticed. As soon as a second male comes into sight the first chimp moves away and sits as if nothing had been seen that is out of the ordinary. The second chimp was known to be of a higher dominance in the group and would have taken the whole bunch of bananas for himself had he seen them. The first chimp was displaying deception but was caught out by the second when the newcomer left the area and hid behind a tree to observe the return of the first chimp to the bunch of bananas. Of course, the chimp lower on the hierarchical structure lost the bananas but there is something very interesting

happening in this encounter. The level of deception being used by the chimpanzees suggests that both of them deliberately changed their behaviours to signal a deception to the other. This suggests that the chimps have some sort of understanding of the reaction of the other (Smith et al., 2003:44). That understanding is the basis for the calculation made in the battle of social tactics and it suggests a firm understanding of a sense of what 'I' is and an acknowledgement that 'I' have needs and wants; but where does that understanding developing from?

Baker believes that the concept of "shared attention" is responsible for the birth of rudimentary FPP (2013:131)<sup>30</sup>. The awareness of a caregiver as 'another' emerges when infants discern a divergence between their own attention and that of their mother's. These activities are recognised as being the precursor to the development of language, that is to say it is the understanding of a first-person perspective in contradistinction from another person that necessitates effective communication and the prediction of behaviours in others. The inner speech model that is required at this stage of infancy must develop propositional content that associates beliefs, hopes, intentions and fears with concepts. Baker illustrates the notion of association by noting the thought that grass is green holds two concepts, grass and green. Those two concepts differ from each other depending on the conditions prevailing at the time (or possible worlds to use Fodor-like terminology). The application of those terms determines the identity of the concepts which in turn determine the identity of the thoughts of which the concepts are constituents (Baker, 2013:132). To have a thought that uses a specific concept one must have the

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<sup>30</sup> Peter Mundy argues that "... joint attention is one of the vital cognitive and motivational functions the human brain has evolved to perform" and that it should be of no small consequence that it plays a part in the current assessment of ASD. Mundy, P. C. (2016). *Autism and Joint Attention*. New York, USA: The Guildford Press. at page 21.

concept to start with, be able to recall it efficiently and be able to apply it correctly. This notion of application has been claimed to be a linguistic and social skill and it is what differentiates animals and young humans with rudimentary FPP from the developing human with robust FPP.

John Perry uses an idea to stress that the use of the word “I” is a reference not to the person but to what Nagel has already referred to as the “objective self” (1983). Such an objective self plays its part in the objective world “out there” by interpreting the world through the senses and reacting to the perceptions of that outside world. This objective self is a different entity to the person according to Nagel; the objective self being contingent in its relation with the person. When used in everyday speech the “I” verbal form thus relates to the objective self rather than to the person. When I wish to use my imagination to view the world I am using the subjective “me” to project my understanding of what it is to be Napoleon on the rest of the world “out there”; I am the imaginer, the thing that is constructing this imaginary world in my head and testing out how I perceive me as Napoleon might act in the world. I am thinking about the world with me at its centre in some time context, it is conjured in the mind as an agent-relative context. I conceive of myself as a subjective person in a world of objective reality (Perry, 2002:215). However, I can also conceive of the world as a place that is impersonal or totally objective where I exist alongside all the other “I’s” where all people are in the world in relation to their own “I’s” where I am someone else in relation to their own “I”. In this way my sensory perception is on a par with everyone else’s as are my intentions, desires, pains and pleasures. The world becomes a collection of objective facts and Perry claims that this is a “... more faithful representation of reality than any agent-relative view” (2002:216) in distinction to Nagel’s view.



If we return to Armstrong's idea that some animals seem to have some form of self-consciousness in a weak sense, Baker turns to the behaviour of what she calls "problem-solving creatures" where such beings take a practical stance on how things appear to be for them. From an observer's stance we attribute belief structures, appetites and desires to these creatures that seems to be using reasoning from a particular perspective. The dog digs up the bone because he saw me burying it just there and he wants it to eat. The dog is experiencing the outside world in egoistic terms; he wants the bone and has no capacity to think why I might have buried it in the first place. The dog doesn't exhibit any behaviour that tells me why he's digging up the bone or that he can comprehend why I buried it. There is no need for a first-person perspective; the dog is acting on belief-desire-behaviour. He has no observable sense of his own beliefs or desires or indeed of himself as the holder of such beliefs or desires.

Baker moves to strengthen this outlook and turns to the findings of research into apes to show that by introducing chimpanzees to mirrors they are likely to challenge the image they see of themselves as if it were a foreign chimp; that is they behave as if there was another chimp in the room. However over time the chimps become aware that this is a reflection of themselves and start using the mirror as a tool in personal grooming. This later behaviour differentiates chimpanzees from other monkeys in that other species of monkeys (the notable exception of orangutans) do not eventually adapt to using the mirror as a tool<sup>31</sup>. The conclusion

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<sup>31</sup> See [http://www.metaspoon.com/mirrors-jungle-wildlife-reactions/?fb=509gbd4599a5&utm\\_source=509gbd4599a5](http://www.metaspoon.com/mirrors-jungle-wildlife-reactions/?fb=509gbd4599a5&utm_source=509gbd4599a5) for film evidence. The point is also confirmed by in Waal, F. B. M. d. a. (2013). *The Bonobo and the Atheist : in search of humanism among the primates, First edition*. edn London, UK: W W Norton & Co Ltd.

is that chimpanzees can have self-recognition as a form of rudimentary self-consciousness or FPP (Baker, 2000:63).

Baker further asserts that self-recognition in a mirror is not the final test of self-consciousness; the subject must be able to think of itself as itself, that is “one must be able to conceptualize the distinction, to conceive of oneself as oneself” and separate from others (2000:64). Baker makes the justification largely on grounds of syntax. Smith can make a first- person reference such as “I am tall” and can also attribute that reference to someone else (Smith can quote Jones abstractedly to say that Jones wishes that she were tall). Smith’s attribution could be expressed directly by Jones and she could say “I wish I were tall”. However, we can also express that direct statement ourselves and this is attributing a first-person reference to ourselves. This, Baker claims, is at least an indication that human persons have a sense of strong first-person status. This sense of strong first-person status is caught up in the way we use language about ourselves, it is essentially a linguistic reality. To say that I am tall is really a contraction of the idea that I am having the thought that I am tall. This suggests that the person is thinking about her/himself as her/himself, somehow separating out the ability to perceive of oneself as distinct from others. Essentially, one is thinking about one’s perspective as one’s own and acknowledging that others have their own subjective perspective. The ability to conceive of oneself allows us to recognise the extent of the demarcation we have with others, where our worlds end and theirs begin. However, there is some sense in which we share a common understanding, an inter-subjectivity based on this perception. This is borne out by developmental psychologists who describe how we acquire self-concepts at the same time as concepts about other things that are different from ourselves.

Baker concludes by explaining that all experience of a sentient being is perspectival. Dogs sensing danger might express this in words as “there’s danger over there” but that thought does not express any sense of the dog being himself, there’s no sense of self-awareness, it’s almost an unconscious thought. The dog still has conscious states of mind about feeling pain or dispositional states of belief or desire but the dog does not appear to be able to conceive of itself in the first person as the object of those states (2000:67). “On the other hand, strong first-person phenomena require that the subject conceptualize the distinction between himself ... from a third-person point of view and himself from a first-person point of view” and this is more than the phenomenological point of view that a mental episode can be apprehended in the consciousness in virtue of how it feels to the subject (2000:68).

This view of first-person perspective confirms two other ideas. Firstly, using ‘I’ gets around the issue of errors in self-reference. When I use ‘I’ in my sentences I am confirming that I am talking about me and not about someone else. If I believe I am Napoleon then I am gathering what I know about Napoleon and relabelling myself as he. I am not claiming to get into Napoleon’s mind and somehow reassign what I am to being Napoleon. I am actually renaming myself without changing my first-person perspective. The use of ‘I’ refers to me, the person constituted at this time by my body. The sense of ‘I’ becomes an abstraction that allows me to think about intentionality and agency as an objectification of my subjective self (Solms and Turnbull, 2002:79 ff).

Wittgenstein points out what he sees as a difference between the use of the word ‘I’ as subject and object. This is exemplified in the use of the phrase “I have toothache” in distinction to “I have long toenails”; the ache in my teeth is entirely subjective whereas the length of my toenails appears to make “I” an object in the

grammatical structure of the sentence. However Baker points out that the objectification is merely a misattribution of a property “having long toenails”, attributing the property to me. She points out further that “I” am still very aware of whom the “I” is in this construction and even in the construction of “I imagine that I am Napoleon” there is no contradiction or error of self-reference. I will discuss this further in Part 3.

Secondly the sense of first-person perspective is relational because I cannot think of myself except in relation to other things. I conceptualise ‘me’ only in regards to the other, the things that are outside me. My subjectivity is derived from my sense of what is not me, that is to say from what is outside of me. Baker sums this up as follows:

1) *x has a first-person perspective if and only if x can think of herself as herself\* (the strong sense of FPP)*

2) *x can think of herself as herself\* only if x has concepts that apply to things different from x*

3) *x has concepts that can apply to things different from x only if x has had interactions with things different from x*

*Therefore*

4) *If x has a first-person perspective, then x has had interactions with things different from x. (2000:72).*

The key concept is that x can only have FPP in relation to something other than itself, thus making it a relational concept. Baker then asks herself is this a sound idea given that the controversy really lies in premise (3). It is a controversial premise because it is certainly one that Descartes would not align his thinking to but without it we have no means of accounting for how we are able to acquire concepts.

Without (3) we have no idea of how we can acquire beliefs or memories or indeed think about external stimuli. The only way around this would be for Descartes to consider that all conceptual thinking is an activity of an innate force but that must be incorrect for no-one is born with the ability to read, it has to be taught and understood by a mind capable of exercising memory<sup>32</sup> and reasoning skills. Premise (3) can only be true if the concept of reading can be acquired without any interaction with things that are separate from ourselves. Concepts of acquisition certainly need some sort of explanation if we are to take on the Cartesian model. Baker takes her lead from Wittgenstein (2009:129e)<sup>33</sup> and developmental psychologists in the sense

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<sup>32</sup> The way that memory works is particularly complex. Cognitive psychologists split the idea down into two areas; how memory is stored in the first place and how it may be retrieved. In each case there has grown up a behavioural and cognitive series of theories, that is, viewing results of experiments by assessing how a subject acts objectively as well as simply asking the subject about their own interior thoughts. More recently we are able to view what is happening in terms of neural activity when presented with some sort of sensory input. In terms of memory formation we can now detect that information is stored in appropriate locations in the brain. Visual information being stored in a different place from auditory information for example Baddeley, A. D. a., Eysenck, M. W. a. and Anderson, M. C. a. (2015). *Memory, Second edition*. edn. Page179. Inevitably the picture that the neuroscientists paint is much more complex but at its most basic it has been found that concept processing in the brain involves both perceptual and motor systems in the brain. This means that thinking about an object generates two types of thinking; external properties and internal ones. When given the word 'watermelon' the external properties of rind and green are more common than other nouns used. However, if the term 'half watermelon' is used then internal properties such as red or pips are much more likely. There is therefore a perceptual and an imaginal quality at play. We readily perceive the outside of the melon because we are confronted by it at the green grocers. We imagine the inside of it with equal vigour but this line of thinking is more difficult and probably demands extra memory association in the brain (trying to remember what the inside of a watermelon looks like is reasonably straightforward in 2018 but what about the fruits you have not experienced or have limited acquaintance with). Concept processing is actually highly influenced by the context in which the first memory is laid down because the brain appears to store memories based on object categorisation (Baddeley et al (2015:177)). In turn, categorisation depends on how an object moves. Where specific movements were made in an experiment on colour perception when the colour was presented by a flash card the subject was able to make the associated movement. What appears to be an odd way to store memory suggests that objects and concepts are somehow associated with actions. It appears to be the case that abstract concepts are also linked with actions. The concept of peace or hostility have emotional associations which can elicit approach tendencies in the positive case as opposed to avoidance tendencies for 'hostility'. What is even more surprising is that the approach tendencies exhibit in the subject much faster than avoidance which tends to suggest that the limbic system comes into play much more for something we are prepared to find pleasant. Retrieval of memories on the other hand seems to rely on the associations to drill down to the stored memory. I may leave my desk to seek refreshment with a cup of tea. By the time I reach the kitchen I cannot remember why I came down to the kitchen, however, as soon as I return to my desk the thought becomes clear again. Memory retrieval tends to work through cues that include location. The stronger the cues and the more of them we have the more likely we are to bring a memory clearly into the mind. The big issue for the memory is that the cues are laid down at the time the thought is first committed to memory. If those cues become inaccessible it appears that the memory fades. In the Baker's case she relies on memories being translated into language. What if some people store memories in a more visual manner?

<sup>33</sup> In 'Philosophical Investigations' at para 404 Wittgenstein asks how we know that we are in pain? He says we use an internal language to say to ourselves "I am in pain" but I don't need to point to a person and say that person is in pain. I don't name the person, nor do I say at what place I am (para 410). What you are doing is distinguishing yourself from other people. Wittgenstein is well aware that the feeling one has as "self" is a

that we are all dependent on interactions with the outside environment to form our concepts (2000:75). Environmental factors appear to be crucial to a good memory (see footnote 28).

For Baker the first-person perspective is indispensable for our ideas about reality and probably a quality judge in distinguishing fact from fiction. In the first aspect it concerns how we use language and in the second it is a concept bearer for psychological explanations of behaviour.

Linguistically the strong “I” sentence cannot exist on its own, because it depends on the contradistinction to the weaker sense and is doing something different from the weaker. If a dog could talk he may well consider his companion in terms of “I see (smell, hear or feel) a potential mate or pack leader”. Without a strong first-person perspective Baker believes that the dog would be incapable of asserting that he would be able to say “I hope that I will find a suitable mate”. This is because “I hope” firstly demands a sense of first-person perspective and that it is expressed in the stronger, more robust manner. For humans educated in the subtleties of English, the expression “I hope that ...” expresses this robust first-person sense in a way that makes the reference to the rudimentary first-person perspective ineliminable: there is no third person way of expressing “I am certain that I (robustly) exist”. Descartes may have been certain that he (robustly) existed rather than certain that Descartes existed (Baker, 2000:77). In other words, ‘robust I’ cannot eliminate ‘rudimentary I’ and yet both states of mind exist independently of

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process of the mind and is distinguishable from the process in the brain. Consciousness and perception of self is inextricably linked for human persons and the picture we conjure in our minds mixes the thoughts up in a way that is not mysterious at the time of thinking but only in retrospect (para 428).

one another; there are two states of “I” in an asymmetric relationship if we are to totally go along with Baker.

As a cup bearer for psychological explanations of behaviour the first-person perspective can be likened to Freud’s explanation of an Oedipal complex<sup>34</sup> where Oedipus can explore the crime of who killed Laius without realising that it was indeed himself – the realization only comes about when his robust first-person perspective aligns on the true facts. This implies that Oedipus is able to conceive of himself in a different way from a how he would have had he only got a rudimentary perspective. This could be seen as a rewriting of John Perry’s “messy shopper” scenario where he follows a trail of sugar in the supermarket in order to tell the messy shopper that he must have a leaking bag in his trolley. Perry finds himself unable to catch up with the shopper until he realizes that it is actually he who is making the mess. Perry is aiming at explaining that he needs a belief that he was making a mess but part of the discussion centres on the sense of being an “I” and making the association that “I” is himself, somehow providing an essential indexical as a lowest denominator to his behaviour. In essence Perry points out that the belief he holds as “I” changes during the thinking process, whether that be in a time relationship or place but there is the thought that somehow we need to link the mutating idea of the belief I have with the belief that I am doing something – in our example Perry’s beliefs about the messy shopper change right up until he realizes that he is that shopper. Baker points out that it is only at the moment when he knows he is the messy shopper that he is knowingly referring to himself, as the belief changes from a third person belief to a first person one, and from here his

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<sup>34</sup> Originally published in *Interpretation of Dreams* (1899)

behaviour changes radically. In fact, the change of behaviour is directly attributable to the notion of the change of viewpoint (Baker, 2013:50). Perry's idea is that self-notions play a pragmatic role in how we obtain information irrespective of the first-person ontological significance. So, Perry initially sees two unlinked notions of himself, the messy shopper on the one hand and the self-notion. The shopper had two beliefs as well both holding the same content but relating to different beliefs. The link that Perry makes at the moment of revelation is that his self-notion (first-personal) and his messy-shopper-notion (third personal) are one and the same (Baker, 2013:72). Baker picks up on the story about Perry's friend Al who has developed a limp since Perry last saw him. When John first sees Al he sees someone with a limp and it's only when he comes into view that John is able to see that it is Al; he combines the two notions of identity together (Perry, 2002:196). Baker points out that it is only at the point of recognition that links the two concepts together whereas elsewhere Perry takes the first-person perspective to be the point of combination (in the messy shopper it is when the shopper recognises that it is him making the mess rather than recognising himself in the shop aisle mirrors). Self-recognition becomes based on his own self-notion and there is no attempt to provide an alternative explanation rooted in third-personal concepts (Baker, 2000:53). In both narratives the person must start from the view of his first-person perspective, without which we "... have no way to distinguish between referring to oneself knowingly and referring to oneself unknowingly" (Baker, 2000:54)<sup>35</sup>.

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<sup>35</sup> Baker accuses both Perry and Lewis of failing to consistently place their ideas in the third-person perspective, something that she believes is necessary in the tradition of naturalist ontology.



Baker then moves her focus onto criticising both David M Armstrong and Daniel C Dennett's (1992) views about consciousness because they claim to be accounts of the third-person perspective viewing the first, rather than robust FPP growing out of rudimentary FPP. Armstrong's notion is that self-consciousness arises out of the ability that humans have to "scan" themselves from the inside because of the way that the brain works<sup>36</sup>. Baker challenges that view because this would not produce self-consciousness because she asserts that a self-scan cannot distinguish between information that is acquired as information in itself and information about itself as itself. Baker challenges this by asking us to imagine that S is a system that has something 'S' that is able to scan the internal states of S. S gains information about itself in this way. But Baker says that this cannot separate the information that S gains about S from information that S gains about itself; S regulates its own states as well as regulating S's states:

*"Since S cannot distinguish between itself-as-S (from the third person) and itself-as-itself, the system makes no distinction between scanning S and scanning itself. Therefore, self-scanning scanners do not account for self-consciousness"*  
(Baker, 2000:85)

Now, in gypsy Rose Lee fashion, she goes on to say that in the future self-scanning may be able to detect a difference between first person and third person perspectives on oneself but she can't imagine how. One of my contentions is that we can now understand how self-detecting mechanism may work and that it is fairly certain that there is no third person perspective in the human mind.

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<sup>36</sup> The 'limbic system' constantly surveys the workings of the human body to assess if 'everything's alright' before sending in the cavalry in the form of hormones such as adrenalin to produce quick anxiety responses and prepare the body for 'fight or flight'. This activity trumps the workings of the rational brain in the neo-cortex.

On the other hand Daniel Dennett is positive that all science is constructed from a third-person perspective and given that a theory of consciousness will have to be constructed from that perspective alone (Baker, 2000:86). I disagree and will develop a scientifically based argument in Part 3 showing that first-person perspective lies at the centre of how we can see the mind and its workings.

Given Baker's overriding model of FPP how can we include accounts that seem to challenge the basic elements of that paradigm? I am thinking particularly about 'disorders' like dementia or Autistic Spectrum Disorder. The major issue that such disorders raise are concerned with the formulation of linguistic frameworks, particularly 'I' language. I will therefore look particularly how ASD is understood in relationship to the development of these aspects of language in the next chapter. This is an issue that is peculiar to the 'low end' of ASD and as such can be seen as a challenge for Baker's paradigm itself. Without a modification Baker's model can be seen as confusing but a neuroscience-based analysis may aid in mollifying the confusion.

## Chapter 2. Autism Spectrum ‘Disorder’ (ASD)

### Introduction

When Lynne Baker spoke at the ‘Perspectives on the First Person Pronoun “I”: Looking at Metaphysics, Linguistics and Neuroscience’ conference in Durham, UK in May 2014 it became clear that she had altered some of her basic ideas about her ‘Constitution View’. Top of her list of alterations were those that had emerged from a writer with ASD, Temple Grandin. Grandin had written about her claim to think only in pictures without any sort of wording being conceptualised in her head. If this were true Grandin would be denied the ability to conceive of herself in terms of robust FPP as this depends on linguistic constructs rather than visual ones. This is a critical part of Baker’s CV construct and so we must look at how these changes came about as well as discuss how language plays a key part in the theory of mind as well as robust FPP. Emerging from the Durham conference is a sense that recent developments in neuroscience may help to enhance Baker’s basic paradigm. The implication has to be that many on the spectrum would not necessarily fit into Baker’s definition of what it is to be a person unless the basic model is altered.

It was the film *Rain Man*<sup>37</sup> that first brought the subject of autism to wider public attention<sup>38</sup>. Before 1996 ideas about autism had been largely confined to clinics dealing with childhood behavioural disorders where children were referred because of their disruptive behaviour in schools and the parents were desperate to somehow ‘normalise’ their kids. Very few adults at the time were recognized as

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<sup>37</sup> 1988, directed by Barry Levinson

<sup>38</sup> According to Uta Frith in ‘Autism a Very Short Introduction’ in 2008. This is further confirmed by Steve Silberman in ‘*Neurotribes*’ (2015) in Chapter 9 ‘The Rain Man Effect’.

having the 'disorder' and there was a growing suspicion that many adults with autistic conditions had been confined to secure mental health wards because the 'disorder' wasn't widely understood and shared some behaviours with other serious psychiatric issues. At one point the MMR jab was thought to be responsible for 'giving children' ASD.

The character portrayed by Dustin Hoffman seemed to trigger a sympathetic reaction in the audience with his eccentric 'savant' abilities whilst appearing to be seriously socially challenged by his poor mental health. He could remember huge amounts of data whilst being emotionally exploited by his brother who tried to use the naivety associated with some forms of autism to defraud him of his money. Uta Frith, a notable academic involved in the diagnosis of ASD, pulls no punches in saying that most people with ASD are hard to live with and rarely show spectacular abilities such as the rain man. What seems even more hardnosed is when Frith accuses campaigners of being wrong to associate brain abnormalities with "deficits in the mind, and wrong to highlight impairments of behaviour". She states that it is perverse to talk about only "differences in brain and mental make-up" when there is so much "suffering that is associated with autism" (Frith, 2008:38).

This view seems unusual for a professional researcher but is not uncommon given that the condition had been diagnosed only in a behavioural sense and usually with the benefit of hindsight. If a biological test could be made available then we may have a whole new series of issues to deal with. That test could well be immanent as the neuroscientists look to fMRI scanning to show how autistic brains may be 'wired differently' and the geneticists work on the identification of genes that influence development of the brain in the womb.

Adults with previously undiagnosed ASD can be thrown into alarm when facing ASD oriented explanations for their unusual behaviour and anxiety and depression are only too commonly the first step towards diagnosis (Wilkinson, 2015). This is especially true when one considers that at least part of the issue is a failure by that adult to perceive that there is any unusual behaviour to start with. This is further fuelled by the wealth of ideas about how ASD originates and develops over a life time. Some specialists will point to genetic origins, others brain function peculiarities whilst paediatric psychiatrists root around in the interaction caused in the growth of mind and body particularly in the early years of child development looking for 'abnormalities' in relationships, usually with the mother. In the wealth of all these types of explanations I want to pick a way forward that helps in the understanding of why ASD might not fit in with Baker's examination of the way robust FPP might develop.

