

## Feeling with the Eyes: A Psychologist's View of the Impact of Poor Visual Acuity on the Self

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Nothing that is seen is understood by the sense of sight alone.

Alhazen, 11<sup>th</sup>-century  
mathematician & philosopher

I cannot remember the exact time when I started to become short sighted. It was probably somewhere around the age of eight, and I am guessing that for various reasons (my mother developed breast cancer around this time), this was not picked up by my parents for a couple of years.

I do remember when I put on my first pair of glasses: it was as if someone had enclosed the whole world in a sheet of the clearest ice. Everything in front of me was bright, hard-edged and crystal clear, but from the very beginning of this journey I was aware that I was still missing something. My visual world stopped at the edge of the spectacle frame, and I felt detached or 'apart' from the world that I viewed through it.

I also discovered that I needed to take my glasses off to read and to write. This did not seem odd to me, as my father did exactly the same, and had different glasses for distance and playing the organ. My schoolwork started to deteriorate, and I became a prime candidate for the standard school reports of the time, 'Could do better', 'Slapdash', 'Lazy'. I could not see to thread a needle or a sewing machine, so

I developed a life-long loathing of sewing. Having never been very good at team games, I was useless at catching a ball, although I could hit a ball and was reasonably good at games like tennis, batting at rounders and netball (larger ball).

I also started to develop what was described as 'puppy fat' around the same time; and a combination of not being able to see well enough, not being good at team games and being slightly overweight resulted in me avoiding robust physical activities, and concentrating on near-distance activities like reading, music and a world of imagination. All of these minor issues were considered perfectly normal at the time and were consistent with the 'typical' view of the myopic child.

I continued to wear glasses of gradually increasing strength until my mid-teens. There was no political correctness in the 1960s, so children who were overweight and wore glasses were often a ready target for teasing – mostly benign; but over time, these labels started to become part of my self-perception.

My first contact lenses were fitted when I was 15. I can still remember the moment when I was sent out of the darkened optician's room to 'take my lenses for a walk' for ten minutes, 'to see how you get

on together'. I was told I would probably be more comfortable looking at my feet, as the rigid micro-corneal lenses of the time tended to irritate the upper eye lids. Tolerance had to be developed over a period of about twelve weeks of extending wearing time by an hour a day, each week. This was not difficult for me: for the first time in seven years, I connected to the outside world, and I wanted to be like everyone else. Not only could I see clearly ahead, but peripheral vision was no longer restricted by where the frame ended, and the clarity was of a different nature from what I had experienced with glasses. Only many years later did I learn that due to a corneal distortion, glasses could not fully correct a degree of astigmatism, but inserting a rigid contact lens on to the surface of the eye could. This new vision changed not only what I could see, but also what I felt about myself.

The next year I sat my O-levels and performed better than predicted. The 'puppy fat' started to melt away, and I discovered I loved some previously avoided outdoor activities. For the next 15 years, my contact lenses became part of me as I entered my adult life, and my vision remained remarkably stable.

It was only in my early 30s that an optician became concerned about increasing astigmatism, and recommended changing to gas-permeable lenses to allow more oxygen to enter the eye. This transfer was surprisingly difficult. Not only were the gas-permeable lenses larger and not nearly as comfortable, but the standard of vision started to fluctuate. A change of prescription was needed at least every year and sometimes every few months, with the vision in the right eye never quite as good as in the left. Various investigations were carried out to establish whether Keratoconus was present, all of which were inconclusive, as long-term rigid contact-lens wear can also result in thinning or distortion of the cornea.

Several attempts were made to wean me off contact lenses for periods of three to six months to see if the cornea adjusted. These periods were cognitively and subsequently emotionally very difficult. As the astigmatism reduced, the degree of short sight increased significantly, and during this time I was working in private practice as a neuro-developmental psychologist, travelling, lecturing and writing. Travelling and giving presentations were the hardest, as often I could not see either my notes, my screen and/or the audience. This meant that more hours needed to be put into preparation of material for presentation so that I was not only familiar with the content, but knew it from memory if needed.

