



The Master and his Emissary

Iain McGilchrist

*Iain McGilchrist presents the first part of his thesis explained in his forthcoming book **The Master and his Emissary: The Divided Brain and the Making of the Western World**. His background in English literature and medicine gives him a unique perspective.*

There's a story somewhere in Nietzsche that goes something like this. There was once a wise spiritual master, who was the ruler of a small but prosperous domain, and who was known for his selfless devotion to his people. As his people flourished and grew in number, the bounds of this small domain spread; and with it the need to trust implicitly the emissaries he sent to ensure the safety of its ever more distant parts. It was not just that it was impossible for him personally to order all that needed to be dealt with: as he wisely saw, he needed to keep his distance from, and even to remain ignorant of, such concerns. And so he nurtured and trained carefully his emissaries, in order that they could be trusted. Eventually, however, his cleverest and most ambitious vizier, the one he most trusted to do his work, began to see himself as the master, and used his position to advance his own wealth and influence. He saw his master's temperance and forbearance as weakness, not wisdom, and on his missions on the master's behalf, adopted his mantle as his own ... the emissary became contemptuous of his master. And so it came about that the master was usurped, the people were duped, the domain became a tyranny; and eventually it collapsed in ruins.

This story is as old as humanity, and I think it tells us something important about what is going on inside ourselves, in our very brains. It is being played out in the world around us right now, and, since the consequences are grave indeed, we need to understand what it is.

For the last 15-20 years I have been gathering material for and writing a book about the structure of the brain and its influence on Western culture, entitled *The Master and his Emissary: The Divided Brain and the Making of the Western World*. I will try to give an idea of how it came about, since it may be of interest outside the world of neuroscience.

Problems with the Explicit

The idea of writing it probably goes back to the time before I even started training in medicine more than 25 years ago. I had been troubled by problems of the academic study of literature, which was my business at the time: why was it that the things we prized about the work of a great poet, for example, turned to a handful of dust when one tried to inspect them more closely? On analysis and explicit discussion, the uniqueness of the work, which lay in these very same much-valued qualities, seemed to consist only of imperfections. I began to think less well of perfection. The whole process of literary criticism seemed inevitably to involve making explicit what had to remain implicit (if it was

not to be seriously disrupted), substituting general words and thoughts, that one might have got almost anywhere else, for the irreducible uniqueness of the work of art, and replacing the incarnate being before us with a series of abstractions, a coded message of which the author was unaware. We cerebralised what had to remain the 'betweenness' of two living things. The result was a sort of superior knowingness that traduced the innocence of the work. Something often of undeniable interest emerged, but it nonetheless, subtly, missed the point altogether.

The crux seemed to be a misunderstanding of what is embodied, both in us and in the work of art, in the world we bring about for ourselves. I studied what was then thought of as the 'mind-body problem', but found the philosophers too disembodied in their approach (I had not yet come across the European philosophers – particularly Merleau-Ponty – who were aware of this difficulty, and made it the centre of their work; such philosophers were ignorantly ignored in Oxford in those days). I decided to train in medicine and get, as far as was possible, first-hand experience of how the brain and body actually affect the mind, and how the mind affects the brain and body.

John Cutting

After my training I went to the Maudsley, where, in 1990, I had the good fortune to hear John Cutting lecture on the right hemisphere of the brain, a subject on which he could fairly be said to be a world authority, and on which he had just published an important book. I was amazed. I had been taught that, as one leading neuroscientist put it, the right hemisphere was about as gifted as a chimpanzee. But it turned out, on the basis, not of speculation, but of painstaking observation of what happened to people when something went wrong with the right hemisphere, that it was crucial to just about everything we are and do – which is why the prospects for subjects with right-hemisphere damage are worse than for those with left-hemisphere damage, despite the fact that loss of left hemisphere function affects for most people their speech and the use of their primary hand. It also turned out that the right hemisphere had a capacity the left hemisphere lacked for understanding the implicit, for appreciating uniqueness, for the embodied rather than the purely conceptual, for the ambiguous rather than the certain. There was even evidence that the left hemisphere

had a more confident, superior attitude to whatever formed its 'subject' than the right. Might this have some bearing on my dissatisfaction with the process of literary criticism? I set about gathering information.

