[00:00:06.810] - Sam Harris
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[00:00:35.940] - Sam Harris
So if you enjoy what we're doing here, please consider becoming one. As always, I never want money to be the reason why someone can't get access to the podcast. So if you can't afford a subscription, there's an option that Sam Harris, Doug, to request a free account and we grant 100 percent of those requests. No questions asked. OK, well, today I'm speaking with Ian Gilchrist. Ian is a fellow of All Souls College at Oxford and a fellow of the Royal College of Psychiatrists, also a fellow of the Royal Society of Arts.

[00:01:13.660] - Sam Harris
And he was a research fellow in neuroimaging at Johns Hopkins. And most importantly, for our purposes, he's the author of the book The Master and his emissary, The Divided Brain and the Making of the Western World. And that is the focus of our conversation today. We talk about the differences between the right and left hemispheres of the brain, which are fascinating and consequential. And I think under appreciated.  And this gets us into many thorny issues. We discuss the popular misconceptions about these differences, the prospect that consciousness might be partitioned even in an intact brain, the difference between consciousness and attention, the boundary between the conscious and unconscious mind, how face to face encounters differ between the hemispheres, the unique deficits that result from damage to each, the ascendancy of the left hemisphere in modern culture, the possibility that the brain is a mere receiver of mind.

[00:02:10.700] - Sam Harris
People's expectations about surviving death. Anyway, I thought it was a fascinating conversation. We certainly could have gone on for many more hours. And now I bring you Iain Gilchrist.

[00:02:28.420]
I am here with the Gilchrist, and thank you for joining me.

[00:02:31.990] - Iain McGilchrist
It's a great pleasure, Sam. Thank you.

[00:02:34.150] - Sam Harris
So we're about to speak about what I consider one of the most interesting topics in any field. The focus of our conversation is covered really in exhaustive detail in your book, The Master and his Emissary. And there's also a film based on that which I discovered online last night, The Divided Brain. But before we jump in. What is your academic and intellectual background?

[00:03:00.570] - Iain McGilchrist
All my life, really I've been interested in philosophical questions, particularly the end of philosophy that accommodates theology. And so at 18, I wanted to go to Oxford and study philosophy and theology. But you had to take an entrance exam in some school subject and almost at random. I chose English literature, and when I went to interview, they said, oh, you can't you can't do theologynd and philosophy. It's not an honours degree. So in 1972 in Oxford, theology and philosophy wasn't an honours degree. Each on their own was, but not the combination.  I think it is , but there we are.

[00:03:38.080] - Iain McGilchrist
So they said, look, you obviously like and are good at English, so come and do that. So I did. And I was interested really in the philosophy of literature and the philosophy of aesthetics in a way. And something struck me as very odd about what we were doing. I got a fellowship immediately after graduating which enabled me to have time to reflect.

[00:03:59.950] - Iain McGilchrist
And I thought that's something that's really troubling me about the way in which we approach literature. Somebody in the past took great pains to create something that is unique, embodied, and, largely speaking, implicit. In other words, if you're try and unpack it, like explaining a joke or trying to say, well, this is what this poem means, you know, you really are losing a lot of the value in the meaning. And people came along, you know, in seminar rooms and took the embodied and made it thoroughly disembodied. Took the implicit and made it explicit, and in the process rendered this entirely unique thinghat's, this completely unique experience, something that was utterly general in nature. So I thought there's something wrong with this. And I wrote a book called Against Criticism. And what seemed to me wrong was that we'd become very disembodied in the way that we think about everything. In fact, it's something, you know, since the earliest days reflected on the way we lead our lives nowadays, that they're over cerebral in some way.

[00:05:03.790] - Iain McGilchrist
And the process is somewhat destructive. It has its advantages, but it also has major problems. And I went to the philosophy seminar to discuss the mind body question, but I found that the philosophers were just altogether too disembodied in their approach. And so I thought I'd read Oliver Sacks' book Awakenings, that just come out around that time. I'm that old. And I thought, this is really fascinating. Here's someone who's attended to the individuality of his patients, but made completely amazing philosophical... drawn philosophical conclusions that are very important about what happens when something changes your brain or your body and what that does to your personhood,  to your mind and to your whole humanity. And I thought this is what I want to do. So I had to start again to study medicine from scratch. And then as soon as I qualified and done my basic jobs in in what you'd call internships, I then did a little bit of psychiatry and sorry, a bit of general neurosurgery and then went to the Maudsley to study psychiatry.

[00:06:23.650] - Iain McGilchrist
And my interest there all along being in the overlap between mind and body. So that's how I got into being somebody who writes about the mind body relationship from an embodied point of view. This is the question, how did I get into the issue of lateralization? But you may be coming onto that so we can do a bit at a time.

[00:06:43.990] - Sam Harris
Yeah. So and have you had a psychiatric practice all this time or are you you retired in that mode.

[00:06:51.220] - Iain McGilchrist
Oh, I'm retired now, but for four years I was a practising psychiatrist first at the best and Maudsley Hospital in London and then private.

