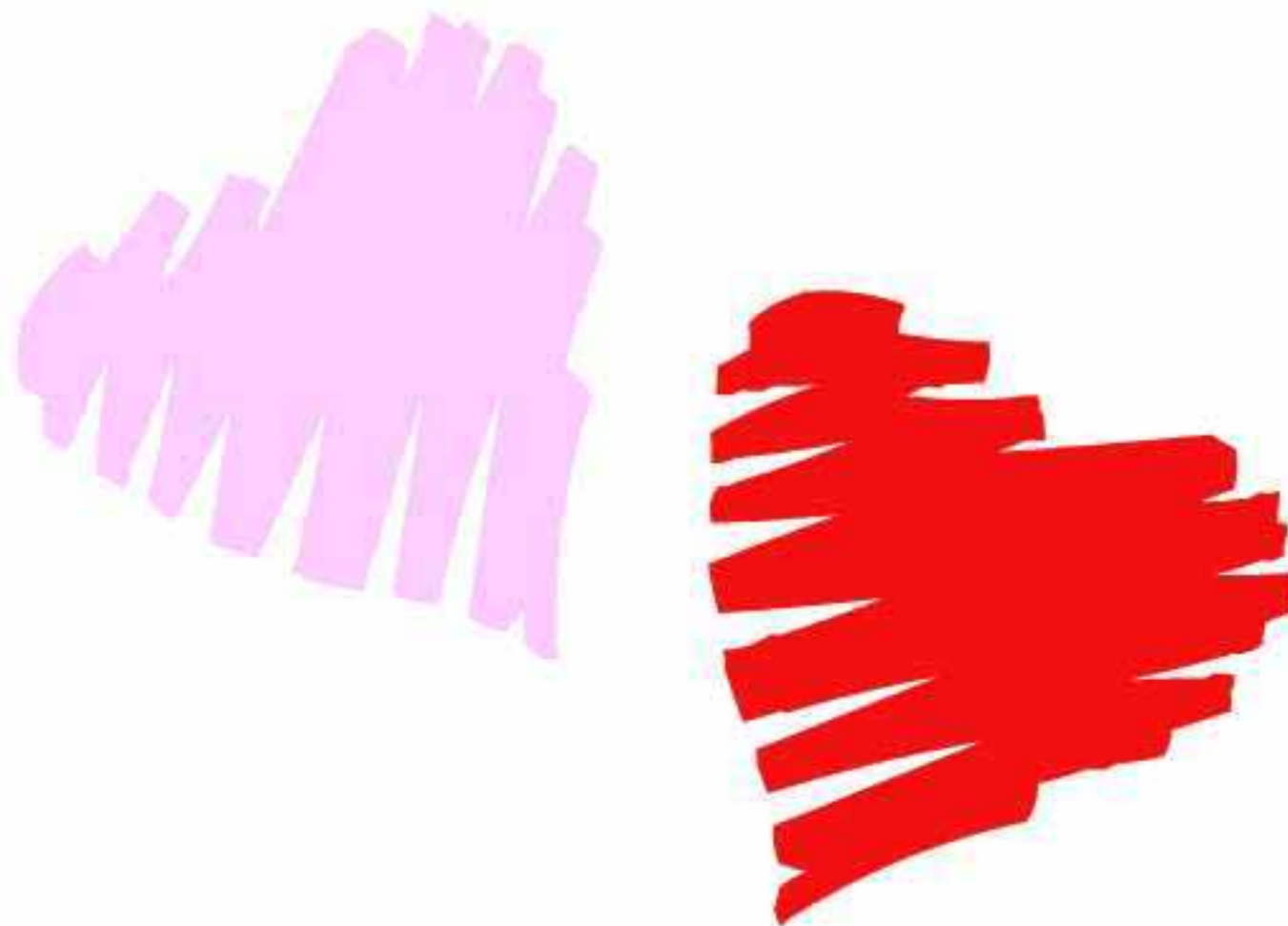




Addicted to love, beauty or sex ?



Professor Keith Kendrick



Your lights are on, but you're not home
Your mind is not your own
Your heart sweats, your body shakes
Another kiss is what it takes



S.L.A.A. Sex & Love Addicts Anonymous

S.L.A.A. Home
Learn About S.L.A.A.
Committees ▶
Meeting Info ▶
F.W.S. Office ▶
Publications ▶
Upcoming Events ▶
Long Distance Sponsorship Program
Contributions
Form Downloads

Please visit our online store, recently relaunched with a new pamphlet, booklets, and other items.

Sex and Love Addicts Anonymous is a Twelve Step - Twelve Tradition oriented fellowship based on the model pioneered by Alcoholics Anonymous.

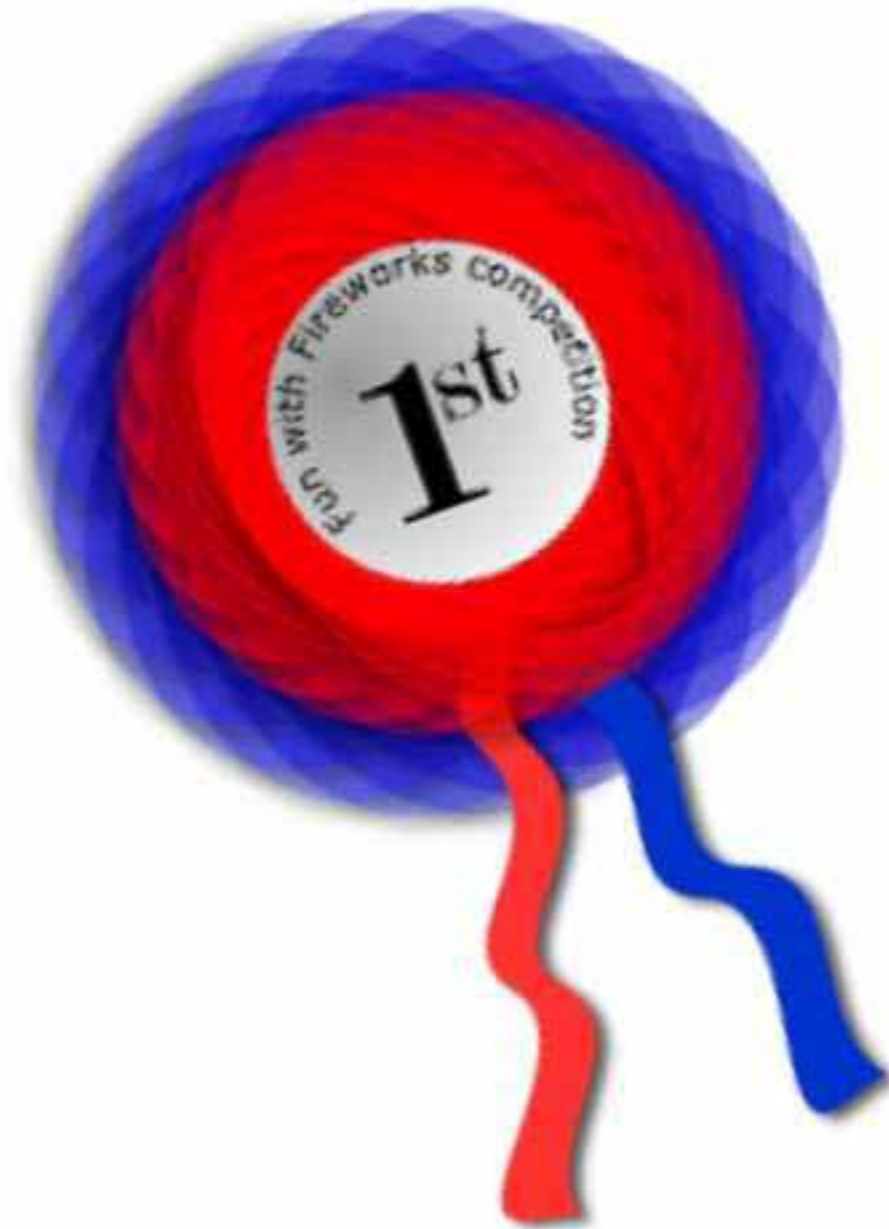
One of the resources we draw on is our willingness to stop acting out in our own personal bottom line addictive behavior on a daily basis. In addition, members reach out to others in the fellowship, practice the Twelve Steps and Twelve Traditions of S.L.A.A. and seek a relationship with a higher power to counter the destructive consequences of one or more addictive behaviors related to sex addiction, love addiction, dependency on romantic attachments, emotional dependency, and sexual, social and emotional anorexia.

We find a common denominator in our obsessive, compulsive patterns which renders any personal differences of sexual or gender orientation irrelevant.

What's it all about?



Finding love is number one on the agenda for most of us



What's it all about?



Finding love is number one on the agenda for most of us

.. and yet very few scientists conduct research on it



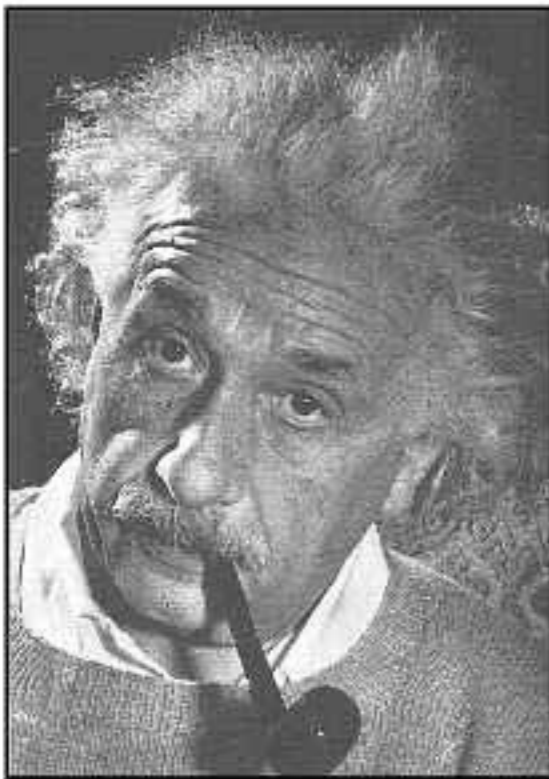
What's it all about?



Finding love is number one on the agenda for most of us

.. and yet very few scientists conduct research on it

Even Einstein considered love in relation to time!



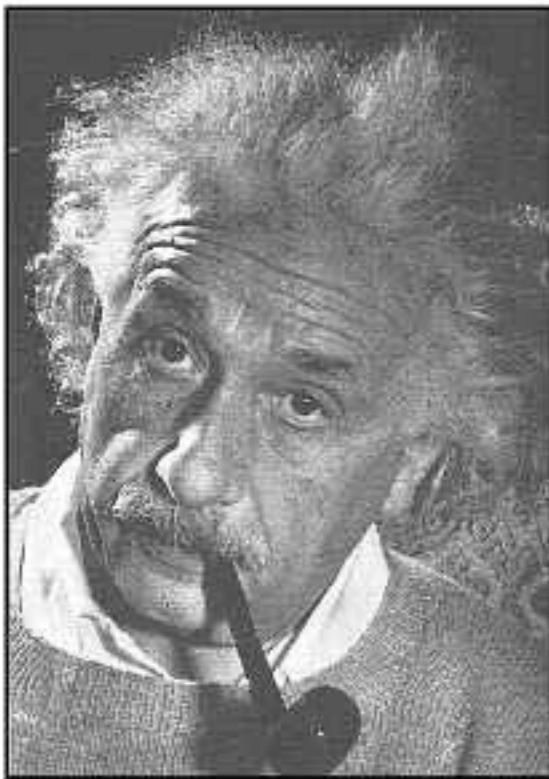
What's it all about?



Finding love is number one on the agenda for most of us

.. and yet very few scientists conduct research on it

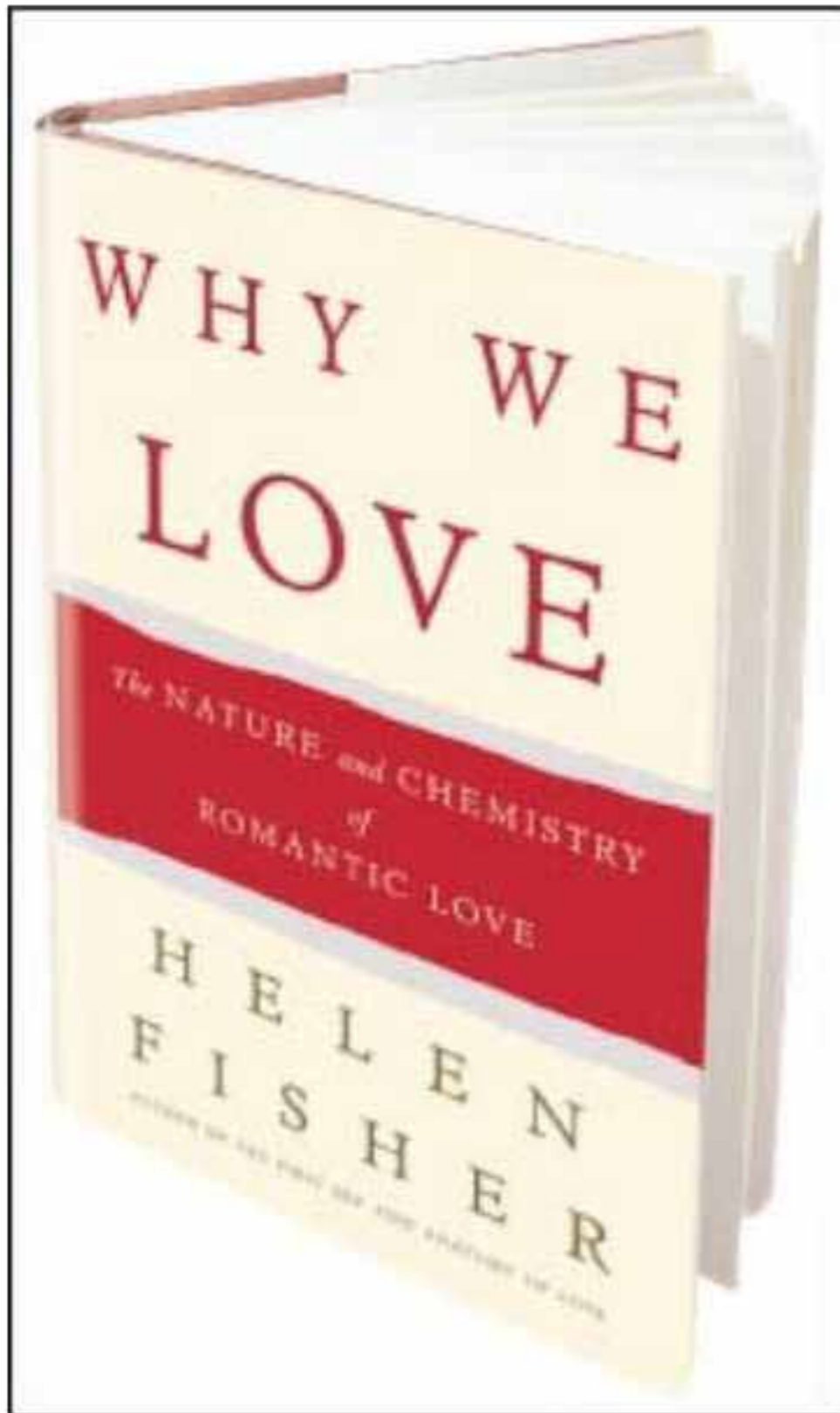
Even Einstein considered love in relation to time!



'When you are courting a nice girl an hour seems like a second. When you sit on a red-hot cinder a second seems like an hour. That's relativity'.