Theories have been developed since ASD was first tuned in to which have then been submitted to tests by neurobiologists and as the techniques of measurement have grown more effective there has been a growing tendency to map a theory onto a physiological cause. Originally it was the case that behaviour was linked to the ASD diagnosis but as Cognitive Behaviour Therapies developed a progressive re-evaluation seems to have been undertaken. This is not to say that the phrenologists are being proved right (that one part of the brain is exclusively responsible for certain behaviours) it would appear to be much more complex than that. However, we need to start with some of theories and assess how they are being challenged by scientific evidence; we can then decide how ASD lies in our view of what makes us a 'person'.

Neurobiologists have been investigating the central physiological processes of how neurons work and mapping them onto what they observe as being the psychological processes that appear to distinguish humans from other animals. Some of this mapping has been speculative whilst other interpretations have given some pause for thought. They have concluded that broadly speaking we have an ability that other animals do not; the ability to imagine the thoughts and feelings of others and to chew them over in what we think is an objective way. Such an analysis makes links between the physiology of the brain and the psychological processes appear to be a cogent way forward and this connection has been validated by scanning brain activity. This has made a massive contribution to areas from how friendships might develop and grow through to how personal happiness might influence the allocation of resources at a political level and by implication Baker may be able to harness these results to enhance how the CV can be seen to work.

The breakthrough can largely be attributed to fMRI<sup>39</sup> scanning which has given us access to the processes that create thought and memory without intrusive procedures that have been impossible before beyond the pathologist's bench. The methodology of fMRI scanning has allowed us to track the physiological causes of many 'disabilities' that have given us most grief in a social setting. Neurobiologists are actively engaged in finding explanations for psychopathy, multiple personality disorders and what is now labelled ASD to name but a few conditions of interest.

From a different viewpoint, philosophers have been interested in the mind and its processes from the earliest of times perhaps peaking in Cartesian substance

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<sup>39</sup> Functional Magnetic Resonance Imaging shows up the areas of the brain where oxygen activity is at a peak – that activity reflects the working neurons firing because they have been fuelled by glucose and oxygen.

dualism. Somewhere in the middle of the viewpoints emerges common ground where ideas are shared between the neurobiologists and philosophers. I am going to examine this no man's land with particular reference to the work on ASD given its relative recent pedigree that holds little baggage from previous eras of thought. To do that I will use the work of Simon Baron-Cohen<sup>40</sup> as a guide to the way neurobiology has contributed to the development of the prognosis of ASD. This route is not without its own issues but the idea is ultimately to see how the writer Temple Grandin's explanation of her own ASD doesn't fully coalesce with the classical medical understanding (2006; Grandin, 2011; Grandin and Panek, 2014). Her writings also cast some doubt on Baker's paradigm given that Grandin assures us she does not work with language but images.

## **2.1. What is ASD?**

The contemporary psychiatric diagnosis of ASD appears in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (2013) and is complicated because it presents as a spectrum of related disorders with many disparate behaviours and features. The characteristics are not shown by everyone on the spectrum but holding a larger proportion of them is a key element in being diagnosed as autistic<sup>41</sup>.

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<sup>40</sup> Whose PhD supervisor was Uta Frith.

<sup>41</sup> Autism is generally regarded as a developmental disorder where the growth of the brain is accelerated both in grey and white matter. Brains of ASD children show more neurons and axons than a neurotypical child. Certain genes also put certain children 'at risk' and the encoding of a protein called FMRP appears to enhance the chances of becoming ASD with a 1 in 5 chance for such infants. Neuroscientists generally believe that the way neurons become wired together is the most likely reason for the condition but research continues in this area Bear, M. F., Connors, B. W. and Paradiso, M. A. (2007). *Neuroscience : exploring the brain, 3rd edn* Baltimore, Md. ; London: Williams & Wilkins. Page 706.

Leo Kanner, a child psychiatrist, first noted the main symptoms of autism in 1943<sup>42</sup>. The signs were described in terms of 'aloneness' and an ability for children to play by themselves without showing much distress at being alone, something considered odd by neurotypical adults. The observed group seemed to have limited social communication with other children and, at its most extreme, some children took no interest in other people at all treating them as if they were just inanimate objects. The condition was considered to be rare to the extent that in only 1980 only 4 children in 10,000 were diagnosed as autistic<sup>43</sup>. Today it is estimated that 1 in 90 people exhibit some sort of behaviour that is likely to have them labelled as autistic<sup>44</sup>. The incredible rate of increase has largely been the result of research in the area and more careful assessments of individuals who exhibit the symptoms, usually in childhood (although access to funding has sometimes meant that adults have needed formal diagnoses). Formal diagnosis results are initiated from the responses to a series of questionnaires that are based on a cognitive self-assessment coupled to a clinical behavioural assessment made by experienced medical staff. The idea being that it should be a meeting of subjective explanation and objective medical observation.

It will come as no surprise to say that the assessment regime is not universally accepted. Many undiagnosed adults for example, who consider themselves to be on the spectrum have questioned some of the underlying assumptions behind these tests. For example, it can be said that the methodology is

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<sup>42</sup> Kanner used the word autism for the first time, borrowing the term from studies in schizophrenia, not the first time that the two different conditions would be erroneously linked.

<sup>43</sup> Figure from Michael Rutter's study when autism was first distinguished from other psychiatric conditions by clarifying the diagnostic criteria.

<sup>44</sup> Autism Society of UK



primarily focused only on the negative affects rather than opting to stress the 'gifts' (sometimes referred to as 'savant' behaviour) that such a diagnosis can bring because it exclusively concentrates on the impairments that those with ASD have (Wylie, 2014:25)<sup>45</sup>. These 'impairments' concentrate in three broad tranches; (i) social skills, (ii) sensory overload and (iii) poor communications when compared to those who are neurotypical. They also lie at the heart of Simon Baron-Cohen's 'Autism Spectrum Quotient' (AQ) test which is used as an indicator that further investigation might be needed (Baron-Cohen, 2008:29 ff)<sup>46</sup>. The test covers a range of cognitive and psychological issues that underline the notion that the disorder is a spectrum of linked issues that range from severe autism<sup>47</sup>, through high functioning autism<sup>48</sup> and on to what used to be called Asperger's syndrome<sup>49</sup>. It is therefore challenging to find a single test to cover all types of ASD and there remains confusion between the outward signs, the behaviours, and the inner thought processes that seem to fuel them. On reflection there is a tension between what are considered objectified criteria for the formal diagnosis and the more subjective test where individuals can describe their own perception of their condition. Self-description has proved to be a big issue for those on the spectrum not least because the prevailing attitude of medical staff has tended to concentrate on the concerns of

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<sup>45</sup> The positive values include the ability to focus on a specific task for a long time, high intelligence with high reasoning ability and the ability to understand complex sets of data when compared with so called 'neurotypicals'. This has resulted in some companies in Silicon Valley in the States positively discriminating in favour of employing ASD adults who seem to have an almost obsessive attention to details that is ideal in the testing of new technologies.

<sup>46</sup> The test comprises 50 questions that range from rating 'I am good at social chit-chat' to 'I am fascinated by numbers'. In full it is an appendix in Philip Wylie's 2014 book.

<sup>47</sup> Often seen as complete isolation from all others so much so that it is sometimes seen as a sort of 'locked-out syndrome'.

<sup>48</sup> Where the individual is able to cope with living in a social environment with 'black out' moments which can be characterised by depression and severe anxiety.

<sup>49</sup> A condition that is not characterised by late development of language but with serious obsessive type concentration on particular interests or objects.

parents rather than the children who are presenting with ASD. Many on the spectrum feel that their own feelings and self-reported issues are ignored and the medicalisation of the conditions has resulted in a pill popping answer that does little to help with the underlying problems faced by those on the spectrum.

Based on this dual way of illustrating ASD Temple Grandin, a well-educated teacher in the US university system who is on the spectrum herself, has commented that there can be two different labels for the same thing depending on what use is going to be made from it (2014:102). We could ask “do you want to know what the behaviour looks like from the outside or would you prefer to try and understand how the experience feels from the inside of the person themselves?” The set of symptoms tends to lead to a medical diagnosis whilst the list of how it feels will lead to a cause that might need investigation probably by psychologists or psychiatrists. Grandin calls this type of thinking ‘label locked’ and points out that it is capable of ignoring individuality in us all, autism is not a “one-size-fits-all diagnosis” (2014:107). In fact we can break down these indications of diagnostics into groups; first-person and third-person fuelled labels. Most of the medical diagnostic tests will fall into the third-person category as ‘objective’ evidential tests whilst the subjective are ‘me’ focused, that is, how the ‘condition’ affects my life differently from the neurotypical. Until recently there has been a paucity of subjective considerations given the nature of the subject under evaluation<sup>50</sup> and filling that vacuum has raised issues for commentators who rely on first-person perspectives. This is how ASD has come to

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<sup>50</sup> Many ‘low functioning’ people on the autistic spectrum are not capable of communicating their feelings in a way that is meaningful to researchers because of the limitations of the disorder itself. Where surveys have been previously undertaken a carer has often answered on behalf of the person on the spectrum which has seriously compromised the data. By the very nature of the disorder those with ASD are unlikely to form their own support groups because they lack many of the social skills necessary for the administration of groups of strangers.

the forefront of our thinking in cases such as Baker's model. There seems to be a remarkable fit with her view on rudimentary and robust FPP.

Historically the focus converged on people's behaviours – how do the symptoms manifest themselves? How do they affect the rest of their family and the person's educators? Essentially these are objective tests conducted from a third person perspective to gain a diagnosis. Once that is established the idea of 'mapping' comes to the fore; what can we do to alleviate the symptoms and help the individual fit into the pattern that we call 'normal'? And from there we get the concern that it might be something neurological or psychological that is having such an impact. Or perhaps it is a mixture of the two just like in our final observation of Baker's view?

From another perspective we might want to consider gene-therapy in the young couple wanting more children. In turn this gives rise to the set of questions that is triggered by this medical route. Is autism transmitted genetically or is it epigenetic? Should anxiety in young kids be treated pharmaceutically or should we look to specialised programmes in our schools? Should we include ASD kids in every-day school or should we insist that, because they have special needs they should be taught in specialised units that are likely to entail living in communities that are exclusively ASD?

These are all questions that have been formulated in a medical context that respond to an objective need that is perceived by professionals well versed in the diagnosis of ASD. It is argued that this only gives credit to one side of the discussion, the objective side and often concentrates on the notion that ASD folk themselves can be unsympathetic, cruel even and lack kindness (Baron-Cohen, 2012). The assumptions underpinning that side need to be investigated first. In turn that

demands that we start with some assumptions about the way the cognition of neurotypical individuals affects the physiological. Those assumptions are gathered together in the notion of ‘theory theory’ (TT).

## **2.2. Theory theory**

Indicative testing for ASD is very recent in historical terms. In 1989 Simon Baron-Cohen led a team of researchers who were involved with assessing the development of children known to be on the autistic spectrum. His key concern was to understand what was called ‘social impairment’ or the ASD child’s inability to relate to others in a social setting, the ‘social skills’. It had been suggested previously that ASD children failed to respond emotionally to others because they couldn’t recognise how emotions were outwardly expressed by neurotypical children; that would be a foundation for their own interactivity. This account had been previously dismissed because emotion recognition deficit could be shown in groups other than ASD children (such as psychotic adults or those with varying degrees of psychopathy). Baron-Cohen however noted a range of “cognitive deficits” that seem to be present in the ASD group alone, most notably in what he labelled as the inability to attribute belief to others. This inability had become known as a variation from the “theory of mind”(ToM), meaning, the person under observation had little ability to analyse her own mental state and then use that self-analysis to go on and explain and predict the behaviour of others<sup>51</sup>. It is important to remember that this is

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<sup>51</sup> This remains a key indicator in that those on the spectrum are often, to their own bewilderment, accused of being incapable of interpreting the intentions of other people. This is not the same as cognitive empathy. Intentions are seen to be propositional attitudes for Baker and include the inability to appreciate social chat with its constant use of linguistic constructions that operate using short cut codes. Many on the spectrum have to ask for a full explanation of other’s intentions in order to make sense of their behaviour.

not an evaluation of a subjective experience by the ASD person. This is a medical assessment of the beliefs of someone with ASD without taking into account their subjective understanding of themselves.

Baron-Cohen's first assumption was that somehow the development of ToM was impaired in autistic children and this could be observed in autistic children by comparing particular learning behaviours against those described as neurotypical (1995:77). One axiom came to his attention in that it is often said by child psychologists that "seeing leads to knowing" and this has schematised into a developmental test (1995:77). Two actors approach a large box whose content is hidden from the child under test. One agent simply touches the box and does not look inside it. The other looks inside to view its contents. The child is then asked which of the two actors *knows* what's in the box. Curiously, when this is applied to children around the age of three, children on the autistic spectrum are unlikely to pinpoint that actor 2 knows what is in the box simply because she's looked in it directly (this remains a difficulty even for adults on the spectrum). A further example is quoted by Baron-Cohen in explaining how some fairy tales have influenced the imagination of young children. Quoting details from Snow White and the Seven Dwarves a typical four-year old will understand that the wicked godmother is deceiving Snow White when she offers her the poisoned apple. A four-year old ASD child is unlikely to understand this because, it is claimed, she fails "... to read the implicit level of characters' motivational, emotional and informational states of mind" (Baron-Cohen, 2008:59). Understanding this sort of deception it is said grows out of understanding mindreading because it allows a four year old to make sense of other people and predict what they should do next.

Baron-Cohen goes further and proposes some explanations for the disruption of ToM in autistic spectrum children. He proposes that the theory of mind develops in two distinct stages. The first order attribution is the description of the attribution of beliefs to herself, where Mary can say to herself “*Mary thinks the marble is in the basket*” (Gallagher, 2001:83). This is likely to be achievable for a 4-5 year old. Here the subject is distinguishing a belief that she holds from a belief that someone else holds thus drawing boundaries around what it is to be ‘me’ which is part of what can be described as self-recognition. There are boundaries drawn around what it is to be Mary. Baron-Cohen noted that without this skill a cognitive deficit arises “in terms of a failure to develop a meta-representational capacity” (1995:287). This may be over egging the idea but those on the spectrum seem to exhibit difficulties in constructing some specific mentalized chains of representation<sup>52</sup> (the chain starts with a sensory perception of an object, the mentalization of that object and the ultimate storage in memory). However, within the experimental arena 80% of children at the lower functioning end of the spectrum could not make this first order attribution (compared with 100% ability amongst those with Downs syndrome for comparison). That still left a troubling 20% of ASD children that could make the first order attribution. Baron-Cohen thus proposed a second order attribution which had the effect of eliminating the remaining test subjects. That second order attribution is usually achieved by 6-7 year old children and involves the ability to think about another’s thought process. This can be illustrated by the notion that “*Mary thinks John believes the marble is in the basket*” thus moving the perspective one step away into “recursive thinking”. This seems to initiate the notion that ‘*I can understand what other people are thinking*’

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<sup>52</sup> Temple Grandin for example talks about thinking in pictures rather than in language based referencing of representation see part 3.2, page 100

and use the results to predict what they are likely to do next. In his experimental work Baron-Cohen found that no child on the spectrum could formulate level 2 perspectives. This would be likely to confound the ability to form a theory of mind in people with ASD. It should be noted that Baron-Cohen's aim is to formulate a scheme for the recognition of ASD rather than delving into the psychiatric or physiological reasons for that inability.

The proposed structure is further developed in Baron-Cohen's mindblindness theory (2008:57). Taking theory of mind as his starting point he describes the ability to ascribe second order attribution as being one of imagining other people's thoughts and feelings as *if putting oneself into their shoes*. This can also be seen as mindreading or mentalizing. The interpretation of people's observed behaviour leads us to predict what they are likely to do next. People on the autistic spectrum tend to be puzzled by other people's actions and this can also lead to extreme anxiety as a result, a condition very common amongst those with ASD. Ultimately the ASD community is unlikely to be able to isolate and understand other people's intentions without direct interrogation on the subject and this can be attributed to an inhibited level 2 theory of mind.

Theory of mind is useful in that it makes sense of the social and communication difficulties in ASD, that is, the outward manifestation of the 'disorder'. However it does not account for the non-social features. Theory of mind is also only one component in the conception of empathy as it requires a response to another's state of mind. Many researchers in this area would want to remove empathy from studies of mentalizing simply because that in itself is a very difficult area and we need to understand a lot more about the process. Baron-Cohen though is able to distinguish cognitive empathy through his theory of mind and leave aside the

important area of affective empathy - that is the response element – having an appropriate emotional reaction to another’s thoughts and feelings (2008:62). It is important because we can distinguish the types of empathy in the way the brain works. This will be demonstrated in Part 3 to give us a hook onto which we can hang some of the new influences that neuroscience can open up on Baker’s view of FPP.

### **2.3. Effective framing**

Using cognitive empathy as a key indicator of ASD is not however, without its critics. Michelle Maiese points out that empathy is not a single, simple idea but rather a complex notion involving the capacity to ‘mentalize’ and identify other people’s emotional states correctly which is a very convoluted type of activity and prone to all sorts of technical snags (2013:168). Cognitive empathy is ultimately used as a means to predict another’s behaviour but empathy is only a sub-set of that complex set of behaviours. She agrees with Baron-Cohen in seeing empathy as a part of the theory of mind but looks to that theory rather than empathy itself as the source of many ASD issues. That is because ‘mentalizing’ is not the most “... powerful way of making sense of the social world, nor is it how empathy most commonly arises” (2013:168). Maiese argues that we need to understand social cognition more in terms of how we are embodied, that is, how we interpret other peoples’ bodily signals depends on an ability to affectively frame our own thoughts and feelings based on social cognition rather than mentalizing. It would appear that Maiese is suggesting that mentalizing is a different methodology in the way our minds work and we should be looking more at the social issues.

Empathising for Maiese involves a two stage process that can more readily account for the cognitive/affective empathy dilemma. Initially in empathising there is



an "... attribution of mental states to others" that occurs when applying a subjectively held belief structure (as in ToM). This forces a reaction in the observer – the observer has used her own 'framing' or experience to evaluate the mental states of the other people that generates some sort of reaction in her; this might be an automatic type reaction like an emotional response. It is said that this causal process allows us to predict the social world in a way that fits into our own perceptions of that world. However, Maiese makes the point that we are embodied persons; we are subject to the way our particular body works physiologically and that to ignore this may reduce us to highly developed brain focused animals without taking due regard of our body generated sensations, our feelings. For Maiese, we need to include the ability for "... bodily attunement and affective framing" (2013:168) and without this ASD is reduced solely to a mind-based condition. Her contention is that all of our judgements take place in the context of our needs and concerns which are not necessarily conceptual but could be the result of hormonal changes or activity from the non-conceptual parts of the brain, that is a sort of automatic process that is not a reasoned reaction (what we will later describe as a limbic response). In essence, arousal includes the way our brain interacts with our body (our heart rate, blood pressure or endocrine responses) and allows us to understand how we are placed in the social environment. In turn this allows us to become aware of what she calls an "I-Thou stance" so that we can distinguish ourselves from the others and develop an understanding of one another. "Empathy involves modulation of one's own mental and emotional state by coming into bodily contact with other persons' mental states, so that one literally feels with them" (Maiese, 2013:169). This two-stage process lies at the heart of the issue with ASD; people with ASD are emotionally isolated because both the cognitive and affective systems seem to work

independently of each other and do not feed the “shared dance” of empathetic conversation. To break this down, someone with ASD is likely to have a different way of interpreting emotional interaction from the neurotypical person because emotions can be experienced differently in the ASD person. This prevents affective framing from kick starting the process because the ASD person does not interpret the emotional response from the other in the same way as the emitter of the response. Why that might happen I will discuss later. In turn this idea is key in the Theory Theory notion that sees social cognition as being the important factor in how we all interpret social phenomena. In this view we initially perceive other peoples’ behaviours alone as a window on their mental states – looking on a set of behaviours we interpret that data against our own experiential databank and ascribe mental states and emotions to the observed set of behaviours.

This notion relates to the way in which infants build their experiential databank in the first place. A new born baby is not only able to recognise other human faces in an environment full of content and distinguish that the other human faces (as opposed to the walls, sky or curtains) are somehow related to itself but also mimic facial gestures that she perceives. This is not a cognitive process but a direct and embodied feature of infants and is highly likely to be innate behaviour. This allows the infant to “... map others’ facial expression and bodily movements onto their proprioceptive bodily experiences” (Maiese, 2013:170). This is referred to as meta-representation, or second order representation and an early milestone in childhood development arises from acquiring a sense of ‘person permanence’, or a sense of ‘self’ by around eighteen months of age (Smith et al., 2003:175). Person permanence suggests that the child is able to gain a representation of a social being “...corresponding to that person’s continuity in time and space” (Smith et al.,

2003:176). This develops strongly by 24 months of age where infants can be observed watching a mother's face when a stranger enters the room. If the mother shows a negative emotion to the incomer the infant is likely to look away, but if the mother's reaction is positive the infant will look at the stranger. This advances a further theory that knowledge gained by an infant is also knowledge gained by the self, what can be known by the self can be known about the other. This is called social referencing by child psychologists and can be seen as a beginning of socially based empathy (Smith et al., 2003:181). Social referencing is also fundamental to the development of secondary emotions like pride, guilt or shame that depend on the understanding of how others perceive your situation. By 28 months the child will be using words to describe their own emotional reaction to the world as well as expressing their understanding of other people's emotional responses. By 3 to 4 years a child can use emotion to attempt to manipulate others but such behaviour is not readily noted in the behaviour of chimpanzees at a similar developmental stage (2003:45). This has been used to validate the development of the theory of 'mindreading' or 'theory of mind' explanations for human infant development compared with other primates quoting the distinction as a feature of the higher brain development of humans, particularly in neo-cortex development.

## **2.4. Interaction theory**

Mentalizing or the problem of 'other minds' is a problematic issue because we lack direct access to another's thoughts, feelings and intentions and we therefore need some other special way to indirectly perceive another's mental state (Gallagher, 2008:164). We normally do this through analysis and theorizing based on what we have perceived of the target's behaviours. But that is primarily a

perspectival stance where we observe behaviour and use our observations and analysis to form a structure to our understanding of 'the other'. It is this perspectival account that gives us the fuel for our powers of prediction. What we commonly do is to attribute a mental state to another as a way of understanding the social environment and this fits in neatly with Baron-Cohen's own model. However Gallagher challenges that on the grounds that we can reject the mentalizing speculation as a product of the "Cartesian idea that other minds are hidden away and inaccessible..." (2008:164). For Gallagher, knowing what happens in another's mind is "simply a matter of perceiving their embodied behaviour in the situation" and no further inference is required. He also rejects the notion that our observation of the other is primarily a third personal perspective, an objective viewpoint. Instead his claim is that the relation is one of second person because we are already engaged with them on some cooperative venture or in a two-way conversation. Finally, he believes that mindreading is a specialist undertaking that we adopt only rarely and when we do engage in mindreading we are really using embodied ways of perceiving and understanding the other party. Gallagher is sure that everyday interactions do not follow the theory of mind process and that they are conditioned by the framework that they claim to be explaining. At the root of this challenge is evidence he derives from "intersubjective perception" during early childhood, particularly 'joint attention' (when a child for example follows the finger pointing of an adult) and the way a child acquires descriptive language.

