Iain McGilchrist

Interview Questions 18/01/15

Richard Bright: You have had a varied career - a scholar of English literature before training as a doctor and then as a psychiatrist. What was the motivation behind your change?

Iain McGilchrist: I started off with the idea of studying philosophy and theology, but I had to do the entrance exam to Oxford in some school subject, which just happened to be English. When I went for interview I was told that philosophy and theology wasn't an honours degree and, in those days, believe or not, at Oxford it wasn't. So they said, you should do an honours degree: why don't you study English literature? So I did, and I enjoyed the study of literature very much. Almost as soon as I qualified, I got a Fellowship at All Souls College which enabled me to do what research I wanted. With that freedom I went back to my initial interest in philosophy, and by now that also included psychology rather than theology, because I had been struck by something quite odd in the way in which literature gets studied in the university. It seemed to me strange that someone in the past had taken a lot of trouble to create a work of art that was unique – if it hadn't existed, you couldn't have imagined it – a work which is embodied precisely in the very words, or the notes, or the paint, or the sculptural material, in which it had been created, not a collection of disembodied ideas – and then we take this highly embodied entity and turn it into a bunch of generalities and abstractions, which it was exactly the purpose of the work of the art to avoid! I wanted to formulate quite why there was something deeply paradoxical in this kind of approach. And it seemed to me that it had to do with the mind/body question, in that these works of art were embodied beings that acted on us as embodied beings. They didn't just interact with our rational minds but with our whole body, including things like being able to change your respiration rate, or heart rate, or bring tears to your eyes, and so on. But it wasn't about feelings, exactly. Something very important was missing when they were dealt with in the abstract, at the purely analytical level. When you start taking a work of art apart you find you have got very little left. When you take the bits apart to find the 'content', the meaning is now lost. It's an amazing disappearing trick.

That inspired me to read philosophers on the mind/body problem, and to go to seminars on the subject; but it struck me that this, too, was all too disembodied in its approach. It seemed to me that, if possible, I ought to learn about what happens to a person's mind when something goes wrong with their body or their brain, and what happens to their body when something affects their mind. To do that I needed to study medicine and become either a neurologist or a psychiatrist. At the time I was very inspired by Oliver Sacks's *Awakenings*, then a relatively new book. It struck me that here was somebody who was able to look at an illness not as a purely technical, disembodied phenomenon, but in the context of how it changed the experienced world of the individual. So that was my inspiration. I wanted to study medicine, to see this at first hand, and to go into the area that lies somewhere between neurology and psychiatry.

RB: How has being a literary scholar informed your practice as a psychiatrist?

IM: I suppose it's probably done two things. One is that literature is very much about understanding other people's mental worlds; and whether one's a psychiatrist or a neurologist, or a doctor of any kind, meeting real living, suffering human beings, it is very helpful to have your mind expanded and enriched by the study of literature and philosophy. The other thing is that it made me sceptical of looking at the human being as a machine. The average scientist or doctor without any experience of philosophy seems to think it's completely obvious that the body is a machine, that human beings are

sophisticated machines. To anyone with the most rudimentary philosophical training that is far from obvious, and I think it would be very helpful if clinicians had to have some training in philosophy, even if only to see how problematic that assumption really is.

RB: What is the thesis of *The Master and his Emissary*?

IM: Very broadly, the idea of the book is to explore the problematic question of whether there are differences between the two brain hemispheres and what sort of differences they might be. I say problematic because a lot of nonsense has been talked about the differences. There was naturally an interest in this during the 1970's, in the wake of the first split-brain operations, and people speculated, for example, that the left hemisphere of the brain was involved in language and reason and the right in the creative and visual. Over time it has been shown that these assumptions were wrong, in that each hemisphere is involved in *everything* we do. As a result most scientists have given this up as topic that can't be resolved. It's a bit irrational to do that, because there are obvious measurable differences between the two hemispheres of the brain at every level at which one looks, and they must be there for a reason. So I set out to ask 'what are the differences?' and the book is an attempt to explain what the scientific evidence is, and what that suggests. My thesis is that the two hemispheres construe the world in different ways, both of which are important, and that in our normal lives we conflate these two ways of looking at the world without being aware of it. These two visions, or models of the world, influence how we think about ourselves, and since they are both important and not easily reconciled, we have tended to shift back and forth between them at different points in history. So the second part of the book looks at cultural history through this lens, of the difference between the ways in which the left and right hemisphere look at the world.