Albert Einstein

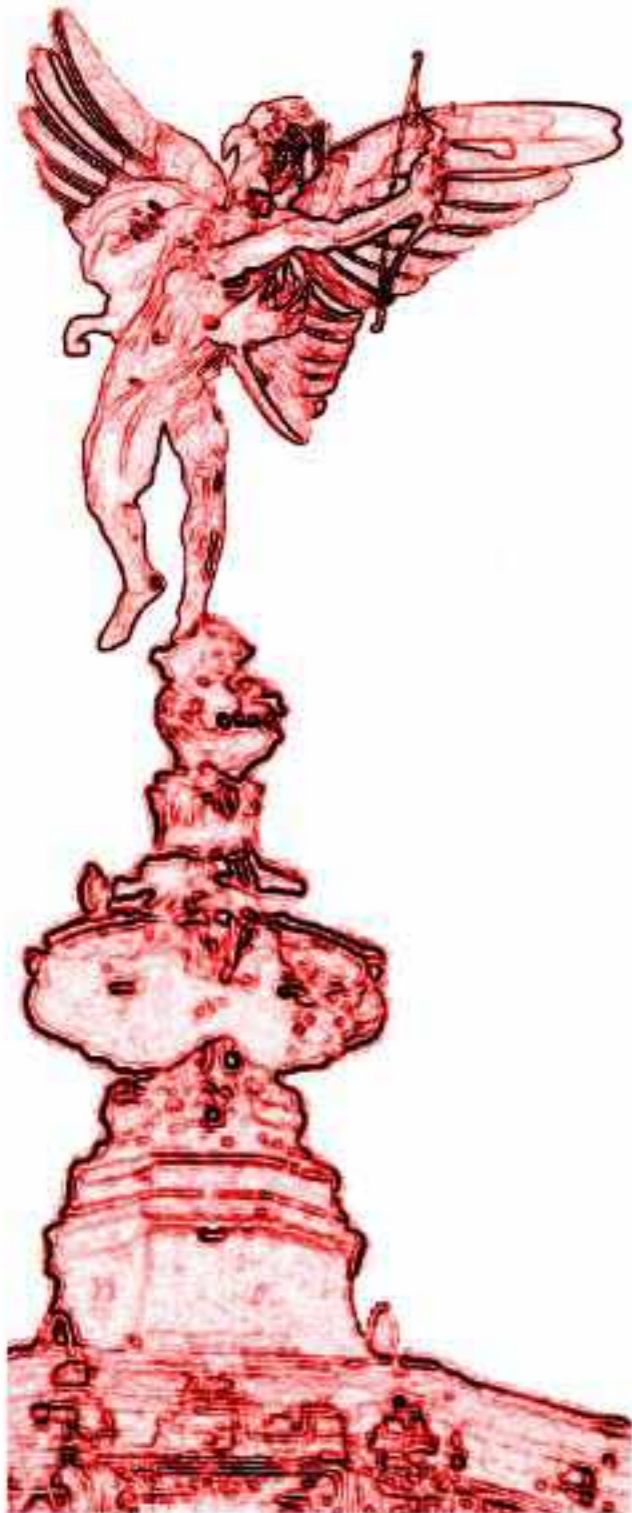
Why do we love?



Why do we love?



Universal symptoms in relation to love object:



Why do we love?

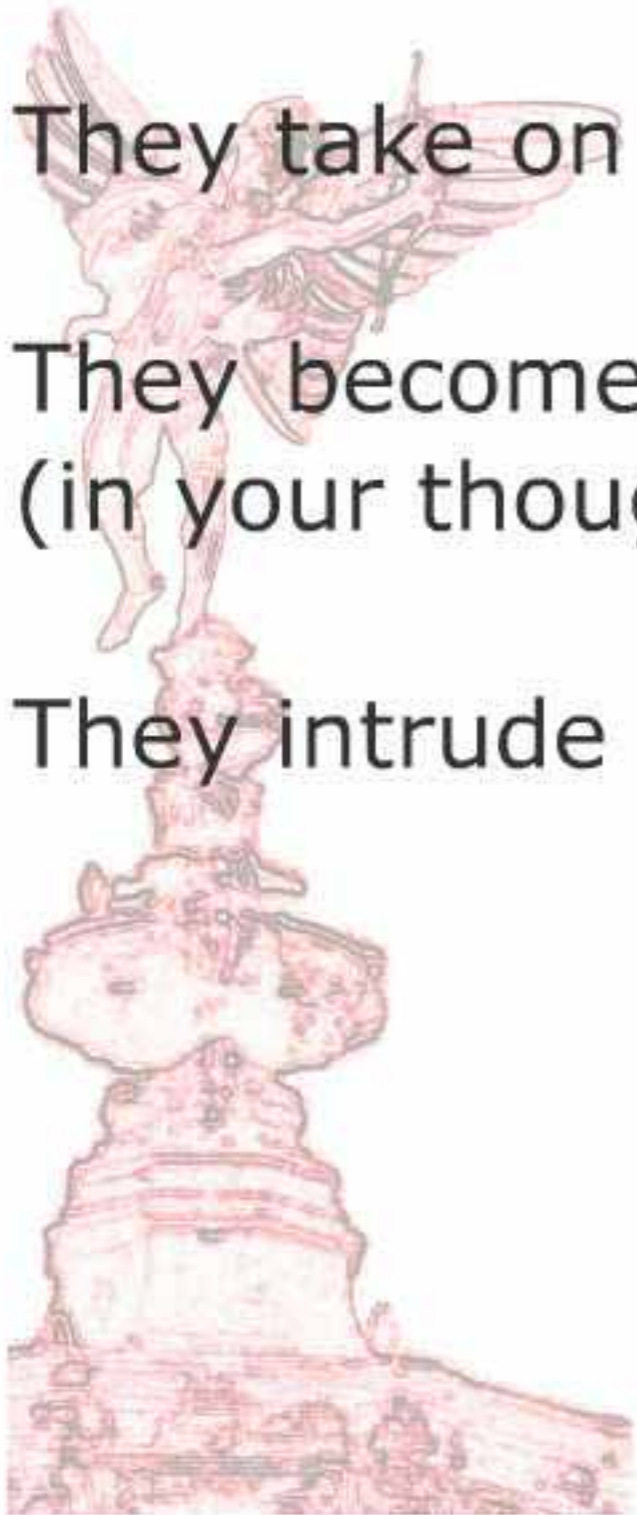


Universal symptoms in relation to love object:

They take on a special meaning

They become the exclusive object of your attention
(in your thoughts $>80\%$ of the time)

They intrude constantly on your other thoughts

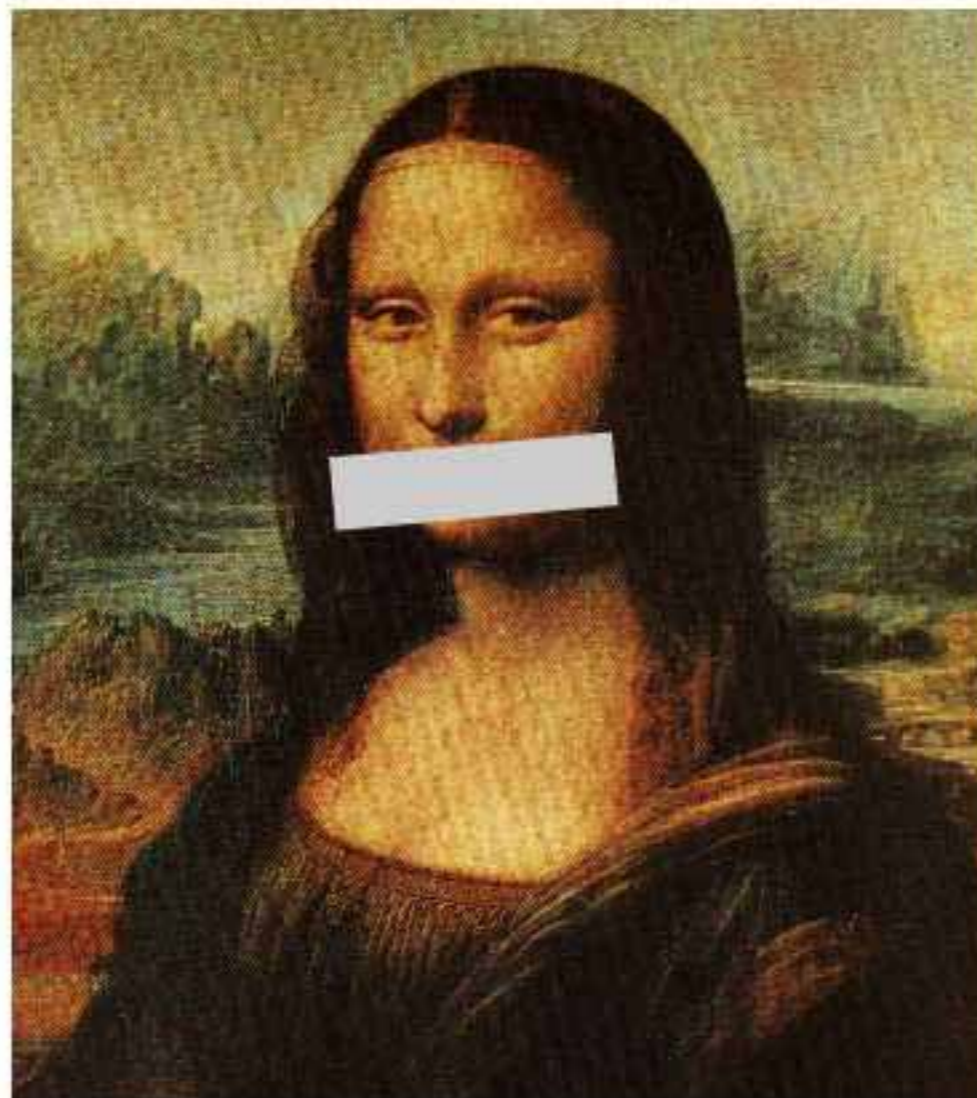


Why do we love?



You exaggerate all of their positive features...

...and blank out any negative ones



Why do we love?



The need for physical proximity and union with them is intense



Why do we love?



The need for physical proximity and union with them is intense

You experience intense mood swings

You feel energised...

...and experience a torrent of intense emotions



Why do we love?



Physiological reactions:

Turning pale or flushed

Heart palpitations and/or feeling it burning

Trembling

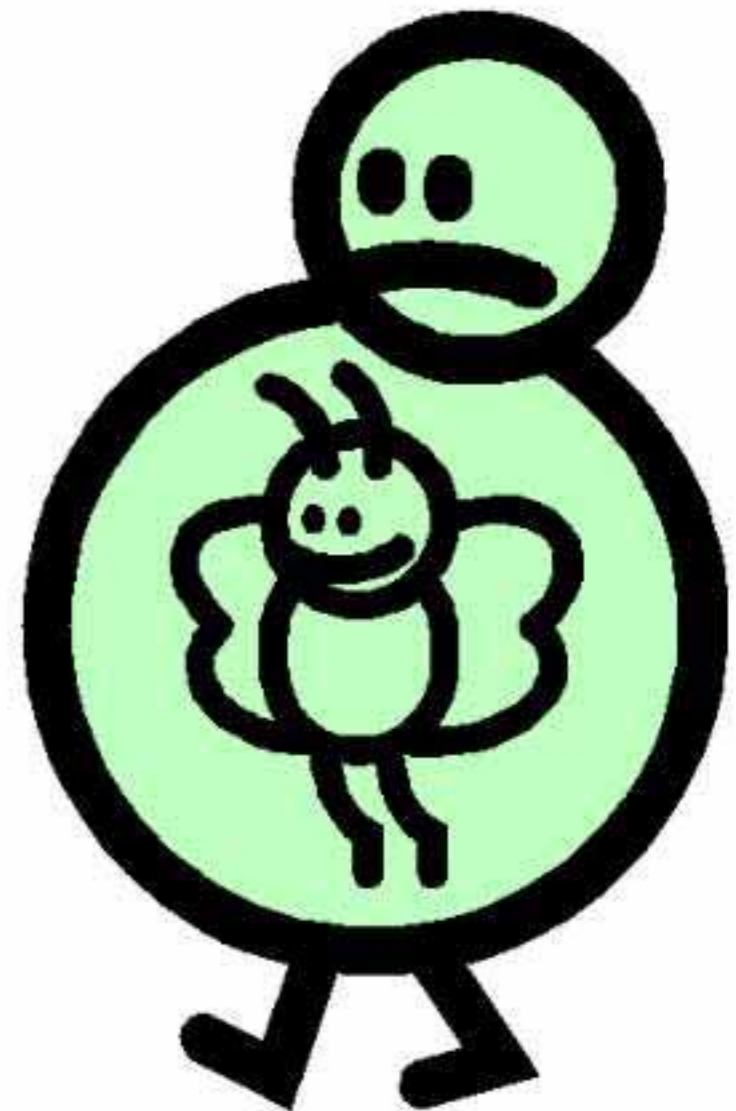
Sweaty palms

Feeling dizzy

Butterflies in the stomach

Weak at the knees

Unable to eat or sleep



Why do we love?



Love, in truth, is a magnificent but debilitating obsession!

In the throes of love you are pretty much useless for anything else in life

The economic cost of love to industry may be high!



Love everlasting?



Thankfully, no

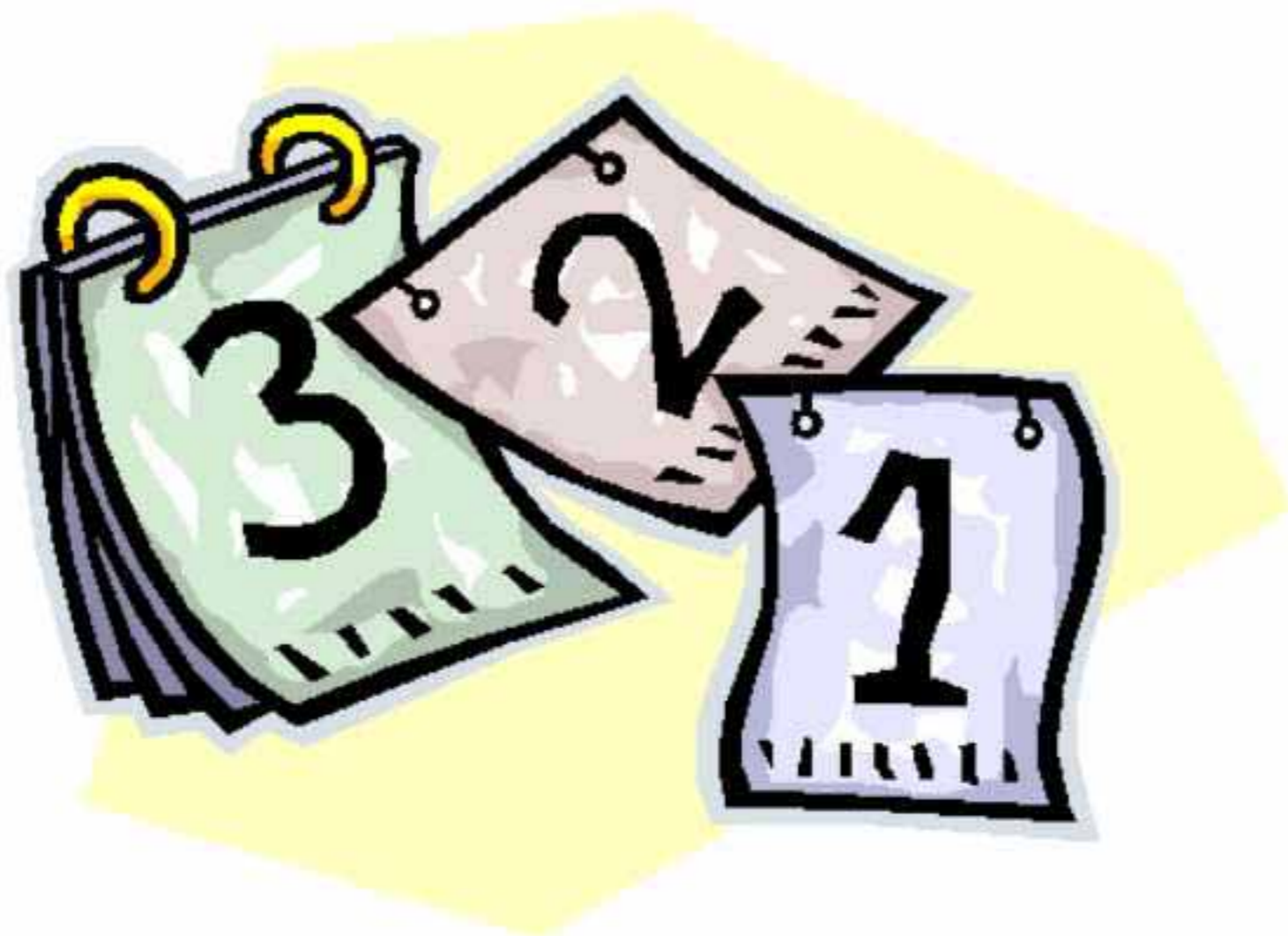


Love everlasting?



Thankfully, no

The duration of the intense phase is 18-36 months



Love everlasting?



