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A QuickStart Guide: Keys to Changing the Brain

with Helen Fisher, PhD; Ruth Buczynski, PhD; Ron Siegel, PsyD; and Kelly McGonigal, PhD

Romantic Love:

A Natural Addiction

Many people consider love an emotion - but according to Helen Fisher, that might not be the case. Here, she explains why romantic love may, in fact, be a basic mating drive.

Dr. Fisher: "What we found was activity in a lot of parts of the brain, but in all of the people – and that is what we are looking for; we are looking for what everybody has in common – we found activity in a tiny little factory near the base of the brain called the ventral tegmental area, and it is a brain region that actually makes dopamine and then sends dopamine to many brain areas. And, in fact, it is part of the brain's reward system – the brain system for wanting, for craving, for motivation, for energy, for obsession, for seeking. It is part of the seeking system.

And when I saw that in the brain, it was quite a remarkable moment for me because I had always assumed that romantic love was an emotion – from very high to very low, but a whole series of emotions. But the brain region, this ventral tegmental area, linked with this whole reward system for wanting. This is a

system for motivation, for drive. It is a basic mating drive (romantic love) that evolved millions of years ago I think, to start the mating process" *(on p. 7 in the Part 1 Transcript).*

The Difference Between Long-Term and Short-Term Love

Relationships can change as the years pass. And while it may seen as though feelings of attachment are stronger in the beginning of a relationship, the opposite may be true.

Dr. Fisher: "You know, length of relationship definitely did affect it. And that was, in our first experiment, some people had fallen in love three weeks ago, and some people had fallen in love seventeen months before that. And indeed, the longer you remain in love, the more we find activity in a brain region linked with attachment – a brain region called the ventral pallidum. And this is a brain region that in several studies has now been linked with feelings of attachment. So attachment grows" *(on p. 8 in the Part 1 Transcript).*

Can People Really Be 'Addicted to Love'?

When people are in love, or even after a break-up, they may find it hard to stop thinking about

each other. Here, Helen Fisher explains why this happens.

Dr. Fisher: "My hypothesis was that romantic love was an addiction – a perfectly wonderful addiction when it was going well, and a perfectly horrible and dangerous addiction when it is going poorly.

And so when we put the people who were rejected in love into the brain scanner, we not only found activity in the ventral tegmental area, linked with dopamine, and many, many pathways in the reward system of the brain, but I also found what I was really looking for: activity in a tiny little area called the nucleus accumbens. That is a brain region that is directly linked with addiction – not only substance abuse – nicotine, heroin, cocaine, amphetamines – but also non-substance abuse – gambling, sex addiction, and food addiction. So that has motivated me to believe that romantic love is an addiction.

In fact, I work with my brain scanning partner, Lucy Brown, and she once said to me that she felt romantic love was a natural addiction, that it evolved for a very important reason: to start the mating process, to devote yourself to somebody else long enough to begin to raise babies.

And I have come to believe not only is it a natural addiction, and a very positive addiction in some circumstances, but that it evolved from animal antecedents and that it began to really

take a human form, or a forepoint form, a million years ago. So it is very powerful – I think it is much more powerful than the sex drive. You know, if you ask somebody to go to bed with you, and they say, 'No, thank you,' you don't kill yourself or kill somebody else.

Around the world, the crimes of passion over romantic love, and all of the obsession – I mean, the songs, the poems, the novels, the sitcoms, the operas, the plays, the ballets, the symphonies, the temples, the castles – I mean, if you would take a look and just add it up, what people talk about, second to the weather, is probably romantic love" *(on p. 9 in the Part 1 Transcript).*

Moving On After a Break-Up

The relationship between love and addiction may explain why it can sometimes be so difficult to move on after a break-up. Helen Fisher explains how treating love as an addiction can actually help us get over the end of a relationship.

Dr. Fisher: "I am serious about it being an addiction, and I think one needs to treat it as an addiction – so there are all kinds of things that one should do. I think that among them, get rid of the cards and letters; put them in a box or put them in a closet – if you can throw them out, throw them out. Don't write, don't call. If you

want to give up drinking, you don't keep a bottle of vodka on your desk – in the same way you are going to take that photograph off of your desk. Don't call to wish them 'Happy New Year.' Don't try to be friends, for a couple years anyway – but it is an addiction. The moment that person gives you any hope, you are right back into it again" *(on p. 12-13 in the Part 1 Transcript).*

Romantic Love and Rejection

Helen Fisher compared romantic love to addiction. Ron Siegel expands on that idea by explaining how that view can help us understand rejection, and possibly help us recover from it more effectively.

Dr. Siegel: "The plus sides of romantic love are obvious –it feels really nice, it can make us act charitably and generously and compassionately toward another, and it can bind us together so that we can begin living a life together anyway.

But the downside is, particularly if a relationship has broken up, it tends to keep us stuck in the paralysis and pain of rejection.

So I think it can be very helpful to look at it as a biological drive system, see how it had an evolutionary purpose, but also that it may not be optimal for our well-being now, or it can get in the way of our well-being. And that gives us much more freedom of choice.

What Helen Fisher didn't go into is exactly how this drive manifests psychologically in humans.

Because for us, when we are under the spell of romantic love, there is a tremendous amount of projection – we see the other as the idealized 'prince' or 'princess' that we have always wanted and that will complete us, and that will somehow compensate for all of our feelings of inadequacy or incompleteness in this kind of thing.