Human infants seem to possess an inbuilt ability to imitate the gestures made by its primary care giver (Meltzoff and Moore, 1977:78)<sup>53</sup>. This shows that by some

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<sup>53</sup> The concluding comments include "... we favour ...this imitation is based on the neonate's capacity to represent visually and proprioceptively perceived information in a form common to both modalities. The infant

mechanism neonates are “tuned to others and are building on an implicit orientation to other persons” (Gallagher 2008:165). And what is more, they not only are capable of mimicking their care givers they are also able to provoke responses from others. In addition, by five to seven months old infants are able to make a connection between visual and auditory information (linking the sound of a mother’s voice to the representational image of the mother) and shortly after that follow the other person’s eyes as well as perceive movements of the other person’s body and give those movements meaning. Gallagher further comments that by the end of the first year of life a neurotypical infant should be capable of non-mentalistic, perceptually-based embodied understanding of intentions of other persons (2008:166). The need to look for hidden beliefs or mental states is therefore totally avoided. Baron-Cohen sees this phenomenon as a precursor to the theory of mind building up to full comprehension in the child at aged 7 or 8 but Gallagher points out that this has an impact on how we behave as adults. As adults we would not be using the precursor perceptions but relying totally on theory of mind and that seems self-defeating; if as adults we could rely on these precursors we wouldn’t need a theory of mind at all (2008:166). Gallagher quotes Wittgenstein in confirmation of his idea:

“Look into someone else’s face, and see the consciousness in it ... you see ... joy, indifference, interest, excitement ... and so on ... Do you look into yourself in order to recognize the fury in his face. We see emotion ... we do not see facial contortions and make the inference that he is feeling joy, grief, boredom. We

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could thus compare the sensory information from his own unseen motor behaviour to a ‘supramodal’ representation of the visually perceived gesture and construct the match required. In brief, we hypothesize that the imitative responses observed are not innately organized and ‘released’ but are accomplished through an active matching process and mediated by an abstract representational system. Our recent observations of facial imitation in six new-borns – one only 60 minutes old – suggests to us that the ability to use intermodal equivalences is an innate ability of humans”

describe a face as sad, radiant, bored, even when we are unable to give any other description of the features.”<sup>54</sup>

## 2.5. ASD, theory of mind and empathy

Baron-Cohen settles for a test that focuses on the empathizing-systemizing theory as **the** one that “... explains more characteristics of Autism and Asperger syndrome than the other ... theories” (2008:84)<sup>55</sup>. This is not to deny the research findings that ASD conditions emerge from biological roots, especially in connection with genetics and brain development. Evidence seems to point to atypical brain development both in the womb and in early childhood development especially with regards to the processing of social information (Baron-Cohen, 2008:85)<sup>56</sup>. There are other broad impressions of it.

What exactly do we mean when we use the term empathy? Frans De Waal, a pioneer in working with bonobos, describes empathy as a process “... by which we gather information about someone else” and contrasts it to sympathy which is a concern about another coupled to a desire to do something to alleviate their position (2009:88). His research questions whether such behaviour can be detected in the ape family. He can describe situations in which bonobos and chimpanzees show

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<sup>54</sup> Wittgenstein in Zettel (1967) and Remarks on the philosophy of psychology (1980) quoted at page 167 of Gallagher. It is also of interest that Wittgenstein had a concept of 'I' as subjective object

<sup>55</sup> Other considered theories include 'Executive dysfunction theory', 'Weak central coherence theory', 'Mindblindness theory' and 'Magnocellular theory' (Baron-Cohen, 2008:51 ff)

<sup>56</sup> However it is interesting to note that Temple Grandin's cerebellum is 20% smaller than a neurotypical brain and her interconnecting nerve fibres between visual receptor and visual memory storage is much greater than a neurotypical. Additionally her left ventricle is 57% longer than her right and it extends into her parietal cortex, the area associated with task co-ordination and skills in mathematics, something she has difficulty with Grandin, T. and Panek, R. (2014). *The autistic brain : exploring the strength of a different kind of mind*, London, UK: Ryder. Page 29

sympathy with other species and help them to recover their previous status-quo positions. Is this the same as empathy though?

Human children express the same sympathetic attitude before the age of one and interestingly both apes and children appear to use that behaviour as a way of re-establishing communication after some sort of withdrawal of contact<sup>57</sup>. By contrast, empathy can be described as a way in which we perceive someone else's state of mind that evokes in us a memory of when we experienced the same state, the same emotions and reactions; obviously a complex psychological state to be in. De Waal is clear that this reaction is not a 'conscious state of mind' by the observer but rather an "automatic reactivation of neural circuits". Unfortunately it is unclear how he comes to this conclusion but the observation provides the roots of what came to be known as neuron mirroring, a state that is a physical reaction to what has been sensed without conscious input by the observer. This notion will be reviewed later – see 2.5. On the other hand a conscious experience of empathy would involve sophisticated cognitive understandings of mimicry, feedback and 'contagion' which enables us to 'feel' ourselves into the lives of others. In turn, this demands a comprehensive assessment of the language of communication of emotional states. How do we come to understand these social cues and further, how do we come to understand our own emotional response in order to match it against what we perceive we are seeing?

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<sup>57</sup> De Waal describes a situation in which dogs that have been fighting will console the loser of a fight. This seems to not only console the loser but re-establish harmony in the pack as a whole allowing the pack to return quickly to their previous activity and work effectively as a pack again (2009:93).

## 2.6. Cognitive empathy

The notion of empathy is starting to become very complex, diverse and to a large extent speculative. Some might say that the word itself is an umbrella term that has come to mean different things to different analysts. C. Daniel Batson isolates eight uses of the word which he claims originate from more than half a dozen interconnected ideas (Decety and Ickes, 2009:3). Interestingly he sees the answers originating from researchers who are attempting to answer to two distinct questions. Firstly, how can we know what another person is thinking and feeling? Secondly, what leads a person to respond to the perceived impetus to care for another? The first question is the one that we tend to concentrate on in the world of philosophy, cognitive science or neurophysiologists because it directly refers to the theory of mind. Theory theorists, he suggests use 'lay theory' (sometimes referred to as folk theory) about the mind to infer the workings of other people's minds. On the other hand those evoking simulation as a guide to empathy talk of understanding our own minds in order to see ourselves in someone else's position. Both are using empathy as an explanation of how we can come to understand others by interpreting their thoughts via the veil of our own rationality, feeling and experience. In both cases empathy is used as a means to explain why we should be motivated to mitigate the suffering of others.

According to Batson the term empathy is used loosely to describe a number of different psychological states. Initially the concept suggests that we can come to understand another's thoughts and associated feelings and that the process can even extend to other species. This concept fits into the notion of cognitive empathy but it necessarily requires a pervasive understanding of the outward signals being expressed by the 'other person'. This may include body language, voice tone,



gesture and other social signals; all of which demand a close physical proximity that engages a multiple sensory appreciation that should exclude the ability to feel empathy through a single observed event described in the use of the written word. This would therefore exclude works of fiction as real sensory events, projecting them totally into events initiated in the brain alone.

The same considerations have to be made for our second broad concept of empathy. Having experienced the pangs of empathy it is considered that we mirror another's posture in an imitative way based on a perception-action model. Having been in the presence of the object of our thoughts our neurons and central nervous system (including the brain) automatically react to produce a mirror response in us. This enables us to feel as the other person feels from within so to speak. However there is recent research that dents this theory to some extent. For the moment I think it is good enough to say that this idea is so prone to subjective qualification that it certainly isn't as strong as we at first believed. The theory may well rely on our having the same physiology but it ignores conceptual and understanding mechanisms that could lead to misinterpretation of the signals being given out and presumably we could therefore echo a false 'mirror image'. This notion plagues another definition of empathy by which we come to feel as the other person does. This has an intuitive sense to it that cannot be matched to any empirical evidence.

We can also talk of psychological empathy where we imagine what it would be like to feel as the other does. This involves us searching our memory banks of what we know of the other in order to construct an image of the other person in the situation she is describing. This would involve evoking a sensitivity to the other person's situation that is controlled again by our own perception of the subject. We could then take it a step further and imagine just how we would think and feel in their

shoes. Piaget talks of this sense of empathy as perspectival or decentering but what is interesting is that this version of empathy demands an imagining of oneself rather than 'the other' and there are interesting consequences of this.

Psychologists also use empathy as a means of referencing the emotional response we have when it is elicited by the perceived welfare of another. The focus of our own emotion is what is felt for the other; this may sometimes be known as compassion or pity<sup>58</sup>.

We can return to Batson's original analysis now and show that all of these definitions can be grouped under the two research questions and the one that interests me now extends beyond the 'how can we know' to 'what is it we know' and how can that be tested empirically? This brings me onto the neurophysiology of ASD.

## **2.7. Mind mapping and the brain**

Can we map behaviours onto the brain? If so, that might start to give us an understanding of how we work together, mind and body. The science is still developing in this area but at its basic level we can show studies on brain activity that demonstrate how it might all fit together. A study showed the results of volunteers being shown pictures of a hand grasping a cup in two different contexts. The first picture shows an initial context of a newly laid table all ready for the meal to commence and the cup is being lowered onto the table as if setting the table. The second picture showed a similar hand grasping the cup but this time the food has

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<sup>58</sup> See Hume A Treatise of Human Nature for example.

obviously already been eaten (Carter, 2010:233). fMRI scanning shows us that different neurons are activated in the prefrontal cortex of the brain in each context. One of the main activities of the area that was stimulated in this part of the brain is known to deal with the attribution of meaning to sensory perceptions. This suggests that the brain interprets the same action differently, imbuing each contextual appearance of the grasping hand with a different meaning. It is also suggested that this gives mirror neurons another key function – they can help us to understand another’s intentions, which is another key area of interest for those with ASD as those on the spectrum are often described as displaying an inability to see intentions in the activity of others. We need to be extremely careful here though. We must bear in mind that in order to use fMRI equipment we have to remain deadly still. No movement can be allowed or the equipment doesn’t work well. That must mean that no real action stimuli can be shown in the brain activity. This presents a massive challenge for those working on mirror neuron theory.

ASD, as we have already noted, is often described as an inability to ‘get into someone else’s head’ or to lack the ‘intuitive’ understanding of other people’s minds. Simon Baron-Cohen for one would attribute this to a lack of empathy as we have already discussed. Using the brain scanning we may then link a ‘lack of empathy’ with a failure in the mirror neuron system, or at least in some aspect of brain functionality. This hypothesis was put to the test using fMRI scanning. A mixed group of neurotypical and ASD children underwent scanning whilst watching ‘emotional expressions’ in other children and imitating those expressions themselves. The ASD children showed no neurone activity in the area isolated in the prefrontal cortex which lit up when the neurotypical children went through the same. To stress the point, that area is concerned with attributing emotional meaning and is the seat of

what has been described as the home of mirror neurons. Carter goes further and says “This makes sense: more than anything, autism is a defect of communication – an inability to share feelings, beliefs and knowledge with other people” (2010:234). She also provides a further example of ASD behaviour that leads her to a startling conclusion. She tells the tale of a father who has taught his ASD child that he mustn’t just help himself to biscuits. He trained the child to point at the biscuit tin and then wait until an adult responded by giving him a biscuit from the tin. The programming of the child seemed to work well although there were still occasions when the child would go into complete melt down for no apparent reason. One day the father looked through the window at his son who could not see him. The child was standing in the room pointing at the biscuit tin and over a short time the child became hysterical as he could not recognise that part of the pattern was that an adult had to be present to dole out the biscuit. Carter concludes that the reason the child didn’t grasp the basic idea was that he just didn’t have the concept of someone else’s mind existing; he didn’t have any idea of a theory of mind.

This conceptualization is quite intricate because the first idea is that you “recognize yourself as something apart from the thoughts and feelings and perceptions that you are experiencing” (Carter, 2010:235). In essence you have to be able to view your own mind from outside, looking at yourself as an object. Is it possible to pinpoint this in the workings of the brain? Can we detect where in the brain conceptualisation happens and is there something different about the way an ‘ASD brain’ works? The answer to this would be grist to the mill for ASD researchers and would authorise Baker’s explanation of robust FPP.

Uta Frith noted that autistic individuals show “extensive deficits” in planning, initiative and spontaneous generations of new ideas in a similar pattern to those who

have frontal lobe lesions (1997:8). This quality also underpins the ability of the human mind to reflect on itself and the impairments of communication, imagination and socialization are all related to this particular function of the brain. This would favour the view that ASD people have an impairment in the way the prefrontal cortex organises executive function, how it organises the inputs from various parts of the brain to produce what we might call 'a thought'. This has ramifications for the way in which we perceive consciousness. If we have issues with the way we organise the brain inputs (data seems to be collected from all over the brain to produce a thought process – previous thinking associated specific areas of the brain to specific functions) this must affect the way in which we perceive 'ourselves'.

Rita Carter sees the neurotypical executive function as being carried out by the brain in the background in an unconscious way. However, it is her understanding that those with ASD have to engage the neocortex in a different way to the neurotypical. Using fMRI scanning we can now be sure that when a story that involves inferring someone else's state of mind is told the neurotypical uses a different part of the brain to those on the autistic spectrum. For the neurotypical the part of the brain that engages with such a story is a spot in the middle of the prefrontal cortex, an area that is amongst the most evolved parts of the human brain. This area is responsible for organising thoughts about stored information and personal memories to 'read between the lines', skills that are central to theory of mind. By contrast, the area that did light up in the brain of those with ASD is below the left medial prefrontal cortex and has been observed to be concerned with more general cognitive abilities (Carter, 2010:237). This would mean that interpreting the story involving other people's states of mind is worked out in the ASD brain rather like doing a crossword puzzle with large amounts of conscious processing rather

than in the unconscious way for the neurotypical. This can be illustrated by how we appreciate music. The brain constructs what it is that we call music; it blends information from various sources in the brain (including the 'new' cortex as well as the older 'limbic system' that is responsible for holding memories of emotion) so that melody, pitch, rhythm, loudness are all reassembled from memory and mixed with the contemporary sensory perception and then associated with emotional data. We may have problems in some of these areas and yet we can all 'intuitively' tell if a piece of music is happy or melancholy. This all seems to happen without us being aware that the blending is going on in our brains. It is unconscious.

The conclusion seems to be that those individuals on the autistic spectrum are having to use their brains in a different way for certain activities. Where a neurotypical will be able to assess others using a series of subconscious activations (that we might call intuitions) an individual on the autistic spectrum uses another part of the prefrontal cortex to assemble certain thought patterns.

Much of this is confirmed by medical research conducted on Temple Grandin. Her cerebellum is 20% smaller than normal; her brain is more highly connected than usual<sup>59</sup>; her left ventricle is 57% longer than usual extending into the area of the parietal cortex and the entorhinal cortex thickness is 23% thicker on the right side; her brain is 15% bigger than normal and her amygdalae are 22% larger than normal (Grandin and Panek, 2014:30-38). For the first time we can map some of the issues of ASD onto brain development – the circuitry doesn't appear to have developed in the same way as neurotypicals and during the growing phases certain other growth patterns have accelerated to fill in the gaps. For instance the cerebellum is part of

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<sup>59</sup> The inferior fronto-occipital fasciculus and inferior longitudinal fasciculus white fibre tracts.

the most primitive part of the brain and helps in coordinating balance. Temple Grandin is renowned for her lack of motor co-ordination and this is a common tendency amongst ASD people generally<sup>60</sup>. The two hemispheres of the brain contain various control mechanisms that are coordinated across the neural links. With the extension into the parietal cortex at the back of the brain, we can account for the inability to retain small lists in short term memory but the thickness of the cortices and the way they stretch on the primary visual cortex is likely to account for Grandin's ability to think in visual pictures rather than word pictures. The disproportionate growth of the amygdalae, the seat of emotion and the fight or flight response, explains why many people with ASD experience anxiety responses that cannot be overcome by rational explanations. The point I want to stress is that we are dealing with a reductive argument here. fMRI scanning appears to be showing us that the unusual connections and the brain tissue growth is responsible for all of our behaviours. People with ASD are just wired differently. Baker's work suggests that this difference arises from the way in which basic concepts are stored in neonates. It is likely that the basic structure of memory and thought construction is laid down at a very early stage creating a sort of method of filing in the mind. Brain structures interacting with the outside world are the main focus of developmental psychologists but there has been some speculation about the physical content of memory storage and its impact on future behaviour. This can be illustrated by the example of 'mirror neurons', something that was once claimed to revolutionize how we classify different types of memory.

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<sup>60</sup> This often presents in difficulties with learning to drive or swim.

Can 'mirror neurons' be a factor and how would they contribute to the theories of empathy?

## 2.8. Mirror neurons

First of all we need to look at the claims of mirror neurons to see if they might help us to provide some sort of physical underpinning of empathetic activity.

At its most basic, mirror neurons are described as a discrete type of neuron that are found in certain parts of the neural centres in the frontal lobe areas of the brain<sup>61</sup>. It is claimed that these specific neurons can be activated without distinction between either when a person does a particular act or when they observe that action being performed by another (Carter, 2010:231). This activation can be detected by fMRI scanning and is of particular importance to the ASD discussion because in neurotypical people neurons that activate when a person feels an emotion or a particular thought pattern also activate when the emotion or thought is perceived in others. This would evidence the reaction of empathy deep within our innate neural system. It is claimed that this is the explanation for gaining knowledge about what is going on in another person's mind and is thus related to theories of cognitive empathy via the theory theory route<sup>62</sup>. The idea is best summed up by the thought

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<sup>61</sup> There are around 100 billion neurons in our nervous system that are capable of influencing brain function. Neuroscience classifies neuron types into groups according to how they look. A neuron that has a single 'connection' is said to be unipolar. Other classifications may be based on the chemistry of the transmission capability. This is usually categorised by how the chemical agent works across the links between neurons, the synapses. No classification exists that describes how some neurons may behave in a different manner from other neurons. Bear, M. F., Connors, B. W. and Paradiso, M. A. (2007). *Neuroscience : exploring the brain, 3rd edn* Baltimore, Md. ; London: Williams & Wilkins. (at page 46). This is our first encounter with the 'what' and 'how' distinction of Gregory Hickok.

<sup>62</sup> Theories of empathy are rarely discussed in any detail beyond neuroscience and psychology. This is curious given that it underpins many cognitive features that have an impact on our social lives. For example, the theories of utilitarianism or those built in economics on marginal utility demand an understanding that we can have group empathy in order to understand what the greatest happiness of the greatest number might mean in real terms.



experiment that you can watch someone lifting a heavy weight and believe that you know just how painful it feels without going through the activity for yourself. Many of us will have the experience of feeling the muscle pain and exhaustion without going through it for real<sup>63</sup>. This tells us that at least two areas of the brain are likely to be involved; one that registers when the action is performed for real whilst another activates when the action is merely observed. Functional MRI scanning shows that there is an area of overlap in these two brain areas, usually in the left-hand hemisphere of the neocortex (Carter, 2010:233). But how can this be accurate if we cannot physically move when using fMRI equipment? How can we register real movement?

What exactly is the claim of mirror neurons? Let's take an example used in *Empathy and the Somatotopic Auditory Mirror System in Humans* (Gazzola, Aziz-Zadeh and Keysers, 2006). A small research experiment saw 16 humans subjected to auditory and motor stimuli across a two-day period. Each individual was presented with auditory stimuli that were sounds of hand and mouth actions together with sounds that were not related to action sounds<sup>64</sup>. Using an fMRI scanner the brain was observed and measurements taken of the stimulation in the brain as well as the location in the brain that was responding in each case. The results were combined to show that in both cases the same areas of the brain were activated when **either** the subject listened to an action or actioned them. Such experiments on the visual mirror system produce similar results. This at least shows that "... similar brain regions are

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<sup>63</sup> Some may well question this. Can we really know anything of something we have never experienced? Can we feel the pain of lifting weights if we have never engaged in this sort of gym work before?

<sup>64</sup> Typically the hand action would be reaching out to grab a piece of paper, to rip an object or break it. For mouth actions the subjects used their lips to manipulate an object held on a thread in front of them without auditory stimulation.

activated in an observer as those activated in a person who is experiencing a particular sensation – such as pain, sound or touch – or performing certain actions” (Decety and Ickes 2009:126). Watching (or listening) to a task being performed thus produces an activation in the brain of the observer that we might call a representation of the action. However, when we examine emotions for example, there isn’t a one-to-one activation in the observer, that is to say the areas activated in the performer’s brain are not likely to correspond to those areas in the observing person’s brain. We may observe someone in pain, but we are not feeling the exact same sensation, we are not feeling that particular pain. Similarly, observing someone moving their arm does not make our own arm actually move. This difference is vital in understanding the perception that we have of others – there is a distinction our brains make about something we experience for ourselves and something we may have registered through our senses without being engaged in the activity.

The claim is that mirror neurons are able to help us to understand the actions of others, giving us an innate ability to comprehend what ‘the other’ is doing. The key to understanding this is action rather than perception and the analysts tell us that this viewpoint concedes that we have a choice in responding to other people’s pain, it can be self-oriented or other-oriented. This seems to confirm that we have at least two distinct tracks of understanding, experienced directly or indirectly but the two tracks are interrelated and impact on each other in an iterative way.

During experiments on macaques in Parma, Italy in 1988 it was noted that part of the area of the brain just behind the premotor cortex, an area in the frontal lobe (F5), registered spikes of activity when the monkey completed grasping actions (Gallese et al., 1996). More interestingly the *same* neurons were recorded firing when the monkey merely saw the same grasping action executed by another

macaque, or indeed by the human agent in the course of setting up the experiment. The premotor cortex is responsible for the co-ordination of actions in response to sensory stimuli. In this case a distinction was made between grasping something (like a tennis ball) or picking something up (like a piece of orange peel). Different parts of the premotor cortex were reacting to the distinct operations needed and the result was a different limb movement in co-ordination with the fingers but the different parts were reacting because of the visual stimulus involved. This seemed to echo an earlier experiment in humans when blood flow was measured in Broca's area (which is thought to be an analogue of the F5 area in the macaques) when the subject was observing the same activity being played out in front of him. The result was that there is indeed an increase in blood activity in that area of the brain during "action perception" (Hickok, 2014:20). This increase would be detectable by fMRI scanning. It just so happens that Broca's area also plays a role in motor speech function<sup>65</sup>. The Parma team could now also suggest a link between the two functions which would bring together the idea that we can perceive speech only by reconstructing the motor gestures that generate the sounds of words.

The putative existence of mirror neurons also could be used to suggest a root of another phenomena that has been investigated for centuries; my mirror neurone activity would suggest that I am able to mind-read the activities of others. The reasoning works like this – I see someone at the front door of a house desperately searching through her handbag, briefcase on the step and no house lights on. I can

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<sup>65</sup> Broca's area can be found in the frontal lobe in the left hemisphere just above the ear and abutting the motor cortex by the part of the brain that controls the jaw, larynx, tongue and lip movements. When there is damage to this part of the brain people can understand what has been said to them but are unlikely to be able to articulate a response (Carter, 2010:250). Nearby are the Wernicke's area and the angular gyrus. Wernicke's area makes spoken language comprehensible and the angular gyrus is responsible for imbuing the constructs with meaning. The insula makes these areas all work in concert with one another (Carter, 2010:226).

immediately 'sense' that she's panicking about finding her house keys and pick up on her emotional state and what she is likely to be thinking. This is also referred to as our much discussed 'theory of mind' in that I have to be able to recognise my own mental state before I can establish that someone else may have a mental state that is different from my own. As Hickok points out this establishes a connection between mirror neurons and language, mind reading and theory of mind. Is this a viable train of thought though?