RB: The brain is asymmetrical. Given that the brain consists of a mass of complex connections, why is it divided?

IM: The first thing is that it's very odd that the brain is divided at all. I don't remember anyone mentioning this in medical school. The brain, after all, consists in a mass of connections, and its very purpose and power lies in making a staggering – practically infinite – number of connections. It is therefore strange that this organ should be divided right down the middle. One might say that it's a leftover of evolution, but evolution has actually gone in the opposite direction, in that, over time, the brain has got more divided, rather than less. So this has to be addressed. Fortunately, while the topic had become rather toxic in the area of human psychology, those who study animal behaviour had just carried on doing what scientists are supposed to do, which is look at the evidence. They noticed that all the animals and birds that they studied were asymmetrical in their responses to the environment. They tended to use their left hemisphere for some things and their right hemisphere for others. Why was that? It wasn't obvious to them why that should be, and particularly why those individuals who did not exhibit this asymmetry – that were, if you like, too symmetrical – didn't seem to survive.

Clearly, it had something rather important to do with survival. That makes sense because, after all, it's been conserved in evolution from the lowest levels, from fishes and reptiles to birds and mammals, right up to the human level. But why? It's significance seems to have to do with the way in which each hemisphere attends to the world. And why is that so important? Imagine how an animal needs to be able to manipulate the environment, by seizing hold of something very precisely – for example, it might be a bird picking up a seed against a background of grit or gravel, or it might be picking up a twig to build a nest, or it might be an animal locking onto its prey – and in doing so, it will have only one thing in mind, which is getting that object, manipulating it. It will have very narrowly focussed attention, precisely aimed at what it is doing. Yet at one and the same time it

must be capable of exactly the opposite kind of attention: broad, uncommitted attention to the surrounding environment, alert and on the lookout for predators, and also for mates, etc. So the need for a highly committed, very narrowly focussed attention needs to be combined with an uncommitted, sustained vigilance. That is a very difficult thing to do simultaneously. Even given our bi-hemispheric brain structure, most people find it very difficult to focus narrowly and broadly at the same time. For example, some yoga techniques aim to cultivate this capacity, usually with considerable difficulty. But it would be quite impossible without the divided structure of the brain.

RB: What are the differences between the two hemispheres and how do they combine?

IM: What is clear is that we need both these types of attention. But they do give different 'takes' on the world. That's fine when we're living from day-to-day, because we are not aware that our brains are constantly combining these 'takes' – after all, if we *were* aware of it, it would stop us from functioning. So, evolution has taken care that this difference is not something that obtrudes into consciousness. However it does mean that each hemisphere builds a picture of the world which is different. In the left hemisphere's world there are all these small pieces, because it's always focussing on some very small, precisely, delimited part of the experiential world. There we have parts of the picture, but not the whole. The right hemisphere, on the other hand, tends to be on the lookout, seeing the whole surrounding picture, and therefore has a better grasp of the whole. The left hemisphere is more interested in fixing things, because it has to see what it can seize on and use. The right hemisphere, by contrast, sees things that are never fixed, but always uncertain and changing. The left hemisphere has a belief that there are isolated certainties, from which it can build up a clear picture. The right hemisphere sees a whole which is a net of ungraspable interconnections, where things are not separate at all, and are flowing and changing.

That is one way in which they differ. Generally speaking, the left hemisphere is taking things out of context, because the narrow focus removes each 'object' from the context in which it inheres. That was an issue that was very important to me, going back to my literary and philosophical days, because I was aware that when you take the parts of something out of context they completely change their meaning, and it changes the way in which we see them. If you like, on the one hand you've got a world made up of fixed parts that are put together, in some sort of mechanical way, to reach a certainty, which is explicit. This is necessarily abstract, disembodied and general, and rather lacking in life. In fact, one interesting difference between the hemispheres is that tools and machines are encoded in the left hemisphere alone. The right hemisphere has a predilection for seeing things as animate, and the left hemisphere for seeing things as inanimate. What you lose when you attend with the left hemisphere is context, shades of meaning, ambiguity, tone of voice, what comes with body language, metaphor, jokes, the sense of the unique, the sense of the living, of all that is real to us, that can never be quite certain. In its place you've got a world that is schematic, follows rules, fits neatly into categories, is abstract and explicit and full of 'bits', and is essentially a bureaucrat's dream.