[00:07:01.960] - Sam Harris
Right. So we're going to talk about the divided brain, which is something I've spoken about before, I think at least in passing, on my podcast and on my app,  Waking Up, I've certainly written about it in at least one of my books. But given its strangeness as a phenomenon and its its relevance to how we conceive of ourselves as persons, it really is an underreported finding in science. So I think we should just describe the phenomenon itself, how we've come to know anything about it.

[00:07:40.550] - Sam Harris
I mean, the basic picture is that the human brain and, you know, not just humans – this is true of the avian brain and on mammalian brains – but for our purposes and most interestingly, our own brains are divided, you know, across the the longitudinal fissure into left and right hemispheres. And this could have worked out in various ways. The two hemispheres could have been functionally identical. They could have shared information perfectly. There could be no differences between them.

[00:08:15.500] - Sam Harris
And one would sort of think that would be the case. And yet what we have found is that they're quite different and we're going to go into those differences. And we know this based on the fact that they

can be disconnected. So maybe we should actually, before we dive into the split brain phenomenon, how we know any of this stuff, just explain the title of your book The Master and His Emissary. What do you mean by that title?

[00:08:41.540] - Iain McGilchrist
OK. Well, that's essentially a story which illustrates how I see the relationship between the two hemispheres here. We are kind of jumping ahead a bit. But there's been a general viewhe – the one that I was trained on. The left hemisphere is the one that does all the heavy lifting and is intelligent and perceptive and that the right hemisphere is a bit of a kind of a no-good. They're really kind of sure what it is. I mean, it might be for propping up the left hemisphere to make sure it doesn't fall over. I mean, literally, people have to like that.

[00:09:18.320] - Iain McGilchrist
But I, I see them as having developed two entirely different roles. They've been separate in all the brains we know, going right the way down to reptiles and even the networks of insects, of nematode worms. And even the most ancient sea creature that we know of already shows an asymmetrical neural network , which is very interesting in itself. But what I think has happened in humans is with the evolution of language, we've decided to devote one part of the brain for dealing entirely in theory or the symbols of experience rather than the gathering of experience itself.

[00:10:04.370] - Iain McGilchrist
And in a new book I'm writing and I actually take the pains to go through all the various ways in which we get a handle on the world. And in all cases, the left hemisphere is not as good at this as the right hemisphere. Why is that? Because the left hemisphere needs to be kept away from that, because it's busy doing some theoretical processing. Now, the thing is that, in fact, the right hemisphere is actually more intelligent. And I mean, in terms of IQ like an.

[00:10:36.890] - Iain McGilchrist
In the book that I've been writing, I've got the information about that, which sounds a bit odd, but it's also the one that attends much more broadly to the world, perceives more, makes better judgments, is less taken in, tends not to jump to conclusions in the way the left hemisphere does, has social and emotional understanding in the way the left hemisphere doesn't. And indeed, it is the one that we rely on to be connected to and make sense of the world.

[00:11:04.760] - Iain McGilchrist
When people have a left hemisphere stroke, they carry on, for all intents and purposes, being largely in touch with the same world they were in before. But when they have a right hemisphere stroke, they find it hard to understand what's happening, what people mean when they say things. I mean their language functions okay. But what does this really mean anymore? So the patients who are cared for by people and they have a right hemisphere stroke, the main complaint is that they these patients lack any human understanding or empathy, whereas the complaint with people who have a left hemisphere stroke is they have difficulty reading and writing is really on a very different level.

[00:11:47.000] - Iain McGilchrist
So to come back to the master and his emissary, the right hemisphere is in a way, the master. The idea I had here was of a spiritual community in which there was a way spiritual master who looked after the business of a community so that it flourished and grew. And in a while it became obvious that the master couldn't look after all the daily business of the community and indeed ought not to get involved with it. In fact, if he was to be able to maintain his all important overview and so he delegated his brightest and best sort of second in command to go about doing the sort of administrative business.

[00:12:25.460] - Iain McGilchrist
But this administrator, while very bright, wasn't bright enough to know what it was he didn't know. And so he thought, what does a master know? What does he know? He's just sitting back at the palace meditating so graphically. I'm the one that does all the hard work here and I'm the one that knows. And so he took on the mantle of the master. And in the process, because he didn't know what the

master knew, he was not able to perform his job.

[00:12:55.220] - Iain McGilchrist
And the whole community, the master and the emissary, fell to ruin. Now, I see that as a parable loosely based on a hint in nature to describe the relationship, the advancing relationship between the right and left hemisphere and the way we have ended up in the world today, in thrall to the emissary to the servant. That doesn't really understand what the master would have known and been able to tell us about. We could move on from there to just a little reflection on this question that you raised the divided nature of the brain.

[00:13:28.220] - Iain McGilchrist
Yes, when I was in medical school, I mean, obviously, we we saw that it was. There it is on the slab and it's divided and it was just taken for granted and nobody really said why. What on earth is the point of having a mass of neuronal interconnections whose value we seem to believe is predicated on the sheer number of interconnections that can make? Why divided right down the middle in this way? And as I say, this has been the case in all living creatures that we we know of.