Thankfully, no

The duration of the intense phase is 18-36 months

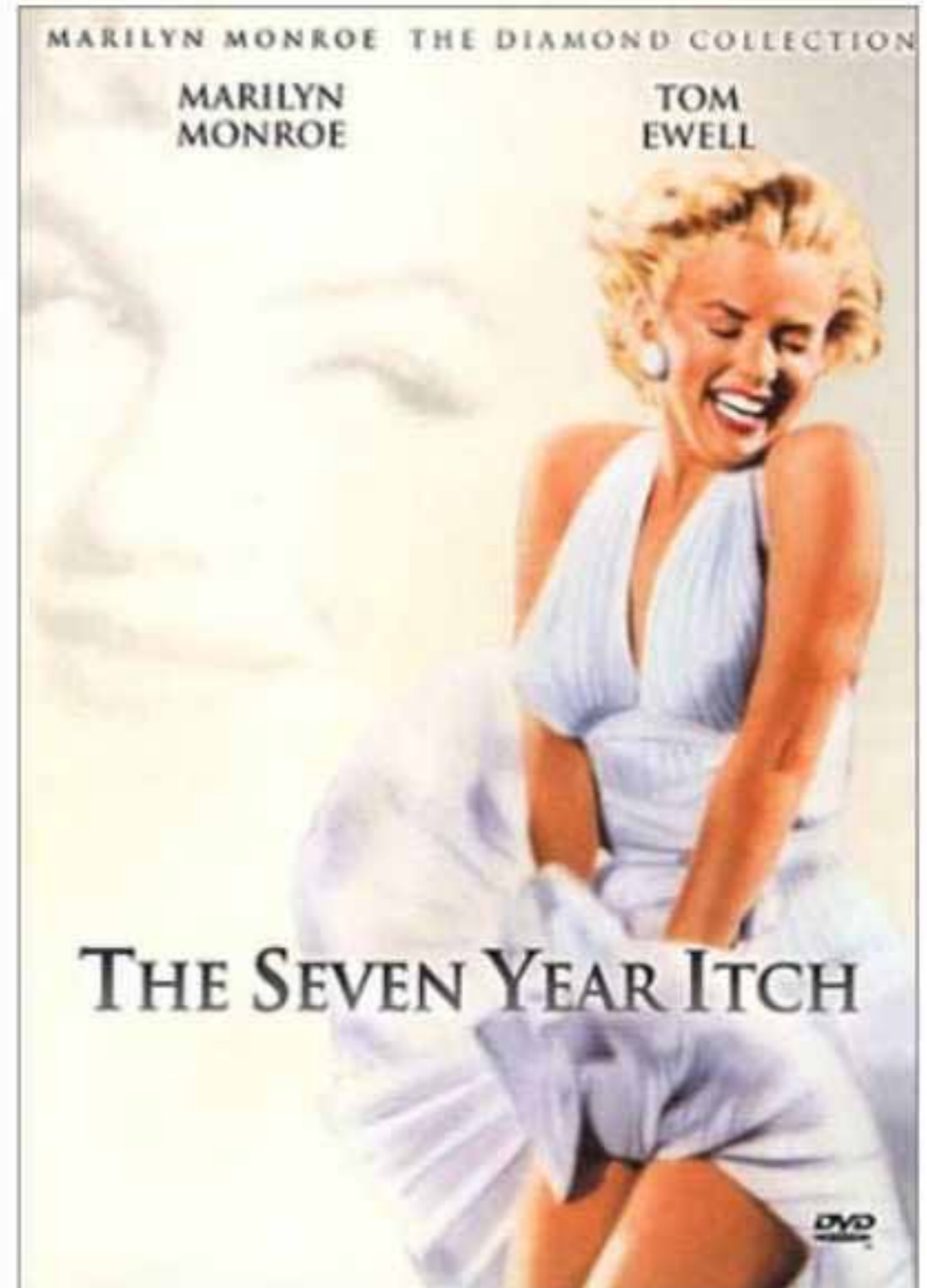
Just long enough to bear/wean a child and think about having another



Love everlasting?



The four-year itch



Love everlasting?



The four-year itch



Love everlasting?



Lust, love and attachment can occur in any sequence





You and me baby we ain't nothing but mammals,
let's do it like they do on the Discovery Channel
The Bloodhound Gang



What is sexual attraction all about ?



What is sexual attraction all about ?



Making sure you are motivated to have sex

Emmanuelle

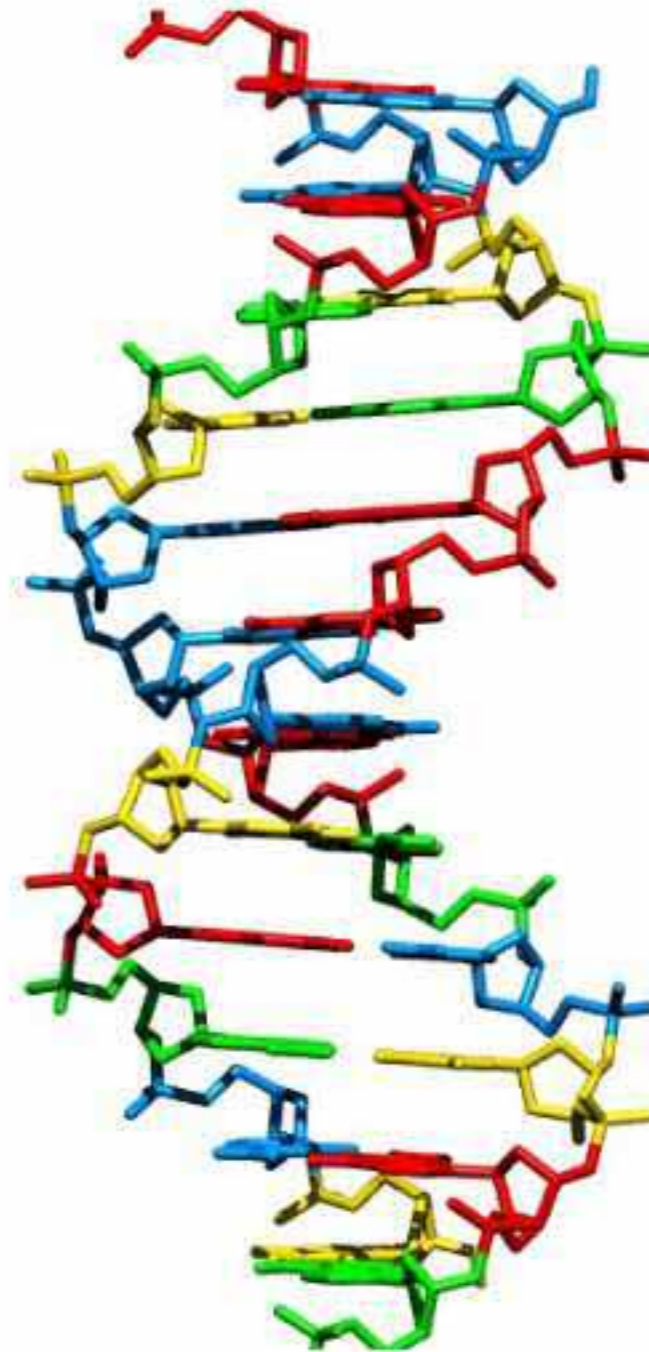


What is sexual attraction all about ?



Making sure you are motivated to have sex

Making sure you have it with the right individual to reproduce your genes



What is sexual attraction all about ?



Cost/benefit analysis



What is sexual attraction all about ?



Male - sperm production cost is low so go for numbers

108

Picture Show Annual

"A Girl in Every Port"

THE relicking love adventures of a susceptible first mate on a tramp schooner, whose romances range from Amsterdam to the Argentine. He finds from the tokens they possess that an unknown Lathazis has been usurping his place in the hearts of the damsels he prefers. At length he meets his rival, and they eventually become friends. Their friendship is nearly wrecked by the alluring Marie, but it stands the test, and triumphs over jealousy.

Chiquita, the girl in Buenos Aires—
Marie Campanella.



The third girl in Panama—
Dorothy Matheson.



Marie, the girl in France—
Louise Brooks.



The sailor refers to his auto-
book for the preferred girl.



(In circle)
The sailor girl in
Holland—Gretl Yost.



The girl in Panama—Natalie Joyce.
(Right) Girl No. 1 in Panama—Elena Jerome.



What is sexual attraction all about ?



Male - sperm production cost is low so go for numbers

If offspring survival requires paternal care go for the sexual monogamy option



What is sexual attraction all about ?



With the monogamy strategy males need to be more protective and choosy...

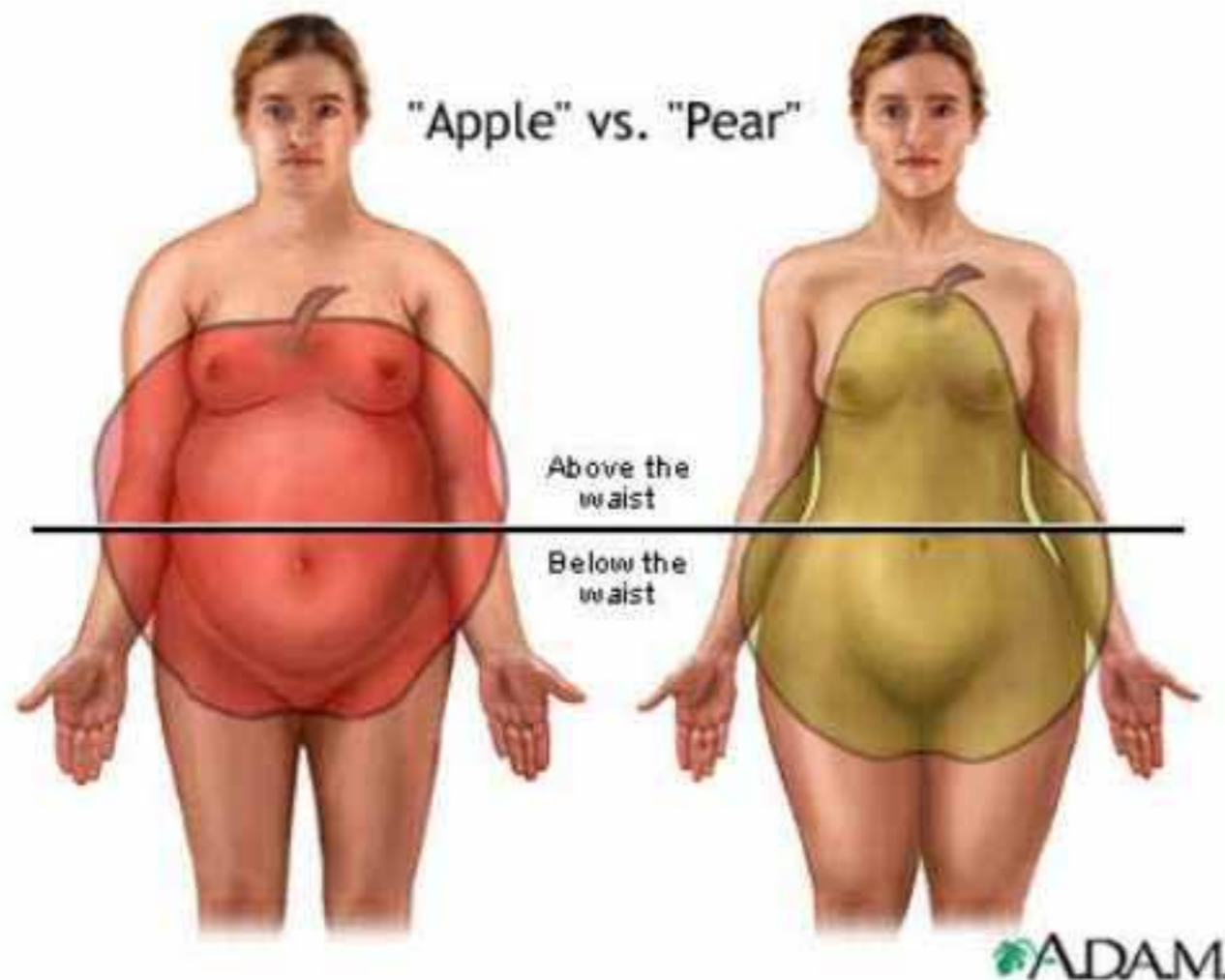


What is sexual attraction all about ?



With the monogamy strategy males need to be more protective and choosy...

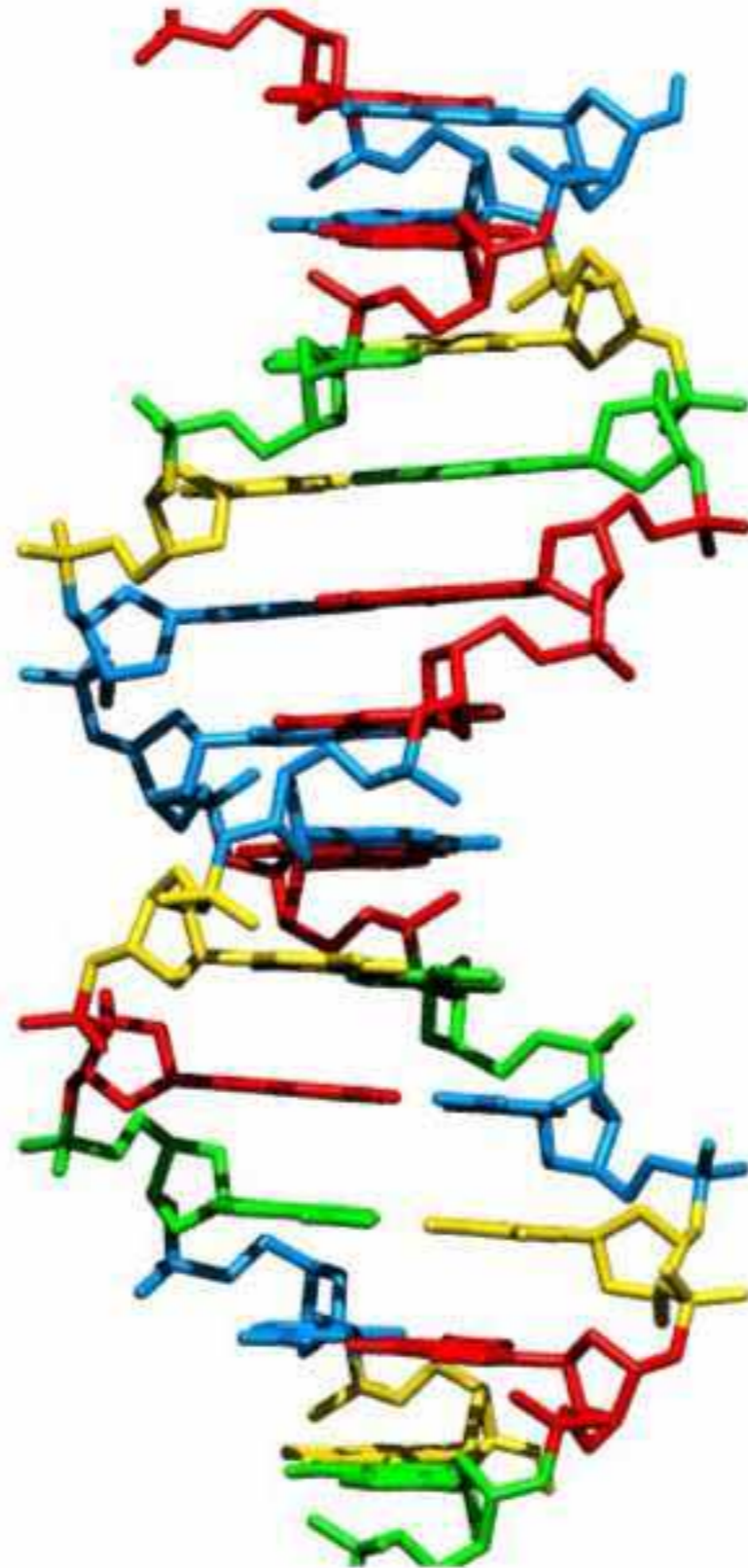
...and look for females who will produce big babies and nurture them



What is sexual attraction all about ?



Imprinted genes and sexual conflict:



What is sexual attraction all about ?



Imprinted genes and sexual conflict:

Fathers want big babies

Foetal growth

Igf II KO

(Constancia *et al* 2002)



Fathers want good mothers

Maternal/nurturing behaviours

PEG3 KO

(Li *et al* 1999)



What is sexual attraction all about ?



Female - egg production and pregnancy costs are high so only go for Mr Right



What is sexual attraction all about ?



Female - egg production and pregnancy costs are high so only go for Mr Right

If offspring survival requires help from the father go for the social monogamy option - a good dad



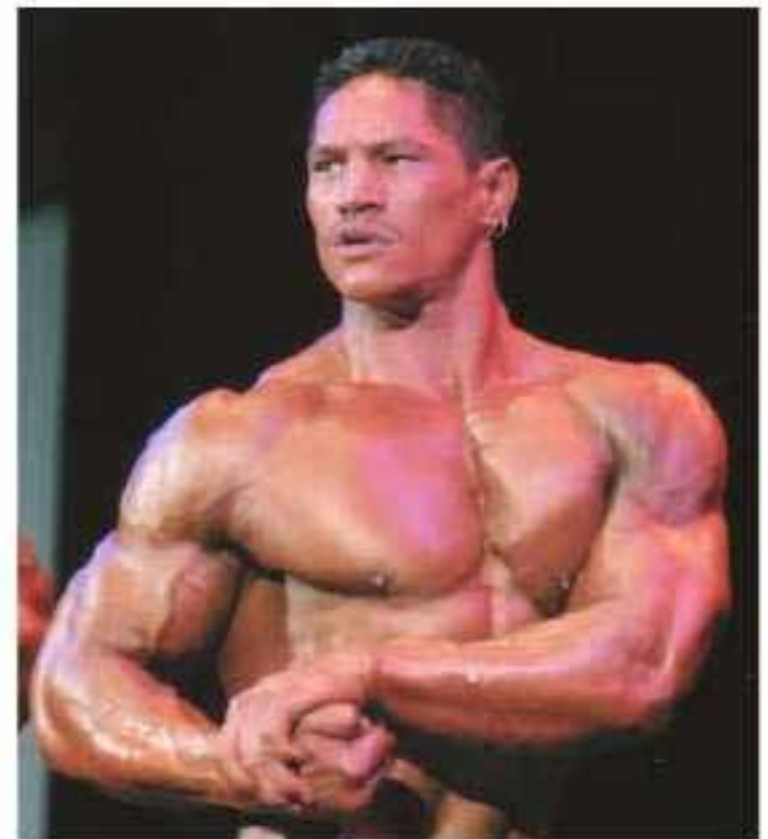
What is sexual attraction all about ?