Hickok says that the inference drawn is simple. When a monkey reaches out to grab an orange he knows exactly why he is doing so and is self-motivated into completing the action. The idea has developed in the monkey's mind as a way of satisfying some essential need he has "... in short, the monkey "knows" what it's doing – and why" (2014:2). However, what the monkey's real priority is a social understanding. The most important factor for our monkey is what is the rest of his group doing and why. That prioritised question could be vital to our subject monkey's very survival. By understanding his peers he will be able to judge his place in the social structure, know when he can take food for himself (after the more dominant of the group have fed themselves) and consider if others are being hostile. Mirror neurons could provide this link Hickok tells us. The key lies in the concept that mirror neurons fire when both the real action occurs and when it is observed. The monkey is capable of understanding his own actions and is at the same time able to simulate the actions of others in his own neuron system – the conclusion is that he can therefore understand the motivations of others and possibly use what we call empathy in human experiments to aid his understanding. This would account for the success in group activity in the evolving patterns of herding, prides of lions or even

tribal social groupings in humans. However there are distinct difficulties with some of the interpretations of the data.

The brain appears to be doing two interrelated but different things. Firstly there is an understanding achieved from the sensory data that the brain is receiving; is what I am looking at a tennis ball or an orange? The sensory data, the content, is being processed and compared with stored content (memory) to decide just what it is that I am looking at. That is a complex matter because of the environment in which the data was first generated and stored. Is the colour of the ball important? How can I judge its position in space to ascertain if it is big or small? All of this is what we might want to call function data and the conclusion of what it is will be based on previous subjective experiences of similar objects. This is what Hickok calls the '*what function*' (2014:60). To grasp the object in our hand we then need to consider the '*how function*' – where is it in relation to me? Am I close enough to grasp it with my hand or will I have to move forwards? These questions arise from anatomically distinguished networks in the brain which have been ascertained in research on brain damaged areas. The ability to recognise what an object is comes from the activity of the ventral brain areas that include the occipital and temporal lobes and damage in that area can lead to visual agnosia. That condition will allow a subject to recognise the shape of a visual stimulus but not be able to decide what it is they are seeing<sup>66</sup>. However the ability to know how to grasp the ball remains intact. Optic ataxia<sup>67</sup> on the other hand has subjects easily recognising what they are seeing but

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<sup>66</sup> Agnosia is a fundamental lack of recognition that is common in the early stages of dementia and some stroke patients. When presented with an orange the subject would not know whether to eat it, play with it or take it on board as a pet (Carter 2010: 190)

<sup>67</sup> Ataxia is usually the result of damage to the motor control function attributed to the cerebellum in its role of co-ordinating muscle control across the whole body. The lack of co-ordination is similar to intoxication as the result of the depression of cerebellar circuits (Bear, 2007:474).

failing to know how to grasp the ball<sup>68</sup>. This condition has been noted when the dorsal regions of the cortex are damaged. In effect there are two streams working in the brain, a '*what* stream' and a '*how* stream' both operating from different parts of the brain. One stream is reactive (the '*how* stream') and the other focuses on recognition (the '*what* stream').

Mirror neurons as described in the literature are distinctly reactive rather than recognisance features; they are motor features and thus part of the '*how* stream'. "The anomaly then, is this: what's a *what* function doing in the *how* stream? *How* stream features are of no use to the *what* stream" (Hickok, 2014:64). This must give rise to some doubt about one of the central features of the claims about mirror neurons, that is, can mirror neurons contribute to the understanding a subject can have of the intention behind someone else's actions. Essentially we need to know 'why' is that tennis ball being thrown up in the air rather than recognising what is happening; we need an angle on what are the other person's intentions.

There is also another related issue intertwined in this debate over how the brain works. Does the brain work in a modular way, that is to say, does the brain really correspond to the old phrenologist's models of heads or does it work in a more holistic sense. If it's modular then we can look for a part of the brain and ascribe particular function to it, like an area responsible for the sense of sight. If not, we may need to look at multiple areas that communicate with each other to produce the sensory activity we are looking for. The coordinating elements of any such activity

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<sup>68</sup> Patients are seen lunging forwards as if in the dark, totally unaware of exactly how to judge where the ball is in space.

would become key in seeing how this works together. This has been a particular focus of Elkhonon Goldberg's work(2009).

Goldberg sees the modular view of being outdated and lacking in subtlety especially when looking at those with specific damage to certain brain areas. The modular view ascribes certain areas of the brain with specific function however Goldberg is able to show that the neocortex is responsible for the co-ordination of motor factors that exist lower in the "hierarchy in the neocortex" (2009:48). That hierarchy is described as a three stage one in which the primary stage is made up of primary sensory areas that provides a point to point direct connection (stimulatropic) to the relevant cortical field by being physically adjacent to the modular primary sensory area. These cortical areas are responsible for complex information ordering, taking the data from the sensory area and turning data into 'knowledge' by linking data memories together. The third level has a more complicated information processing capability that integrates the information from the secondary cortices. This happens in the prefrontal cortex, that part of the brain being the most recent in human evolution and the biggest difference between human kind and other thinking creatures. This creates a dynamic in the brain that is distinct from previous ways of looking at brain function "The way that cognition is distributed through the cortex is graduated and continuous, not modular and encapsulated" (Goldberg, 2009:49). This may all seem terribly academic but the key concept is that when we measure brain activity with fMRI scans we sometimes fall into the trap of finding just what we set out to look for. In this case, looking for mirror neurons and finding them without considering all the evidence.

To summarize, there is definite evidence that we have what can be called 'mirror neurons'. However, what they do, how they might be distinguished from other

neurons, and how that activity is then coordinated is still up for debate. It seems clear that there is more going on than the original Parma observations noted.

## **2.9. Mirror neurons and FPP.**

There would seem to be a different way of understanding how we think emerging from the neuroscience based on watching the brain work with fMRI scanning. In the past we have believed that the brain worked with a one-to-one activity. If we could watch the reception of a sensory input, say the sense of sight then we could track the neurons firing up the optic nerve and into the receptor areas of the brain. This doesn't seem to be as clear as it once was. There appears to be more than one way in which sensory input can be interpreted and it is likely that this means there are competing 'How' channels to add to the possibility of numerous 'What' threads. If that is the case then the way we necessarily lay down memories might be different from the way we access them. It is therefore possible that some brains work differently from others dependent on the neural connectivity. This may well start to account for the difference between Baker's view that language development is the key concept whilst for Grandin a world of imagery does the job. Mirror neurons may well aid the process but for some people, those on the autistic spectrum, might it be possible that, like cognitive empathy, the picture is more of a matrix than a binary arrangement. If that is correct Baker will need to take account of these developments. The concept of robust FPP may need adjusting to show that for ASD people the emergence of a robust FPP has not necessarily come about in the same way as for neurotypicals. That in itself suggests that Baker needs to take more account of work in the area of neuroscience as it impacts on theory theory, empathy and through that the philosophical ideas on consciousness and the awareness of the



self. These links need further exploration both in terms of neuroscience and philosophy.

# Chapter 3. Linking ASD and FPP

## 3.1. A Reacquaintance with the first-personal

Baker sets out to draw a picture of the Constitution View that is capable of showing that something is a person "... in virtue of having a capacity for ... a 'first-person perspective'". This would mean that we are able to describe ourselves as human because

- (a) we are persons who are constituted by the body of a human animal and
- (b) we have the ability to do something that other animals don't appear to do, that is, to advance the capacity for a robust first-person perspective given a number of fundamental circumstances.

That perspective can be seen as a metaphysical way to describe the capacity of how our minds work. Baker tells us that "... the first-person perspective [is] a two-stage dispositional property" (2015:181). Our minds, and what we create with them, are not uniquely what distinguishes us from other animals or objects however.

Holding the conscious state (that is the robust version) of FPP is a complex mental ability or property that allows us to conceive of our own bodies and mental states in an objectifiable way (2000:4). As we have already found out, Baker accounts for the growth of robust FPP in terms of paediatric development and particularly the use of complex language and the thought patterns that are encouraged by language. This is exemplified by how we might see the links between cognitive empathy and robust FPP. It would appear clear that cognitive empathy demands a self-concept; in order to step into your shoes I need to know what I am, where my 'I' boundaries stop and yours begin and to be able to imagine myself acting as if I were you. Most of conceptual tools at the heart of cognitive empathy are the same tools used when

building a robust FPP. In terms of theory of mind there is evidence that many on the autistic spectrum do not have this conceptual awareness in the same way as a neurotypical person may have. There is little debate about affective empathy being present for ASD folk and this can be illustrated by the encounter between Baker and Temple Grandin.

Grandin's use of language seems to be highly developed but some of her childhood memories probably lack empathetic descriptions and her conceptual awareness is clearly more visual than descriptive in a standard way. So in this chapter I will focus on bringing Grandin's claim into Baker's fold. If Grandin only thinks in pictures how could she ever be confirmed to have a robust FPP?

When Baker encounters Temple Grandin's claims that she only thinks in pictures she needs to bring Grandin's ideas into her fold. If she does not then Grandin would be isolated in the realm of rudimentary FPP with the further possibility of failing Baker's 'personhood test'. That failure can be further extended to all those on the autistic spectrum. This is a challenge that Baker has to overcome for the overall coherence of her constitution view. This is particularly the case when we come across Baker's startling recent claim that "... on my view, personhood does not require having a *robust* first-person perspective" (2015:187). On the face of it this would mean that any sentient being with a rudimentary FPP has claims on personhood and that would introduce an element of inconsistency at the core of Baker's project. How can we reconcile such contradictory claims and understand this apparent incongruity? Is Baker advocating an alternative 'get-round' to the language criterion that allows some to gain access to those insights of the mind without necessarily possessing robust FPP? Or perhaps does Baker believe that some human persons are able to

switch in and out of robust FPP, that is to say that it the insight might not be a permanent feature of some peoples' minds because of the way that mind may work?

### 3.2. Temple Grandin

Baker acknowledges that ASD is a confusing condition to observers not least because it is considered to be a spectrum of 'disabilities' where the normality of the fully able is the norm and where different individuals display very different behavioural traits and yet can still remain within the main diagnosis (2015:187) <sup>69</sup>. That stance totally accepts the account of ASD that medics like Simon Baron-Cohen endorses in that it remains a definition of objective observation alone. It is likely therefore to concentrate on shades of opinion about cognitive empathy and theory theory whilst casting a positive endorsement of the effects of mirror neurons. Temple Grandin's account comes from a different angle, a set of subjectively observed factors. Those factors are often **the** ones which ASD folk have been unable to get across to others because of their lack of clear communications.

Temple Grandin, Baker notes, exhibits some serious behavioural 'abnormalities' that would allow her to place her firmly on the spectrum despite her academic and professional abilities. Baker writes as if she expects Grandin to have only a rudimentary FPP because of this but she is adamant that Grandin has the robust version. Baker does not seem to resolve this discrepancy with ease but my suggestion is that we can adjust how we see robust FPP if we look through the robust FPP eyes that Grandin uses.

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<sup>69</sup> Steve Silberman agrees with this but he notes that we shy away from using the term 'neurodiversity' in favour of this spectrum of disabilities *Neurotribes*, (2015: 467)

When Grandin spoke with Oliver Sacks for the forward of her book (2006) she said that she was able to pretend to be other people<sup>70</sup>. Baker leapt on this idea claiming that it shows that she could perceive of herself and then distinguish that person from others (2015:187); that is, she could form a robust FPP. Baker simply accepts this report without challenge despite her earlier assertion that robust FPP needs the language transition. However, Baker also notes that Grandin is not thinking with words as would be expected if following her paradigm; Grandin claims to think only in visuals, in pictures. How does this fit in with Baker's model?

Olga Bogdashina analyses the concept of language with regards to the autistic spectrum and finds that non-verbal autistic people may well lack verbal language but that doesn't imply they have no language at all (2010:110). She says its merely a convention to identify symbols as words when we talk of language. When a child is non-verbal "... you must leave the world of thinking in words. This can be quite challenging for many people. Our society functions through the spoken word" (Grandin, 2008:83). Language, Bogdashina tells us, has to be an effective means of communication and as such often "... reduce[s] awareness and make[s] functioning efficient" (2010:94). In other words, we adapt the language we use for the perceived audience, again something that many on the spectrum find almost impossible<sup>71</sup>. Within our context it might become clear that without the subjective

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<sup>70</sup> Oliver Sachs describes ASD as a "medical dogma" because no-one prior to Temple Grandin has been able to provide an account of autism from the inside looking out. The medical dogma was indeed so strong that most professionals had decided that those on the spectrum were incapable of sustaining an inner life. Even if there might be such the communication problems would probably mean such a life was inexpressible by most on the spectrum. Grandin provides what Sachs calls a "revelation ... that there might be people, no less human than ourselves, who constructed their worlds, lived their lives, in almost unimaginably different ways" Grandin, T. (2006). *Thinking in pictures : and other reports from my life with autism, 2nd ed.* edn London: Bloomsbury. page xiii of the foreword.

<sup>71</sup> Bogdashina tells us that language is itself a model of the culture of the world in which it exists. The Sapir-Whorf hypothesis assumes that our view of the world is shaped by the language we learnt very early in our lives and not the other way about. Human beings do not live in a world that is just objective. Nor do we live alone in a world that is socially connected. Language is a medium of expression for that society and we adjust the worlds of our

input of those on the spectrum our very experience of ASD becomes seriously warped by what is glibly described as objective medical diagnosis.

Baker goes on to note the intellectual credentials of Temple Grandin<sup>72</sup> despite her medical diagnosis of high functioning ASD<sup>73</sup> which led Grandin herself into describing her interactions with other people as being like "... an anthropologist from Mars trying to interpret the natives" (Grandin and Panek, 2014:4). Her mother was told by a neurologist that she had brain damage which accounted for her destructive behaviour, sensitivity to physical contact, fixations with spinning objects and her inability to speak in early childhood. Grandin says that she believes she only heard vowel sounds made by adults and, for example, it took a long time for her to hear the c sound in cup when adults spoke quickly. It was only after a speech therapist picked up on this and enunciated the c sound slowly and clearly that she learnt how to vocalise this letter. She had convinced herself that adults were using a special language that she wasn't initiated into. A number of alternative analyses can be made of this. Firstly, we need to survey the thought that Grandin may not have been able to acquire any communicative language if she has been unable to hear, store or conceptualise the words correctly. This could be a hearing or a brain issue. If it's a brain issue then there are a multitude of possibilities from modal reception<sup>74</sup> to

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reality by adjusting the language we use. That language is developed in the maelstrom of solving specific problems through communication or mental reflection but the 'real world' is unconsciously built upon the language available to the habits of that group of people. This leads us to the Whorf principle of language relativity where observers are not lead to the same conclusions given the same evidence primarily because of the language diversity Bogdashina, O. B. g. (2010). *Autism and the edges of the known world : sensitivities, language, and constructed reality*, London: Jessica Kingsley Publishers. Page 96.

<sup>72</sup> From her PhD to her chair in animal science at Colorado State University, US.

<sup>73</sup> Originally reported as Asperger's' Syndrome and not related to 'autism'.

<sup>74</sup> The intense world syndrome suggests that the reception of sensory perceptions for those on the spectrum hits the reception areas of the brain as a painful burst of overload. "Autistic people perceive, feel and remember too much" and faced with this pain, sensory systems are shut down which has catastrophic consequences for both social and linguistic abilities. The Markram report of 2007 claims to have been able to watch such overload using fMRI scanning when the prefrontal cortex of the brain is the first area of attack but if the amygdalae are included

language formation that could be drawn within our target purview. These are complicated issues when looking at the brain and most are still under neuroscientific investigation but some professional observations have been made that are useful to this investigation. Secondly, we can say that some form of language may well have been going on in her head in her own terms (perhaps an example of Wittgenstein's notion of private language) but she certainly describes difficulty in her speech output, that is, making herself clearly understood by asserting herself verbally in the social world. This links up with the bigger issue because Grandin believes she only thinks in pictures. These are subtle but complex issues. If we take just one, that of language and its links to the conceptual world, we can highlight some of the main issues often discussed about people on the autistic spectrum.

Grandin's early speech seems to have been almost non-existent. This remains a characteristic of those on the low end of the spectrum with the result that children do not move beyond the child psychologist's milestone staging of echolalia or vocalising the sounds they hear often whilst appearing to be completely unaware of making any perceptual sense of the sounds. Echolalia presents to outsiders as a repetition of the sounds taken from words, often the main vowel sound, but it can also lead to a repetition of the words used when questioning a child. On the face of it it looks like the child is repeating the questioning phrase of the adult and there is often no attempt made to answer that question. It is described as delayed echolalia when a person stares blankly after a question with an answer coming later and without the socially expected form. 'Are you alright?' might be answered some time

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the result is even more painful as it affects the emotion response systems. Bogdashina, O. B. g. (2010). *Autism and the edges of the known world : sensitivities, language, and constructed reality*, London: Jessica Kingsley Publishers. Page 61.

later with a burst of song or what seems to be an inconsequential sentence that cannot be understood in the later context. It appears to confirm that ASD people are either odd or at worst 'simple'. However it is now understood that echolalia is some sort of delay in the computation within the subject's brain; it is sometimes thought that the child's appreciation of the sound of the language is somehow not stored in the same way as for a neurotypical. We still do not comprehend what precisely is going on but it is certainly a feature of any ASD person's use of language and concept formation. This brings us to wider questions such as how do we form concepts? Is this simply the realm of language or can we conceptualise in non-verbal communication?

On starting her PhD Grandin tells us that she was required to have a firm grasp of statistical analysis but she says she was "hopeless" and needed specialised help to get her up to speed. She says this was caused by a lack of conceptual development in her numbering ability but that contrasted strongly with her linguistic ability with synonyms and antonyms. This she thinks was because she could readily associate pictures with the words despite her verbal limitations. In this realm 'stop' became an image of a street stop sign whilst 'go' made a picture of a green traffic light pop into her head. In fact, so specific were these pictures that Grandin can even tell us from where the green light image came from – a Mexican customs station way back in her own archive self-narrative. This ability allowed her to construct concepts in picture language in her head even though the association of words and concepts were secondary to the 'conceptual hooks' upon which ideas would eventually hang; this might be described as a sort of hieroglyphic or highly symbolic language. Grandin claims that the 'hooks' for concepts are strong visualisations. Similarly her architectural drawings were of the highest accuracy, not a fiction of her mind. She



didn't make stuff up either but because her observation skills were so honed by walking round a farm yard several times so she could reproduce those observational experiences obsessively accurately with a pen and paper at a later time (2014:11). She was in fact using what we might call photographic memory to build the images in her head. These images were not fictions but drawn from memory. Grandin's claim that she thinks in pictures seems to predate the reasoned argument about which part of the image goes where which may be conducted in words – in terms of hieroglyphs we have pictures of things that are described by further pictures<sup>75</sup>. On the face of it this looks like it is one route for the brain to make a connection between an image and a word that can then be communicated. It is conceivable that an image can pop into Grandin's head and trigger the associated word as well as it being the other way about. Words may not be the only things connected to the images either. It is highly likely that feelings are attached to images and this is often claimed routinely for those on the spectrum; those on the low end of the spectrum being described as sometimes having sensory overload which results in emotional behaviour without the ability to express the sensation in language. Here it looks like a sensory input can create almost violent action with little explanation for those observing or even for the person experiencing this sort of melt down. It appears that the melt down is created without the need for wordy reasoning in the subject's head. For those on the spectrum this nexus is often cited as being a key problem in explaining their symptoms to the medical profession. Not only do medical professionals tend to overlook the abilities of those with ASD, assuming that all those on the spectrum are incapable of fully describing their feelings but also assume far too much without first

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<sup>75</sup> Hieroglyphs for example allows us to distinguish in pictures the word for the sun and the word for day using the same picture but with additional glyphs.

hand evidence (Wylie, 2014). The professionals try to provide support by squeezing the object of their diagnoses into a system that is the creation of the neurotypical mind. Put simply, the theory-theory tests of Baron-Cohen or explanations of ASD are particularly devoid of input from people on the spectrum. This may well be because the explanation cannot readily be formed in formal language. From an ASD point of view it appears that the DSMV IV tests are all too convenient for neurotypical investigation but lacking in empathy for those on the spectrum. This notion also seems to tumble into the philosophical world where precious little research appears from those on the spectrum. This needs a little unpacking in the context of the history of ASD recognition, Baker's description of FPP and how theory-theory might be used to enhance our interpretation.

Grandin built her reputation in adjusting machinery for feeding cattle more humanely and effectively. She visualised the machines in her head and came up with design changes to make it easier to feed cattle. She "... starts with the details ... and looks for unifying principles" and those details are associated into categories to form a concept rather like working on a visual jigsaw puzzle (Baker, 2015:188). Grandin says she cannot assimilate information like other people would, for her, memory is like replaying video. She replays these videos with ease in her head to the extent that she can visualise how a feeding chute could be at the wrong angle for the feeding cows and then adjust them to be more effective. Similarly, a diagram can be adjusted to show the relationships between properties more effectively whilst not needing to worry about the descriptions of the properties themselves. It is difficult to use words and straightforward language to explain this well but Grandin goes into

more detail in 'The Autistic Brain' (Grandin and Panek, 2014)<sup>76</sup>. Grandin talks of how she is able to see the possibility of accidents before they happen. Talking of the Fukushima near nuclear meltdown following the tsunami of 2011 she says she could see the problem in that the tsunami broke through the seawall protection and was able to infiltrate both the main generator and the backup. With hind-sight this is clear to most engineers but Grandin says she had been able to visualise this particular phase of the disaster before it happened. The backup generator was in the basement of the main generator, presumably expecting trouble to come from above in the form of aircrafts or missiles rather than from something overwhelming the building from sea level. Exactly the same issue arose in York in 2015 with the flooding of the main telephone exchange. People with ASD can have an acute sense of where danger might come from and to include them in disaster anticipation and planning can expose previously unthought-of issues; it is highly likely that the sense of danger is highly developed in people on the spectrum because of physiological differences<sup>77</sup>. For Grandin "... words just narrate the picture"; the picture is the origin of the words and not the other way about (2015:189). That seems precise enough but then Grandin adds a further level to this scenario. In the association between the danger scenario and the picture there is no emotional response for Grandin (2014:169). What is being seen in Grandin's mind is simple, accurate description that is devoid of a subjective response; it is truly objective. Using her inner voice, her

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<sup>76</sup> Steve Silberman confirms these details from separate interviews with Grandin in his book '*Neurotribes*' (2015) Chapter 11, page 424 ff.