Obviously, you can see that these are two quite different ways of thinking about the world and so philosophers have, to some extent, veered between these two ways of looking at the world. To my mind, many of the big unresolved issues in philosophy depend on whether you take the right-hemisphere or the left-hemisphere view of the world. So, as I say, they do need to be combined for general purposes; but looking at the last 100 years or so, what we tend to see reflected is the way of being of the left hemisphere at the expense of that of the right.

RB: Would you say that the left hemisphere is out of touch with reality? Or does it create a necessary distance?

IM: I came up with the phrase 'necessary distance' to express the fact that distance from the object of one's attention is creative. To understand the world you have to be a little distant. For example, you can make sense of a book only at a certain distance; if you get too close to it you can't read it at all, just as, if you're too far away from it, you can't make it out either. You have to be at a certain distance from it to read and understand it. 'Necessary distance' is really created by the frontal lobes of the brain, both right and the left. But, if you are standing back from the world, one of the things you will require is a diagram or a map of it, and that's really the distinction between them. The left hemisphere's world is really like a map. A map has a kind of reality, in other words it contains true information about the world, but it is limited information, and in fact its value lies precisely in the fact that it *is* limited – you couldn't cope with the amount of information there is in the real world. So, it's not a problem that the left hemisphere generates a very impoverished version of the world. That's its job. It's only a problem when we take that version for the 'whole' world – which it plainly isn't.

RB: In *The Master and his Emissary* your conclusion regarding the asymmetrical brain mainly refers to Western Culture. Do you think it is more universal? Or does the dichotomy not exist as much in Asian cultures?

IM: Well, partly I didn't deal with Eastern cultures out of ignorance. I just don't know enough to deal with it adequately. Also, the book is extremely long as it is, and it already seemed like rather a lot to ask of the reader to look at the whole of Western civilisation through the lens of the hemisphere hypothesis. Obviously, the same sort of differences exist in people of all cultures. The question is, has a culture ever ended up as lopsided as ours, modelling the world exclusively according to the left hemisphere? Or the right hemisphere? At the end of the book my conclusion, for what it is worth, after looking at research on East/West differences, is that Oriental cultures seem to be able to balance these two ways of looking at the world more evenly. When you compare the strategies that are used by Westerners in looking at the world – for example, just reporting on a picture, or understanding a proverb, or whatever – you tend to find that we use strategies that are based on what is, effectively, a left hemisphere understanding of the world, whereas, in Oriental cultures, there seems to be more of a balance. However, right now, Oriental peoples are adopting Western cultural ideas so fast that they are in danger of becoming a parody of the worst aspects of our own culture. This is clearly a problem, because it is we who need to be learning from their balance, not they learning from our imbalance. I should say, by the way, that I think it's not so much that there are significant differences in the brains of Eastern and Western people, as that there are differences in the way we use them in understanding the world.

Having said that, there are some quite interesting differences that we do know about. For example the areas of the brain used for language in, say, people speaking English or Spanish, are slightly different from those used by people speaking Chinese or Japanese. There are overlaps, of course, but they do have consistently different patterns.

RB: I wonder if this balance in Eastern cultures is to do with the prevalence of contemplative practice and meditative or yoga techniques? I wonder whether this contributes to this overview of looking at the world in such a way?

IM: I think it's all part of the picture. Whether it's causative or not, I would not like to say – you could equally say that it is the other way round: their world view leads to engaging in such practices. Embodied in Eastern philosophies, in Hinduism, in Buddhism, in Zen, etc, are ways of looking at the world which are similar to the way the right hemisphere appreciates the world; and they are balanced in eastern cultures with the more ordinary, day to day, categorical ways of looking at the

world. In Chinese philosophy and politics there are different emphases between Confucianism and Buddhism. But what I think is rather impressive is, in all those cultures, there is a clear sense of balance in different ways of looking at the world, in their art, in their poetry, and so on. There is more of a consistent picture. The West has veered rather, with its extraordinary, somewhat extreme movements – the Renaissance, the Reformation, the Enlightenment, Modernism, Post-Modernism – these are really rather sharp swings of a pendulum between right and left ways of looking at the world. This does not seem to apply to the same extent or in the same way in the Orient. It may be that the balance comes at a cost, in that there is something to be said for having this imbalance – as long as we don't allow it to destroy our culture and civilisation completely. Which, as I say in *The Master and his Emissary*, is what I worry we are doing right now.

RB: Has the brain evolved in the past 2,000+ years, and is it still evolving?