Female - egg production and pregnancy costs are high so only go for Mr Right

If offspring survival requires help from the father go for the social monogamy option - a good dad

(but play away from time to time to make sure Mr Dad really has the best set of genes around!)



What is sexual attraction all about ?



Extra-pair copulations (EPCs)



What is sexual attraction all about ?



Extra-pair copulations (EPCs)

In monogamous pairs 10-25% of offspring are conceived following infidelity



November 3, 2002 The Mail on Sunday

Divorce by DNA

by Jo Newbery
SOCIETY CORRESPONDENT

Landmark case as husband fights ex-wife's £300,000 claim after proving their children were fathered by another man

AS ACCOUNTANT is contesting his wife's claim for £300,000 in a divorce settlement - after DNA tests showed that his two children had really been fathered by another man.

The 43-year-old, known only as Paul to the children, aged 13 and nine, will not be identified, and says that his wife's description of her husband as a violent, drug and alcohol abuser and thug was the only way he is not seeking compensation for bringing up the children but wants his settlement reduced to reflect the fact that he has raised children who are not his own.

The case, which will be heard at the High Court in London next month, will create a legal precedent. It is the first time DNA evidence has been used to establish paternity and has put a woman in a divorce settlement.

The trial, however, the court action is set to take place in a two-year children's case which began when he discovered that his 13-year-old 'son' and nine-year-old 'daughter' were the children of his wife's lover.

Following evidence to the High Court from the father, Mrs. Newbery, he now lives alone, Paul said. 'I discovered when I was 18 years of age that my wife had been infertile by my wife's lover. I mean that I had no children of my own, that I was not the father of my son. I thought I was. My world collapsed like a pack of cards. To the outside world, I had secured for my wife a family with everything - I had a good job, we had a lovely house and two beautiful children. But only I had nothing. Suddenly it felt as if my whole life was a lie.'

The case began in 2000 when Paul decided to do a DNA test - samples on the Internet - to find out if he was the father of his children. He was shocked by the results from the test. It took him time to come to terms with the results of an American lab.

EXPOSED: Paul told his wife she was a thief



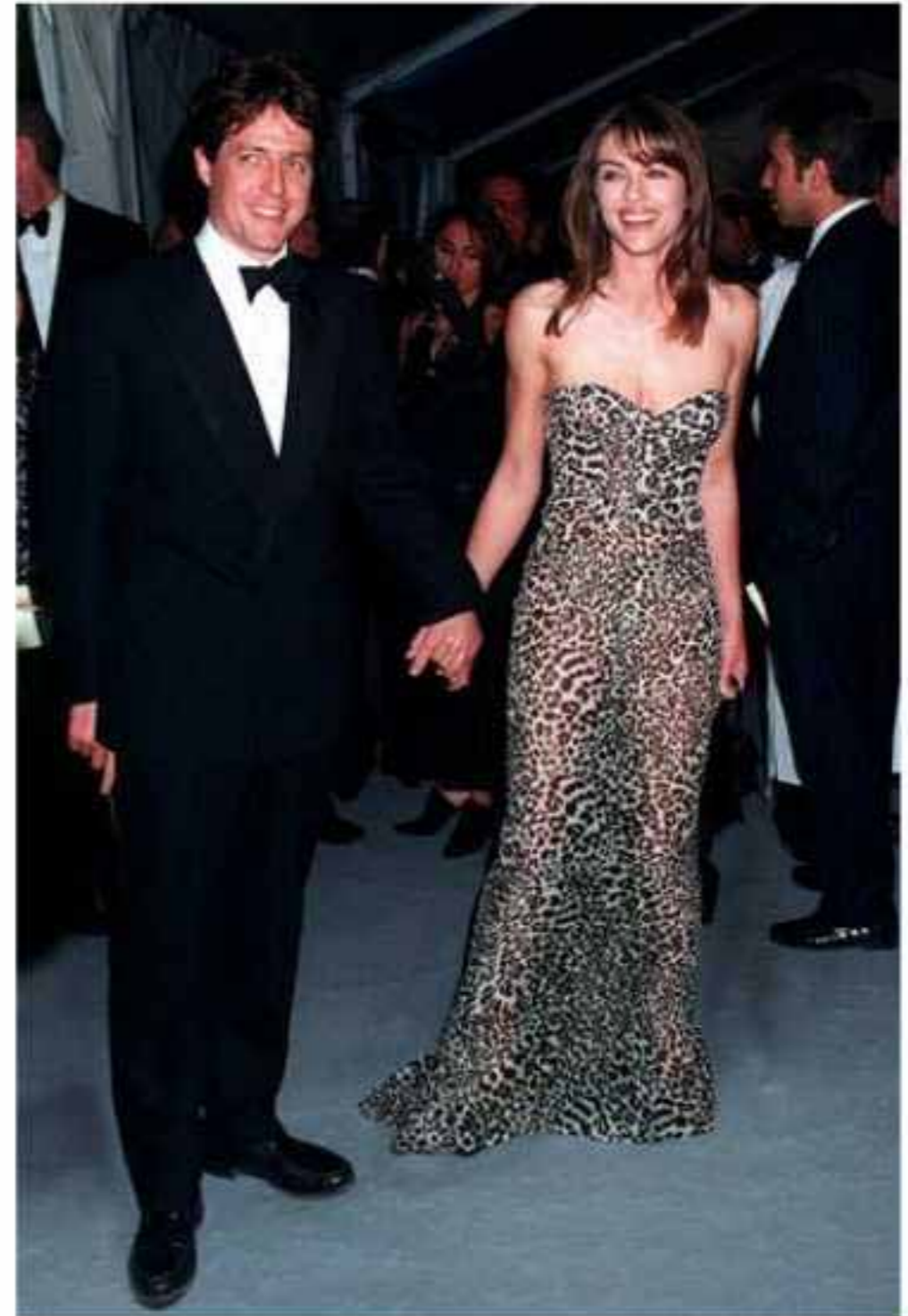
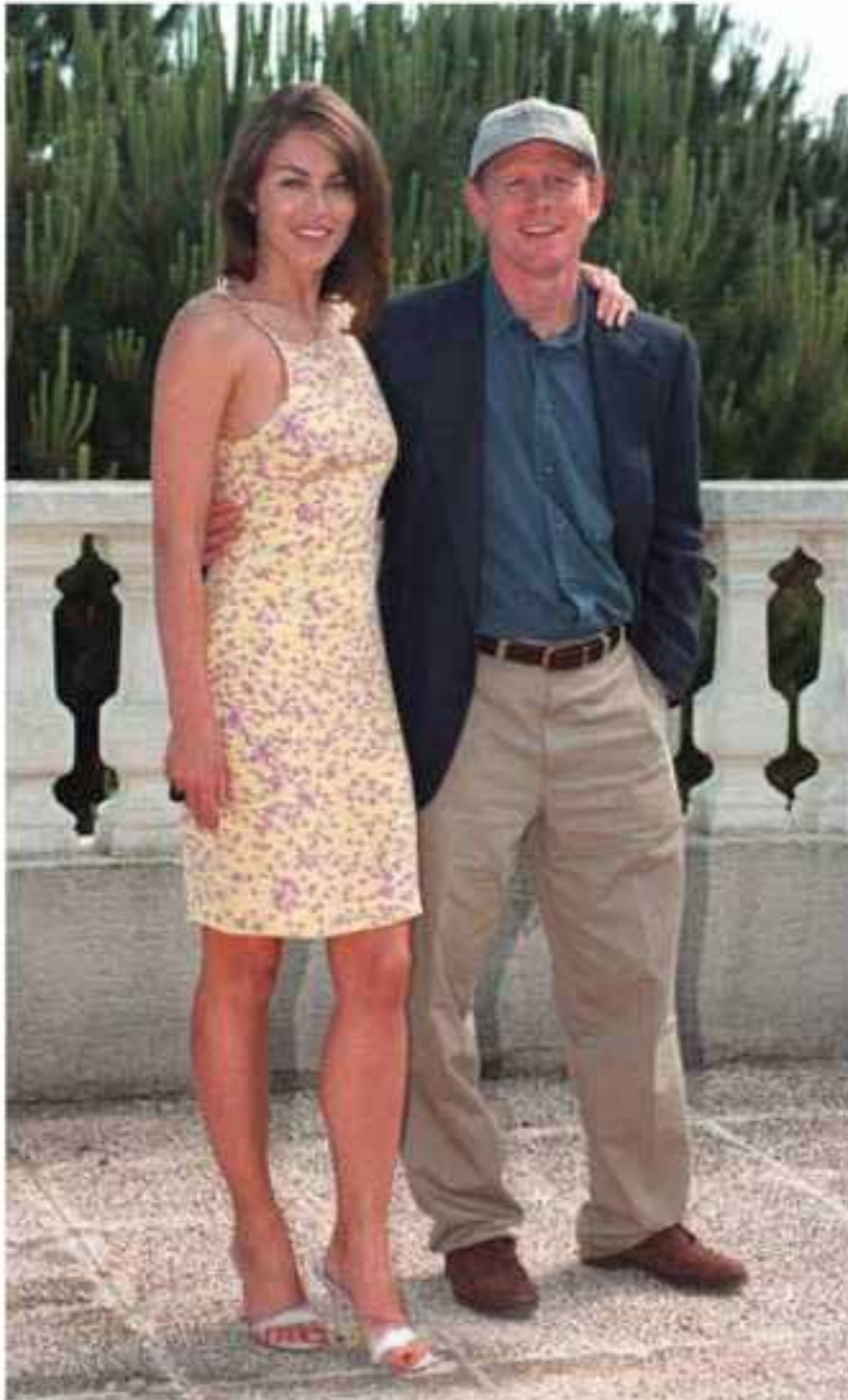
Mail on Sunday
3 November 2002

'She couldn't see she'd done anything wrong'

What is sexual attraction all about ?



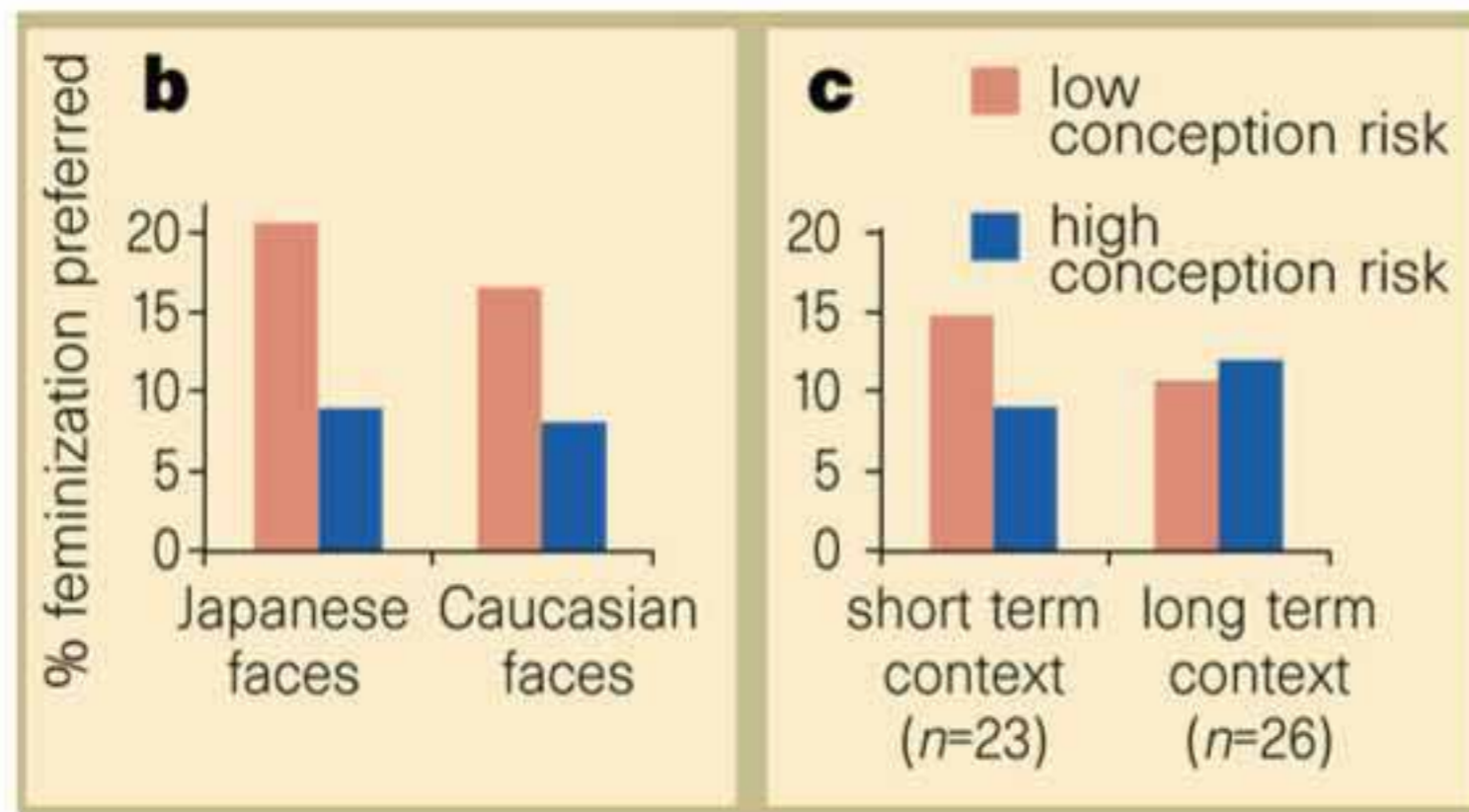
Women wear most revealing outfits at mid-cycle



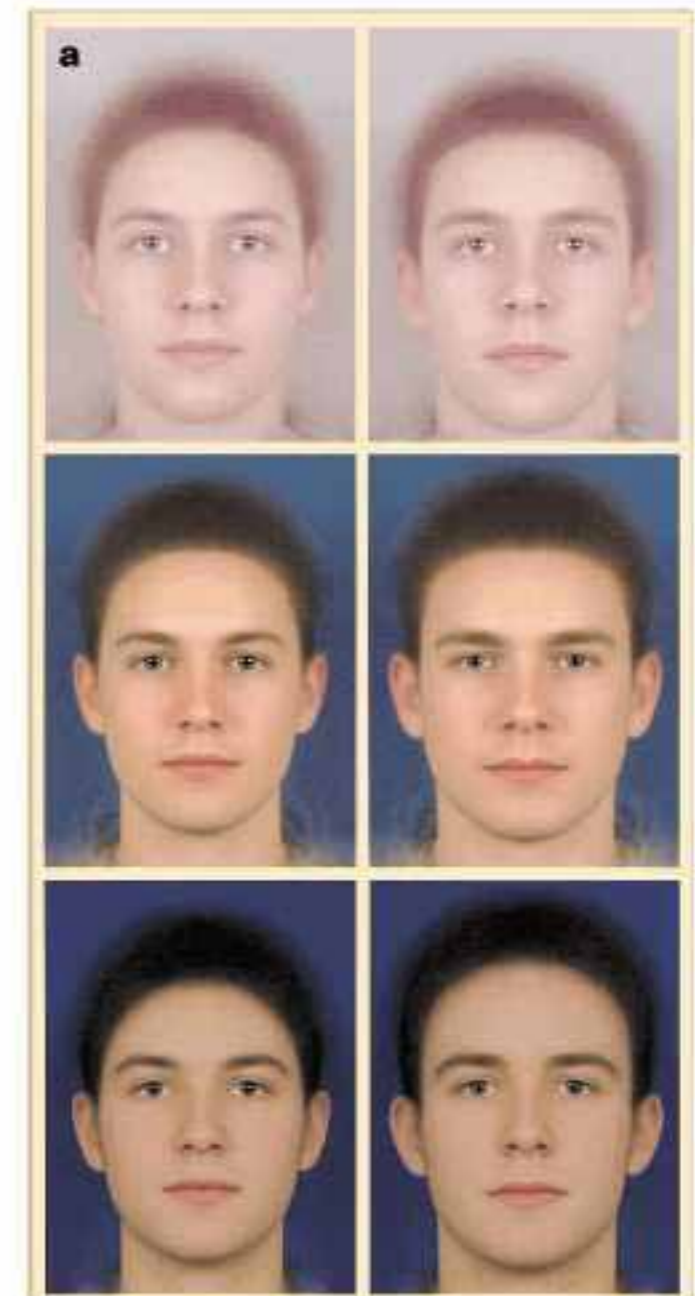
What is sexual attraction all about ?