[00:14:01.820] - Iain McGilchrist
Indeed, the corpus callosum that connects the two hemispheres, a band of fibers at the base of the brain that connects about two percent of the fibers of the brain directly is a mammalian invention. Up until mammals and birds and reptiles, amphibians, monotremes, there isn't a corpus callosum at all. So that's fascinating. And indeed, Chuco Healing's Jackson, who's a great one of the great fathers of modern neurology in the 19th century, said it's not common enough for us to wonder at this fact that the brain is divided in this way.

[00:14:40.340] - Iain McGilchrist
And when I got to my medical training and so on, this topic of difference between the hemispheres was a really a non-subject. It was considered entirely pop psychology. It was tacky. People pled with me, don't don't allow your career to be tainted. You can do well, don't do this, you know, don't get involved in this issue. It's all been rubbished a long time ago, but that's actually to go far too far.

[00:15:09.460] - Iain McGilchrist
First of all, it's very clear and undeniable that the two hemispheres do have quite different functions because for each, they contribute to... I'd rather put it this way, they contribute to a human being in different ways. You can see that when people have strokes in one hemisphere, they have a stroke in the exactly same mirror position in the other hemisphere, the outcome is completely different. So it's not good enough to say they're just the same.

[00:15:34.940] - Iain McGilchrist
They aren't. And they wouldn't have evolved in this way if there was really no purpose in their difference. The question simply was, what was that difference? And all the things that people used to say back in the 60s and 70s after the first split brain operations (which was a procedure invented to aid patients who had constant epileptic seizures ) and somebody had the idea that it would be a good idea to divide the connection between the two hemispheres so that if a seizure started in one hemisphere, it wouldn't automatically overwhelm the whole brain.

[00:16:08.950] - Iain McGilchrist
The other half would be able to carry on functioning. And indeed, it was a great success in achieving that, but it gave people a window into the difference between these two worlds, because you could actually, by clever experimentation, address problems and questions and test out each hemisphere on its own. And this gave rise to literature, which was in a way, people jump to a lot of conclusions rather fast. And the story was, well, the right brain is kind of emotional, but the left brain is rational and it's dependable. It may be a little bit boring, but at least it's very dependable. It tends to be in contact with reality, whereas the right hemisphere is all very well if you want to paint pictures. But, you know, and this is just so, so terrible as a way of looking at them. In many ways, it's the inverse of the truth, because as I've discovered and explained at length in my works, the left hemisphere is actually less in touch with reality, less reliable, more prone to jump to conclusions, more prone to quick and

dirty decisions, and more prone to getting emotional in certain ways.

[00:17:24.550] - Iain McGilchrist
For example, emotions are not all, particularly in the right or left hemisphere, but one in particular is especially well represented in the left hemispherend, and that's anger. So it is a fascinating topic.

[00:17:40.810] - Sam Harris
Hmm. What I want to revisit some of those landmarks that you just sketched, because it's again, this is a topic that it seems to me most of culture and maybe even most of scientific culture and even neuroscientific culture has really only glanced at. And it has kept at a distance, I think, largely because it is so strange. There's something very disconcerting about what we have come to know about the organization of the brain here and some of its implications. I'm wondering what you think about why this topic has been.

[00:18:21.310] - Sam Harris
It strikes me as it's almost been treated as a kind of intellectual pornography. Right. It's been held in disrepute, as you describe. But, you know, beyond the fact that there's been some cartoonish portrayals of the differences between left and right and there's a kind of pop psychological misinformation that has been spread. Is there any other reason why you think this? We have why you were warned off this as a topic when you were doing your studies?

[00:18:49.300] - Iain McGilchrist
I think there are two main reasons. One is that, as you say, it had got into popular culture in a certain way. So there was an ad in the Volvo, a car for your right brain in this kind of thing. And so people went, oh, puhleeze, you know, don't don't let's go near that. So in order to remain aloof, you know, neuroscientist said____. no, no, no, no, it's not like that, which indeed it isn't.

[00:19:14.050] - Iain McGilchrist
But the other reason is that there were some, as I say, some slightly too quick conclusions drawn in the early days in the 60s and 70s and on into the 80s. And these were based on, I believe, a misconception, which is that the real difference between the two hemispheres was what they do, which is the right answer or the right way. Question perhaps to ask of a machine. What does it do? It is not necessarily the right question to ask of a person, of a person which may be more interested in the how.

[00:19:49.990] - Iain McGilchrist
In what way, in what manner this is done? And what I discovered fairly early on was that the old division, that reason and language was solely the province of the left hemisphere and emotion and visuospatial things, the province of the right hemisphere, that this was not the case. Each was involved in all of those, indeed in everything that we do here. So where does that leave my my, my, my position? Fine. Ready to go on a very interesting adventure because then one says it's not the the what, it's the how.