As I started to approach my 40s, I realised I was also becoming stressed by specific aspects of travel, the London underground being the worst – it took me several months (and considerable expense!) to work out why I was opting to use taxis for relatively short journeys instead of the tube. I was aware that I did not seem to be able to buy tickets or find my way quickly enough in the frantic milieu of London rush hours, and this was resulting in feelings of anxiety and avoidance. The introduction of a pair of 'ready readers' worn on my head quickly resolved the problem, as they enabled me to make the necessary rapid visual adjustments between near and far distance.

My family used to think it was hilarious if they spoke to me from another room and I would say, 'I can't hear you; I haven't got my eyes in'. It would be tempting to dismiss this as an auditory processing problem with over-reliance on visual cues; but on reflection, I think that when my vision was not corrected, the sharpness of my whole sensory world also became reduced to be consistent with my range of vision. I could hear, but I could not detect fine detail.

I am now 65 as I write, and in the last month I have had cataracts removed from both eyes. The result in the left eye is miraculous – 20/20 vision; but the right eye is not as good, and I will probably need glasses for driving and television; but the difference for me is extraordinary, and extends beyond simply what I can see. I feel ‘lighter’, as if after a lifetime of moving through fog, the fog has lifted and I can see not only the world, but myself as I really am. My head and thinking feel clearer. Aspects of this have been mildly shocking (the lines that have appeared in the mirror!), but I also feel more comfortable with myself physically than I can remember at any time since childhood. It is as if I have returned to my eight-year old self with an adult head.

Why is this important?

My own experience with flawed eyesight has probably heightened my awareness of, and interest in, the impact of eyesight on emotions, academic performance and behaviour, the investigation of which have formed a significant part of my professional life.

## **Cognitive Impact of Visual Impairment**

When I engaged in my first studies at university (History and Fine Arts) I was intrigued when we were introduced to the processes of visual perception, and the theory that artists view the world differently. This is not so surprising when one thinks that in order to produce a painting from a live scene, only elements from the whole that will create an illusion of reality can be selected, and the three-dimensional world has to be reduced to key elements to represent it on a two-dimensional flat surface. Renaissance artists learned how to do this using mathematical principles, but the same result can be produced in other ways. Cézanne, for example, said that he created form on canvas by reducing what he saw

to three basic shapes – a sphere, a cylinder and a cone; and he then used these forms as the basis for the picture he was going to create. Another artist paints landscapes using colour and distance to create perspective. In other words, there is a process of visual abstraction in painting that involves isolating and extracting specific parts from the whole. Not everyone can do this.

Ophthalmologists have also made a link between visual acuity, artistic style and life choices. Trevor-Roper,<sup>1</sup> for example, suggested that visual ability partly determines the pastimes we enjoy, the activities we select and the careers we may ultimately arrive at. He proposed that myopia (near or short sight) would predispose someone to focus on near-distant activities such as writing, reading and music – as happened to me – describing this as ‘the prose and poetry of the myope’ with many creative writers having a history of myopia; musical composers in the past (J.S. Bach, Beethoven, Schubert and Wagner were short sighted), while the hypermetropic (long-sighted) person will tend to become frustrated at near-distant pastimes, preferring to engage in outdoor activities, learn by ‘doing’ versus reading and socialising.

He also linked changes in a particular artistic style to deterioration in eyesight. Characteristic changes in Monet’s use of colour were linked to the development of a double cataract. Lower resolution of form in his later paintings, such as ‘The Water Garden at Giverny’, coincides with deterioration in his eyesight. The artist mentioned above who uses colour and distance to create perspective described ‘the whiteness of white’ following cataract surgery, and his use of colour has transformed from dull colours usually associated with aged old masters to be replaced by a fresh, vibrant use of colour.