<sup>77</sup> The limbic system in the brain works to provide us with an unconscious danger alert system. It provokes in the body an anxiety response that is triggered by the workings of the amygdala, a complex set of nuclei. Information from all sensory systems feed into the amygdala to allow the integration of different sensory modalities. Lesions in the amygdala are reported as producing an inability to recognise fear in facial expressions. Neurons in this area seem to be able to learn and can themselves evoke a fearful response after reinforcement. This response is particularly sensitive to visual stimulation Bear, M. F., Connors, B. W. and Paradiso, M. A. (2007). *Neuroscience : exploring the brain*, 3rd edn Baltimore, Md. ; London: Williams & Wilkins. Page 574.

intuition or, however else we might describe it, she says that this is one occasion when emotions do not get in the way of her reasoning. She goes on to comment on what she describes as “the scandal” of children being killed by poorly located airbags in cars during accidents. An engineer may use spatial visual thinking when deciding exactly where to locate those airbags in the dashboard following regulatory specifications. Grandin would have been able to visualise the situation and know that these regulations miss the fact that children are smaller and the trajectory of their bodies would mean they could not be saved by the airbag in the dashboard. For Grandin “... high object imagery plus autism equals scientific mind ...” (Grandin and Panek, 2014:170). Baker is not convinced though. She argues that Grandin’s complex visualisation has to originate in language. Whilst Grandin might not think with words, “... language is presupposed by the way she thinks in pictures” (Baker, 2015:189) that is to say Grandin’s concepts are derived from a pictorial encyclopaedic memory but that language drives the thinking that then follows on in her mind, as if the discussion of the pictures can only continue in words. Baker says that Grandin’s ability to distinguish breeds of dogs in her childhood requires a modicum of natural language. To distinguish a Dachshund from a small cat needs comparative language Baker insists.

There are two points that need some further clarification. Firstly, can we create comparative charts of pictures in our minds that don’t need language and secondly what is meant by natural language? This term has been used by Baker elsewhere and it does not correspond with the usage in the 2015 article. In ‘Naturalism and the First-Person Perspective’ (2013) Baker talks about how causal action is related to how we think. She tells us that the ability to act as an agent requires some form of reasoning and a dog as well as an adult human person

uses intentions to motivate actions. The dog wants a bone, she knows it's buried in a certain place and so she needs to dig in that place. The dog is "... centre of her [own] world without needing any self-understanding" (2013:189). This primitive reasoning does not need any sort of natural language on behalf of the dog and the animal may well be unaware that a form of reasoning is occurring at the time. 'Natural language' is being used differently here and it coincides with the use that Grandin uses when she says that "...both animals and people with autism can think without language. They think by associating sensory-based memories such as smells, sounds, or visual images into categories" (Grandin, 2006:201). The place of language obviously needs more exploration.

### **3.3. Pictures and propositional attitudes**

As already noted, Baker comments that until Grandin's work there was a large-scale belief that those on the spectrum were incapable of any 'inside narrative. That belief fails to acknowledge that an inside narrative may be happening for the subject without any external evidence for those making external assessments of an individual's behaviour. This might be because that narrative is not word based. A neurotypical behavioural analyst is not likely to create tests out of anything other than neurotypical behaviour and so we should expect to see such tests focused on neurotypical reasoning. This line of reasoning is often used to criticise theory-theory. With the impact of fMRI scanning a neurotypical-neutral objectification could be developed for the first time which would support adjustments to the physiological examination and provide an alternative way of observing how neurotypical brains might differ from ASD ones. That possibility impacts on the metaphysical discussions and allows a philosophy of Autism to develop.

However, we have to be aware that fMRI scanning demands a particular methodology. It is not possible to watch the whole brain at any one time using fMRI scanning. It is becoming more and more apparent that the brain works in a holistic manner alongside the body, that is to say we no longer believe that only a small percentage of the brain works towards the settling of a problem<sup>78</sup>. It is highly likely that data is passed around the brain and that areas that we would not expect to get involved actually are vital in this operation; all part of the 'how stream'. This notion is key to the way Greg Hickok understands the debate about mirror neurons. If we concentrate on observing a small group of neurons firing we are likely to miss the fact that there are other groups at work producing the firing we are watching on the scanner. The originating firing is not targeted and as such the results can be misinterpreted especially when we consider that the holistic approach suggests that autonomic, limbic and prefrontal cortex areas can all be called upon to produce a single response. The same misunderstanding may be at play in our understanding of how beliefs and concepts are constructed by the brain and indeed how those concepts in turn produce action and behaviour. We have tended to isolate what we look for and haven't until recently taken notice of the supervening executive function of the whole brain. We must return to the account of FPP and its underpinnings to see if we might be able to apply these new maxims.

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<sup>78</sup> David Eagleman, when looking at artificial intelligence, suggests that a major breakthrough in robotics was achieved when the complexity of computation was broken down into discrete units. Subagents could be used to break a task down into small pieces. These tasks would all in themselves be 'mindless' but they could be connected in a hierarchy each reporting up a command chain just like a big corporation. In this way one job might not start until two foundational jobs have been completed and so on. All that is needed for success is that there is one executive function organising the breakdown of tasks. What is peculiar is that such intricate processes should be ongoing in our brains without us being aware of it. Eagleman, D. (2011). *Incognito : the secret lives of the brain*, Rearsby: W.F. Howes, 2012. Page 106.

Baker has developed the notion that Grandin must have a robust FPP because she is able to imagine being someone else when she first watched a skilled draftsman and was able to imitate her pencil drawings. That ability requires Grandin to step into that person's shoes, by imagining that she was that person with those skills (2015:187). Not only is this an extension of imagination (sometimes not thought to be possible with those on the spectrum) but it also relies heavily on one of the fundamental building blocks of theory-theory. Grandin was able to imagine herself as an objectified person and place that perceived person into another person's shoes to experience that person's life and emotions. She seems to be doing this without the enhanced use of language that neurotypicals have been shown to do, or at least, this must be the claim that Grandin makes as she says she thinks in pictures. Following this through to its conclusion Grandin must be claiming that her imagination has the capacity to watch a draftsman, appreciate the skills being used, store those capabilities in memory and reproduce them all without using language but relying totally on her photographic memory. This does not strike me as extraordinary. When we learn to draw or paint there might be an order 'watch what I do and copy it' but essentially, we learn this skill by careful observation and reproduction. As I paint there is no stream of consciousness going on in words in my head although it would be very interesting to see the fMRI brain scans of such an activity. What does strike me as extraordinary is that Grandin claims to have been able to pick up the skills of technical drawing without being coached in those skills – that is, how to show that an area shaded with diagonal lines represents part of three-dimensional representation or that a darkened area is supposed to show something in shadow. If she did have some sort of coaching then that could account for the acquisition of her skills but coaching of that type would require fantastic

communication skills both from the educator and the student. The student needs to communicate back to the teacher that what is being taught has been understood. It appears that this is not what's going on for Grandin.

There has to be some sort of warning though about this line of reasoning as the very ability to place oneself into someone else's shoes it is claimed, lies at the heart of only cognitive empathy. But we may be able to tiptoe round this notion if we focus on a different measurement of empathy, that of affective empathy. Grandin is able to describe how, by mimicking the actions of someone she is stepping into those shoes. My sense of this is that rather than mirror neurons doing the work in her nervous system she is creating something new in her own brain processes by watching and storing photographic memories that mimics the actions needed for to possess the skills of drawing. An artist may well describe the action of painting as adding feelings to a visual representation – an attempt to communicate what she feels about the view. This may well in turn trigger an emotional response in other viewers. This is the complete opposite of the process that Grandin is describing. Grandin is not concerned with the projection of her emotional experiences into her technical drawing at all. For her the fun is gained by being able to accurately represent farm machinery in her head and then copy that representation onto paper. Communication is not a key driver for Grandin as it would be for neurotypical art lovers.

Grandin, Baker notes, is also able to write from a first-person perspective in a most articulate manner. This shows that, like others on the spectrum she must have "first person perspectives essentially – whether or not they develop robust first-person perspectives, as neurotypicals do". Here again, we have an undrawn assumption. Whilst Grandin may not have been fully able to vocalise what she



wanted to communicate (if indeed she did want to communicate in the first place) her writing skills show that she has a clear understanding of grammar and syntax. That is to say the parts of her brain that control this functionality must be working in a similar way to the neurotypical functionality. This must suggest that Baker believes that there are other ways that a robust FPP can develop (or at least be detected) without necessarily going through the testing that verbal communication skill acquisition demands. A child may be slow to gain verbalisation of language but that doesn't necessarily mean that there's something wrong with that child's ability to conceptualise. The psychologist measurements are made on verbal language use but there is no measurement of what else may be going on in a child's head. Some children on the spectrum have reading ages far in advance of their communicative language abilities but this may not be such a great part in diagnosis; in fact this may well divert the attention of the child psychologists because nothing would alert them to a problem. Besides which, the whole point of ASD recognition is that it is the paediatric specialist involved in the recognition of a spectrum of issues. Grandin's ability to step into another's shoes using her affective empathy is unlikely to be measured against her language development skills.

This poses a further puzzle. When we learn a foreign language we tend to fragment the learning process into discrete units such as vocabulary, syntax, grammar, parsing and so forth. We learn lists of words under headings such as verbs, adjectives and nouns and then construct sentences with these disparate elements according to the rules of that language. As we get better at using the language we will overlay a culturally specific layer and start working in idioms until we have a level of knowledge that might be described as 'advanced'. But the question remains as to how we measure progress in learning the language and of

course the only way that can be done is to rely on the communication of it with another advanced speaker but this is not the way we learn a natural language as an infant<sup>79</sup>.

### **3.4. Language and Childhood**

As we've already noted Baker insists that human persons have to be able to form 'self-concepts' for a robust FPP. "A robust first-person perspective is a conceptual ability that is uniquely human" (2013:31). But what does she mean by self-concepts and how exactly are we able to form them? To answer this Baker decides to call upon the notion that formal language formation must play a part in the development process. To some extent this places rails around the link between FPP emergence and language; that is to say the two become necessarily linked. This presents an issue for her model. If we can find a non-human animal that can be shown to have a concept of itself we may have a problem. To avoid this Baker tells us that a human person has robust or rudimentary FPP essentially whilst an animal has only rudimentary FPP contingently (2013:31). This doesn't seem helpful and so we will need to delve into what Baker is truly asserting about language.

Baker quotes Daniel Dennett in pointing out that the use of language alone gives the human brain a boost of "cognitive power denied to all others" and it is the use of language as a means of communication that provides this boost (2013:129).

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<sup>79</sup> Language acquisition is based on the interaction of a number of cortical and subcortical structures but it proceeds in a similar way in all cultures. The key ability seems to be the ability to distinguish words being spoken to an infant in terms of the probability of sound combinations in order to determine where one word is likely to end and another begin. Syllable emphasis is also used because in English the stress is likely to fall on the first syllable of a word. Listening to speech enables the neonate's brain to activate in the temporal lobes, specifically the left hemispheres that contain the Broca and Wernicke's areas Bear, M. F., Connors, B. W. and Paradiso, M. A. (2007). *Neuroscience : exploring the brain*, 3rd edn Baltimore, Md. ; London: Williams & Wilkins. Page 638.

That boost is the vehicle to a robust FPP but it also depends on the social boost that arises from the shared attention with the primary care giver. This might be described as a natural language which sets the boundaries for thought formation. Baker is suggesting that language formation is dependent upon the 'successful' completion of a period of shared attention that may well not be language in the formal way. This is a private set of communications without words between the child and the primary care giver and the constraints of the natural language will constrain the formation of thoughts during the robust period. In turn this is likely to colour the way in which 'public' language roots concept formation for a human child. This needs further explanation as it is key to Baker's understanding.

The understanding of children's language development has grown from the perspective of paediatric psychiatry. This proves to be very useful in the debate about ASD with reference Temple Grandin's account even though brain scanning cannot be used on neonates and so we rely on observational evidence.

From around 1 month's age a baby will produce a noise that grows out of pleasurable social contact with her carers and sounds like vowel sounds like 'ooooo' or 'aaaah'. This would appear to signal to the adult carer a need to engage in 'shared rhythm and regulation' which is designed to develop a mutual dialogue of a shared attention "... joint attention is one of the vital cognitive and motivational functions the human brain has evolved to perform" (Mundy, 2016:21). The adult will usually look at the baby intently without expression on her face which causes the baby to inspect her face and finally look deeply into her eyes. That moment locks the attention between the two and they will typically trade smiles (Smith et al., 2003:351). The child learns the sounds of words from the echolalia of repeating noises, even when alone, and from 6 to 9 months the baby will come to associate

those sounds with a range of behaviours which will be largely directed at familiar people (sounds and behaviours are being locked together in the memory). Certain facial expressions are exclusively reserved for the primary care giver. This presents as an ability for the baby to grow in understanding the intentions of the adult way before the words appear in the child's speech and is often referred to as 'shared memory' (2003:352). From 12 to 16 months a child will develop single words but the intonation may express the child's essential needs. 'Milk' can mean the object itself or 'I want milk'. At around 18 months the normal development of language will bring about the fusion of two words with three-word utterances being the norm for a child of 24 to 27 months (2003:353). By that stage the rules of syntax and grammar are starting to appear and parents are encouraged to introduce acting out play with verbal descriptions as well as pre-bed time story telling for healthy development. This process of 'syntactic bootstrapping' allows young children to infer meaning from the structure of grammar that they have under their belts to infer a meaning to something unfamiliar. The ability to adjust a perspective from one's own to that of a listener, or change the type of language used dependent upon the social conventions of the group seems to emerge from around 4 years of age by which time children enjoy describing their personal experiences (2013:358). Interestingly it is not until around aged 9 that young people are able to navigate different perspectives in a book or a drama - for example it is difficult for the child to understand the difference between the author's perspective and her own. At around this time children are encouraged to tell and write stories that involve their own subjective viewpoint in distinction from the external world "Narrative seems to help the child to shape ideas, to explore lines of thought in a playful or tentative way and to develop in the capacity to take the perspective of other people". Narratives are essential for the formation of

autobiographical memory, integration into a social culture, the capacity for self-awareness and the organisation of the emotions, the capacity to view interpersonal situations from many perspectives and the capacity to see oneself as having multiple 'narrative voices' (2013:358).

This brief description allows us to make some assumptions that are helpful to our discussion. The idea of 'language' is being used in a number of different ways. It is a way of objectively measuring key stages of a child's growing up so that the professionals can judge if the child is following the normal path. Each stage is being used as a metric to help in the evaluation of that progress. For Baker we have a progression from shared attentive acquired natural language through to conceptual language which happens at a later date and allows the formation of thoughts and eventually propositional knowledge. We can see clearly why Temple Grandin's mother would have been concerned that the progression from echolalia to normal speech creation didn't seem to be going smoothly. However, we should ask ourselves what the concomitant process was going on in Grandin's mind and the way to do that is to look at what Grandin herself says. We also need some philosophical analysis of how language contributes to the forging of concepts and how those concepts grow alongside our capability for propositional knowledge. This was tackled by Baker in 'Explaining Attitudes: a practical approach to the mind' (1995)

### **3.5. Propositional knowledge**

Baker turns to Anscombe's account of intentional action to elucidate her point about how 'I' language is likely to work and therefore become necessary in Temple Grandin's schema. When asking why someone would have done something instead

of looking to that person's intention Baker turns to their robust FPP. Giving a reason for an action "... presupposes that I know what I\* did..." (2013:187) and any agency or intentional state requires a relationship between a rudimentary 'I' and a robust 'I\*'. Agency requires that there is a connection between the action and the subjects' beliefs, desires and intentions. But do we always act because of agency? Agency in this sense seems to require a reasoned plan being formed that is rooted in a conceptual analysis of competing outcomes. Cognition using language would be the motivator in such cases. However, it would appear that animals and human infants don't have such cognitive, reasoning ability and human infants have to be taught how to reason once the thinking processes in the prefrontal cortex become physically available<sup>80</sup>. For the dog wanting a bone, she may well know that it's buried in a certain place and so knows that she needs to dig in that place (2013:189). This primitive 'reasoning' does not need any sort of natural language on behalf of the dog because there is not such a reasoning process going on. The animal is being driven by instinct to search out food and there is no requirement for a reasoning process using any sort of language. This is what Baker equates with a rudimentary FPP where a concept of the self (in terms of a distinction being drawn with other individuals) is not available to either the dog or the human child. These are first order desires that arise from the needs of the animal and as such remain as rudimentary, non-language driven needs.

A human animal develops second order desires from the first order ones but those second order desires are built by an emerging robust FPP - I develop the

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<sup>80</sup> This only happens when the neurons in the pre-frontal cortex work in association with the rest of the brain. This cannot happen before the watershed moment when unused neurons are discarded at about 18 months in human brains. It has been suggested that ASD development may make a difference in which neurons are discarded at this stage.

ability to see myself as something removed from my basic needs, I can see myself as the object through a sense of awareness of that self. This is a conceptual understanding that, on the face of it develops as the capacity for language grows in the child – however it can be argued that the development of language ability and robust FPP are coincidental rather than linked in any essential way. Language development can be seen as an objective way to measure the development of robust FPP in the sense that it is key to that development in neurotypicals. However, we need to bear in mind that conceptual understanding includes the developing notions of belief structures that emerge from the desires of the rudimentary FPP. The key question must therefore be ‘can belief structures exist without language’? If they can, beliefs are more likely related to the rudimentary nature of human growth and if this is so, the human develops an ability to know that she has beliefs and desires that can be cognitively prioritised in order to decide what sort of person she wants to be and work towards a goal (2013:191). It is assumed that this level may well require language because it requires a self-concept that is derived from a robust FPP (2013:193) and such agency extends to the cold hard world of everyday reality. This could mean that language serves as a common denominator in the process but that is not strictly necessary. Other psychological developments may be able to step into the breach where language is not fully operational, and of course Grandin is going to say that her photographic memory serves her, through the affective empathy route, to bridge this gap.

The first two years of human life sees a sense of ‘self’ developing in the human child. That property of ‘self’, as we have already said, is emergent, derived and can be described reasonably accurately by the developmental psychologists (2000:96). However, that development rests on two interrelated processes - the

physical growth of the child's brain and the environmental factors of nurturing. The process is iterative but ultimately dependent on how normal neural growth and progress continues. Indeed, these stages are considered milestones in the way we measure a child's mental development however they might be affected. The most common way that parents are alerted to possible ASD is through the slow nature of language development compared with the neurotypical child. Often this is noticeably delayed in children suspected of being on the spectrum. This is probably why the development of milestones in language development are considered to be tied up with ASD. Indeed, without these milestone measurements Baker's FPP matrix falls in on itself. This is because she is tied to the use of language in differentiating a robust 'I' from a rudimentary 'I'. If language doesn't grow this sense of 'I' the self cannot emerge to underpin the whole FPP explanation. There are a number of assumptions at work here. Firstly, that our sense of 'I' depends on the use of words – that we are able to discern 'I thoughts' and separate them from 'you thoughts' and that there is no other way of separating out these thoughts other than using words. Such distinction in words also demands we are capable of using our neural networks to recognise, label, store and work with such wordy concepts in the first place. Secondly, there is an assumption that my identity is somehow tied into these 'I thoughts'<sup>81</sup>. This works against a number of other traditions that tells us we are more

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<sup>81</sup> Damasio comments that any animal that has a brainstem that modulates visceral processes and sends the results back to the cortex is likely to experience some form of 'consciousness', that is an ability to recognise oneself in a subjective 'I' manner. This is what he calls core-consciousness. access to a rich vein of memories creates the 'autobiographical self' and at least suggests that all mammals share this basic biological value. Damasio, A. R. (1999). *The feeling of what happens : body and emotion in the making of consciousness, 1st ed.* London: W. Heinemann. Solms and Turnbull say that this idea alone has profound ethical issues for the whole of humanity. Solms, M. and Turnbull, O. (2002). *The brain and the inner world : an introduction to the neuroscience of subjective experience*, New York: Karnac. Page 95. What is more interesting is that Damasio then goes on to point out that there are other types of consciousness that are not found in other sentient creatures. These appear to be available to humans because of the way the prefrontal cortex has evolved. These types of consciousness appear to relate directly with Baker's notion of robust FPP in that they give us the capacity for



than our thoughts, more than the clothes we wear or the colour of our skin, our gender or our sexual orientation. Baker is able to avoid the second assumption because she is not talking about personal identity but the first idea appears to present some difficulties because it cannot be said that neonatal development up to the acquisition of language can be solely language based. The acquisition of any sort of behavioural norms in a child under two years of age happens without the associations that language provide. This must mean that our very earliest memories are not language based and are therefore qualitatively different from later ones. These may be the origins of how we feel rather than how we think but nevertheless a child cannot distinguish what is good for her without a carer doing it for her under the age of about 18 months. Language cannot be an issue in the earliest interactions between baby and caregiver even if we want to consider the impact of shared or joint attention. These early interactions must to be grounded in non-verbal interactions because we haven't got the neural equipment to do otherwise. If we take Baker's ideas on board then the notion of any sense of 'I' has to come only once language starts to firm up. This suggests three stages rather than two – firstly a state of 'natural language' communication during which time the neonate learns to distinguish itself from the caregiver without verbal language. Then a period of learning language that is able to produce 'I-talk' which distinguishes me from anyone else and then finally a sense of objectification of that I in what Baker calls strong I, or an ability for me to see that I am describing myself in contradistinction to my weaker I.

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future planning and imagination and the awareness that we can actually perceive ourselves in a reflexive, objective way.

Baker's basic proposition is that her self-described, non-Cartesian view of first-person perspective leads us to use 'I' as a referring expression for the whole person not just an element or part of the person such as an immaterial self, a soul, or even a mind. That also demands that we have the neural machinery to decide what 'I' is and how that word can be used. Within Baker's scheme that weak sense of 'I' must emerge at an early stage of neonatal development and it must be associated with the word 'I'. The question that has to be asked is does this happen for all children including those on the Autism Spectrum? Perhaps children on the spectrum don't develop rudimentary FPP at all let alone a robust one? Is there something wrong with Baker's underpinning assumptions?

### 3.6. FPP and robust ideas

Can we now consider how this might fit into Baker's overall model of propositional knowledge within the constitution view? This arises out of Baker's ideas concerning the way that the constitution view allows her not to dwell on explanations of identity types or token-identity theories<sup>82</sup>. This gives her a number of advantages

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<sup>82</sup> This view would mean for example that to believe that grass is green demands that we have a particular brain state with the propositional content that the grass is green Baker, L. R. (1995). *Explaining attitudes : a practical approach to the mind*, Cambridge: Cambridge University Press. The brain state therefore has propositional content that means that *p*, or represents the state of affairs that *p*, or is about the state of affairs that *p*. Beliefs would therefore be synonymous with brain states and could be further classified as type-identity theories. If two people therefore share a belief they both must have the same brain state. For most people, Baker tells us, that might be too strong and so the weaker relationship seems more plausible in that "... for any belief *p* and any *x* having a physical structure *X* then there is a brain state *N* such that *x* believes that *p* if and only if *x* is in a state of type *N*" (1995:8). So a blind person would have a different mind state to me when observing a green grass. Each person shares the belief that the grass is green but the brain state of each is likely to be different. They are thus sharing a *type* identity. This is different from a *token*-identity theory. When I describe my belief that the grass is green and you agree we are sharing the same *type of belief*. However, your brain may hold a token (a symbolic header, or representation or means of association by which ideas can be linked to something else as a reference point) that is likely to be different to mine even though we share the same belief. Your brain holds a particular token and my brain holds a different token that both point at the same belief. I may hold an image of a piano that points to the belief that music is calming and you may have the token of a visualisation of the score of a calming piece of music. The token types are completely different but point to the same underlying thought that this music is calming. This notion could account for a difference between word and image tokens – the same emotional effect is 'triggered' by difference tokens. However, type-identity theory on its own suggests that the tokens of the same type of belief are also of the "... same neurophysiological type" (1995:8 footnote 18) and that doesn't appear to be well reasoned. This would mean that similar neurons connected to auditory modalities are at play.

over the 'Standard View'. In the standard view a person holds a belief that *p* only when a particular brain state persists. On the other hand Baker suggests a person holds a belief that *p* is an "irreducible fact about a person" and that it is therefore an attitude rather than a belief (1995:23). A person has a belief in respect of a range of circumstances and reacts to a wide range of intentions which could be totally subjective or interactive with an environmental, external and therefore objectifiable, set of factors. In the majority of cases a belief is likely to arise and then be adapted over time because of external factors in an iterative way but in both cases the way that information is processed and stored happens in the brain. It is not therefore because I hold a particular brain state that I hold a view but rather "... in virtue of there being a certain set of counterfactuals true of a person ...". That is to say, as a person I debate and reason with myself taking into account my beliefs/attitudes as well as the pros and cons of a situation and my experiences of the outside world. This rationalisation would of course require language and is a higher brain function,

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Baker illustrates this by writing three words, 'oranges, apple and apples'. These are three word tokens, or different pictures, each representing a different thought although they are two examples of the same types of things. However we could have a situation where instead of the image of a piano being a token of my belief that this music is calming I could hold a token as being a colour. A representation of pink may well trigger the belief that this music is calming and that would be inconsistent with token-identity theory. Indeed Baker tells us that there is "... no metaphysical requirement that the attitudes be constituted by particular brain states" at all (1995:6).