[00:20:28.890] - Iain McGilchrist
And in every case, whatever it is that each hemisphere is dealing with, it deals with it in a reliably, consistently, predictably different way. And what is that? Well, it's a do I believe, with a problem which is entirely explicable in terms of Darwinian evolutionary advantage.

[00:20:51.380] - Sam Harris
So before we jump into that. I want to talk about the evolutionary origins of this in so far as we can speculate about them and just just why would it be that brains would be divided and divided in the way that they are? But let's describe how we know that the hemispheres are so different in our own case, you know, based on. I just want to summarize the split brain research in a little more detail for people who may not be familiar with it.

[00:21:21.760] - Sam Harris
And the interesting thing here is that the claims that you are going to make about the differences

between right and left and, you know, you have gone so far as to suggest that the right hemisphere is the the more competent, the more fully human, the more is the master rather than the emissary. That is quite different from where science started once we started splitting the hemispheres by cutting the corpus callosum. And in those surgeries you described and even people who were very close to that research early on felt that they went from thinking that the right hemisphere was, in fact, unconscious.

[00:22:02.870] - Sam Harris
Right. That there was nothing that it was like to be the right hemisphere, that the left hemisphere was entirely the basis for human experience of any kind to thinking that the right hemisphere, while it might be conscious, it is definitely subhuman. And and, you know, Michael Gazzaniga, who I know and who is very early as a cognitive neuroscientist studying this, you know, worked under Roger Sperry, you know, he at one point, I'm sure he's he's recanted here.

[00:22:31.150] - Sam Harris
But at one point he suggested that the right hemisphere was essentially beneath a chimpanzee in its cognitive abilities. So we have come a long way in appreciating what the right hemisphere is doing. Ironically, maybe it maybe is our left hemisphere that had to be dragged all this way to appreciate what the right hemisphere is doing. So let's just describe the original right berry experiments. You know, Born of the Neurosurgery is done by Joe Bogon and discuss how it is.

[00:23:02.980] - Sam Harris
We were able to interrogate the hemispheres separately and know that they really are, in the case of a divided brain, two different points of view on the world and really two different subjects, two different people in a single human head. Absolutely.

[00:23:20.980] - Iain McGilchrist
And it might be worth just saying that already in the 19th century, people saw that the hemispheres were quite different, famously broken decks, so that patients who lost their speech had damage to a certain area only in the left frontal lobe, not in the right and so forth. And people observing people with strokes, massive strokes in one hemisphere or the other over the subsequent decades often notice that the subjects seem to live in a quite different kind of a world.

[00:23:53.050] - Iain McGilchrist
So it wasn't just the split brains that told us this.

[00:23:56.740] - Sam Harris
We should also recall that and this is a point you make in your book, that long before a full century before anyone thought of doing the split brain work, we already knew or someone already knew that the right hemisphere was sufficient for consciousness because there were neuroanatomist who discovered upon autopsy that people who had lived fully normal lives, you know, which is to say conscious lives had upon inspection after death. Only one hemisphere of their brains could be the writer. It could be the left.

[00:24:34.990] - Sam Harris
And this is, yes, borne of the fact that people you know, there are people who are born without one hemisphere or, you know, they suffer some illness or injury very close to birth and manage, you know, developmentally to compensate. And this is just not discovered until much later in life. And now now this kind of thing can be discovered during routine neuroimaging. You can discover that a fully intact person is, in fact, missing a hemisphere and have been their entire lives.

[00:25:02.530] - Sam Harris
So we already knew that the right hemisphere could be conscious. And then we seem to have forgotten that over the course of a hundred years of doing neurology and neuroscience.

[00:25:13.150] - Iain McGilchrist
Yes. I mean, what you're particularly, I think alluding to there is the work of Wiggan in the 19th century. Amazing figure who who spent a lot of time in the autopsy booth. But I would just like to gloss

something, since you've raised that topic, it's slightly different because if somebody had only one hemisphere from birth, which can sometimes happen because there may be a space occupying lesion that's in the place where the hemisphere should be, you're dealing with something rather different because from the word go, the neuro, you know, the central nervous system will reorganise itself to take into account this element.

[00:25:51.250] - Iain McGilchrist
Yeah, but still, it is true that. People who develop normally can certainly live well with the right hemisphere. They're better off with their right hemisphere if they've only got to have one than with the left anyway to come back to the split brain operation. Yes, first of all, people were amazed by a couple of things that they just observed without doing any experiments. People were, first of all, thinking, what would it be like for somebody to have the two halves of their brain completely separate?

[00:26:22.780] - Iain McGilchrist
When I say completely separate, there are a couple of minor minor committers commissions that connect that to connect the hemispheres. But to all intents and purposes, the very much the most important had been seven. And the answer to that was that they were remarkably normal, as if these two Tameka's who carry on like that without doing a lot of talking to one another. But they did also notice, at least in the early days after the operation going on for the first months, that sometimes people would show completely conflicting behavior.

[00:26:58.750] - Iain McGilchrist
So a woman would go to the wardrobe to take out a dress with her right hand and her left hand would take it and put it back and take out a different one, or somebody would get out money to pay from the wallet and the other hand would take it away and put it back in his pocket.