Women prefer more masculine types at this time



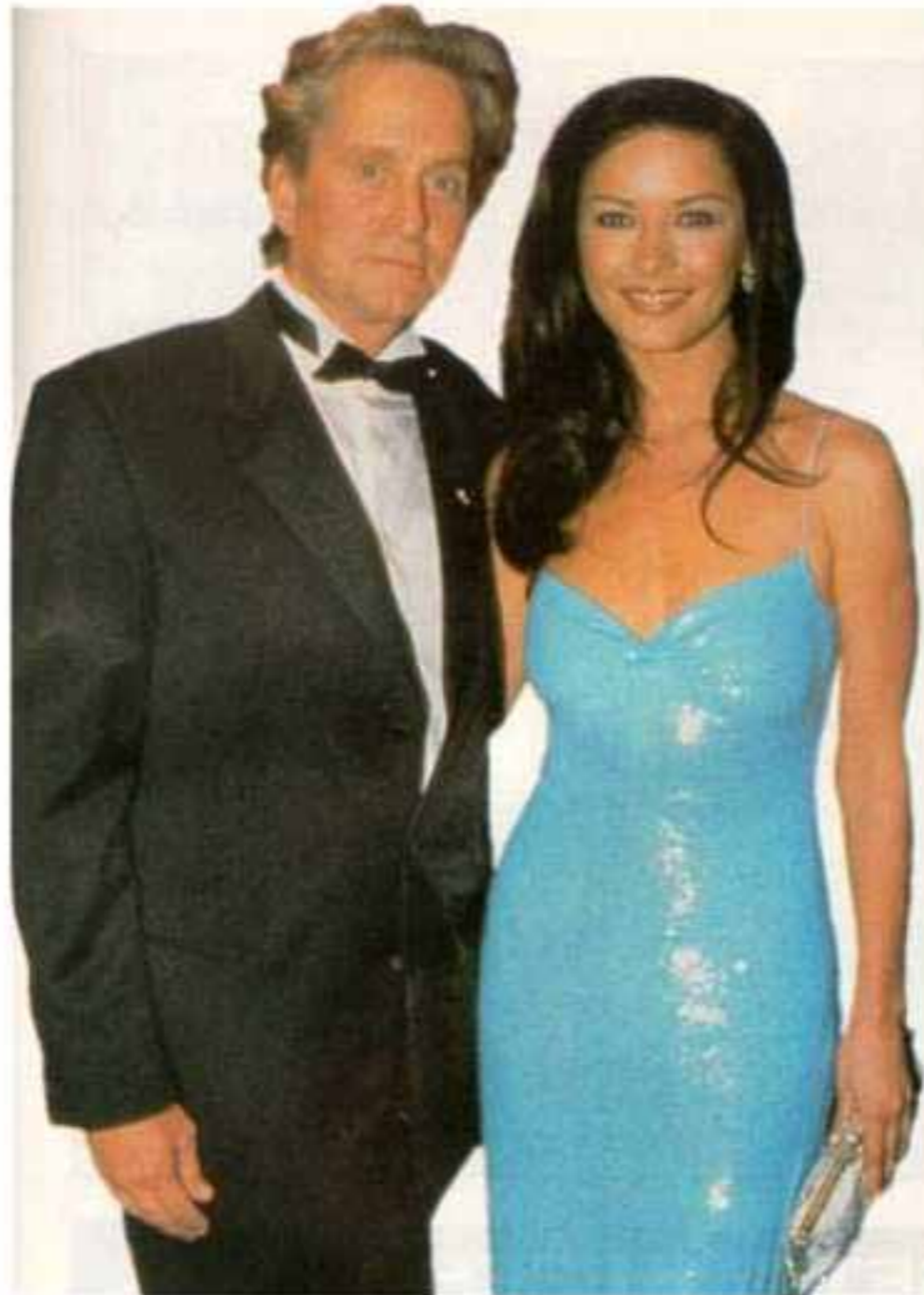
Penton-Voak *et al* Nature 1999



What is sexual attraction all about ?



Only attractive women choose macho males for long-term relationships



What is sexual attraction all about ?



Only attractive women choose macho males for long-term relationships

Only 1 in 5 white Americans and Europeans like their body



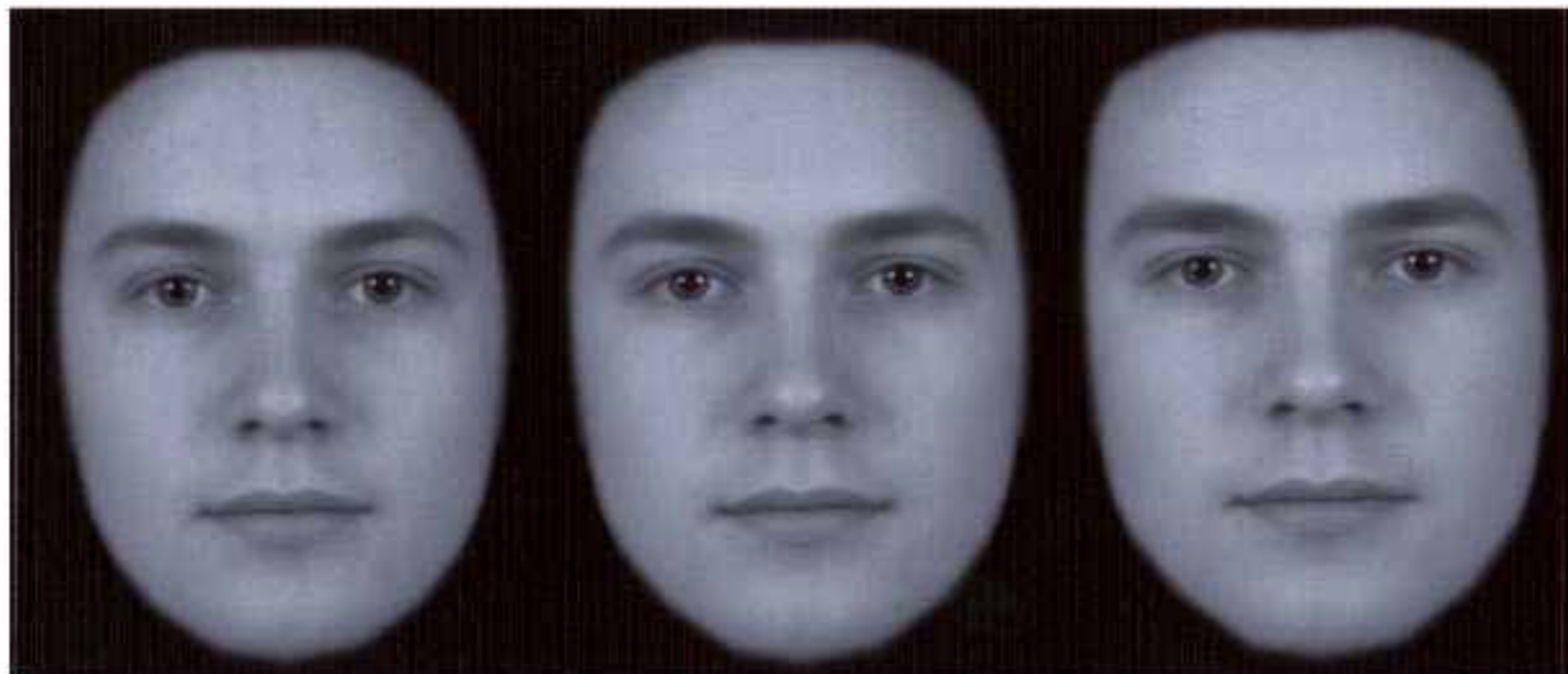
What is sexual attraction all about ?



Only attractive women choose macho males for long-term relationships

Only 1 in 5 white Americans and Europeans like their body

Positive selection for more feminine males?



Feminised

Normal

Masculinised

Penton-Voak *et al*
(1998)

Mate choice strategies



Problem:

You need a partner of the opposite sex to reproduce your genes but then you are only a 50% investor



Mate choice strategies



Problem:

You need a partner of the opposite sex to reproduce your genes but then you are only a 50% investor

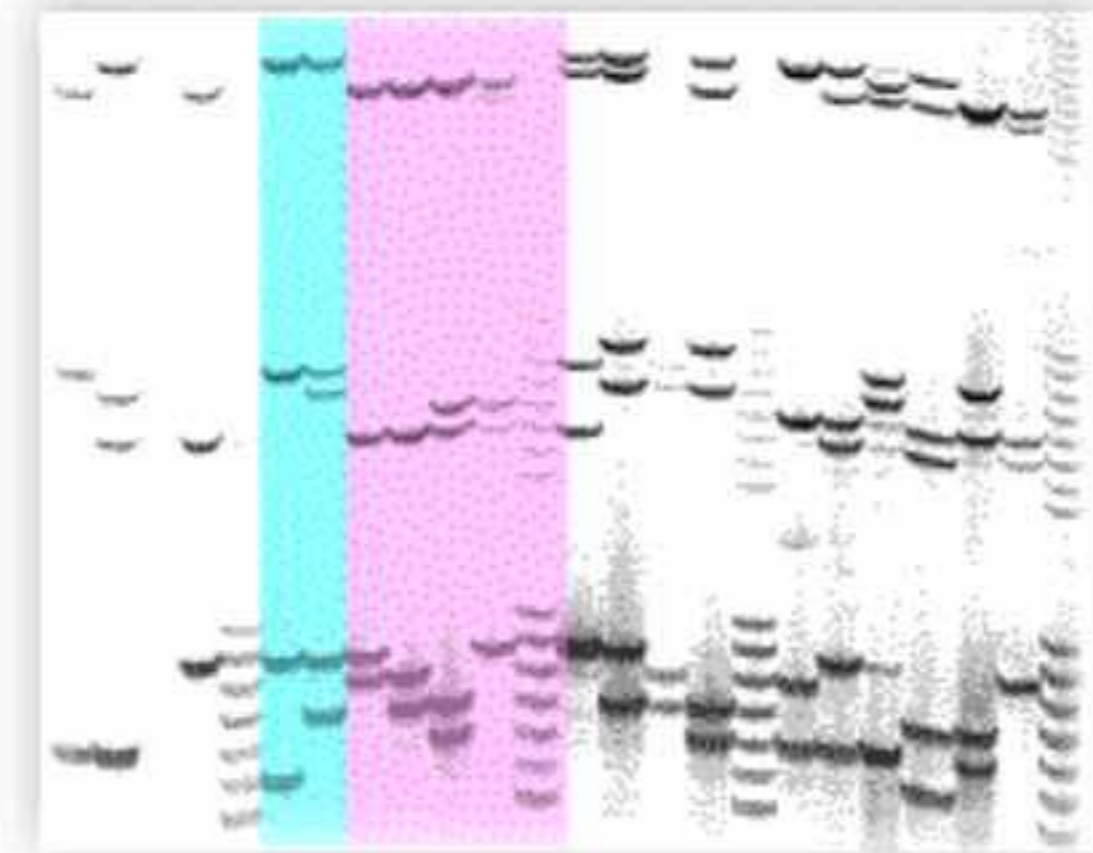
Solution:

Choose a partner who has a high proportion of your genes to improve on your 50%

Mate choice strategies



The hard way - do a DNA test



Typical results for cases of
DNA Paternity testing

Mate choice strategies



The hard way - do a DNA test

The easy way - make sure they look like you



Mate choice strategies



The hard way - do a DNA test

The easy way - make sure they look like you

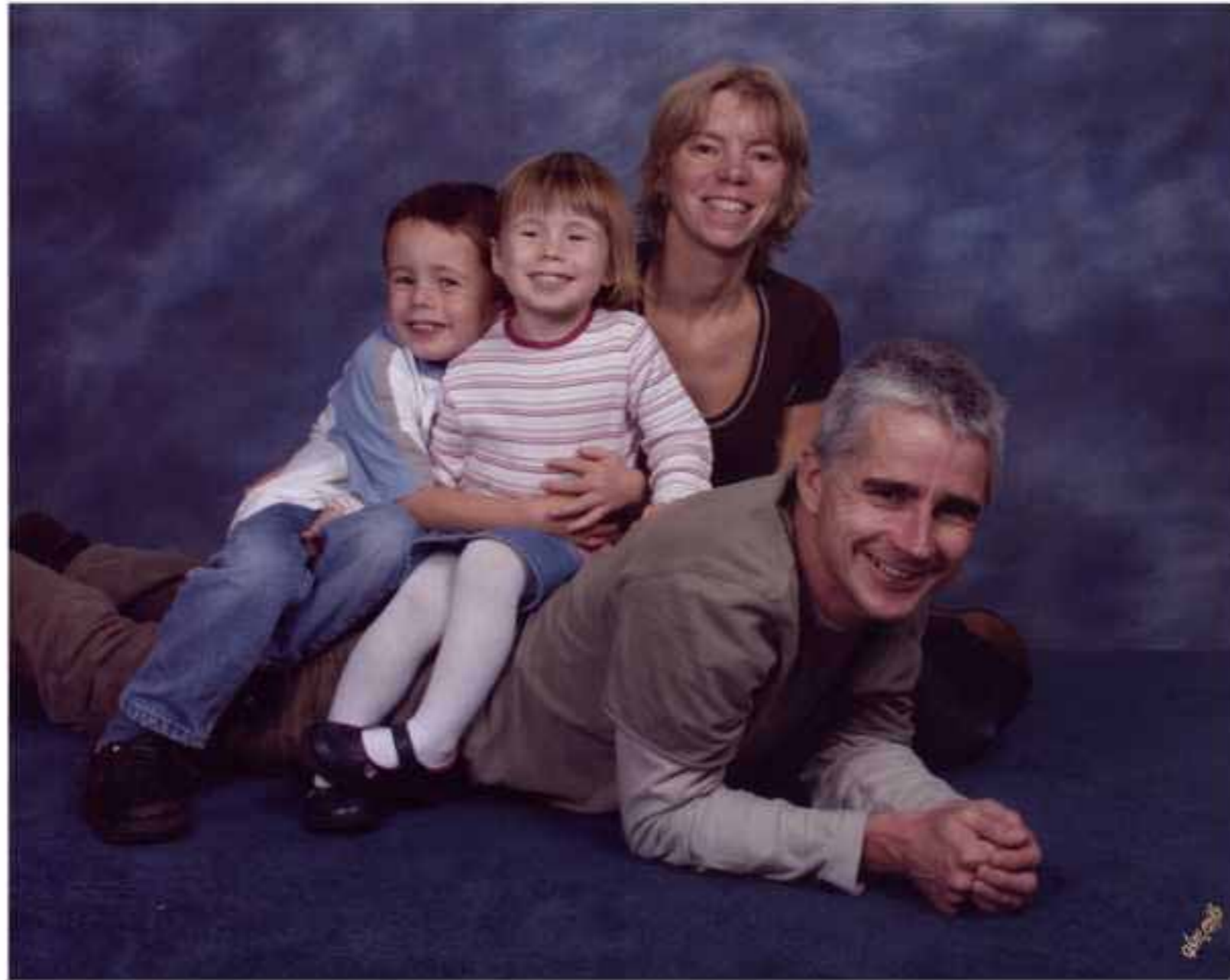
The problem - I don't know what I look like!



Mate choice strategies



Solution - use a known relation as a role model





The concept of 'sexual imprinting'





The concept of 'sexual imprinting'



But does mother really know best?