Type-identity theories have grown out of Hilary Putnam's twin world scenario where all type-identities are of the same physical type – a colourless, odourless substance such as H<sub>2</sub>O and a colourless, odourless substance that is XYX. Token-identity theories allow the underlying belief to be of the same physical type but the tokens could be of vastly different physical types. This would allow tokens of a single belief type to be identical with different types of brain states in dogs and human beings. It also allows the speaker of German to have a brain state that is different to an English speaker's brain state but they both agree that Plato was a philosopher (1995:8).

Where tokens of beliefs (for example naming words) are claimed to be identical with each brain state token. In essence that means that the physical type of my brain state that has the token or word association 'red' is exactly the same as the blind man's physical brain state token. That is, we're both using the word red whilst the brain state behind such naming is different. Say for example that our blind man is blind because he has damage in the brain in the sensory area of vision. There is no way that our physical neurons exist in the same pattern in the brain receptor areas. We can both hold the memory of what red tokens to us both but our blind man is physically incapable of perceiving redness in the same physical way that I do. It may well be that due to brain plasticity a new neural pathway has been forged but the physical brain state is not the same as mine despite having at least similar colour experiences in the past. However, Baker is clear that the constitution view may be weaker than token-identity theory but neurons and their constituent molecules in the brain make the 'belief-token' (1995:10). What is unclear from this view is if the belief-tokens have to be of the same 'type' i.e. words or images.

largely run by the prefrontal cortex but it needs the variety of interpretations made by the brain rather than a solitary one. In ordinary language my beliefs and attitudes come about because of the multitude of inputs to my brain, a rationalisation of them and their use in everyday communication. That process distinguishes me as a person but is dependent on the model of how we use language to rationalise.

The standard view stresses that there is a match between particular behaviours and specific brain states (whether real or hypothesised) in a one to one manner; this would enable me to point out how a behaviour is wholly dependent upon a specific neural map in my brain that holds the specific memory and computational energy to drive forward my physical being into taking specific steps to fulfil those intentions. It strikes me that this is contemporary phrenology<sup>83</sup> where certain brain areas have localised specific functions. fMRI scanning shows that this is not the case.

On the other hand, Baker tells us that behaviours are driven by predictable consequences – by manipulating attitudes we can manipulate behaviour and this may ultimately conflict with our beliefs. We don't need to take an electrode to the brain-mass to change behaviour as we have the prefrontal cortex mixing and matching these attitudes. Beliefs in this model emerge from understanding cognitive processes without having to wait for neuroscience to tell us if we have beliefs and what they are. Attitudes do not, according to Baker, rely on brain states (1995: 23) but can causally explain behaviour "... without courting untenable dualism" (1995:31). More broadly Baker sets out to bring together psychological and non-

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<sup>83</sup> Developed by Franz Joseph Gall in the late eighteenth century and linking with the size of the cranial space to develop a theory of empirical knowledge.

psychological causal explanations for behaviour under the banner headline of a 'metaphysics of the practical'. This is why her constitution view needs FPP. It is only in FPP that Baker can find a way to combine internal and external relationships for the person that sustains her practical metaphysics and that's because human persons are "... not just animals" (Baker, 2000:116). Having FPP gives the person a psychological and ethical influence that goes beyond the DNA of our biological animal. "Focusing on things that are non-derivately persons and that are non-derivately animals, the Constitution View holds this: Persons, human or not, are of a different kind from animals" (2000:117). We need to understand that the non-derivative elements of FPP provide the alternative route to understanding that beliefs are not brain states in Baker's analysis.

### **3.7. Conceptualising without Language.**

Baker's initial view is that Grandin has to be using language to form her belief structures and intentions even though she claims to be thinking only in pictures. For Baker, Grandin has to have the underpinnings of language to form propositional knowledge. Baker takes Grandin's idea of categorising dogs as an example. Grandin describes her childhood ability to tell breeds of dogs from each other by their size. A Dachshund is distinguished from a St Bernard's simply by size. How therefore is a Dachshund not a large cat and vice versa? For Baker the categorisation we use in our heads can only be the product of the concepts that we have already created and stored before we can make such distinctions and those concepts are necessarily built in language. She says that we can't have any sort of belief without having a language and Grandin's own written work only confirms exactly this (2015:190). This work would in the following way. Grandin would have a 'natural language' that was

created 'at her mother's knee'. That language would be wordless, as it is for all neonates, but it would set down the filing cabinets in her mind into which the thoughts can eventually be categorised. It is highly likely that these cabinets are very individual maybe even unusual because they are not the same as those without ASD. When the young Temple Grandin conceptualised the world out there she was using a categorisation that was highly independent and a combination of words and pictures. The files though have been put away in the cabinet entirely based on her visual categorisation rather than linguistic separation. Grandin must therefore have a natural language with which to conceptualise and without that sort of language she would not know that the Dachshund was not a cat – that is, Grandin needs someone to point out "... that the Dachshund is not a cat" to lay down the concept in the first place (2015:190). Grandin has enough natural language to detect that she would then need to create a new category in her conceptual schema to define a Dachshund differently from a cat. This would accept that the linguistic concept of what defines a dog has played a part in the acquisition of the concept in the first place. Initially Grandin must have known which images to use for the categorisation and secondly she had to assess that one image didn't fit in with the category elements of the other and that must mean that both demand a working language characterisation. Baker asserts that she does not believe that either of these facts could be "... found out without the help of language". In other words, Grandin sorts out her visual categories with the use of language and that "... Grandin's phenomenology is photographic rather than propositional" (2015:191). Baker further points out that Temple Grandin may not disagree with this analysis because it is likely that she acknowledges that the spectrum allows for different types of language capability. There are those who exhibit no language understanding at all and those

who can comprehend language but not communicate it an oral way. As an example we know of cases where silent ASD people can still communicate non-orally through type-written discourse. However Baker's construct is based on the idea that conceptual analysis requires language ability as an essential part of her construct because it would appear, the development of robust FPP is an essential part of what makes us a person.

For Baker that key watershed is the development of language; without language we are unable to conceive of the 'I' in me and move into the robust FPP world. Baker claims that this is a single dispositional property that has a greater manifestation of forms at the robust stage than the rudimentary but nevertheless it remains a single, unified property (2013:30). However, there is a case to be made out that robust and rudimentary FPP are actually two distinct forms. Robust FPP can only develop out of the rudimentary with the possible aid of language but there is no evidence that one form stops and another completely takes over. It would appear that the two forms continue to exist side by side and indeed in competition with each other and sharing elements. This notion ties in with David Eagleman's view that the mind is a multi-functional organ that is constantly reinventing itself and is a team of rivals dominated by reason and emotion (Eagleman, 2011:Chapter 5). It would also give added credence to Kahneman's double view of thinking fast and slow (2011) and Steve Peters' Chimp Paradox (2012). In Baker's terms we can have rudimentary FPP working alongside and complimenting robust FPP. At times they may work in parallel whilst at others they work together in an iterative way to create perceptions and memories that alter over time. Our rudimentary FPP giving us emotional reactions to our basic needs (like flight, fight, freeze or be attracted to an adrenalin rush) whilst our robust FPP allows us to reason because we can conceive of

ourselves as ourselves. Sometimes the two work together so that reason works with our emotional behaviour to suppress it or enhance the effect whilst at other times they work in competition with each other. David Eagleman refers to the concept of cognitive reserve as an example of this in working with the ravages of Alzheimer's disease. Many people can be shown to have the neural destruction associated with Alzheimer's only at autopsy. Symptoms never appeared during life. Often these individuals were known to be deliberately staying active into their old age by keeping active in careers or doing crossword puzzles or anything that keeps the mind active (2011:128). "... staying mentally vigorous, they built what neuropsychologists call cognitive reserve"; their brains give protection against the symptoms of Alzheimer's. This seems to be achieved in the physiology of the brain itself; whilst one physical part degenerates they have developed alternative ways of solving problems. "Cognitive reserve – and robustness in general – is achieved by blanketing a problem with overlapping solutions" (2011:129). In the every-day world the next question that has to be explored is how do the two elements communicate with each other? Is this the true role of language capability?

We now have a variant on Baker's theme that language is the key differentiator. If communicable language doesn't develop in a child there may be alternative ways that robust FPP can be achieved by using another route. To date that solution is probably not being measured by the professionals investigating individual cases of ASD but it gives us an alternative to the notion that the person can only develop with fully recognisable language skills and its concomitants. If robust FPP is no longer dependent on thought expressed in language a range of ideas opens up. If, at the same time we can say that Baker's notion of unity does not need to persist we can allow in more and more neuroscience. We now need to turn



to Baker's model and reinterpret the CV view to see if this interpretation will disturb the idea that constitution is a necessary relation of unity (Baker; 2007:35).

### 3.8. Unity and the Constitution View

Baker describes the Constitution View as one of genuine unity because such a formulation allows the appropriation of properties between two objects; if x constitutes y at t, x can borrow properties from y, and y may borrow properties from x (2007:37)<sup>84</sup>. There is therefore a relation between the properties on loan to each object and those relationships are ones of non-derivation because they are not essential properties to the borrower. They add something to the borrower but that addition is contingent. Unity in this context suggests that Baker wants to lock the two elements together and her explanation for its locking is the use of natural language. She makes out the case for language being the differentiator between rudimentary and robust FPP by showing how robust can only emerge when language capability comes to fruition in a child. FPP appears to be the mediator between the two states allowing this borrowing to go on. However, this analysis fails to show how the exchange might happen without language mediating that exchange. If the robust

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<sup>84</sup> Each object has its primary-kind property both nonderivatively and essentially. Your primary kind is person. Your body's primary kind is human animal. Even though being a person is a primary-kind property that you have nonderivatively, your body has that property derivatively – solely in virtue of constituting you (who are a person nonderivatively). Even though you are a person essentially, your body is a person contingently: When your body no longer constitutes you, it is no longer a person. Still your body is not a separate person from you "...the fact that your body is a person at t is just the fact that you are a person (nonderivatively) and your body constitutes you at t" (2007:38). Being a person essentially cannot be a derived property and my body cannot have the property of being a person as its primary-kind property at all, be it derived or non-derived. My body has the property of being a human animal as its primary-kind property. You can only hold two primary kind properties if one is derived and one non-derived. This has implications. A property can either be held as an essential primary kind, that is derived or a contingent one that is non-derived. It cannot be both and the nature of CV means that to hold something in a non-derived relationship means it has come from outside of the subjective experience of 'me'. FPP arises therefore out of the way we distinguish ourselves from other people (2000:64) and it is a different process to that of dogs for example who are not able to conceive of themselves as themselves (2000:67). Having 'I' as a reference point allows FPP to develop from its rudimentary stage to the robust version.

transaction is working with complex reasoning 'I' language, seeing the self as an object how can that exchange work with a rudimentary type of transaction that is not capable of using such language. Baker uses the concept of 'natural language' to avoid this problem but she seems to be using this term in a way that is not fully described. When Grandin describes a dog in a sensory-based way Baker states that there are two ways in which language is playing a role. Grandin must know which images she is going to use for the categorisation; which ones she's going to use to attach to that sensory image and which she's not going to use. "I do not believe that she could have found out either of these facts without the help of language" (Baker, 2015:191). It is this reliance on non-natural language, let's call it conceptual language, that Baker claims allows robust FPP to emerge. This insistence will have the effect of denying personhood to the those on the spectrum who cannot develop conceptual language unless Baker can introduce another mediating force.

Is it then essential that that conceptual language development is responsible alone for the movement between the two types of FPP as only this permits a sense of I as an object to emerge?

Baker notes that whilst constitution is like identity it is clearly not exactly the same thing<sup>85</sup> and what is more the relationship of constitution is only contingent. If x constitutes y at t, x is not part of y at t – the identity of something is independent from the identity of its parts because the parts may well change over time (2007:33). Is it possible therefore to say that someone who is non-verbal in Grandin's sense may acquire verbal skills over time? Maybe it takes a lot longer for the professionals to

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<sup>85</sup> Strict identity where  $x = y \rightarrow \Box (x = y)$

make objective judgements of children on the low end of the spectrum because they lack a means to clearly express what is happening in their heads? Perhaps even those without evidenced language skills use a natural language of some sort in their heads? Who can tell?

Similarly, the persistence conditions of the parts differ from that of the constituted object and constituted objects therefore also have different essential properties. Everything that exists is fundamentally of x's primary kind. The primary kind of an object will share its persistence conditions essentially. A person is a primary kind but a person cannot be of another primary kind at the same time, like for example, an animal. And further Baker points out that something may have a primary-kind property without it being that object's *sole* primary-kind. There are therefore two ways to have a primary kind; one is an essential property and derived from that essentiality. The second is to hold a primary kind by being contingently related to something that is essentially of that kind (2007:34). In some sense this contingent property is borrowed, it is non-derived. A primary kind is defined by its persistence conditions therefore and the "... primary kind of a constituted thing ... contributes to the thing's persistence conditions" (2007:35).

A clue to this is found in the 2014 paper where Baker reminds us that she's not thinking in the same way as Locke in considering oneself as oneself in different times and places (Baker, 2014a). This alludes to the notion that we may not be the same person from moment to moment, allowing growth and indeed deterioration such as dementia or through brain damage. Just because I am suffering from Alzheimer's does not make me any less of a person even though I may well present as a less sophisticated individual with a poor short-term memory. Are there other ways then of developing and measuring robust FPP if the ravages of dementia has a

potential to limit the ability to form communicable sentences? Is there a difference between a capacity to develop it and use language? Is it possible that having developed robust FPP I may not be able to use it in the way that a neurotypical person does? Can robust FPP develop differently for those with ASD? Baker believes that Grandin's visual thinking claim must have some sort of unifying principle, a common denominator where details are assembled into concepts like putting together a jigsaw puzzle in the same way that language allows a neurotypical person to do (2015:188). This would contrast with Hulme's view that the person is a collection of undifferentiated perceptions associated through memory (1826) and agree more with Locke's view that thoughts can only come from experience and are written on a blank sheet to form the mind (Mackie, 1976:47). For Locke experience tells us things about the external world whilst reflection tells us about the workings of our own mind (1924: Essay II, xxvii pages 6-8). Baker accepts that this sort of reflection appears to be a form of FPP in that we are able to consciously reflect upon what we have experienced and we therefore become conscious of our own mind's processes. Ideas are formed from experiences and these can be combined into complex ideas through the use of language to form knowledge. This process seems to be vindicated by Kant and Hegel who suggest that a subject has to mediate reflections on itself in order to possess a single unity that we might come to recognise as a person. In all these cases we have to start work in the dimension of the subjective, the arena of belief and self-derived motions where 'I' primarily creates something other than 'I' that is capable of recognising that there are several thought processes going on in the mind at the same time. In Baker's terms the possession of robust FPP does not exclude the continuing processes of the rudimentary version.

Both are working in parallel in the functioning of a healthy brain but there might be a variation in the balance between the two.

# Chapter 4. Harnessing Neuroscience

## 4.1. Introduction

If we can establish that there is a connection between how our minds work and the brain that underpins it we are not only establishing the monist materialism but also confirming the effect of different minds. This is the pattern I want to establish to 'tweak' some of Baker's fundamental ideas.

Lynne Baker tells us that she doubts that there is a *single* relationship between minds and brains. This relationship she goes on to say is "... an empirical issue to be investigated piecemeal by neuroscientists" (2000:12). Whilst I agree with this sentiment it seems clear that neuroscience can actually come to Baker's aid and strengthen her model. Similarly, Baker dismisses the natural scientist-ism of Daniel Dennett saying that her view is certainly not a view from nowhere; her view she insists stems from FPP. She describes her opposition to these viewpoints as originating in the non-perspectival natural sciences that "...authorize ontological and epistemological claims". She accuses Dennett of eliminating, or at least reducing, first-person perspectives to a world "where if phenomena conflict with a complete scientific ontology, then they are *only* apparent – and do not really exist" (2013:28). For Baker the data about what it is to see things from a first-person perspective cannot be reduced in this manner so as to not exist. This she blames on the perspective of cognitive science. Her accusation is not only anti-reductionist but it is an attack on the type of naturalization that Dennett particularly favours. That approach looks to the objectifiable behaviour of humans and animals as the only method of understanding the introspection of such species. They would have us believe that we can't measure what's going on in an animal's mind and therefore any

attempt at it is pure speculation. Much better to view behaviour as a barometer for what might be happening in the mind of the creature. With this in mind we coldly watch the behaviour of grey seals on our coast and believe that they are calm with their pups around. That is how it looks to the observer. More experienced naturalists will say that this behaviour is because they have a survival instinct that tends to make them freeze with anxiety when a human being approaches. However, when a heart monitor is attached to the mother we can see a spike in her heart rate that tells us that she is actually afraid and running on an adrenalin response that is not observable from the outside. Outward behaviour is not usually a good indicator of what's really going on in the natural world<sup>86</sup>. To gain more meaningful information we need to take account of cognitive function in some form or another.

Behaviours and the events that inspired them were previously seen as the only way we could determine how our internal world could be driving our activities. The private world of our minds being totally beyond reasoned measurement. The thoughts and feelings of people should be ignored because they could not be measured reliably and objectively. This limitation spawned many unconnected theories from the economic (the monetarism inspired by Hayek for example) through to the psychological theories of behaviour modification. However, what is key is simply that the mind was considered to be far too complex to measure how it impacts on behaviour. It was not until the work of BF Skinner in the 1930's that private events such as thinking and feelings were considered to be amongst the variables that might well influence behaviour. Somehow this variable needed to be measured in some way (Skinner, 1957). Radical behaviourism as it came to be

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<sup>86</sup> From Winter Watch, BBC4, January 31<sup>st</sup> 2018 from 8.00 pm.

known was adapted so that it could be used to treat some mental health disorders that could show some awful, strange behaviours. Oddly this extended into the treatment of those on what we came to call the Autistic Spectrum. The suggestion being that behaviours are just as likely to be controlled by thoughts and feelings of an individual as external factors are.

Skinner's work focused on experiments with rats and birds where innate, reflex-type responses were originally dismissed as operating in the rat's behaviour patterns. But rats could be trained through reinforcement to behave in a certain way. These behaviours could be measured to show that learning through repetition was a feature of the way the animal's brain worked, that is to say that something in a rat's brain allowed for this reinforcement to change behaviour over time. Having changed the behaviour it was likely to stick if the reinforcement was strong enough. Skinner understood that the patterns of reinforcement were likely to be a function of some sort of 'language' and that language could be learnt because it was a set of habits that could be acquired. For Skinner, language could control behaviour as much as the external environment.

Behavioural analysis alone came to be seen as an inadequate research avenue primarily because of the advances made in cognitive neuroscience by techniques such as fMRI scanning (Grandin, 2011:xxiv). There are however many connections between Skinner's work and the underpinnings of Baker's theory. Baker thinks that scientific naturalism sees the world as impersonal where there are no "... irreducibly first-person facts" and this has implications for the whole of her view. "My belief about myself under a first-person description has special behavioral consequences that a similar belief about myself under a third-person description lacks ... I have a first-person perspective, which is irreducible and ineliminable" and



therefore not all facts about what makes us human persons are able to be expressed without that reference” (Baker, 2013:xv). She continues that her project is to “... show that first-person perspective is a dispositional property that should be included in ontology” and without it any ontology is not complete but then neither is scientific investigation (2013:4). Ultimately any methodology or epistemology connect back to this natural ontology which owes a great deal to Quine’s naturalised epistemology where the study of knowledge needs to be investigated empirically “... in terms of what science (e.g., cognitive psychology) discovers about our cognitive faculties” (2013:5). Ultimately Baker wants to naturalise her first-personal perspective otherwise such stances will be taken to be unreal and just some form of apparition. It is therefore a surprise that Baker chooses not to delve into the realm of cognitive science as it would strengthen her argument rather than limit it.

Rudimentary FPP is a perspective, not an object, that perceives the world from a specific location in time. It is the “... default location of the conscious subject” (Baker, 2013:41) and it is independent of language and conceptual abilities. It also has to be a vital capacity of a sentient being that has intentionality because it is ultimately responsible for goal-directed behaviour. Beings with rudimentary FPP can perceive their environments and intentionally interact with things in it because they are at least minimal agents and are “conscious, and they have psychological states like believing, fearing and desiring” (Baker, 2013:43). There is no evidence however that such beings are able to conceive of themselves as the subject of these thoughts. The focus is totally outward and there is no ability to self-identify in any way. If something exists the rudimentary FPP only recognises what originates in the subject’s “... perceptual field”. All perceptions are therefore first-personal and it is to

the human person that the relationship of perspective is held essentially<sup>87</sup>. Contrast that with another animal that holds the relationship only contingently (2013:44). What then is the difference between a human and another sentient creature? The answer lies in is the notion that "... a person, is of a *kind* that develops robust first-person perspectives; an animal with a rudimentary first-person perspective is of a kind that does not" (2013:44). The turnkey answer hangs on the capacity to develop the robust version, even if that does not happen. The reason why it might not happen? Some sort of 'abnormality' like the development of ASD or the retrograde step of developing dementia but that won't get in the way of rejecting personhood for either groups.

## **4.2. Baker and intentionality**

It is becoming clearer that Baker's approach to the mind is to see it as being a key battleground where philosophy meets science but she claims her common sense understanding of this crossroads needs no validation by the sciences. However, we need to dig a little more deeply to understand the assumptions Baker is using. Firstly, we have to battle to understand which bits of neural physiology she is discounting because she is able to say that those with ASD are born with the capacity to develop robust FPP which at least implies a rigorous understanding of the way theory theory works for those on the spectrum. It seems that she has chosen her battlegrounds but maybe she discounts areas that can actually aid her

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<sup>87</sup> Baker explains this by stating that the human foetus develops a rudimentary FPP at birth and a person comes into being constituted by the human organism. The relationship between an animal and its body is identity whereas the relation between a person and the body is constitution. Constitution is time bound whereas identity isn't. The organism has FPP derivatively "in virtue of constituting a person who has it nonderivatively" (2013:footnote 19, page 44).

cause? Baker alights on the use of language as the critical mediator between rudimentary and robust FPP but how would that mediation work if language is not the key? This area comes under challenge when addressing Temple Grandin's self-description of thinking in pictures. At this point Baker does not provide any evidence to say that rudimentary FPP is of the same type as robust FPP or that there might be other versions of FPP. Could it be that the two notions operate entirely separately but in parallel and at the same time? If that is the case the development of language mediation need not concern her. Might the idea that our personhood is not found in either of these constructs need to be taken into account? Those who meditate and those of a spiritual disposition might tell us that there is some other element, like a soul or a deep self that is not reflected in either robust or rudimentary FPP.