[00:27:14.050] - Sam Harris
So this is the kind of thing that you you saw, I believe there was a case of a man trying to embrace his wife with one hand and strangle her with the other.

[00:27:24.040] - Iain McGilchrist
Yes. Well, at least push her away with the other. I think the story's got more. Got better is it got but it got better. But no, that's right. But, you know, very good, very interesting experiments were devised, very clever, ingenious experiments were devised whereby, for example, you could give information to just one year or you could give conflicting information to the two heirs at the same time. And normally, of course, information is shared, but in this case, it wouldn't be shared.

[00:28:02.120] - Iain McGilchrist
And so you could actually have a different input to each hemisphere. And you can also do this visually using a technique called cystoscopy, in which a different image is put up in the right visual field, which goes to the left hemisphere from the one that's put up in the left visual field, which goes to the right hemisphere. And you can then ask questions of the person about what they've seen or what they've done, one of the most injured and some of those are rather intricate and would take us a long time to try to explain, particularly without a diagram.

[00:28:35.030] - Iain McGilchrist
But one of the most interesting findings was that when the left hemisphere knew really nothing at all because the information had all gone to the right hemisphere, it would pretend that it knew all about what was going on. So when it was asked, why did you respond in a certain way about which it knew diddly squat? Because that had been the information the right hemisphere had had, and that was why we had responded in that way. It would make something up that was plausible.

[00:29:02.650] - Iain McGilchrist
And it is one way of looking at it is that the left hemisphere is extraordinarily good at making things up. And it's a bullshitter, in fact. And this is why Mike Gazzaniga calls it the interpreter, because it can make sense of whatever it sees happening. And it actually seems to believe its own propaganda and just...

[00:29:26.780] - Sam Harris
It seems that the left hemisphere seems to have dominated our politics of late. One thing you can see is the confabulatory nature of the left hemisphere in the news on an hourly basis.

[00:29:37.750] - Iain McGilchrist
You can indeed. And on that, Roger Sperry, who, as you mentioned, is one of the the most important neuroscientists of that era investigating this phenomenon for which he was given the Nobel Prize said and he was no mean philosopher, actually, as well as being a neuroscientist. And he said that the problem with modern Western civilization is that it has relegated it ignores the right hemisphere anyway. Mike Gazzaniga has changed his views quite a lot since those early pronouncements.

[00:30:13.380] - Iain McGilchrist
Yeah, I imagine they live on to haunt him slightly. But what pleases me is that some of the things I was saying earlier about the the way in which the left hemisphere is more prone to bias and more prone to jump to conclusions or make poor judgments actually comes from the work of Nikki Maricich, who works in Gazzaniga lab. So obviously things have changed there, but it's been a process of trying to get people to see that just because all we knew was a rather quick and dirty formula at a certain stage, it wasn't enough to dismiss hugely important questions.

[00:30:51.700] - Iain McGilchrist
Why is the brain divided? Why is it asymmetrical, by the way, since the skull that contains it is not, why is the connection between the hemispheres so much involved with inhibition rather than facilitation? These were questions that haunted me and it took me 30 years basically to come up with the what I was able to write in "The Master and his Emissary" and another 10 years for what I've just written and I'm hoping will be published in the next 12 months.

[00:31:24.520] - Iain McGilchrist
So, yes, I mean, it didn't start from a very auspicious place, but I was completely convinced that something of great interest was being neglected. And you asked why had people not sort of gone further with it? I think the answer is to make sense of it would require 30 years. And in doing so, they would have basically forfeited their career because  when they were juniors, their bosses wouldn't have  them to do research on rationalisation.

[00:31:54.310] - Iain McGilchrist
They said, no, forget it. That's all passé. And as they got further on, they wouldn't have got grants and they wouldn't have got promotion and so on. So actually, very few people have taken the trouble to really look at this in any great depth. And, you know, with all due modesty, I am one of the people who has spent decades really, really getting acquainted with the literature. And so, you know, I know some things about it, that there are people who do know them, but it's not in the general culture.

[00:32:26.620] - Sam Harris
I think there may be an additional reason here, which is that it's there's something impossible or at least very difficult to assimilate about this finding into one's sense of one's own being in the world. I want to try to make what we're talking about here as subjectively real to people as we can make it happen before. And we'll go further into just the differences between the hemispheres and perhaps what we can start with, with just this basic question, which phrases are why is the brain divided in the first place and why would it not be functionally symmetrical?

[00:33:05.530] - Sam Harris
But here's what strikes me is most strange about the phenomenon which you really can just extrapolate from the split brain finding. So the split brain finding is that if you divide the brain surgically by cutting the commissioner's. At least the corpus callosum, but, you know, the Interior Comissioner and there are a few others that need not be cut but could be cut, and you have this very stark finding where you have just undeniably two points of view. You know, whatever their differences, as we will get describe there are two points of view at that point in the human mind is Deuel and the left hand quite literally doesn't know what the right hand is doing.