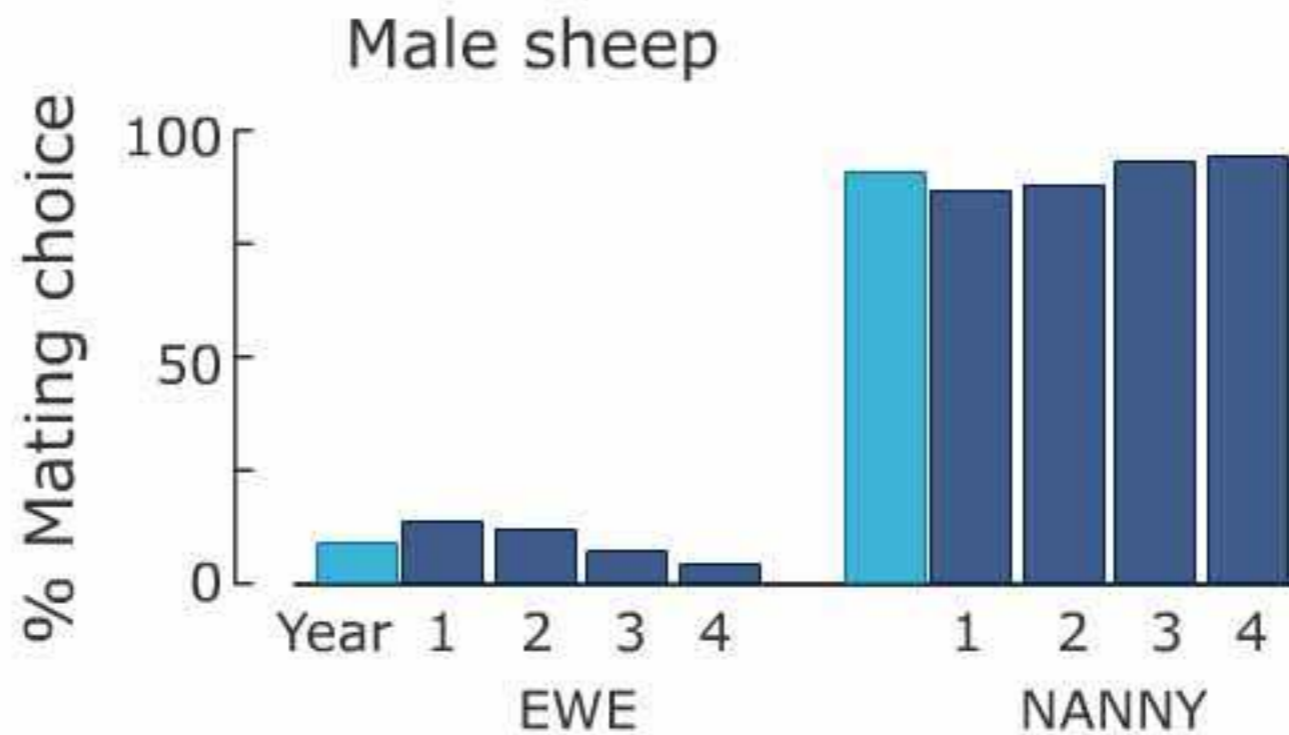
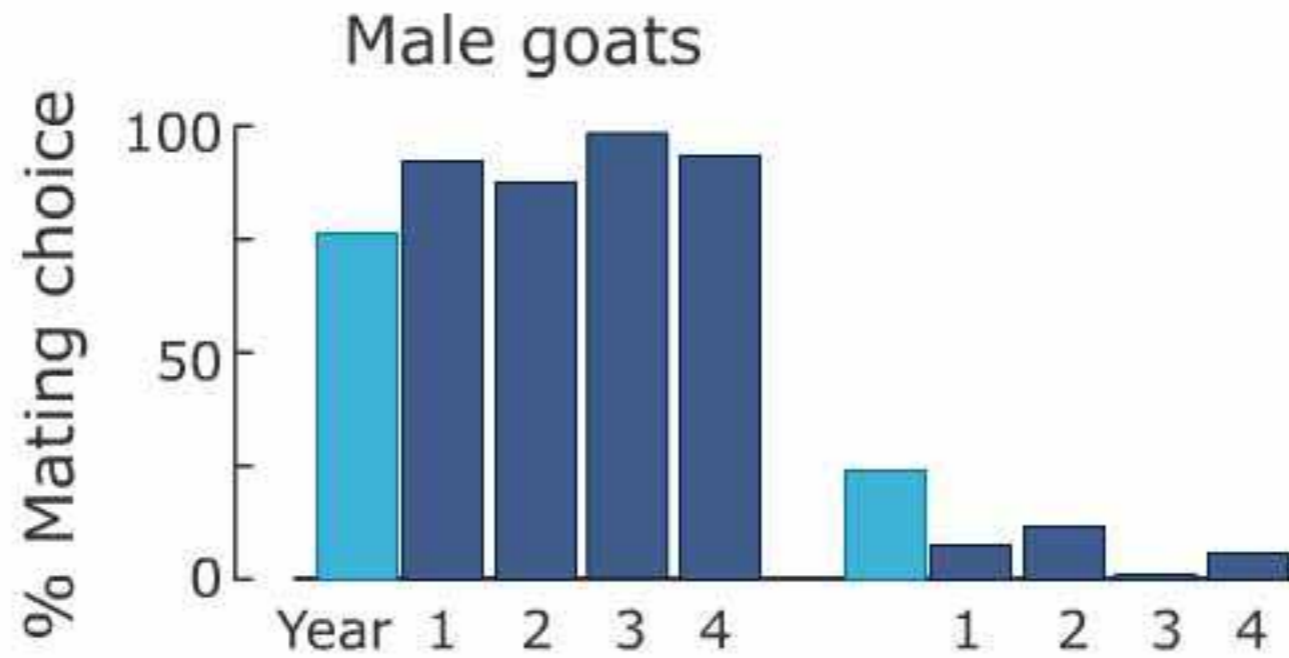
Cross-fostered sheep/goats



Kendrick *et al*
Nature 1998

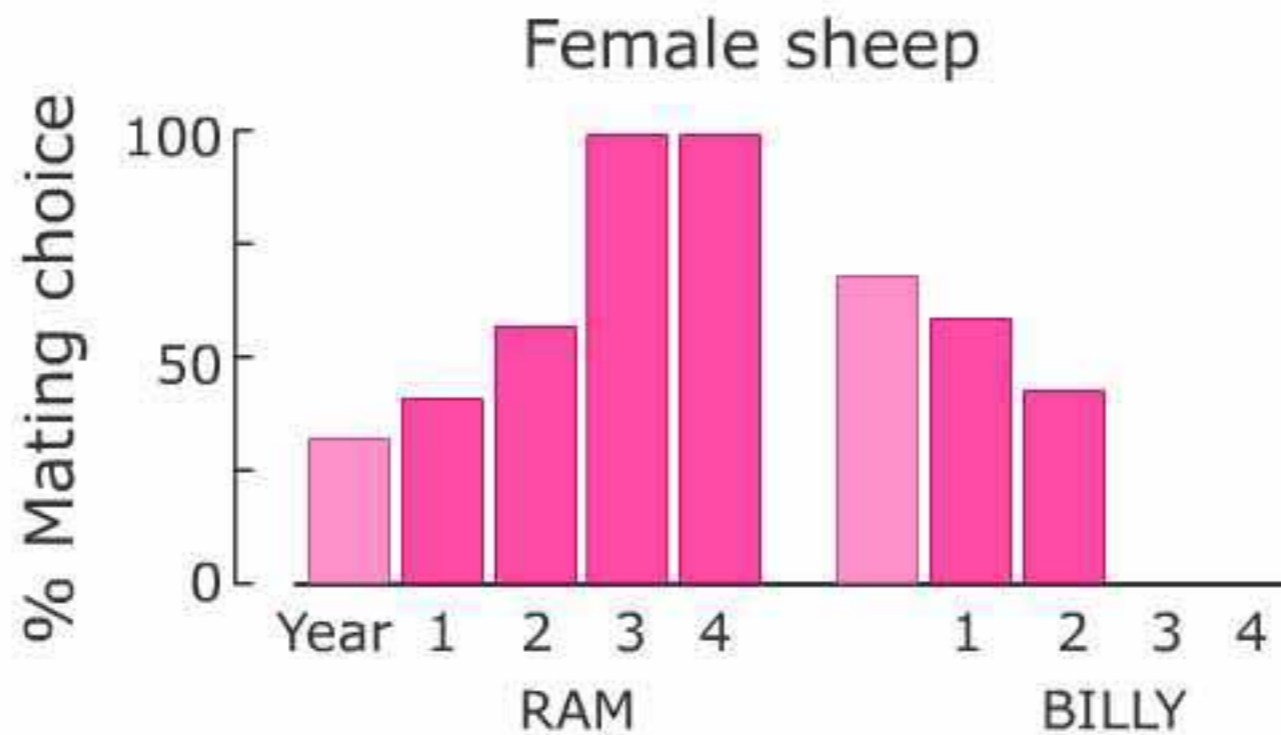
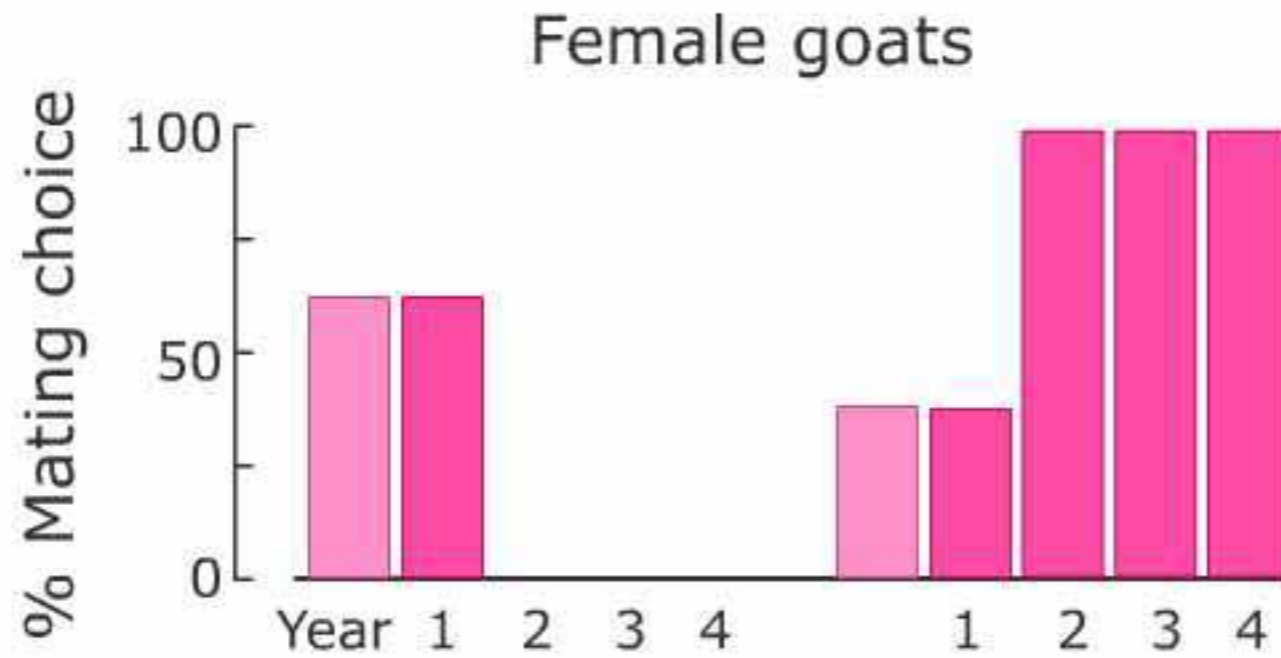


Mate preference





Mate preference



Cross-fostered sheep/goats

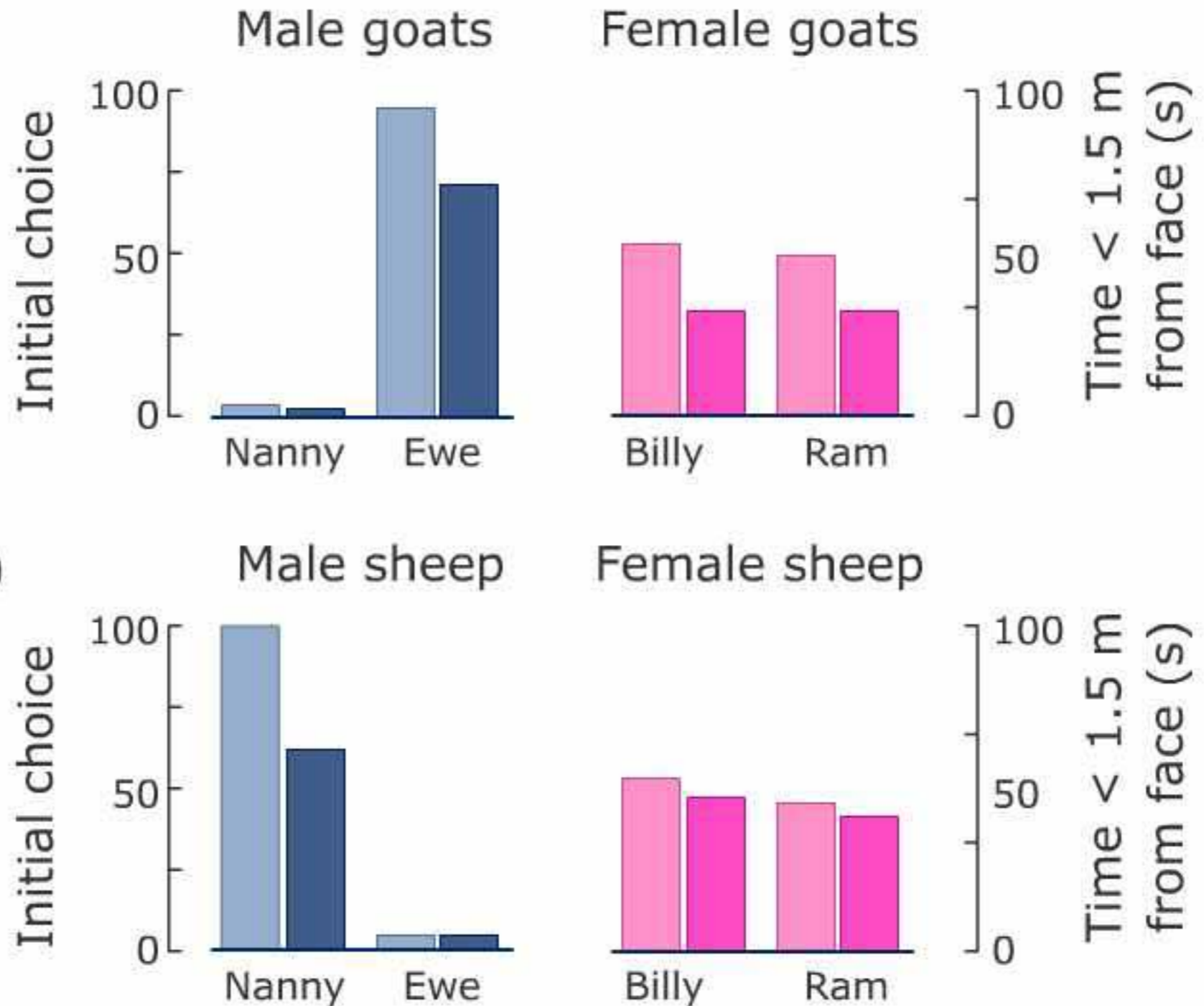


Face preference



Initial choice

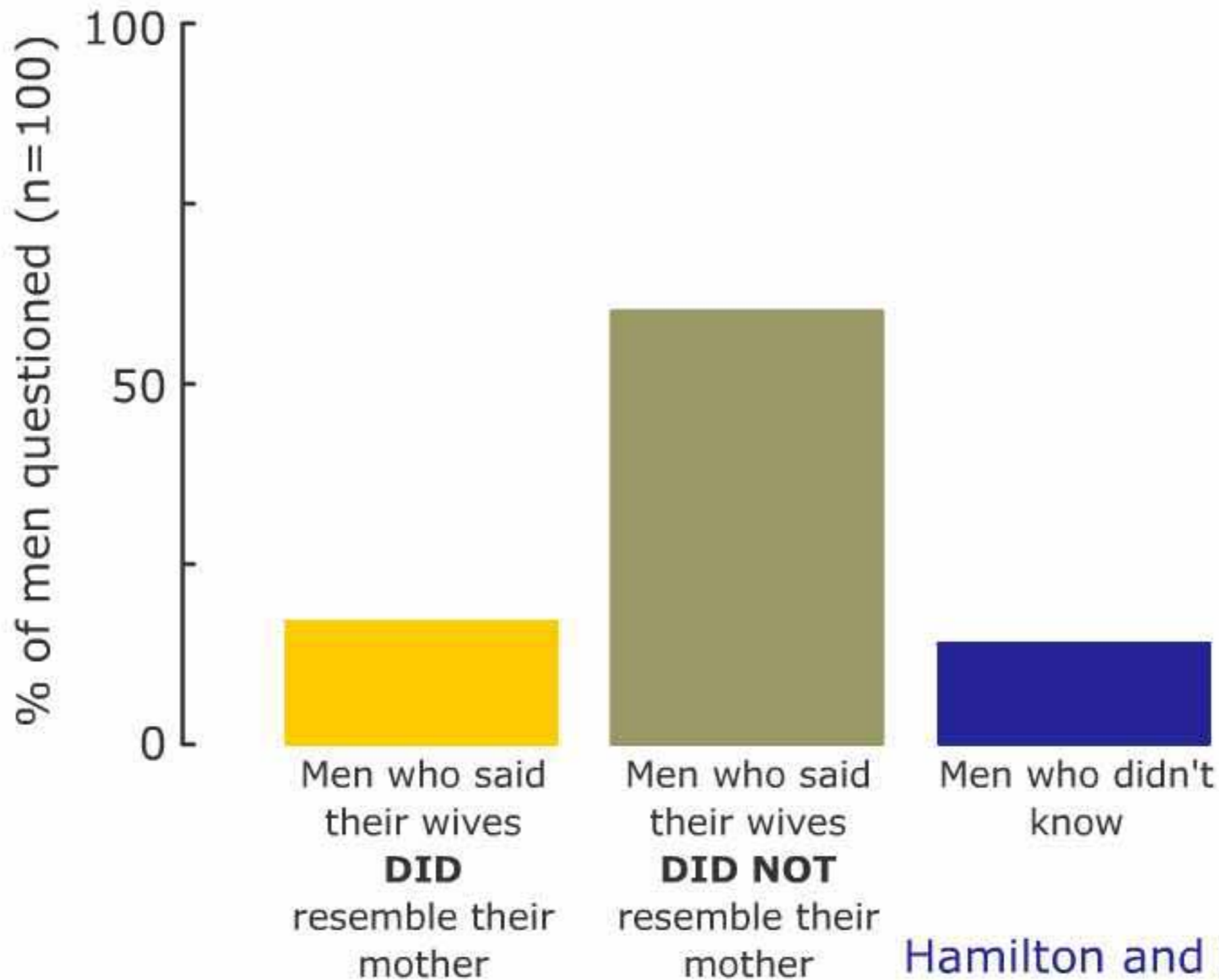
Time < 1.5m from face (s)



Are humans the same ?