There is a further set of questions concerning how we might store those elements that contribute to memory and its accessibility. The belief structures of intentionality seem to be necessary in the recognition of at least robust FPP constructs. How do we recognise for example what are derived thoughts and feelings and distinguish them from non-derived ones? What is the mechanism by which we distinguish them if robust FPP is a phantom? Is it possible to determine why I act in a certain way – is it my nature or my nurturing that drives me? And how can we bring about representations in our mind (in language or pictures) that mimic objectifiable physical real life (Baker, 1995:5)? We seem to have a series of 'how' or 'what' questions once again. How do we set down memory; how do we use memories of experiential events to form action? Or, what do we store when we store memory (and is it therefore influenced by the process by which it's stored) and can we detect what is retrieved and what is lost? The best way we can realise such

underpinning constructs is to turn to the developments being studied by neuroscience.

When talking about the mind the standard view is that attitudes are constituted or realised by particular brain states. This differentiates the standard view from the Cartesian construction where brain states are viewed as immaterial – the mind being connected to the brain and therefore beliefs become immaterial states and so fall outside scientific inquiry. Baker dismisses Descartes' view because of its inherent dualism and then moves on to dismiss the standard view because she sees no metaphysical requirement for propositional attitudes to be constituted by brain states. This is the reasoning behind her “constitutional view” that holds onto the nexus of FPP. This manoeuvre seems to sidestep the idea that our thoughts are not constituted by brain states, type-identity theories or token-identity theories. Baker needs to show that her theory can cover the ground of these other views in a more satisfactory manner. In effect, FPP and the constitution view has to do the work of the standard view as well as discount Cartesianism; FPP has to fill the gap dismissed by Baker in these two analyses and she sets to work on the differentiation of FPP into rudimentary and robust elements utilising language. Our growth in the understand of Autism Spectrum Disorder has disturbed that authority simply because of its vast array of symptoms and the origination of the disorder in the physical body, whether it be genetic in origin or an interplay of responses from brains that are noticeably different from other people who are not labelled as ASD. The inter-relationship between our physical bodies (particularly the brain) and the way we use parts of the body to think seems to fascinate Baker as much as any other philosopher but rather than see a string of binary relationships I understand the nature of that relationship as much more of a matrix. This will not only impact on the

relationship between intentionality and FPP but on a number of interrelated other issues. Some of these are touched on by Deborah Barnbaum when addressing the ethics of autism (2008).

Barnbaum illustrates the complexities of the ethics of autism by introducing the thought experiment of Sally. In experiments Sally may well believe that a ball is in a box rather than a basket. That belief could be false but we can objectively prove it one way or another. Sally might get up and look in the box to prove to herself that she is right. Intentions cause people to act in certain ways and the idea flowing from this is that those who have some sort of cognitive difference may not be able to understand the intentions of others flowing from their own belief structures. An individual who struggles to understand the intentional belief states of others (say by 'reading their facial expression or body language) for example would be unable to predict another person's actions and is likely to find a person's behaviour as totally unpredictable and mysterious as a result. The example given would mean that Sally would look in the basket for a ball if she held a false belief that the ball was there rather than in the box. An individual watching Sally's behaviour would be completely non-plussed knowing that the ball is in the box and would not be able to explain why Sally had looked in the basket at all. "Causal explanations would not be available through conventional means" (Barnbaum, 2008:4). And the key concept is "through conventional means" - someone on the autistic spectrum does not necessarily fail this test but rather may react differently having used a different brain process to conclude what's going on. This was discussed in Part 2 however, Barnbaum points out that there are other implications beyond philosophy of mind or language. For her there are "... unique deficits for ethics and for bioethics in particular" (2008:4). By this she is referring to what she describes as moral personhood or what individuals on

the spectrum owe to other neurotypical persons in society. If those with ASD cannot recognise social morality should they be punished for disobeying the rules? On an even wider jurisprudential point should those who are judged to be incapable of understanding the intentions of others or themselves ever be judged to have a 'guilty mind' (which would lead to the only defence available here which would be a plea of insanity and a detention for a life time at Her Majesty's pleasure). Barnbaum concludes her introduction by stating that the significance of ASD should not be underestimated because "... the absence of a functioning theory of mind carries with it the most profound implications for the ways in which persons with autism interact with others, or even come to understand themselves" (2008:5). It is on this point that we should be able to see how these implications are crated into Baker's ideas about robust first-person perspective. Without some adjustment to the classic understanding of ASD and its role in the philosophy of mind through ideas like robust FPP we have a potential for profound misunderstanding of those on the spectrum with some potential hellish outcomes. If I am unable to develop a robust FPP can I ever be able to be judged in our jury system of criminal law even if I have the capacity for that development. Can I indeed ever be a member of a jury if I have spectral disorders? We readily dismiss those with diagnoses of dementia from jury service but should that be extended to those on the autistic spectrum? Do our juries include downs syndrome individuals or those with personality disorders? The answer presupposes what we mean by a jury of our peers.

### **4.3. The problems of qualia**

If we accept that rudimentary FPP is one of the products of our limbic system which is responsible for many of our so-called innate reactions we can usefully

contrast that with the evolutionary different functioning of the prefrontal cortex which is responsible for much of our reasoning, planning and I contend, the only way we would be able to detect the workings of a robust FPP.

Human animals, just like any other animals, use their limbic brain systems to react to fear, flight, fight or attraction as a default position using properties that are derived from their own bodies (Baker, 2000:101). The reaction is fast and happens without conscious awareness of what we are doing. That reaction might be triggered by my seeing a moving red creature out of the corner of my eye. I react as I would have done before I experienced that a red creature is likely to be harmful. I react without consciously processing that image. There is no weighing up of the probabilities one way or another. When I see something I am perceiving it with the mental properties that are derived from the body I have. The way my sensory detectors are linked to my mental process are definitely part of the way my animal body works. This is the way that human bodies have evolved over the millennia in reaction to environmental pressures and this is the same for all animals that have survived life into the twenty-first century (Solms and Turnbull, 2002).

Those innate reactions are very different from those assembled by our rational brain power. Our rational brain weighs up probabilities, takes probably five times longer to come to a conclusion (Peters, 2012) and may well store memory in a different way to innate memories (Eagleman, 2011:75 ff). Not only does this process require external stimuli but we also need to think about how the processes around the storage of memory in the mind works and how that memory is then pulled together and blended to influence our beliefs about the world outside our limited purview and ultimately react to it with behaviours. Baker needs to explain this issue by comparing derived stimulus with the non-derived type in order to show firstly that

derived stimuli may work in a different way from the non-derived type. Then there is the area of how the two relate given that our memory is highly likely to work differently in each area as well.

Baker says that the way we experience pain for example is probably the same way that dogs or cats perceive and store it. That idea reflects the derived, innate type of reaction we are familiar with when aided by adrenalin. It is the automatic, limbic type of behaviour. If that is correct then this makes that sort of pain derived from the animal that constitutes me<sup>88</sup>. However, Baker goes on to say that if this sort of pain is the same as a dog has because we are so similar in physiology "...then a human organism that did not constitute anything could have it. In that case, my body has the pain (of that type) nonderivatively. This, she claims is a nonCartesian construal of pain" (2000:102). The line of reasoning for this runs as follows:

Dogs feel pain - if I feel the same sort of pain as the dog then:

Pain can be experienced by an organism that has no robust FPP.

This must mean that my body, the human animal element, could have had the pain without being constituted as a **person** in a rudimentary FPP sense because it is only with robust FPP that the animal and person are linked.

This suggests that the person having pain depends on being constituted by an animal; that is, it is a derived pain.

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<sup>88</sup> In this analysis a great deal needs to be investigated. We would need to start by understanding how our nervous system detects pain, how the nerves then link up and send messages to the relevant parts of the brain. How the brain then interprets such nerve firings and ultimately how such experience is stored. Add to this the difficulty of understanding just where that experience is stored and we can see just how far we have yet to proceed in the investigation of how the brain relates to the inner world.



If I hope not to be in pain at a specific time or just think about being in pain, I have that pain nonderivatively. It is a thought, a wish and is not grounded in my human animal because it is brought about by my thinking about it. It is an ephemeral type of pain, what some people call qualia. It is not grounded in my sensory systems at that point in time. The qualia though must be created from a sense of having experienced something like it in the past. It originates from my experiential memory.

Therefore some of our human mental states suggest that I can have pain derivatively and others nonderivatively. Derived pain comes from the triggering or firing of the nerves at that particular point in time. My memory must be used to compare the sensation I am registering with previous instances to know that this is a pain rather than a pleasure.

However, to be able to do that I must be able to see myself objectively. I must know that 'I\*' have had this sensation before and my internal language tells me it is of the same quality. My back story or personal history has to be recalled in a way that 'I\*' can tell it is my history that happened at some other time and place. This entails me having a robust FPP experience because I have to be able to construct the pain from previous experiences of it. In this sense such pain is partially nonderived.

Baker gives another example. If an organism that did not constitute a person were stimulated by an electronic impulse, or the administration of say an opiate, the organism could be said to be in neural state N. If that organism (or as Nagel might have said a brain in a vat) did not constitute a person then its being in neural state N could not have the capacity to think about future pain because "... being in neural state N is one state that my body has nonderivatively" (2000:104). Any mental property I have that **requires** first-person perspective is one that I can only have nonderivatively. Any mental properties I share with other animals is one I have

derivatively. This view is entirely that shared by neuroscientists Mark Solms and Oliver Turnbull but rather than refer to derived systems they would be inclined to think of limbic systems and nonderived to involve the cognition of the prefrontal cortex (2002). The interesting thing is that Solms and Turbull would say that both these processes go on in parallel. It is not a case of either one or the other.

Baker does address this objection by pointing out that both the human person and the human animal share the same physical brain. Thinking about having a pain in a specific time in the future involves both the brain and the brain of the human animal sharing the same state as it is the same physical tissue in the midst of such an experience. “In that case, if you are distinct from the constituting animal, there must be two simultaneous thoughts. But that’s implausible” (2000:102). Baker insists that the definitions make it perfectly clear. There is a single thought that I have nonderivatively and that the animal that constitutes me has it derivatively. This avoids Cartesian dualism in her reasoning. But is this strictly correct?

My thinking about being in pain, the qualia type of pain, is not a case “...of my brain’s being in a certain state” (2000:103). Baker is sure that a brain state B requires all its elements working together to produce that state B. If she is thinking about being in pain on her birthday for example, then she has to have concepts of what pain is and what it is not (probably based on previous experience) as well as what a birthday is. And, she needs to relativize those two concepts through her robust FPP so as to think how it will affect her, herself. Using Kripke’s<sup>89</sup> notion of ‘addition’ she points out that having the brain state B does not necessarily mean that

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<sup>89</sup> Baker quotes from Saul A. Kripke’s *Wittgenstein on Rules and Private Language* (Cambridge, MA; Harvard University Press, 1982).

she has the two concepts of pain and birthday to start with. "So, a person's brain's being in a particular brain state (where brain states are individuated by neurological theory) never by itself guarantees that the person is having the thought" (2000:103). This is not a point about the objective, shared experience of pain or birthday but rather nothing can realize these concepts in the mind because they actually do not exist in the realizable world at all. They are phantoms because our thoughts are not real. Qualia is an unrealizable condition.

She then presses the point as she believes Eric Olson (1997) would formulate it in that the thoughts that one expresses in one's robust FPP are realised in the brain, phantom or not. This is the brain that you share with the animal that constitutes you and therefore the animal the constitutes us also has derived FPP thoughts. "So, either you have to give up the idea that thoughts are realized in brain states, or you have to give up the idea that you are constituted by an animal with which you are not identical" (2000:103). Baker states boldly that when my FPP is in use, I (the human person) have thoughts nonderivatively and the animal that constitutes me has them derivatively. Where I have thoughts that are not driven by FPP they are derived and the animal that constitutes me has them non-derivatively. This does not amount to a duplication, Baker says, because to have a property derivatively is part of the relationship of constitution which relates to having something nonderivatively. This seems to me to be unnecessarily complicated. Non-derived thoughts have to have input from the outside world by definition. Rather than accepting the unity of what is a single thought for Baker it is clearer to see that two thoughts can exist at the same time without necessarily causing cognitive dissonance. The two strands of independent thought can influence each other but their physical pathways differ considerably. Are we able to show this in terms of

neuroscience? If so we could account for different ways in which we may be able to use FPP based on the neural pathways of the brain.

#### **4.4. Multi-track Perspective**

The brain is clearly set out in areas that appear to have specific areas that are in control of certain types of sensory perception and storage. However, the way the brain recalls information suggests that data is stored in areas that are not necessarily directly associated just with obvious sensory modules. This is not to say that there are clear demarcation lines on a one to one basis. For example, we can use fMRI scanning to track visual stimuli back into the visual cortex. That does not mean that the pathway along which the nerve fires is the same for each stimulation or that a retrieval of a memory utilises the same nerve track going in the opposite direction. Long term memories seem to be stored throughout the brain "... encoded in the same parts of it that gave rise to the original experience"(Carter, 2010:33). My memory of the taste of tea can be found in the areas associated with taste whilst the feel of a fine china cup as opposed to a pottery mug is referenced from a different area concerned with sensation and the emotion of pleasantness (or even addiction) in the emotional 'systems' which we understand are largely limbic in nature. As these were all first experienced together when one part of the memory is triggered the whole experience cascades together with the feeling that I experienced them as one unified process in the first place. The physical process can be seen in fMRI scanning but the focus would need to be multi-targeted so we can clearly detect which parts of the brain are 'activated' when there is outside, non-derived stimulation (Carter, 2010:26). What is difficult to spot is where the origination of each brain impulse is and the speed at which it travels through each pathway. Put crudely, we focus on a

small part of a massive chain web of activity going on in the brain and we are likely to see this small focus as in itself a cause of all kinds of affects in the brain. This is to underestimate what is going on holistically in the brain and in the body as a whole. That is the key to our problem. The brain may well appear to be in control but there are elements that work without stimulus from the outside world and the body interacts with the brain through hormone release. This interconnection was originally used to justify the behaviourist theories of the mid twentieth century - look for a behaviour and track it back to its conception in the brain. Cognitive behaviourism adds the element of brain control that allows us greater insights into that interconnectivity. However, this also opens the mind/body problem once again. How does the mind differ from the body and which bits of the body are controlled by which parts of the brain and in what ways?

People who have specific brain injuries have been studied in an attempt to hone down this issue, commencing with the horrific injuries sustained by soldiers in the World War I trenches right up to contemporary medical projects.

Gy hadn't ever noticed a trail of sugar in front of him in the supermarket or been diagnosed as being on the autistic spectrum. No, Gy had suffered damage to his left visual cortex to such an extent that when objectively tested he presented signs that would suggest he was completely blind in his right field of vision (Ramachandran, 2011:63). In experimental conditions Gy was asked to reach out and touch a small light source in his right field of vision which he managed without much difficulty or perceptual awareness of having achieved the request. How is that possible given that the receptor area of the brain appears to have been destroyed? The answer seems to lie in the fact that there is more than one neural connection to the brain when we experience what we call 'vision' and that the firing of neurons in

the visual pathway is not as simple as one representation making just one connection in the brain. It can also be shown that 'vision' is much more a collection of activities going on in the brain that is unified by our perceptive abilities which are also controlled within the brain<sup>90</sup>.

Ingrid had suffered a stroke that rendered a small part of her middle temporal tissue unusable. The rest of her brain appeared to work perfectly well. The tissue in the mid temporal area is the control factor in perceiving movement. When she saw a moving image it gave her the impression of a black and white film from the early days of cinematography. She perceived a series of static images all linked together "... as if seen under a strobe" (Ramachandran, 2011:60). This is confirmed by experimental work on monkey brains. Implanting a microelectrode into that area of a monkey brain and stimulating the particular nerve will cause a hallucinating effect of motion that can be observed by watching the monkey's eyes tracking imagined objects in its perceived visual field. fMRI scanning in humans also confirms this with an evidential rise in neural activity in the middle temporal area when watching moving objects rather than static ones.

Similarly, we have now been able to locate the part of the brain that is able to process colour. The area is referred to as V4 and is sited in the temporal lobe; damage to this area produces an effect of seeing the world in black and white whilst other functioning areas remain intact (Ramachandran, 2011:61). There seems to be thirty such distinct areas of the brain dealing with these functions. However, it does

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<sup>90</sup> The V1 neural connection connects the retina to the cortical 'maps' (storage of information) via the lateral geniculate nucleus (LGN) but this route itself splits into two, the "how" and the "what" streams. The V1 pathway is commonly called the 'new pathway' - that is new in evolutionary terms. On the other hand, the old visual path relays stimulation through the superior colliculus and onward to the parietal lobe.

appear that what we might classify as a particular function is not so well delineated by our brains although the organisation of the brain seems to be based on these neural pathways that may help explaining the perception of vision that is key in itself to understanding how we might store memories<sup>91</sup>.

To illustrate this point further I want to have a look at two visual pathways – the ‘old’ and the ‘new’. The old pathway (old in the sense that this is found in other contemporary species to which we are related in evolutionary terms) originates in the retina and ends up in the parietal lobe. The parietal lobe is concerned mainly with placing sensory information in a spatial orientation (‘where is this cup in space out there?’ as a preliminary question to ‘and how can I grasp it?’). The ‘new’ pathway also terminates here. It seems to be that the pathways take different routes through the tissues of the brain. Not surprisingly the old pathway routes through ancient mid-brain structures called the superior colliculus<sup>92</sup> and the pulvinar nucleus<sup>93</sup>. The new pathway is highly developed in humans and primates generally and ends up in the V1 area of the cortical ‘maps’ via the lateral geniculate nucleus (LGN) but this route itself splits into two, what Ramachandran refers to as the “how” and the “what” streams (2011:63). The how stream echoes the old pathway to some extent because it deals with the relationship between objects ‘out there’ in visible space whilst the what stream deals with the correlation of features within the objects. The how stream

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<sup>91</sup> It would appear that the brain stores many long term memories as ‘functions’ – “what is this cup able to do for me” rather than in pictures or words (reference from Ramachandran needed here).

<sup>92</sup> Part of the optic tectum which is responsible for the control of eye and head movement via the motor neurons that connect to the eye muscle. This creates a visual map of where the perceived object sits in space and allows the head and eyes to orientate towards the focus of the object under investigation (Bear, 2007:457).

<sup>93</sup> Part of the thalamus with connections to the occipital, parietal and temporal lobes which gives it the potential to impact on widespread cortical activity. It is thought to play a part in how we direct our attention on to specific objects (Bear, 2007: 657). The thalamus directs information between the brain stem and other parts of the brain and as such is part of the ‘primitive brain’ and directly linked to the limbic system which is responsible for moods, feelings and emotion.

allows us to dodge things that are thrown at us or fend off a punch and the pathway itself extends to the parietal lobes thus linking that stream with motor/action triggering. The cortex that was damaged for Gy is the area where the how and the what streams divide. In essence his V1 new pathway was damaged but the old pathway unharmed “Information about the spot’s location travelled up smoothly to his parietal lobes, which in turn directed the hand to move to the correct location” (Ramachandran, 2011:64).

Can we say from this that the V1 new pathway alone has ‘visual consciousness’, that is, the old V1 pathway is acting from the ancient brain structures that are automatic and require no thinking process in language or representation methods to achieve its aims; along the lines of our ‘innate’ discussions earlier. Even if we do not like the concept of ‘consciousness’ here something is going on that distinguishes the activity of these two pathways irrespective of the fact that they are physiologically made from exactly the same material in the same organ of the body. Hopefully it is becoming clearer that although we talk of the brain as a single organ in this fashion it is really several mechanisms that share the same space that are interconnected by the nervous system.

Pathway 2, the ‘what stream’, recognises what an object is and what it means to you. Physiologically the pathway extends to the fusiform gyrus area and on to the temporal lobes. The fusiform area is a classifying area that is responsible for distinguishing one object from another. In so doing it associates all kinds of information together (like stored memories, the word we use to describe the object and stored facts about it) bringing data together to decide what the object is. The retrieval process uses the temporal lobes’ memory stores which in turn pulls data from Wernicke’s area and the inferior parietal lobe. This brings together language



computation and ‘meaning’ (that is what the object means to you particularly) and then shuffles off the associated data to the amygdala to add a sense of what we feel about the data. A subtle but complex map of the object is being assembled in the brain crossing the barriers of the old automatic features embedded in the functionality of the ancient mid-brain and into the highly-evolved areas of the neo-cortex such as the Wernicke’s area.

Ramachandran also describes a third pathway that bypasses the functionality described altogether. This pathway passes information directly from the fusiform gyrus area directly into the amygdala<sup>94</sup> part of the limbic system and into our emotional responses. This pathway is capable of working fast as it is responsible for one of our most important survival ‘instincts’ the fight or flight response<sup>95</sup> and forms the foundation of Daniel Kahneman’s argument in ‘Thinking Fast and Slow’ (2011). The amygdala’s link to the autonomic systems are well known in those who suffer from anxiety conditions and include sweating, over-breathing and rapidly increased heart rate. Humans also have direct connections between the limbic system and the prefrontal cortex so that the four F’s can be expressed as lust, anger and fear and re-associated with the more subtle feelings of pride, arrogance and caring (Solms and Turnbull, 2002:65). The limbic system is one of the most overlooked systems we have when it comes to explaining what motivates us because it is concerned with that perennial horror of feelings and how feelings appear to give meaning to our daily

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<sup>94</sup> Via the superior temporal sulcus in the temporal lobe. It is situated in the top most layer in the furrows of the temporal lobe and is widely associated with facial expression recognition.

<sup>95</sup> Steve Peters tells us that this response is five times faster than the responses using pathways 1 or 2 (2012:340) and because of its links to the limbic system is able to utilise other body systems to maintain this heightened alert state which ‘trumps’ any other perceptual quality.

The fight of flight response is actually known by students as the four F’s response, that is feeding, fighting, fleeing, and more subtly referred to as lustful ‘woeing’.

existence; feelings seeming to fall outside objective criteria that can be measured or controlled.

To summarize, our brains can be seen as a multi-functional processing and storage warehouse. Some parts are dominated by the fast, limbic structures necessary for survival. These areas do not depend on any form of linguistic or reasoned styles of thought and react quickly to stimulate producing behaviour that is experienced as being 'innate', instinctual or automatic. Having experienced such behaviour as a reaction to an external stimulus the storage or memory of such an event occurs without the additions that the more evolutionary developed parts of the brain can overlay. We don't appear to have access to these processes and changing them is exceptionally difficult; they may be described as unconscious therefore. Such areas are found in other creatures who display what Baker might describe as rudimentary FPP. On the other hand, human beings possess the ability to objectify our sense of ourselves through the more evolutionary developed parts of the brain. This contributes to a Baker's sense of robust FPP. Different pathways in the physical brain enable this. Neurodiversity is likely to be the result of the different ways in which each individual brain has grown depending on genetic, epigenetic and external (non-derived to use Baker's terminology) stimuli.