[00:33:51.870] - Sam Harris
And, you know, reminding people again about the contralateral organization of the nervous system, the as you said, the right hemisphere in a divided brain sees only the left side of the world and the left hemisphere sees the right side of the world is not divided left and right eye. It's the left hemisphere field within both eyes and the right hemisphere within both eyes.

[00:34:16.950] - Sam Harris
So you can present an image to the right hemisphere in which the left hemisphere does not see. But because language is so disproportionately observed by the left hemisphere, certainly, you know, 95 percent of people when you're talking to the subject and you say, well, so what did you see the answer you're getting? You know, though, the right hemisphere hears you. The answer you're getting is coming from the left hemisphere that has control of speech. And so you're talking to a person who says why I didn't see anything.

[00:34:48.750] - Sam Harris
And then in an experiment like this, you could say, well, just, you know, can you take your your left hand and reach for the object that you you may or may not have seen. And then at that point, the right hemisphere, which is in full control of the left hand or near full control of the left hand, can reach and pick up an object, which is in fact the object that was presented to it, you know, visually.

[00:35:11.940] - Sam Harris
And then when asked, why did you pick up this key or a log or whatever the object was, as you point out, the left hemisphere at that point confabulate and tells a story. It seems to always have a story as to why, in this case, the left hand over which it has no control did what it did. And it shows that it has basically no, you know, reality testing mechanism left to it, left to its own devices, [35:39] - Sam Harris It will just publicize some account of the world.

[00:35:43.890] - Sam Harris
and, you know, it's apparently the most credulous person on earth. The amazing thing about this is if you extrapolate from this finding that, you know, a divided brain gives you two people. Right. Two fairly different people. And, you know, even if they were the same in their emotional tone and their cognitive styles, which they're not, that would still be two of them at this point.

[00:36:12.060] - Sam Harris
Two different points of view on the world. If you extrapolate from that and realize that, you know, as you said, an intact corpus callosum only terminates on a mere two percent of cortical neurons. Right. I mean, it's not that every neuron is connected with every other, like, neuron across the hemispheres. Right? So we have to be imperfectly connected, even in the healthiest, most intact brain, which is to say there isn't perfect information sharing across the hemispheres.

[00:36:45.240] - Sam Harris
And so it opens the question, to what degree are we doing even now? To what degree is there? Could there be islands of consciousness in an intact brain or shifting, overlapping, non shared spaces of consciousness? Where is that? It is something that is like to be part of the right hemisphere. And there's something that it's like to be part of the left hemisphere. And in any given moment, these points of view may not be unified.

[00:37:18.240] - Sam Harris
They may be. I'm agnostic as to whether or not this is a totally fluid situation and they can come to be unified and separate again. But it gives a kind of Freudian spooky picture of the mind that the unconscious from the point of view of the conscious you in this moment may in fact be conscious, you know, and looking over your shoulder. In a sense, the phenomenology with which any person is identified subjectively may not be the totality of the subjectivity, the conscious subjectivity in their own brain.

[00:37:56.220] - Sam Harris

And I think there's something about that picture that is so weird that people just don't want to think about it.

[00:38:06.060] - Iain McGilchrist
I think, yes, you pointed to something definitely that I don't think can be dismissed, but I think. I'd like to sort of moderate that picture a little. Sure, I and the first is that we all grow up with information coming to us from both halves of the world, and it is communicated through the body and into the brain using both endocrine transmitters, as well as the neurological system that we are describing and the normal person is receiving a picture will around the world, and this information is being taken as a whole. So on the whole, we don't find ourselves noticing this. In fact, if we noticed it, it would be very damaging for us because we would find ourselves constantly torn, like the person who's trying to pay and putting the money back in the pocket. And it's also worth saying that after usually about the first five or six months, most split brain subjects started to lose this into manual conflict, as it's called.

[00:39:17.140] - Iain McGilchrist
So it's something that the person sort of accommodated to, but it's also not just truth, I mean, on the other hand, it's also not just split brain patients that must be thinking very differently and seeing the world very differently because you can produce this effect experimentally in normal subjects using transcranial magnetic stimulation, which is a technique whereby you can painlessly stimulate or suppress depending on the frequency of the pulses in areas of the brain and I don't know, but you've probably talked about that in another podcast.

[00:39:57.450] - Iain McGilchrist
But in any case, the point is this. When you do that, something full fledged and ready to go is released. So it's not like it was there. You know, when you when you knock out the left hemisphere, you knock out the right hemisphere, you find instantaneously decisions being made, which are characteristic of what we know to be the way of the right or the left hemisphere. And this can actually be advantageous in certain circumstances, so that problem-solving of a certain kind.

[00:40:28.070] - Iain McGilchrist
Allan Snyder in Sydney has experimented on this can be facilitated by suppressing the left frontal cortex and enhancing the right frontal cortex so that complex problems, including mathematical problems, can be more easily solved in any case. All I'm really saying there is that, yes, there is something spooky, and it's not just in split brain patients, I acknowledge that, because as I say, it's there and ready to go, and then people have a stroke and they suddenly start experiencing the world differently.