Poor eyesight can also have a dual effect on cognitive processing. On the one hand, more effort is required to compensate for missing or distorted images in the visual world, while on the other, the conscious brain simply does not receive the same degree of detail at varying distances, depending on the type of visual defect. The former can result in increased stress and fatigue while the latter is frustrated by inability to ‘see’ what others can, or simply neglect of whole parts of the visual world. This can affect more than simply vision. When my first cataract and lens were removed, not only was my visual field temporarily eliminated on one side, but I also experienced a temporary total absence or ‘neglect’ of that side of the body until sight was restored.

In my professional work I have witnessed how vision can ‘over-ride’ information from other senses to result in perceptual distortions. During training sessions, we sometimes introduce distortion glasses to give students an opportunity to experience what it feels like when sensory integration is impaired. One pair gives the visual illusion that flat surfaces are undulating. When the student feels the length of the surface with one hand, the sense of touch also feels the surface to be uneven, even though the brain knows that it is not. This is just one example of how visual distortion can change perception.

### **Functional Vision versus Visual Acuity**

My area of professional specialisation is the assessment and remediation of neuro-developmental problems in children presenting with specific learning difficulties, and also adults suffering from agoraphobia and panic disorder in the absence of obvious psychological factors.

Assessment of the former frequently reveals children with normal eyesight but significant problems with visual perception and visual-motor integration,

which interfere with skills such as reading and writing, resulting in educational under-achievement, frustration and sometimes the development of secondary behavioural problems. Tests for visual perception reveal difficulties with visual discrimination (the ability to detect differences in and ability to classify objects, symbols or shapes) affecting, first, the ability to encode and recall individual letters or groups of letters correctly, and secondly, spatial and directional awareness, affecting the ability to write letters and words in the correct orientation and/or order. While many of these presenting problems may be classified under different diagnostic categories such as dyslexia or features of developmental co-ordination disorder, they are not exclusive to these diagnostic categories, and frequently exist in the absence of a formal diagnosis.

I learned to read early, and have been a good reader most of my life, but at times when my prescription has been changed, I have temporarily experienced what it is like for the brain to try to substitute an unclear letter form for something else – h for t, o for a, or c for o – to cite just a few examples. Because I know how words should be spelled, I can detect an error even though I may not be able to see the correct version. For children with functional visual perceptual problems, they cannot build up a consistent visual lexicon for how words *should* look – hence difficulties with reading and spelling.

Assessment of the latter (adults) reveals a profile of dysfunction in relation to aspects of balance, postural control and visual perception which result in visual overload at times, sufficient to elicit over-arousal, the development of hyper-vigilance to specific environments, generalisation of symptoms and associated anxiety to places or situations, avoidance and emergence of phobic reactions and behaviour.

Individuals suffering from these conditions do not necessarily have a history of specific visual impairment, but on examination are found to have immature *oculo-motor* function and subsequent visual-perceptual problems linked to immature postural control. Lack of stable foundation in the relationship between the brain and the body, for which postural control is fundamental, is linked to visual-vestibular-proprioceptive mismatch. When mismatch of this kind occurs, it can result in disorientation, impairment in processing of visual information (particularly in environments where multiple visual stimuli are present), increased arousal (experienced as anxiety) and decreased ability to process the situation cognitively. Behaviour becomes a secondary consequence of the inability to integrate relevant sensory information, as a consequence of dysfunction in the centralising role, which should be provided by postural stability.