Some of you may already be thinking – not the old chestnut about the hemispheres again, surely? Despite frequent acknowledgment by many leading neuroscientists that there do seem to be fundamental differences between the hemispheres, and despite some tantalising glimpses, scientists have largely given up trying to put their finger on what they might be, piece after piece of information showing that every conceivable activity – language, reason, visual imagery, and all the things we thought in the past distinguished right from left – is served by both hemispheres, not one. The problem is that we generally look at the brain as having 'functions', and if you do that, sure enough those functions are shared by both hemispheres. But if you look, not at what the brain does, as if it were just a machine, but at how – in the sense of 'in what manner' – it does it, as if it were part of a living person, some very important differences start to emerge, and a picture begins to take shape that tells us some astonishing things about ourselves and our world. My view is that the relationship between the hemispheres, like that of the master and his emissary in the story, is not symmetrical. Each needs the other; each has an important role to play. But those roles are not equal – one depends more on the other, and needs to be aware of that fact. So I am not going to argue anything as facile as that the left hemisphere is 'mistaken' in what it sees, or what it values. It is not: but its vision is necessarily limited. The problem comes with its unawareness of that fact.

The Divided Brain

The first question has to be: why is the brain divided at all? If the whole purpose of the brain is to make connections, and if, as many believe, consciousness arises, in some yet to be specified manner, from the sheer interconnectedness of such a vast array of neurones, why chop it down the middle? It could have evolved as a single mass. But in fact hemisphere divisions go right down the phylogenetic tree. So whatever it is for, it must operate, not just for man, but for animals and birds, too. What is that?

And taking a closer look at the brain, why is it that the human brain is asymmetrical? There is a bump on the left side towards the back, which has traditionally been associated with the development of language. What is less well-known is that there is a bump at the front on the right, too, as if the brain had been given a fairly sharp tweak clockwise from below. What on earth is that about?

Well, the bump on the left is already more of a puzzle than it seems. In the first place, it can't just be that in man language needed to be all in one place, and having to be somewhere, just happened to set up residence in the left hemisphere, where it caused the cortex to expand. For a start, as neuroscience has explained to us, everything, and that includes language, goes on in both hemispheres. Important aspects of language are served by the right hemisphere, too, so it can't be a matter of keeping it all 'under one roof'. Anyway, it turns out that chimps and the great apes in general have got this bump on the left, too, despite having no language in the human sense. And examination of the

skulls of humans from long before language developed also show it. So it must be for something else. What was that?

You may say 'it's not about anything – it's just one of those things'. But that would be a very odd finding. In nature structure and function go hand in hand. A good example is that in songbirds the left hemisphere (their 'speech' centre) expands during the mating season, and then contracts again when they stop singing once it's over. And the right hippocampus, where we store what we know about visuospatial exploration of the environment, gets bigger in London cabbies when they take 'the Knowledge'. So we should assume that structure has meaning in terms of function.

Perhaps it's about handedness, then. But why do we have handedness at all? Skill acquisition is not like putting books on a shelf – the more you put on one end, the more they will fall off the other. No, we could have had two equally skilful hands. And, once again, apes have got the left-sided bump, but they don't exhibit handedness in the same way that we do. So it can't be that, either. The plot thickens when you realise that the relative advantage of the left hemisphere/right hand is not the result of an overall increase in function in the left hemisphere after all, but of a deliberate handicapping of the right. There are several strands of research that demonstrate that quite clearly. It looks as if our conventional explanations just don't stand up.

Equally clearly, language and dominance of the right hand, now that we have them, are remarkably closely associated in the left hemisphere, and they have a lot in common. For example, we use them both to grasp things, as we say. They must play a part in the story – it's just that they can't be the cause. That must lie elsewhere, and language and handedness be the 'symptoms', rather than the explanation, of hemisphere differences.

Evolution of Language

If we come to look at the evolution of language, we find further puzzles. Why do we have language at all? Surely in order to communicate. If not that, at least to think. But neither of these propositions is true.

The fact that humans can speak is dependent on the evolution, not just of the brain, but of the articulating apparatus – the larynx, the tongue and so on – and of respiratory control. That's why birds can imitate human speech, while apes, our nearest relatives, can't – birds have the necessary equipment, in order to sing. Through some fascinating detective work, we can tell from looking at human skeletons when it was that the necessary developments in control of the tongue and larynx, and of the muscles of respiration, developed. That turns out to be from a time far earlier than, from other evidence, we believe we developed language. So what were these developments for?

The answer, according to many anthropologists, appears to have been – in order to sing. That might sound odd, because we are used to thinking of music as a bit peripheral. But in fact the 'music' of speech – in the sense of the intonation, and all that is not 'just' the content, coupled with other forms of non-verbal communication – constitutes the majority of what it is we communicate, when we do. Denotative language is not necessary for I-thou communication. Music is largely right-hemisphere-dependent, and the aspects of speech that enable us truly to understand the meaning of

an utterance at a higher level – including intonation, irony, metaphor, and the meaning of an utterance in context – are still served by the right hemisphere. Denotative language becomes necessary when we have projects – when we need to communicate about a third party, or about things that are not present at the time. It expands immeasurably our capacity for manipulation, what one might call ‘I-it’ communication. It is not therefore necessary for communication in itself, but for a certain kind of communication. Equally there is a mass of evidence that we do not need language to think, even to conceptualise. One rather wonderful example is that, believe it or not, pigeons can distinguish between a Picasso and a Monet, without having any language in which to do it. But we also know that tribes that do not have numbers above ‘three’ can calculate perfectly well to much larger numbers, and have a grasp of concepts they cannot put into words. Language is not necessary for thinking, just for certain kinds of thinking. What was it for, then?