[00:41:03.130] - Iain McGilchrist
How did that happen? Just like that, unless it was there and ready to go in the intact individual. So we know that is the case. But I suppose I'm less troubled by the idea that there might be two people here. It looks like that, but then it would only be like that if, as it were, we were sure that whatever it is that is my left hemisphere's consciousness and my right hemisphere's consciousness were generated straight out of those hemispheres.

[00:41:34.400] - Iain McGilchrist
Now, I suspect that this may be a point on which we might differ, but I'm not convinced that the brain is merely a producer or secretor of consciousness. So it becomes possible to think of consciousness that is a flow and that is transmitted – transduced – by the brain. So you can see the brain as something that is receiving a stream of information to both hemispheres simultaneously and together and that that is producing the whole personal experience. But what happens when you artificially divide the brain is that is rather like an island in a stream where the stream has to go either side of the island and then reconvene again.

[00:42:20.800] - Iain McGilchrist
And the stories I've been telling about the coming together and the coming separately of the two hemispheres might be better thought of in terms of such a metaphor. So really, I'm suggesting.

[00:42:35.420] - Iain McGilchrist
I think it's too extreme to say that there are two persons such as this, Sam Harris left and Sam Harris right. I don't think that's a – I think that's too simple.

[00:42:46.070] - Sam Harris
Yeah, no, I wasn't suggesting that. I guess what I was suggesting, though, is that in any picture other than perfect information sharing, then you have to ask yourself what is left out and what are the consequences of its being left out for subjectivity in any given moment. And however fluid you want to make it, anything less than perfect access across the commissures gives you this Venn diagram of conscious experience, wherein the two circles don't completely overlap and become one.

[00:43:22.010] - Sam Harris
So then you have to ask yourself, well, what is the penumbra like where the left doesn't share what the right is in fact experiencing and vice versa? And...

[00:43:34.742] - Iain McGilchrist
Yes...

[00:43:35.210] - Sam Harris
...again, this could be completely fluid so that, you know, you could have more global states of the hemispheres where there is a kind of synchrony, and synchrony may, in fact, be what is mediating the sharing of a conscious percept or thought at any given moment. But again, the the spooky part for me is not – not so much that much of what the brain is doing is unconscious, you know, or outside the experience of the conscious subject in any moment.

[00:44:06.800] - Sam Harris
It's the idea that some of what's outside your experience as a conscious subject in this moment may itself be conscious. Right. That's the thing that just. Oh, yes. Makes the hair stand up on the back of one's neck and. Yeah, go ahead.

[00:44:24.770] - Iain McGilchrist
Well, yeah, just so much that you're you're commenting on that. It's so important. I mean, something we might come to later, because it comes back to the question, why the two hemispheres separate in the way that they are, is that much of the traffic, as you describe it, bringing information together across the corpus callosum is inhibitory, and much of the effect of the corpus callosum is for one hemisphere to say, "I'm dealing with this. You keep out of it because that's just going to make the matter confused and I'll work slower."

[00:45:00.890] - Iain McGilchrist
So even in a perfectly functioning brain where, as it were, at one level, the communication is good, some of the functional effects of the communication is not positive, but negative. It's not facilitation, it's inhibition. But even more so. I wanted to comment on the question about consciousness becausef, of course, consciousness can mean many different things. And in one sense, we think that consciousness is what is in my mind that I'm aware of right now and I'm focusing on. But that is variously estimated to be between half a percent and five percent of what's going on in one's brain.

[00:45:43.840] - Iain McGilchrist
In fact, I read a paper in which the the authors said that ninety nine point four four percent of brain activity was not within the field of consciousness, which is alarmingly precise. But in any way it makes the point. But the way I would see that is that there is also material that can quite quickly become conscious. It's just that it's not conscious now, for reasons of expediency. If we are to function, we simply can't be conscious of many things of which we have consciousness at a different level.

[00:46:18.370] - Iain McGilchrist
And that can be brought into effect like that if it's necessary. So the way I see it is that one distinction between the left and the right hemisphere, which we must come onto at some point, is that the left

hemisphere has very narrow beam attention that is highly clarified and precise, but it's only two like three three degrees of the 360 degree attentional arc, whereas the right hemisphere sees a very broad picture, and that is quite different. It's on the lookout. It's vigilant all the time.

[00:46:53.440] - Iain McGilchrist
So if you think of the field of consciousness as being a stage on which life is going on, the bit that is within the spotlight is the bit the left hemisphere sees. And that's a bit we say, oh, I'm conscious of that. But when the spotlight moves five minutes later, you're no longer conscious of what you were conscious of even a few seconds ago. But it's still within your consciousness. It's still possible for you to summon it and it's still there.

[00:47:25.150] - Iain McGilchrist
It's like the part of the stage that's not illuminated, it hasn't gone away. It's just a bit we're not any longer attending to in this very particular, highly self-conscious consciousness. What would you say about that?