'I want a girl just like the girl who married dear old Dad'

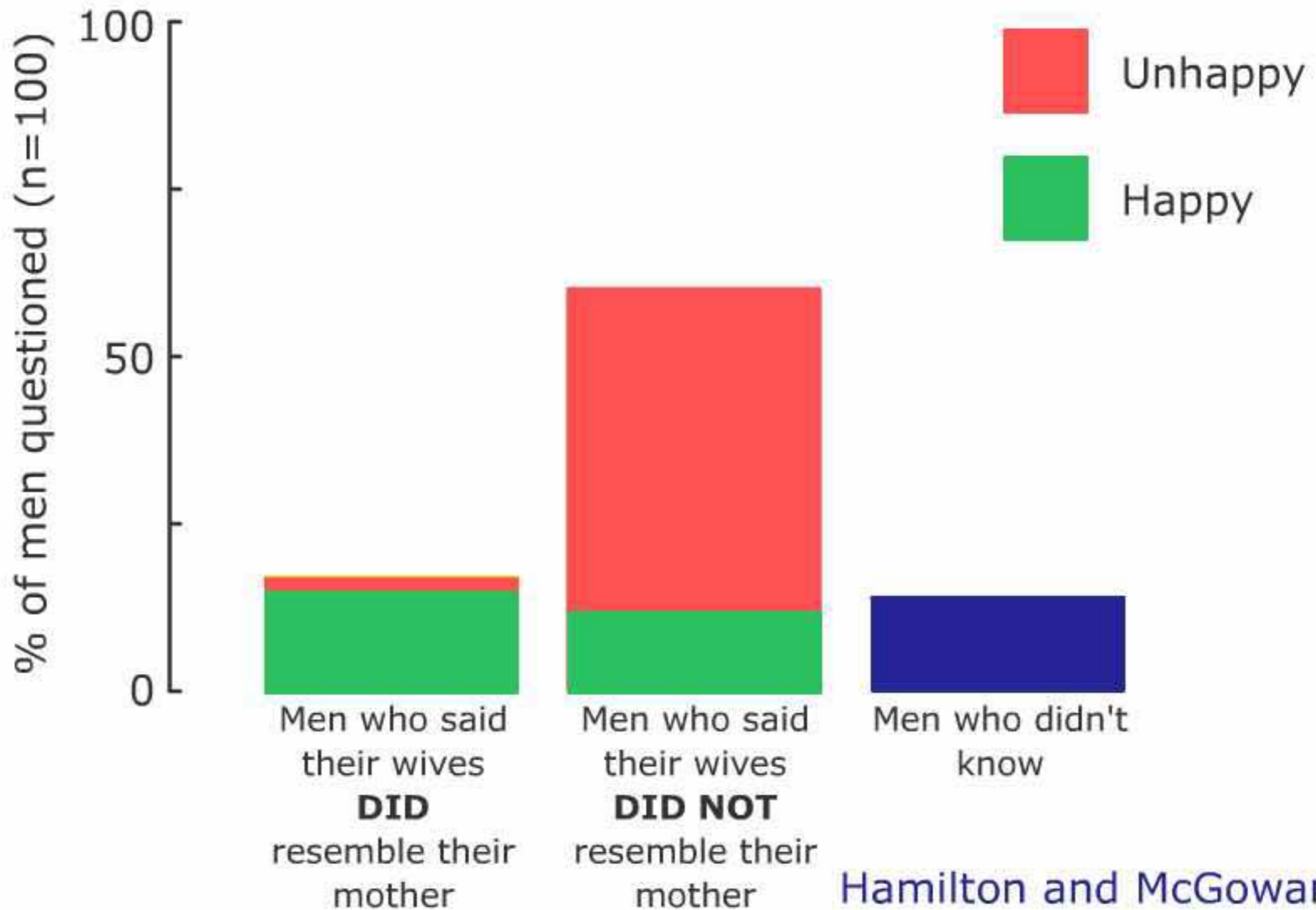


Hamilton and McGowan 1929

Are humans the same ?



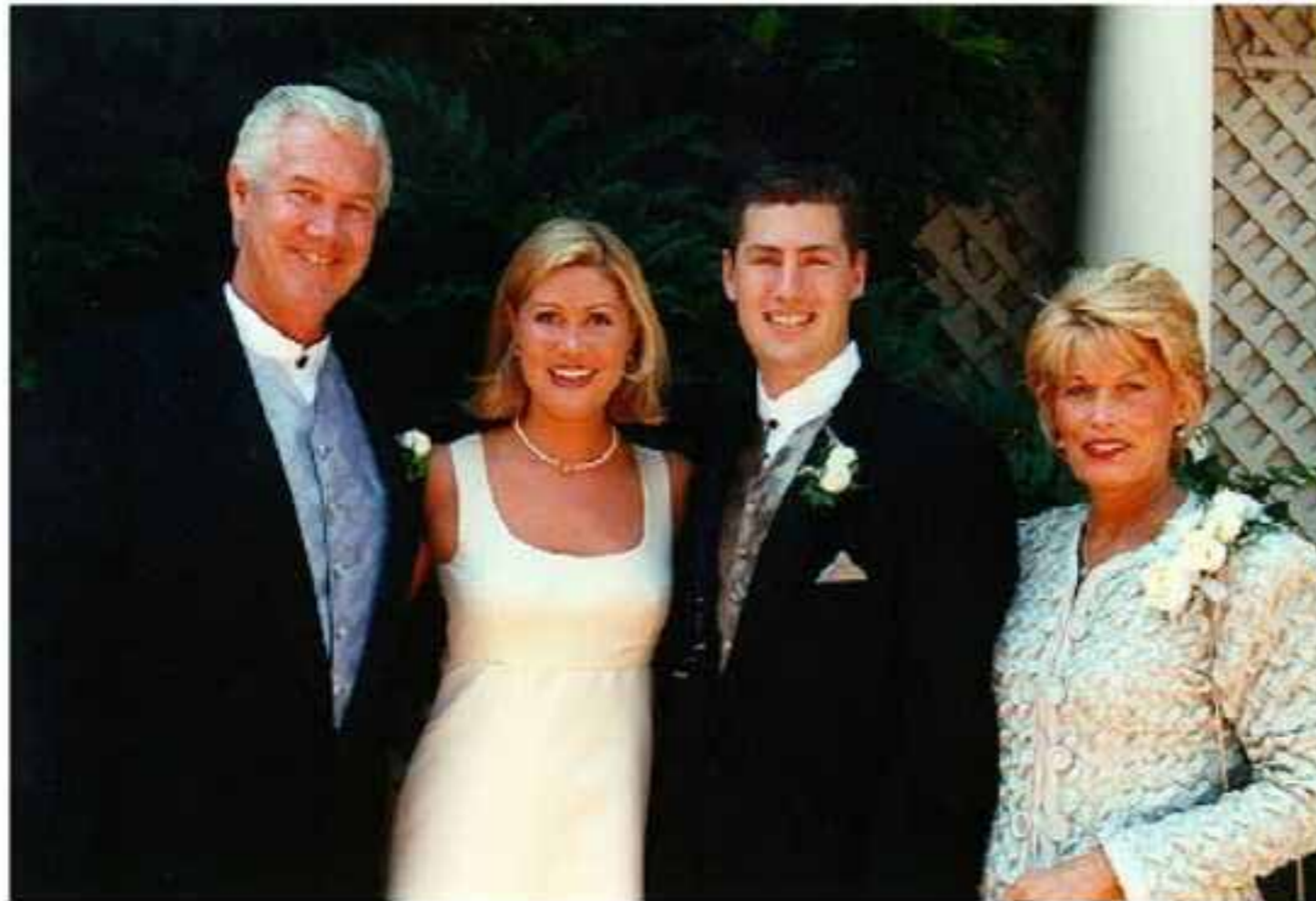
'I want a girl just like the girl who married dear old Dad'



Are humans the same ?



You are also more likely to be attracted to partners with their same eye or hair colour as your parents



Perrett *et al* Evolution and Human Behaviour 2001

Perrett *et al* Proceedings of the Royal Society of London 2002

Are humans the same ?



You are also more likely to be attracted to partners with their same eye or hair colour as your parents

If your mum or dad were older, you are more likely to be attracted to an older partner



Perrett *et al* Evolution and Human Behaviour 2001

Perrett *et al* Proceedings of the Royal Society of London 2002

Are humans the same ?



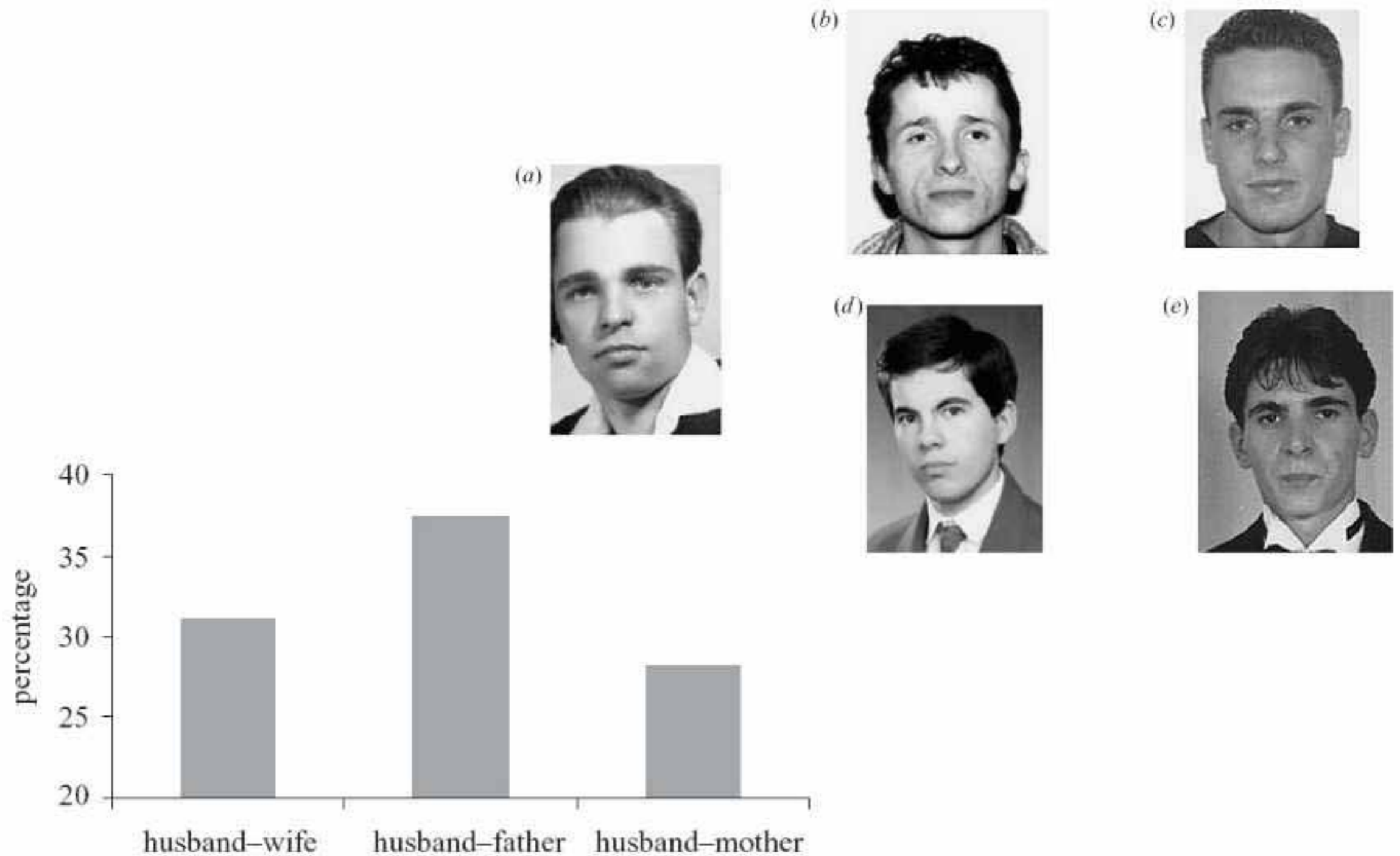
If you want to attract a girl, wear her Dad's shirt!



Are humans the same ?



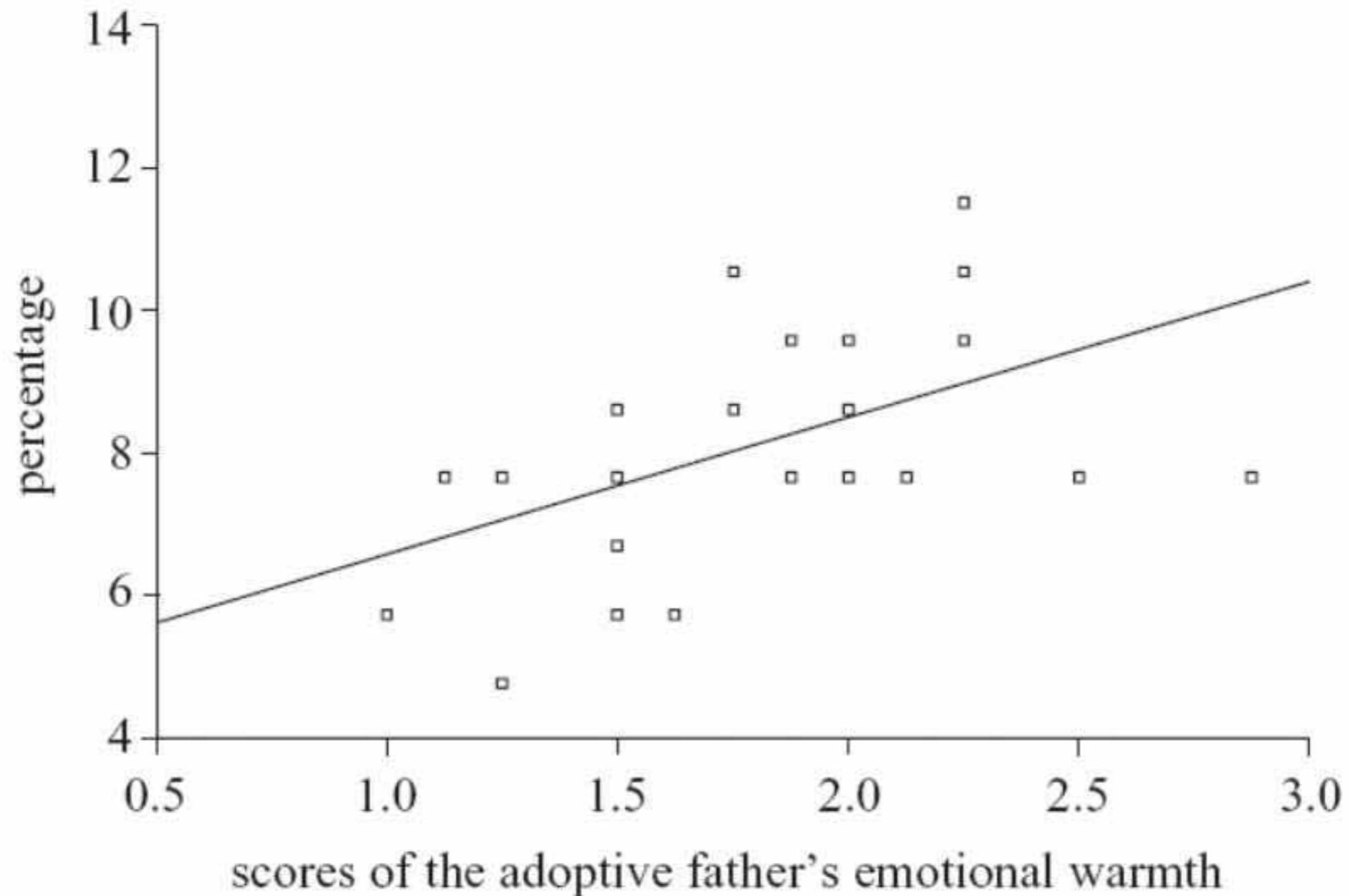
Adoptive fathers have the same effect



Are humans the same ?



