

Crazy in love: What happens in your brain when you really do have chemistry

By Victoria Fletcher

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You may wonder why anyone in the throes of an illicit affair would risk their marriage, family and career for the sake of a what may seem like an irrational crush.

But doctors have begun to unravel the mystery of why love can make us giddy, irrational and even ridiculous. Scanning technology allows neurologists to unearth incredible images of what happens in our brains when we fall in love. They have mapped the chemical changes that occur and discovered the parts of the brain that activate – and more importantly, the parts that shut down – during the heady days of courtship.

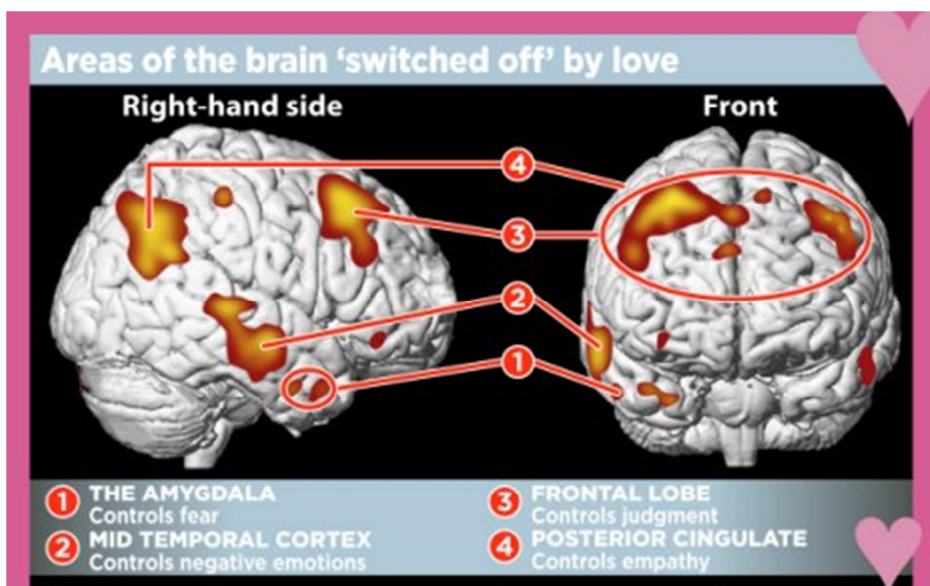
And far from being blissful, they have discovered how it can make us nervous and unstable.

They hope it may also one day reveal why a few of us might overstep the mark when dealing with the object of our affections.

THE BRAIN IN LOVE

The frontal cortex, vital to judgment, shuts down when we fall in love. MRI scans show this de-activation occurs only when someone is shown a photo of the person they adore, causing them to suspend all criticism or doubt.

Semir Zeki, professor of neuro-aesthetics at University College London, says: 'When you look at someone you are passionate about, some areas of the brain become active,' he says. 'But a large part is de-activated, the part that plays a role in judgment.'



Prof Zeki believes the brain may behave in this way for 'higher biological purposes' – it makes reproduction more likely. If judgment is suspended, the most unlikely pair can get together and

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reproduce. Someone in love will still be capable of making other major decisions in their lives, from striking a business deal to choosing a new mortgage. And this sanity makes it harder for friends to convince them 'they have taken leave of their senses' when it comes to an ill-advised affair.

Brain scans have also shown the area of the brain that controls fear, and another region involved in negative emotions, close down, explaining why people feel so happy with the world – and unafraid of what might go wrong – when they fall head over heels.

LOVE IS THE DRUG

Studies have shown brain chemical dopamine is at higher levels in those in love. **Dopamine** is key to our experiences of pleasure and pain, linked to desire, addiction, euphoria, and a surge may cause such acute feelings of reward that it makes love hard to give up. Tests show that taking opioid drugs such as cocaine have a similar effect on dopamine as love.

A side effect of rising dopamine levels is a reduction in another chemical, **serotonin**, a key hormone in our moods and appetite. Serotonin levels may fall in a similar way to those seen in people with obsessive-compulsive disorder, explaining why love can make us feel anxious and jittery.

The love chemical we are most familiar with is **adrenaline**. This hormone is why our heart races, palms sweat and mouth goes dry when we see the person we like. The same hormone is also released when we are frightened. This means that two people only vaguely attracted to one another can fall madly in love if they go through an exciting or scary experience together. It may also explain the lure of forbidden love.

OUT OF CONTROL LOVE

Psychologists are still trying to understand why some become dangerously obsessed and risk everything for love. Dr David Nias is a psychologist and author on love, and a specialist in stalkers. Although an extreme end of the 'love spectrum', stalkers do shed light on why people do inconceivable things when in love.' The emotion of love snowballs for stalkers. It becomes a mental disorder and leads them to be delusional. Sadly we don't know much more about its causes.' But if someone gets treatment in which they learn to think differently and often more positively, they can recover from their obsession and look back in amazement at how they behaved. Dr Nias says there is a distinct personality type involved in this one-sided love: the over-emotional and highly imaginative.

Read more: <http://www.dailymail.co.uk/health/article-2230969/Crazy-love-What-happens-brain-really-chemistry.html#ixzz37TDdNEtC>

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