My view is that language and the hand have a certain common agenda. That is, they enable us to grasp things: to pin them down and make them useful. And we cannot deny that they have done that in spades. They have helped us to use the world, and by doing so to develop many of the things of which we are most justly proud, the fruits of civilisation. But there is a price for this kind of approach to the world, and that brings us back to the question why the hemispheres are separated.

Kinds of Attention

Let’s go back to birds and what we call the lower animals. What do we know about the hemisphere differences there? The first thing one can say is that they seem to underwrite different kinds of attention. Attention may sound a bit boring, but it isn’t at all. It’s not just another ‘cognitive function’. It’s actually nothing less than the way in which we relate to the world. And it doesn’t just dictate the kind of relationship we have with whatever it is: it dictates what it is that we come to have a relationship with.

In order to stay alive, birds have to solve a conundrum. They have to be able to feed and watch out for predators at the same time. How are you to focus closely on what you are doing when you are trying to pick out that grain of seed from the grit on which it lies, while at the same time keeping the broadest possible, open attention to whatever may be, in order to avoid being eaten? It’s a bit like trying to pat your head and rub your tummy at the same time, only worse, because it’s impossible. What we know is that the difference in attention between the hemispheres makes the apparently impossible possible. Birds pay narrowly focussed attention to what they are eating with their right eye (left hemisphere), while keeping their left eye (right hemisphere) open for predators. At the same time birds and animals use their left eye (right hemisphere) in forming bonds with others of their kind. And this difference is preserved as we evolve. In fact it seems that the left hemisphere specialises in a sort of piecemeal attention that helps us make use of the world, but in doing so it alters our relationship with it. Equally the right hemisphere subserves a broad open attention which enables us to see ourselves connected to – and in the human case, to empathise with – whatever is other than ourselves.

These kinds of attention are mutually incompatible, though we need to be able to employ both simultaneously.

In humans, because of the development of the frontal lobes, which enable us to stand back from the world, the need for specialisation becomes stronger. As we stand back, we can either see the world as separate from ourselves, as something we can use, or quite the opposite – as connected to ourselves more deeply: we can see others, for the first time, as beings like ourselves, the ground of empathy. Being able to represent the world artificially – to map it conceptually, substituting tokens for things, like the general’s map in his HQ – enables us to have an overall strategy; and this is what language achieves. But it inhibits us from being there, in the experiential world. It places us at one remove from things. So with humans the need to have both ways of understanding the world, and yet keeping them apart, is paramount. And it turns out that the corpus callosum, the band of tissue that connects the hemispheres, while it both connects and inhibits, is more involved, in humans, with the process of inhibition, with keeping things separate.

Co-operation and Competition

What is the left hemisphere expansion in apes for, then? It has to do with their capacity to form concepts, in order the better to manipulate the world. And so it is in humans, where it is also related to our capacity for language, and literally to manipulation with the right hand. And the bump at the front on the right in humans, and some apes, is associated with a whole array of ‘functions’ that distinguish us from other animals, and relate to our capacity for empathy: in intimate connection with the right hemisphere as a whole, it plays a significant part in imagination, creativity, the capacity for religious awe, music, dance, poetry, art, love of nature, a moral sense, a sense of humour and the ability to change our minds. The ways in which hemisphere differences affect what each hemisphere ‘does’ are profound.

Unfortunately, though the hemispheres need to cooperate, they find themselves in competition, simply because the left hemisphere’s take on things is such that it thinks it knows it all, while it cannot be aware of what the right hemisphere knows. Each needs the other, but the left hemisphere is more dependent on the right, than the right is on the left. Yet it thinks exactly the opposite, and thinks it can ‘go it alone’. I believe the battle between the hemispheres (which is only a battle from the left hemisphere’s point of view) explains the shape of the history of ideas in the West, and explains the predicament we find ourselves in today. What the differences between the hemispheres are in practice, and how this works out for us in the world in which they live, I will try to explain in a subsequent article.

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He retrained in medicine in order to understand better the ‘mind-body problem’, and has been a neuroimaging researcher at Johns Hopkins in Baltimore and a Consultant Psychiatrist at the Maudsley Hospital. He is speaking at the Network Annual Gathering in July.