#### **4.5. Other views of the mind**

It has to be said that the picture I have painted of what the mind does and how it does it is not shared by everyone. Mindfulness or meditation experts tell us that we are more than our thoughts or feelings and we should therefore treat our perception of them with some caution. This tradition sees thought formation as not necessary a direct linear progression from sensory perception to memory and then

the utilisation of such during an action. However, this tradition teaches that thinking and feeling is not necessarily connected to language either and that the way thinking pops into our heads does not need to be because of some unexpected Freudian type of concept connection. Thoughts in this type of analysis are as likely to be arbitrary as related to sub-consciousness. Some of the confusion here is linked to the fusion of the 'how' or 'what' streams of the debate. How does the brain link perception to action as opposed to what is it that the brain is capable of linking together? This muddle can extend into other realms as the discussion about mirror neurons in Greg Hickok's (2014) analysis shows. However, it has important consequences for Baker's view about FPP and the impact of non-derived influences on our human nature. Baker explains at the outset that she is going to discuss how FPP comes about in metaphysical terms consciously setting aside neuroscience. This is a shame because I contend that the interpretation of an analysis of some neuroscience can come to her aid.

If we accept the notion that there may be more than one version of FPP working in parallel, we can do away for the need to rely on language formation as a measure of human development. Linking the origins of rudimentary FPP with our most innate and otherwise basically evolved, unreasoning brain function whilst viewing the activity of the prefrontal cortex as a major contributor to robust working can strengthen Baker's paradigm and avoid difficulties that might arise from trying to interpret ASD neuro-variances within such a model. This will also allow us to speculate more widely on how we might initiate a discussion about other concepts that bring difficulties to the philosophy of mind.

Deborah Barnbaum's outlines can provide a number of these surprise issues for consideration when we discuss those on the spectrum and the connection with

intention interpretation. We seem to believe that other human beings that we share the planet with display their intentions such as beliefs, desires, wants and fears through a set of signals that might not always involve communication through formal language (2008:1). Many people think they are able to judge just what Simon's intentions are when he holds his head in a certain way in a meeting at a specific moment on the agenda. When we spot Sally walking towards us with a spring in her step we just know she's in a good mood. Our stored experiences tell us lots about the other people in our lives and the relationships we build with others. These stored memories often start off from the small details that intrigue us about what we believe their intentions are. Barnbaum tells us that relationships are fundamental to who we are, how we understand ourselves and what makes a good life for us. We would be entirely different people if our experience of other people were very different from what we perceive we have already experienced. We may not have direct evidence that Sally and Simon have minds of their own working in unique ways but most of us believe that to be the case. We certainly behave as if we believe that to be the case. This process is an incredibly intricate one when it comes to the interpretation of neuroscience and the psychology of behaviour that inevitably grows out of it.

We would need to consider the details of how we turn sensory data into information that can be stored and readily retrieved from the data banks of our brain. Once retrieved there is the whole issue surrounding how such information is then used and how it influences our individual behaviours. The point needing to be stressed is that if we see the mind working in a variety of ways we are able to more easily account for the dissonances. Taking Temple Grandin's lead I want to look at the interpretations of neuroscience and then work back into Baker's model.

#### **4.6. Enriching Baker's model.**

We might be able to 'tweak' Baker's model to show that rudimentary and robust FPP are actually likely to be two different things that are not binary in nature and certainly not necessarily inter-related by language development. To do that I want to use the studies that Baker refuses to use – those of the neuroscientists and physiologists. My conjecture is that if we see the two separate channels of thinking, meeting different evolutionary needs, we can use this to justify the debate about competition in a multi-locational and multi-functional brain as outlined by David Eagleman, Steve Peters and Daniel Kahneman and look to the epistemological routes of how we understand the acquisition of knowledge and its storage and utility in a philosophical mode using the acquisition of FPP as a model.

We can do this and enhance Baker's model because robust FPP underpins our non-derived relationship with the outside world rather than being a foundation to what makes us a person. At the same time we don't undermine what it is to be a person in her model, we extend it and add a new texture.

These areas of discussion can then be further crated into the discussion about the character of consciousness. David Chalmers tells us that the really hard problem of consciousness is that of experience – how our experiential self relates to the non-experiential (2010:5). The processing of sensory data by our nervous system has a subjective aspect to it. That aspect is the experience of the sensory data; it is what Thomas Nagel refers to as there being something that it is like to be. For example, when we see the colour red we feel something about it at the same time as sensing it. We are not just sensing with our eyes. Something else is going on at the same time (Oakley and Halligan, Nov 2017). Chalmers talks of the experience

of feeling depth in the visual field and bodily sensations from pain to orgasm and images that are conjured up only internally as well as the felt quality of emotion. “What unites all of these states is that there is something it is like to be in them. All of them are states of experience” (2010:5). When Baker’s robust FPP is watching the rudimentary form there is this sense of experience going on. The subject is looking objectively at the self. Robust FPP detects that there is something it is like to have any sort of FPP. It is at one step removed but, according to Baker, still united with itself. Baker’s ideas about how what she calls attitudes originate from our interpretation of these perceived intentions. Those intentions could be either entirely subjective or they could be external, factors that are independently objectifiable from the external world or they could be a mix of the two. Our experience of the world and the way in which we process, store and modify information gives us a pretty firm set of beliefs about the outside world. First-person perspective of either type adds a quality to this understanding but what is a key notion is the ability to understand the intentions of others. That ability seems to be vital in not only how we view others but how we understand ourselves.

# Conclusion

There have been three interconnecting themes in this project. Firstly, there is an assessment of the work of Lynne Baker and her account of FPP embedded in her theory of CV. Baker strives to show that a Cartesian explanation of what a person is could be incorrect. That might suggest that William Hasker's (1999) sense of emergent dualism in Baker's work is pre-eminent. I want to adjust this misconception by adjusting the model and to do that I've looked at how an analysis of the autistic spectrum challenges Baker's paradigm. An evaluation of the discomfort felt followed based on our inability to house various descriptions of ASD comfortably into that model. How might we be able to enhance Baker's monism to incorporate the growing theorising about ASD? My suggestion is to make use of the results now emerging from explanations of how the body works, specifically the brain. Overall that advocates more of a matrix of possibilities opening up compared to the notion of a binary view of just two types of FPP. Baker of course rejects this avenue on the grounds of reductionism but I have argued that it can be maintained that far from reducing the argument to one of neuroscience it actually opens the model and poses a further tranche of fundamental questions.

Baker distinguishes robust and rudimentary FPP by depicting them as mundane, everyday evolution from one to the other that is coincident with the development of language. She sees this process as a unified organic whole where the robust version seems capable of dominating the rudimentary form even though the robust version emerges in an asymmetric manner. This view sets up a dilemma in so far as those who do not have the mental capacity to move from one form to the other appear to be caught in a state of lesser progress. Baker accounts for this in terms of

the elaboration of language. However, with other explanations we can discount the necessary language implications to allow a version of the CV into the model that incorporates Grandin's ability to think in pictures.

There is room though to appreciate both forms of FPP as being totally independent from each other in how they affect the workings of a sense of self. It is feasible that they may follow David Eagleman's (2011) path by being in direct competition with each other. This would allow both perspectives to exist side by side and not necessarily be connected in unity and yet not undermine CV.

Furthermore, concentrating on how we can observe neural pathways at work sits fairly at ease with Baker's concentration on the methodology of FPP. FPP becomes a device, a functional analysis, a 'how stream' analysis, that doesn't touch on the 'what streams' as expressed by commentators like Greg Hickok and Tony Damasio. Rather than looking at what memory is or what mirror neurons might achieve we are looking at how the neural systems work together; Damasio for example, telling us that at any given moment the brain is working globally. Robust FPP probably plays a part in this too but it does so in "... an anatomically differentiated manner" that is to say the brain is "... engineered by interactions ... that spontaneously organizes images as a function of ongoing perceptions and past memories" (Damasio, 2010:241). No single part of the brain works alone, be it autonomic, limbic or the prefrontal cortex. Current research shows us that rather than slipping into the restrictive box of the phrenologist we are able to see the brain working holistically with the whole body subject to its outputs. The cerebral cortex does not do all the mixing and matching alone that creates our perception of consciousness. Humans, apes and some other sentient beings certainly have an abundance of neural regions compared with other creatures which must add to the richness of our experiences



but Damasio notes that "... in themselves they do not explain how self and subjectivity are generated, even if some of these same features play a role in self mechanisms" (2010: 242). Conscious states appear to us in specific ways even if such appearances are actually creations of our mind and might be misleading. We need to take account of some of the less obvious states of mind that require at least a psychological investigation probably motivated by questions that have a philosophical core. Consciousness for example needs to take account of feelings we have as well as a sense of mind and the self (Damasio, 2010:243) and to do this we have to answer some of the philosophical speculations with empirical, scientific data. If Damasio is right we can speculate on where further analysis of Baker's FPP thesis might take us.

It strikes me that investigation such as that by Lynne Baker is vital to at least frame questions that should be answered for the future advancement of our societies. Not only on ethical grounds should such research be conducted but so much can be gained by phrasing research questions that involve participants rather than ask primary care giver's opinions alone.

We have the controversial disputes to examine about qualia. How do the feelings that I have relate to Baker's FPP? Do they arise as a result of the competition between the two FPP tracks? Are we able to sense our feelings as a matrix too? And how can we account for the real presence of feelings as part of our personality in the first place? At the moment we tend to view the qualia debate by relating it to Baker's distinction between rudimentary and robust FPP. Rudimentary qualia would include subjective experience based on the feelings aroused by our basic needs such as food, warmth, shelter, affection and so forth. The feelings that are certainly non-linguistic based and probably inspired by the limbic system.

Robust-type qualia would then be associated with Damasio's type II qualia, how experience develops "specific sense qualities in our mind" and how physical sensory events feel like anything at all (2010:254). All of these mind states could, conceivably, be measured by watching how neurons fire albeit that we need more and more sensitive and complex equipment to do so.

We can also contemplate researching the impact of Baker's model on mental health issues generally. We may be able to assess the contribution the model makes on ASD but there would also be applications that are pertinent to our considerations of Attention Deficit Hyperactivity Disorder or Obsessive, Compulsive Disorder where symptoms such as Tourette Syndrome, General Anxiety or even Substance Use Disorders might be more readily explicable and treatment made slightly easier. From Baker's own experience we might also start to appreciate that over-medicalisation of these issues often leads to deep misunderstandings about the nature of the concern through not engaging with those who have been so diagnosed. It seems all very well to extend the general understanding of ASD by comparing it with an inability to form a robust understanding of the self from an objective standpoint without consulting the person and asking them about what it feels like to be labelled as such. For a model that is based on the objectification of one's subjectivity it strikes me as remarkable how few people on the spectrum are asked about themselves and how few have been able to influence the actual definitions of ASD. Too often treatment seems to focus on the needs of carers and a stance that wants the ASD person to 'fit in more' with neurotypical norms. It may well be that this could account for why so many on the spectrum feel 'outside' the everyday system in a more acute way than is necessary. For a long time the notion of integration was number one priority in the politics of disability. Inclusivity policies now demand positive steps towards including

minority groups on their terms rather than the perceived terms of neurotypical society. Silicon Valley in the States is well aware that high functioning ASD folk are likely to make substantial changes to test processes in the IT world because of their obsessive attention to detail and ability to concentrate for long periods of time on a task that others might find repetitive and boring. This inclusive view could be adopted in many other situations and stretch a helping hand into the realms of education where the needs of ASD students vary from the everyday youngsters. It seems that learning outcomes are different for many on the spectrum simply because the learning methods are different from neurotypical students and this should be taken into account more in our schools and universities.

Another field of research is that considering dementia and Alzheimer's. Watching a person change from a well-educated, polite and healthy outlook to being withdrawn, depressed, confused and anxiety ridden can readily be explained reasonably effectively by pointing out that a robust FPP seems to fade (for whatever physical reason) whilst the rudimentary becomes more dominant. Of course this is not to say that the person somehow slips out of sight to leave us with just the core of the personal animal. This is an observation that is essential to Baker's standpoint. Without it we revert to the personal identity reliance of Eric Olson when he tells us that our brains are not necessarily important to the way we are as human persons (2007:76 ff). Watching how brain scans change during a patient's illness is likely to be valuable in pinpointing where the problem arises in the first place. However what is needed is an interpretation of how this impacts on the person going forward.

Baker similarly describes how robust FPP works and helps to define 'the person' in terms of the relationship between derived and non-derived characteristics. In this context my non-derived influences link me to society as well as providing a

means whereby I can objectify my subjective self. What is missing here is the description of just how non-derived influences might be stored in the person's memory. This runs to the heart of the mirror neuron controversy. If I can store sensory experiences in my memory is that the same as witnessing someone else do it? When I store my own experiences they are derived whilst watching other people involved in grasping cups or exercising skills would fall into the non-derived category. It would seem that somehow the memorialised thoughts must work on each other when they are recalled into working memory. I have already described this as an iterative process but watching how it works by seeing the neurons firing must be the Holy Grail of neuroscience projects, to say nothing on about the effects of high throughput sequencing of DNA and RNA for the evolutionary biologists. This may well help in further understanding how an ASD neural matrix differs from a neurotypical, or even how one personality differs from another. The incorporation of this idea oils the understanding and could move Baker's analysis in a direction that grants further development. Such a matrix model grants us this permission.

As human beings we like to define things and put labels on them and think of ourselves as a certain 'type' of person. The body is constantly changing as our cells renew. Our emotions are not permanent either even if our minds can kid us into thinking that they are. We aren't that emotion or that person. Thoughts come and go even though the story line we believe becomes engrained, becomes 'us' through repetition and reinforcement over a life time. Nothing is permanent, nothing is not likely to change. Descartes' error was to assume that the mind and the body were intrinsically separate (Damasio, 1994). Baker's views can help us overcome that limitation and with the help of neuroscience enhance the Constitution View.

## References

- Adams, M. M. (2010). *Some later medieval theories of the Eucharist : Thomas Aquinas, Gilles of Rome, Duns Scotus, and William Ockham*, Oxford: Oxford University Press.
- Aristotle, Ackrill, J. L. and Aristotle De, i. (1974). *Aristotle's Categories ; and, De interpretatione*, Oxford: Clarendon Press.
- Armstrong, D. M. (2004). What is consciousness? In Heil, J. (ed.) *Philosophy of Mind - a guide and anthology*. Oxford, UK: OUP, UK.
- Baddeley, A. D. a., Eysenck, M. W. a. and Anderson, M. C. a. (2015). *Memory, Second edition*. edn.
- Baker, L. R. (1995). *Explaining attitudes : a practical approach to the mind*, Cambridge: Cambridge University Press.
- Baker, L. R. (1997). Why Constitution is Not Identity. *The Journal of Philosophy*, 94(12), 599-621.
- Baker, L. R. (1999). What is this thing called 'commonsense psychology'. *Philosophical Explorations*, 1(January), 3-19.
- Baker, L. R. (2000). *Persons and bodies : a constitution view*, Cambridge: Cambridge University Press.
- Baker, L. R. (2002). On Making Things Up: Constitution and Its Critics. *Philosophical Topics*, 30(1), 31-51.
- Baker, L. R. (2007). *The metaphysics of everyday life : an essay in practical realism*, Cambridge: Cambridge University Press.
- Baker, L. R. (2013). *Naturalism and the First-person Perspective*, Oxford, UK: OUP.
- Baker, L. R. (2014a). Autism and 'I'. *Perspectives on the First Person Pronoun "I": Looking at Metaphysics, Linguistics and Neuroscience*. 2014 May 15-17. University of Durham, UK: unpublished.
- Baker, L. R. (2014b). The first-person perspective and its relation to natural science. In Haug, M. C. (ed.) *The Armchair or the Laboratory?* Abingdon, Oxford, UK: Routledge.
- Baker, L. R. (2015). Autism and 'I'. *Journal of Consciousness Studies*, 22(11-12), 180-193.
- Barnbaum, D. R. (2008). *The ethics of autism : among them, but not of them*, Bloomington: Indiana University Press.
- Baron-Cohen, S. (1995). *Mindblindness : an essay on autism and theory of mind*, Cambridge, Mass. ; London: MIT Press.

- Baron-Cohen, S. (2008). *Autism and Asperger Syndrome*, Oxford: OUP.
- Baron-Cohen, S. (2012). *Zero degrees of empathy : a new theory of human cruelty*, London: Penguin.
- Bear, M. F., Connors, B. W. and Paradiso, M. A. (2007). *Neuroscience : exploring the brain, 3rd edn* Baltimore, Md. ; London: Williams & Wilkins.
- Beard, M. (2018). *The Eye of Faith*, London, UK: Profile Books Ltd.
- Blatti, S. (2012). Material Constitution. In Barnard, R. & Manson, N. (eds.) *The Continuum Companion to Metaphysics*. UK: Continuum.
- Bogdashina, O. B. g. (2010). *Autism and the edges of the known world : sensitivities, language, and constructed reality*, London: Jessica Kingsley Publishers.
- Carroll, S. M. (2016). *The big picture : on the origins of life, meaning, and the universe itself*, London, UK: Oneworld Publications.
- Carter, R. (2010). *Mapping the mind*. London: Phoenix.
- Chalmers, D. J. (2010). *The character of consciousness*, New York ; Oxford: Oxford University Press.
- Damasio, A. R. (1994). *Descartes' error : emotion, reason and the human brain*, London: Picador, 1995.
- Damasio, A. R. (1999). *The feeling of what happens : body and emotion in the making of consciousness, 1st ed.* edn London: W. Heinemann.
- Damasio, A. R. (2010). *Self comes to mind : constructing the conscious brain*, London: William Heinemann.
- Decety, J. and Ickes, W. J. (2009). *The social neuroscience of empathy*, Cambridge, Mass. ; London: MIT.
- Dennett, D. C. (1992). *Consciousness explained*, London: Allen Lane The Penguin Press.
- Eagleman, D. (2011). *Incognito : the secret lives of the brain*, Rearsby: W.F. Howes, 2012.
- Foster, J. B. (1991). *The immaterial self : a defence of the Cartesian dualist conception of the mind*, London: Routledge.
- Frith, U. (1997). Autism. *Scientific American*, 7(1), 92.
- Frith, U. (2008). *Autism : a very short introduction*, Oxford: Oxford University Press.
- Gallagher, S. (2001). The Practice of Mind; Theory, Simulation or Primary Interaction? *Journal of Consciousness Studies*, (No 5-7), 83-108.

- Gallagher, S. (2008). Inference or interaction: social cognition without precursors. *Philosophical Explorations*, 11(3), 163-174.
- Gallese, V., et al. (1996). Action recognition in the premotor cortex. *Mind*, 119 (part II), 593-609.
- Gazzola, V., Aziz-Zadeh, L. and Keysers, C. (2006). Empathy and the somatotopic auditory mirror system in humans. *Current Biology*, Sept 19;16(18), 1824-9.
- Goldberg, E. (2009). *The new executive brain : frontal lobes in a complex world*, Oxford ; New York: Oxford University Press.
- Grandin, T. (2006). *Thinking in pictures : and other reports from my life with autism*, 2nd ed. edn London: Bloomsbury.
- Grandin, T. (2011). *The way I see it : a personal look at Autism & Asperger's, Rev. & expanded 2nd ed.* edn Arlington, Tex.: Future Horizons Inc.
- Grandin, T. and Panek, R. (2014). *The autistic brain : exploring the strength of a different kind of mind*, London, UK: Ryder.
- Grandin, T. a. (2008). *The way I see it : a personal look at Autism and Asperger's, Revised and updated.* edn Arlington, Texas: Future Horizons.
- Hasker, W. (1999). *The emergent self*, Ithaca, N.Y. ; London: Cornell University Press.
- Hickok, G. (2014). *The Myth of Mirror Neurons: the real neuroscience of communication and cognition*, UK: W W Norton and Co.
- Kahneman, D. (2011). *Thinking, fast and slow*, London: Allen Lane.
- Kim, J. (1993). *Supervenience and mind : selected philosophical essays*, Cambridge: Cambridge University Press.
- Lewis, D. K. (1991). *Parts of classes*: Basil Blackwell.
- Locke, J. (1924). *An Essay Concerning Human Understanding*, Oxford, UK: Clarendon Press.
- Mackie, J. L. (1976). *Problems from Locke*, Oxford: Clarendon.
- Maiese, M. (2013). Autism, Empathy, and Affective Framing. In Anderson, J. L. & Cushing, S. (eds.) *The Philosophy of Autism*. Plymouth, UK: Rowman and Littlefield Publishers.
- Meltzoff, A. N. and Moore (1977). Imitation of Facial and Manual Gestures by Human Neonates. *Science*, 198(4312), 75-78.
- Mundy, P. C. (2016). *Autism and Joint Attention*. New York, USA: The Guildford Press.

- Nagel, T. (1983). The Objective Self. In Ginet, C. & Shoemakes, S. (eds.) *Knowledge and Mind*. Oxford, UK: OUP.
- Oakley, D. A. and Halligan, P. W. (Nov 2017). Chasing the Rainbow: The Non-conscious Nature of Being. *Frontiers in Psychology*, 8(Article 1924).
- Olson, E. T. (1997). *The human animal : personal identity without psychology*, New York ; Oxford: Oxford University Press.
- Olson, E. T. (2007). *What are we? : a study in personal ontology*, Oxford: Oxford University Press.
- Perry, J. (1979). The Problem of the Essential Indexical. *Noûs*, 13(1), 3-21.
- Perry, J. (2002). *Identity, personal identity, and the self*, Indianapolis, IN: Hackett Pub.
- Peters, S. D. (2012). *The chimp paradox*, London: Vermilion.
- Ramachandran, V. S. a. (2011). *The tell-tale brain : unlocking the mystery of human nature*, London, UK: Windmill Books.
- Rea, M. C. (1995). The Problem of Material Constitution. *The Philosophical Review*, 104(4), 525-552.
- Silberman, S. (2015). *Neurotribes : the legacy of autism and how to think smarter about people who think differently*, Main edn London, UK: Allen and Unwin.
- Skinner, B. F. (1957). *Verbal behavior*, Englewood Cliffs: Prentice-Hall.
- Smith, P. K., Cowie, H. and Blades, M. (2003). *Understanding children's development, 4th ed. Peter K. Smith, Helen Cowie, Mark Blades. edn* Malden, Mass. ; Oxford: Blackwell.
- Snowden, P. F. (1990). Persons, Animals, and Ourselves. In Gill, C. (ed.) *The Person and the Human Mind*. Oxford, UK: Clarendon Press.
- Solms, M. and Turnbull, O. (2002). *The brain and the inner world : an introduction to the neuroscience of subjective experience*, New York: Karnac.
- Swinburne, R. (1986). *The Evolution of the Soul*, Oxford: OUP.
- van Inwagen, P. (1990). *Material Beings*, New York, USA: Cornell University Press.
- Waal, F. B. M. d. a. (2013). *The Bonobo and the Atheist : in search of humanism among the primates, First edition. edn* London, UK: W W Norton & Co Ltd.
- Wedin, M. V. (2000). *Aristotle's theory of substance : the Categories and Metaphysics Zeta*, Oxford: Oxford University Press.
- Wilkinson, L. A. (2015). *Overcoming anxiety and depression on the autism spectrum : a self-help guide using CBT*, London, UK: Jessica Kingsley Publishers.



Wittgenstein, L. (2009). *Philosophical Investigations*, 4th edn London: Blackwell Publishing Ltd.

Wylie, P. (2014). *Very Late Diagnosis of Asperger Syndrome (Autism Spectrum Disorder)*, London, UK: Jessica Kingsley Publishers.

Zimmerman, D. W. (ed.) (1997). *Immanent Causation*, Malden MA: Blackwell Publishers.