In the 1960s Ray Barsch explained how the development of postural stability is amongst the earliest skills a child must accomplish. He described young children as being ‘terranauts’, or explorers of space on terra-firma. Becoming physically competent and confident in the use of his or her body in space is necessary to establish a ‘spatial proficiency on which to build a lifetime of progressive complexity’.<sup>2</sup>

From my personal experience of fluctuating impairment in what I can see, I have no doubts that visual skills do have an impact on emotional state and cognitive functioning. If the conscious brain is unable to process the visual world efficiently or quickly enough to meet the demands of the environment, it results in increased physiological arousal, which when it passes a certain threshold is experienced physically and cognitively as anxiety. According to Peter Blythe, ‘When conflict between feelings and logic exists,

if the feelings are too strong, they will override the ability to regulate emotions’.<sup>3</sup>

## Eye-sight and Personality Characteristics

There are a number of theories which attempt to link specific defects of eyesight to personality traits such as introversion and conscientiousness with myopia and to link psychological disposition to the development of visual defects. One such theory describes,

A near-sighted way of perceiving is inner directed, an over-focusing on the ‘me’ content of one’s life. Near-sightedness is a fear-based, survival way of looking that supports logical and linear forms within the personality. Vision therapy-oriented optometrists often see the behaviour of near-sightedness in an individual before it structurally reveals itself in the eye.<sup>4</sup>

Kellum (1997)<sup>5</sup> described myopia as being,

A constricted behaviour of consciousness. The person’s thinking dominates. Feelings are protected. The brain corresponds by setting up fear directives. The individual develops a way of seeing that is fearful and protected. They lose some of their integrative capacity because of a dominating survival posturing. This is authored from the mind and written into the pages and hardware of the brain. Directives are issued to the musculature and nerve control of the eyes: protect; be cautious. New consciousness is cemented into the person’s behaviour.

While recognising that personality and behaviour can influence how and what we see (extreme and sudden stress, for example, can affect how visual information is processed), reasons for the development of ‘conditions’ are often multi-factorial – a combination of genes, eye shape, allergic tendencies, postural foundations for oculo-motor function and life experience, to name but a few. My

experience, both personally and professionally, has been different. I have felt that what I could see had a profound influence on what I was able to do, what came easily, what I enjoyed and what I could excel at, including aspects of social interaction and my own degree of introversion or extroversion. These were not necessarily intrinsic traits but directed by what I could actually see. I also experienced extreme frustration when poor sight interfered with things which I thought I could be good at or wanted to do. Contact lenses were quite literally an ‘eye opener’, and when I could not use them or they ceased to correct my vision sufficiently, I felt as if I was trying to function in a permanent environmental and brain fog.

My professional experience has also shown me that when balance and visual perception are stable and coherent, psychological outlook changes. Anxiety is reduced and confidence increases. This affects more than simply the sum of its parts, enabling a person to try new things, not to give up immediately when they do not succeed the first time, reduce avoidance and dependency behaviour, reduce fatigue and increase energy levels.

At various stages in my life, I have been asked, ‘If there was one thing in your life you could change, what would it be?’. The answer has always been simple – ‘to have perfect sight’; in my mid-60s for the first time in 55 years, I almost have this, and I am extraordinarily grateful to the various eye specialists who have helped me through my visual journey of life. There is still more to be done (the right eye has not been quite as successful as the left) and more to learn; but I also realise that my imperfect vision has helped me to understand how impairment in visual processing, whether it be functional or directly linked to poor eyesight, alters how an individual experiences, understands and reacts to the world.

Just as the eleventh-century mathematician and astronomer Alhazen observed that there is more to vision than the sense of sight alone, so vision directs, limits and literally focuses attention within the range of its own boundaries. It has been said that we see the world not as it is, but as *we* are. When vision changes, we and the world change with it.

## References

- 1 Trevor-Roper, P. (1988). *The World through Blunted Sight*. London: Penguin Books.
- 2 Barsch, R. (1968). *Achieving Motor-perceptual Efficiency: A Space Oriented Approach to Learning. Volume 1 of a Motor-perceptual Curriculum*. Seattle: WAL Special Child Publications.
- 3 Blythe, P. (1988). Personal communication.
- 4 [www.innerself.com](http://www.innerself.com) (accessed May 2022).
- 5 Kellum, R.B. (1997). *Capitalism and the Eye*. Ann Arbor, Mich.: UMI Dissertation Information Service.

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