And a lot of romantic love also involves trying to work through our own feelings of deficiency or incompleteness, and I think that when we can see that process for what it is – so see it both as a drive as well as basically a psychological process to try to heal these past kinds of hurts – I think it can free us to see it more objectively, and I think that helps us to get less caught in it" *(on p. 4-5 in the Part 2: TalkBack Transcript).*

Why People Need to Love

The idea of love as a basic drive is one that Helen Fisher focused on in her session. Here, Kelly McGonigal elaborates on that idea.

Dr. McGonigal: "I am not an expert in this area, but certainly through the description that Helen offered about how the brain operates under romantic love, I definitely recognize it as a manifestation of other drives we are aware of,

such as the drive to approach and consume food.

And I think it is interesting to think about how a drive relates to our actual needs across the lifespan.

So I think biologically it definitely seems as though the desire for romantic love, when it is triggered by a potential mate and maybe a particular point in your own physical maturation and development, that it will definitely manifest as a drive that propels motivation and cognition, and shapes our experience of life in the same way that other drives can.

But that is different than saying that it is a drive that needs to be met in order to be psychologically healthy or fulfilled.

And I think that is a real tension that many people experience – that they have had across the lifespan times when they were in contact with this drive, and yet that, as a basic need, may not be fulfilled at different parts of the life, due to grief and loss or due to not finding the right partner, divorce.

And, I have seen some research looking at the brain as it is affected by becoming a parent, and it seems to be very similar.

We know that when a mother becomes a parent, a biological parent, the reward system refines itself to be extremely reactive to her own infant, and the amygdala and the general

sort of anxiety and alarm system of the brain also tends to be structurally strengthened.

So you have this kind of experience that is very much like being in love: you are obsessed with your infant, and you also have heightened vigilance, concern, and care" *(on p. 5-6 in the Part 2: TalkBack Transcript).*

Is Love a Basic Drive?

One of the systems in your brain influenced by love is the rewards system. Rick Hanson discusses why that is important, and how it may suggest that love is a basic drive.

Dr. Hanson: "I think the science shows that; in other words, as childhood got longer and longer to enable the brain to become bigger and bigger and bigger, that created an extended period of dependency of the child on his or her parent, typically the mother, which meant that the mother herself was increasingly dependent on her partner to protect her and bring food and take care of her.

That is pretty much a key part of the story of the last three million years or so of evolution, during which time the brain has tripled in size and childhood has gotten very, very long. We have the longest childhood of any species on the planet.

So the bottom-line takeaway for me about that is to appreciate that there is this strong longing

in our heart to be special to that other person, to have some important kind of romantic love. I think there is a natural distribution of that longing; I have known people who somehow felt guilty and weird because they didn't have as strong a desire for that as some other people do – so I think it is okay to have individual differences.

But to really bottom line it, I think it is important to respect that longing in the heart and to stand up for it, and if it is not being fulfilled in a person's life these days, to take it seriously and to look for ways to fulfill it" *(from Part 3: Next Week in Your Practice).*

The Brain in Love

Similarities have been found when comparing an addicted brain, and a brain in love. Here, Bill O'Hanlon elaborates on that idea, and gives us an example of why love may actually be an addiction.

Mr. O'Hanlon: ""I was trained as a marriage and family therapist, couples therapist, so I was thinking of the people who found out that their partners had had affairs and decided to stay together, but they had a really tough time with it. And one of the things that they would do routinely – and it was like addictive behaviors – they would constantly seek more and more information about the affair and, once they got

it, they hated it. It would be in their minds and they couldn't get it out – these images of their partner with the other person.

And so I learned a way that worked with almost everybody who would agree to do it. I would say, 'Okay, the partner who had the affair, you write down in detail everything you did – but he or she, your partner whom you betrayed, is not going to see it for a year. It is going to go into a safety-deposit box. You know it is there so you can always get it; you have to make a firm commitment you won't look at it for a year.'

And by the end of two or three months, that person was clear they never wanted to see that piece of paper, because those images were going out of their minds and they were feeling so much better that they weren't tortured by the images; they didn't want to go and reawaken that.

So it was like that addictive process: the longer they were pressing their partner for these details, the more that addictive rejection stuff was diminishing. And I think anytime you get rejected or a relationship goes away, or there has been an affair, which is a kind of a rejection, you need to have that time for the addictive process to go down, and then make a decision what you are going to do" *(from Part 3: Next Week in Your Practice).*

The Brain Schemes of Love

Helen Fisher discussed the three schemes for mating and reproduction—sex drive, infatuation, and attachment. Bill O'Hanlon tells us why understanding those schemes helps us understand romantic love.

Mr. O'Hanlon: "I think one thing is just to understand the seasons of love. Before I was a marriage and family therapist, before I was married and had kids, I met a woman who had been married for fifty years; she and her husband were in their seventies, and I went to their wedding anniversary party – I didn't know her; But, I was sitting by myself, and this woman sought me out. So I said, 'I'm becoming a marriage and family therapist; tell me, how do you make this thing last?' And she said, 'Well, I was married to five different guys.' I said, 'Wow! You went through four divorces before you found this gem?'

She said, 'No – it was the same guy. But he changed, and our relationship changed. We've literally had five different marriages – and they were about as painful, going through each of those changes, as a divorce, because he changed from the romantic young guy he was; he became totally obsessed with work. I was obsessed with the kids, really involved with them. And then he changed again. Then he changed again – and I changed, I'm sure. And

look at him now; that guy doesn't look anything like the guy I married. But we've had a richer relationship because we realize that if you stay together with the same person and know there is going to be a bunch of wrenching changes and seasons to your love.' I think that is a nice perspective to get" *(from Part 3: Next Week in Your Practice).*