IM: Undoubtedly it has and is. Everything is in a state of constant change and evolution. Our brains change in relation to the environment, they are plastic, and they adapt to stimuli from the environment, and, of course, the environment changes because of the way our brains help us construe the world. We've had a huge impact on the environment, of course, most noticeably in the last 200 years, but the environment itself has the effect of changing us. We are yet to understand the extent of the impact of Information technology, and the various ways in which people communicate now and use information. We have yet to see how this affects the brain, but there are already strong indications that it is having significant effects.

RB: These are physiological changes you are talking about?

IM: They will be, inevitably, since psychological changes are themselves always physiologically based, but I'm talking mainly about changes detectable at the psychological level: there is also evidence of areas of the brain being more active or less active, even increasing or decreasing in volume. It comes from a range of things, very subtle structural changes, functional changes that can been seen in brain imaging, and, mainly, the results of psychological testing.

RB: Is consciousness a product of the brain?

IM: This is an area where it would be wise to be cautious. I don't think there are any certainties here. The one fundamental thing we can say is that everything that we know comes to us through consciousness. Consciousness is the ground of absolutely everything we experience or know. We couldn't know it, experience it, talk about it or formulate it without consciousness. In that sense, Descartes was right, in that the most fundamental thing that one can assert is that one has this consciousness. Matter, however, we only know about indirectly via consciousness. In my view, the odd fact is that people discuss 'the problem of consciousness', while matter is taken for granted. But, in fact, the thing that we have primary experience of is consciousness, not matter. Matter is a problematic *element in consciousness*. One way one might think of matter is as of a type of consciousness that resists the will. For example, when you push the chair on which you are sitting, with your hand, you experience (in your consciousness) resistance – it's an element in consciousness that resists. Other kinds of consciousness don't present the same degree of resistance. So, if you like, we can think of matter and consciousness as being different phases of the same thing. I use the word 'phase' in the way that physicists use the word when they talk about the different 'phases' of water – it's solid and opaque when it is ice, it's transparent and fluid when it is water, and it's invisible when it's vapour. So, it could be that matter and consciousness are different aspects of the same thing. That would be in tune with a lot of Oriental philosophy.

The other thing that's worth saying is that even the Western analytic tradition is beginning to move toward the idea that all things in the universe might have some sort of consciousness in them. This is a counter-intuitive idea to us, but it's actually not rational to suppose that consciousness is something that is somehow 'injected' into an otherwise unconsciousness universe. It must be there somewhere, in its most seed-like form, in apparently unconsciousness matter. That's the only way you can avoid this problem of how you leap from things that are not conscious to things that are conscious. A preferable way would be to say that there are degrees and kinds of consciousness, and that all things possess consciousness but in different degrees and kinds. One problem that's often encountered, when one says that, is that people say, "What do you mean? Just look at a stone – it can't be conscious". To which one might ask, "What would a stone look like if it were conscious?" We are aware of what *we* do when *we*'re conscious, but we are not aware of what anything else might do, being conscious. It's actually not as obvious as it might look that things that don't seem like human beings can't be conscious. After all, people mistakenly believed for a long time that animals had no consciousness. There are very few people who would sign up for that one now.

RB: And consciousness was not a word that scientists used, for quite a while, in terms of humans. I'm thinking particularly of the behaviourists.

IM: That's right. There are even a limited number of materialists who want to solve the problem by saying that consciousness does not exist. This is a very odd idea because, presumably, they are using consciousness to formulate and communicate this idea. They say that consciousness is an illusion, but for consciousness to be an illusion there must already be a consciousness for this illusion to happen in. This kind of talk, profoundly irrational in my view, seems to me to be a consequence of the left hemisphere's need for certainty, black and white, 'either/or'. The right hemisphere is much better at being able to tolerate uncertainty and ambiguity, without having to resolve it into one thing or another. This is partly because the left hemisphere is the one that is quickly grabbing at that seed or twig or catching its prey. It's not very good at being contemplative. As far as it's concerned, things have got to be one thing or the other. The right hemisphere is the 'devil's advocate', as Ramachandran calls it – more able to say "well, it might be or it might not be". When you come to 20th century philosophy this left hemisphere mentality takes the form of 'we can't have this rather difficult ambiguity, that matter and consciousness might be distinguishable aspects of one thing'. We want to collapse it into one pole or the other: either *all* matter is really consciousness or *all* consciousness is really matter. We seem unhappy to live with the essentially amphibious nature of our existence.