[00:47:39.400] - Sam Harris
That's interesting. I think I would found the concept of consciousness a little differently there because so for me, I'm I guy with I think consciousness has as a concept is is actually irreducible, which is to say we define it in circular terms, you know, it's synonymous with experience, greed. You know, I like Thomas Nagel's framing that as something that is like to be a system. So if if a bot is conscious, that's simply saying that there's something that it's like to be a bad if you could trade places with a bat, you'd have some qualitative character to your being in the world.

[00:48:20.290] - Sam Harris
It wouldn't be synonymous with just having the lights go out and know. So when talking about one's own conscious experience, I would differentiate consciousness from a tension, say so I can be paying attention to one thing, but also dimly aware of the things that I'm trying to exclude from my experience by focusing on the one thing there's a kind of a centre and periphery, you know, very much analogous to what we experience. Invision, you know, you have your fovea all, you know, InFocus vision, and then you have all the stuff you can see in the corner of your your eye.

[00:48:54.640] - Sam Harris
Yes. And so there's there's a spotlight of attention. But then there's this wider field of illuminated experience that has a qualitative character. And at the margins of this, it's always possible to have, as you say, new percepts and ideas and phenomenon surface and be brought into direct awareness. And they're, you know, as William James quite brilliantly pointed out in you now over 100 years ago, our experience of this, the kind of liminal boundary between consciousness and unconsciousness, has a kind of structure that can be interrogated if you're clever.

[00:49:37.570] - Sam Harris
And we've learned to do that scientifically in all kinds of ways. But even just introspectively, you can notice things that one example that James gave is that if you think about what it's like to suffer the tip of the tongue phenomenon, you're trying to remember a word. You're trying to remember somebody's name and you just can't get anything. There's one on on the one hand, we're talking about what is absent from consciousness. Like the word is not there.

[00:50:07.720] - Sam Harris
The name is not there. There is a vacancy which you're struggling to fill. But this vacancy has structure because someone can say to you, is the name Jim and you instantly know and this is not Jim, you can exclude Jim. Jim, because Jim is not the name you're trying to think of, and yet you don't know what the name is that you're trying to think of, you know, they're fascinating aspects to this where take a phenomenon like Hammie neglect, which, you know, we wear in our leisurely way.

[00:50:39.940] - Sam Harris
Getting to is it was one of these these issues where, you know, where you have in this case, a right hemisphere lesion, you know, usually in the parietal lobe, which causes this phenomenon of people

neglecting the left half of the world and being unaware of their deficit. Right. So if you tell them to draw a clock face, they'll they'll draw a circle, but then they'll put all the numbers on the on the right side of the clock.

[00:51:08.350] - Sam Harris
If you ask them to start writing on a piece of paper, they'll start writing down the just the right half of the piece of paper. But this raises a kind of James Ian conundrum, which is in order to systematically neglect the left half of the world, you need to know where the middle is right. And to know where the middle is. You do need to know where the left half of the world is. I mean, in order to reliably start writing on the right half of a piece of paper, part of you needs to have found the middle in order to jump over to the right side of things.

[00:51:40.390] - Sam Harris
So the question is, again, the very strange question from my point of view is not that some or most of this processing is happening subliminally, you know, in the dark, you know, beneath the light of consciousness, it's that some of it could be associated with consciousness, that there could be something that it's like to see the left half of the world and then get the rest of the person to ignore it. There's something that it's like to know the word that the rest of you is trying to think of and yet not provide it or not be able to provide it.

[00:52:17.920] - Sam Harris
And this just opens the door. And I'm not suggesting that in an intact brain we have two separate people in there. But insofar as the real estate of consciousness itself might not be fully integrated, it does for, say, a very spooky picture. And again, a quasi Freudian picture of a conscious part of you that you, the so-called conscious subject, isn't aware of in any given moment. There are some there's something that it's like to be part of your mind that you, the conscious person in this moment, doesn't directly experience.

[00:52:56.740] - Sam Harris
And that's, again, even if you're convinced that that is a a possibility. And even if you see the some indication of that in your life in moments of self-deception or in or in moments of, you know, dream, you might experience a dream where there really seems like there's an author of the dream that has anticipated you as the protagonist of the dream, not knowing what's going on, be like having a dream where a dream character is telling you a joke that has a punch line that surprises you.

[00:53:31.540] - Sam Harris
I mean, that's just an incredible experience. You say you're just you're the protagonist in your dream. You meet a person who doesn't exist and you're obviously not aware of that because you're it's it's a dream you're in. It's not a lucid dream. And this person tells you a joke and you're waiting to hear the punch line. And then when the punch line is delivered, it's actually funny. And so how is it possible for part of your mind to have written on demand something that the other part of your mind will find funny?

[00:53:59.860] - Sam Harris
All of these moments, again, suggest something very weird. And I just I think it's it's just very hard for people to keep this in focus.

[00:54:09.730] - Iain McGilchrist
You raised so many things. And if you can be patient or I think the first....(voice fades as non-subscibers are excluded from the rest of the podcast)

[00:54:22.710] - Sam Harris
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[00:54:44.520] - Sam Harris
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