RB: It reminds me of quantum physics where, it depends on what question you ask. If you ask a particle-like question you will get a particle-like answer and if you ask a wave-like question you will get a wave-like answer.

IM: Absolutely. One of the odd things is that physicists have for a long time been able to accept that consciousness and matter affect one another, while the so-called 'life scientists' still seem to subscribe to the 19th century inanimate, mechanical universe. It seems the physicists are rather ahead of the biologists.

RB: Einstein stated "The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honours the servant and has forgotten the gift." Do we need to remember the gift and shift dominance away from the servant? If so, how can we?

IM: I first came across that saying only after the book was already published. It pretty much sums up the thesis of *The Master and his Emissary*, in that the left hemisphere, which is a very faithful servant, is in danger of becoming the master. There is nothing wrong with it in itself: it is a very useful servant, but it is not a very good master. I think that is, in essence, the problem that we have, and there are difficulties in freeing ourselves from this, partly because the left hemisphere world is self-referential. I call it the 'hall of mirrors': it is relatively detached from reality. It sees things in terms of its own schema and it is difficult to get any outside purchase on that. But in order to change, we're going to need a shift in the way we think about ourselves and the world at large. I don't think tinkering around the edges is going to help. It needs a complete change of mind or a change of heart, as in what we think we are, what we think the world is, and what life is.

I see some positive signs, in that people of all ages have responded extraordinarily warmly to what I've got to say. Of course, I'm not saying it is only me, there are many other people who are saying things – not via the hemisphere hypothesis, but they are saying that we need urgently to change the materialistic, exploitative ways in which we think about the world. We do need to start to change, and people understandably say "What's to be done?" The trouble is, they are hoping that there's a list of bullet points that will help the problems go away. That is the kind of thinking we need to get away from. It seems to me that the first thing 'to do' is to stop 'doing things'; because we won't be able to see from where we are now what it is exactly we have to do, but we certainly know that a lot of things we are doing now are wrong and unproductive and are leading us to somewhere we really don't want to be going. What needs to be done will be revealed incrementally on the way.

So, having a critical cast of mind is important. What I hoped to do in *The Master and his Emissary* – and in another book I'm writing at the moment, called *When the Porcupine is a Monkey* – is to make people aware that there is more than one way of thinking about the world that has coherence. I'm basically trying to raise consciousness.

RB: Do we need a greater understanding between science and the humanities and, if so, how can this be achieved?

IM: I think that science at its best and the humanities at their best should be able to understand one another very well. Good science is tentative, is aware that it can only construct a model and see how far that model goes in helping us understand the world, and is aware that there are many types of knowledge, and that there are many contexts that change the nature of what we see in the world. I think good scientists have always been able to bring that cast of mind to their work, to see the broad picture. It's very important to have people do very specialised work, but it's also terribly important to have people who are still watching the overall picture, because that is the context in which the painstaking detailed work will come to have any meaning at all. So, we need to get away from what I would call the 'scientistic' view, which is dogmatic, and believes that there are simple facts and simple truths, all of which can be discovered by science. A lot of good scientists would, rightly, say "we don't think like that at all", but, unfortunately, that way of thinking has rubbed off on the popular culture and in the science establishment there are only too many examples of this limited thinking going on. 40 or 50 years ago most people who went on to study science at university would have had a background in the humanities. They wouldn't have been able to leave school without having read some classics, certainly the classics of their own literature. There was a cultural context in which to understand science. Now, with pressures on specialization, and the emphasis on getting

good A levels, I'm afraid that education may be getting narrower. So you end up with people who genuinely don't understand the culture of the humanities. There is an argument that nobody should be allowed to become a doctor without having had some background in the humanities, so that they are able to see what they are looking at in context. They are not just looking at machines! Again, I am sure a good doctor will say, "of course, we don't see people as machines", but when you look at the way medicine is sometimes practised and often discussed, this seems a pretty fair point.

I recently delivered a lecture to the Royal College of Physicians, which was on the 'machine model in medicine', and I expected to experience a certain degree of resistance, but, in fact, the consent was overwhelming. They were just overjoyed to hear somebody saying it! So, there's hope there, that people don't like this way of thinking, although we might seem to have got trapped in it.

I would like to see education also emphasising much more non-technical subjects. Obviously, we have to produce good scientists and mathematicians, but who says that the good scientist and mathematician isn't also able to understand other things that would be very useful for their lives. After all, an education is supposed to be a way of being and living, not just a technical training in order to do a job.