Adoptive fathers have the same effect



You and me baby we ain't nothing but mammals?



Here's looking at you kid !

You and me baby we ain't nothing but mammals?



Here's looking at you kid !

What about other problems ?



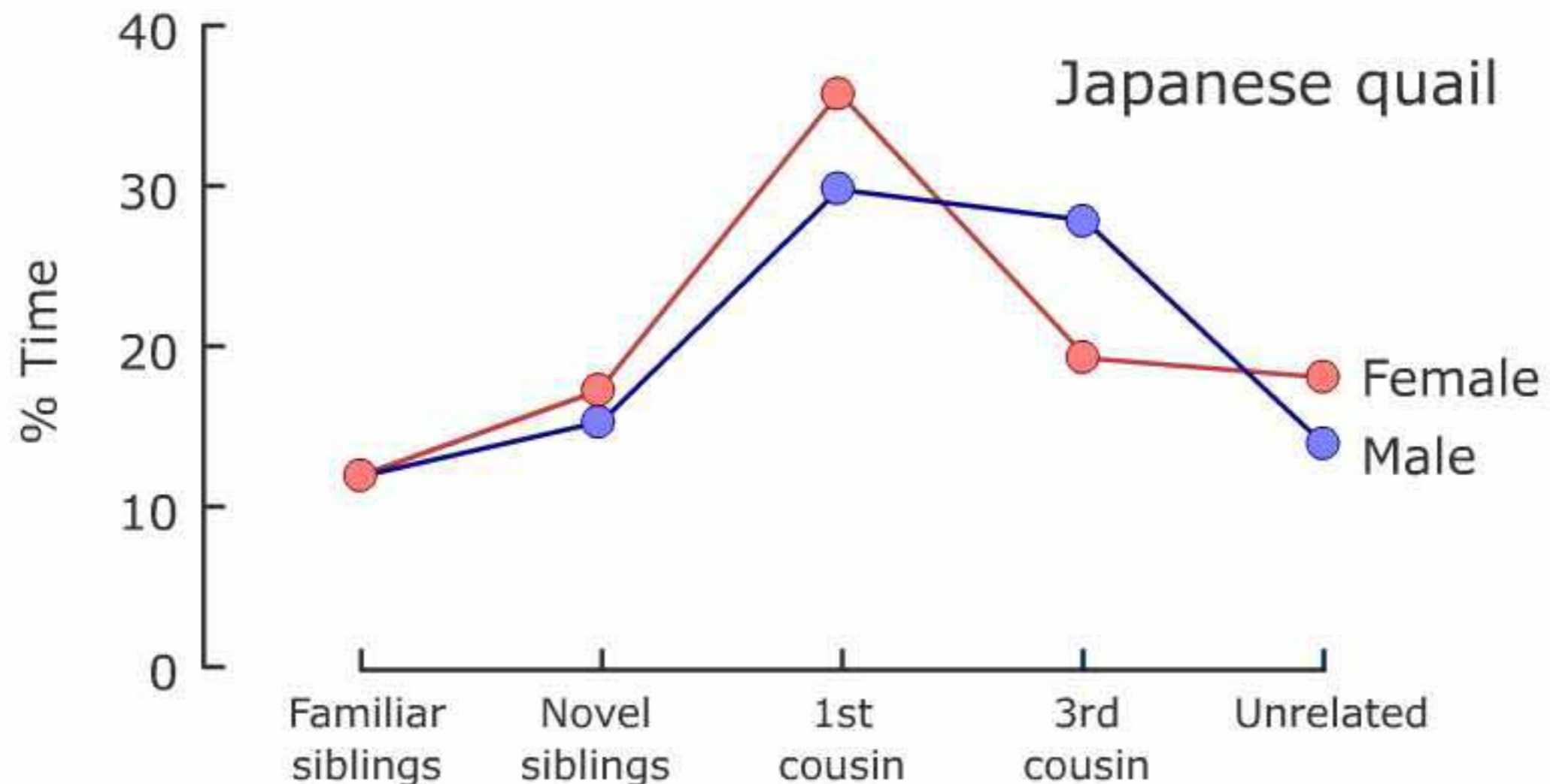
Problem:

Incest resulting in inbreeding depression

Solution:

Be attracted to individuals who are just a little different

Bateson *et al*
Nature 1982



What about other problems ?



Problem:

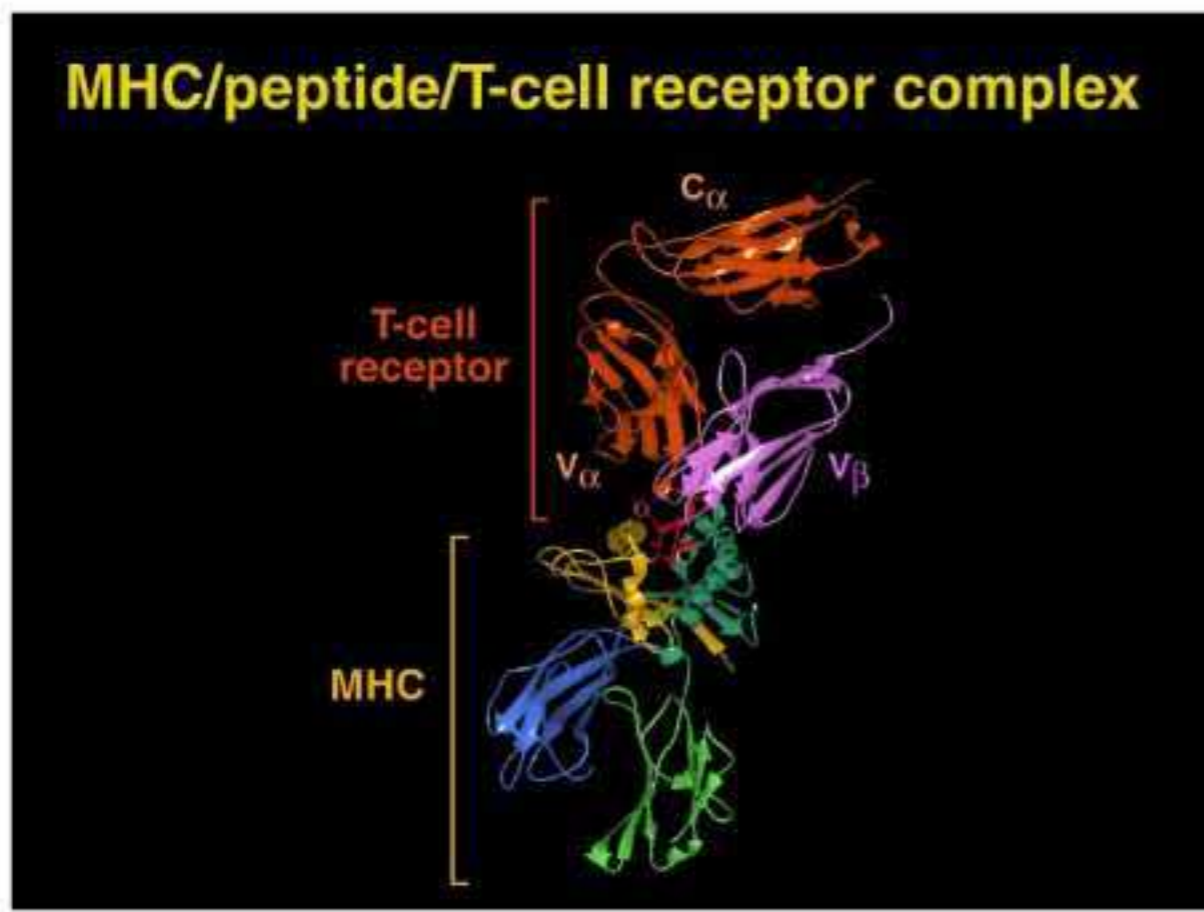
Incest resulting in inbreeding depression

Solution:

Be attracted to individuals who are just a little different



Using a Y-chromosome that he designed, Yuzanski transmits sex to distinguish which sperm contains genes from more distant at the MHC.



What about other problems ?

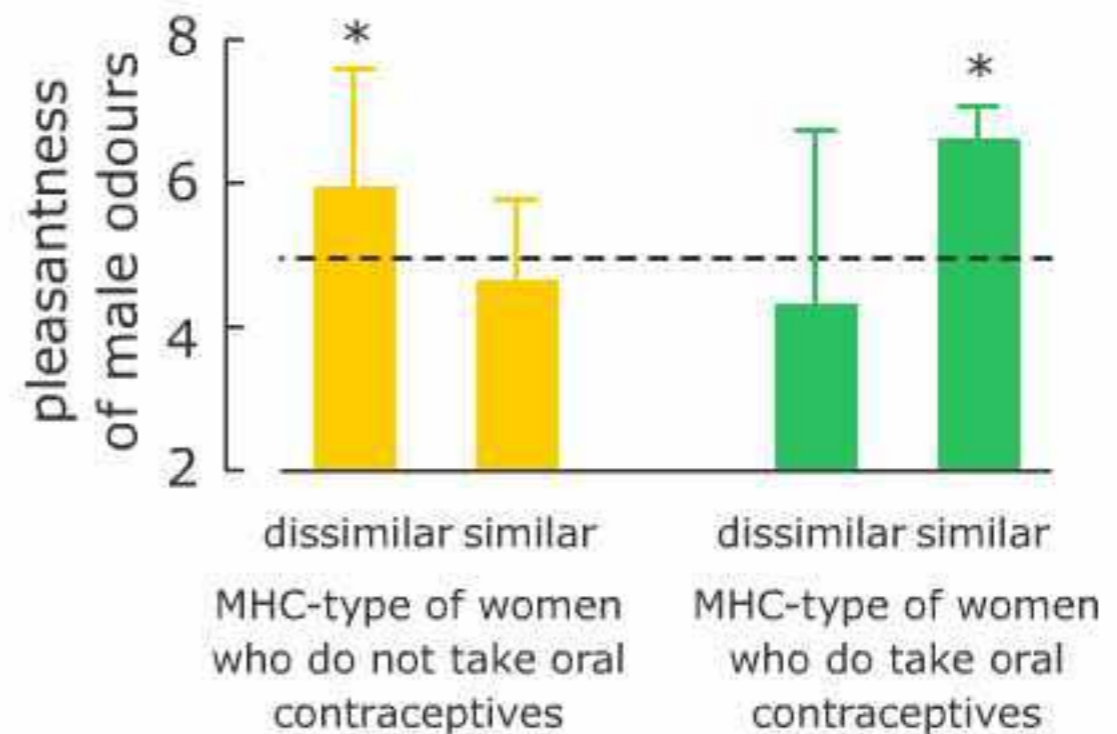


Problem:

Incest resulting in inbreeding depression

Solution:

Be attracted to individuals who are just a little different



What features are the biggest turn-on?



In general, rational conscious thought is not involved!



What features are the biggest turn-on?



In general, rational conscious thought is not involved!

A few minutes is all it can take for the appropriate chemistry

The screenshot shows the 8minuteDating website. At the top left is the logo: "8minuteDating" with the tagline "8 Great Dates - 1 Fun Night!" and a martini glass icon. To the right of the logo is a navigation bar with links: "Learn More", "Find an Event", "Become an EO", "Tell a Friend", "Press", "About 8mD", and "Help/FAQ".

Below the logo, the text "Fast, Fun & Guaranteed" is displayed. Underneath is a "Participants:" section with a "Login for status & matches" link, an "E-mail Address:" field, a "Password:" field, and a "GO!" button. A link "Forgot your password?" is also present.

At the bottom left of this section is a small photo of two women and the text "ATTEND AN EVENT".

The main content area features a large image of a man and a woman looking at each other, with the text "It's fast!" overlaid. Below this image is a section titled "FIND AN EVENT NEAR YOU:" with the text "Go for it! Find a speed dating event near you - chances are, it's filling fast! Join the party...". To the right of this section is a link "What is 8minuteDating?" with the text ">> click here to find out".

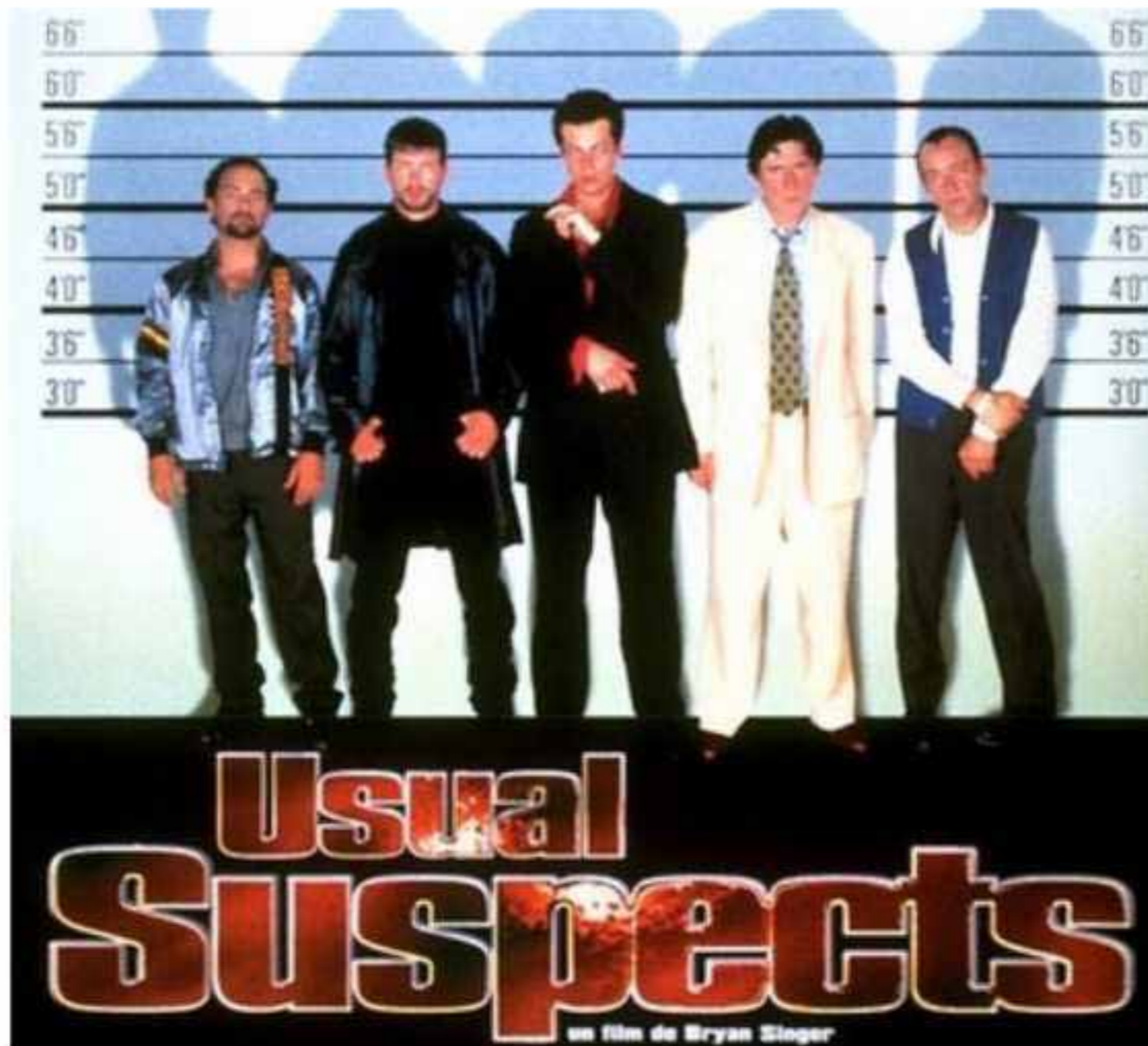
Below the "FIND AN EVENT NEAR YOU:" section are three dropdown menus: "United States", "2. Select a State", and "3. Choose a City/Area...", followed by a "GO!" button.

At the bottom of the page are three buttons: "Find Out First!", "It Works!", and "It's Guaranteed!".

What features are the biggest turn-on?



Size, age, and physical health are all important



The smell of love



The scent of a woman



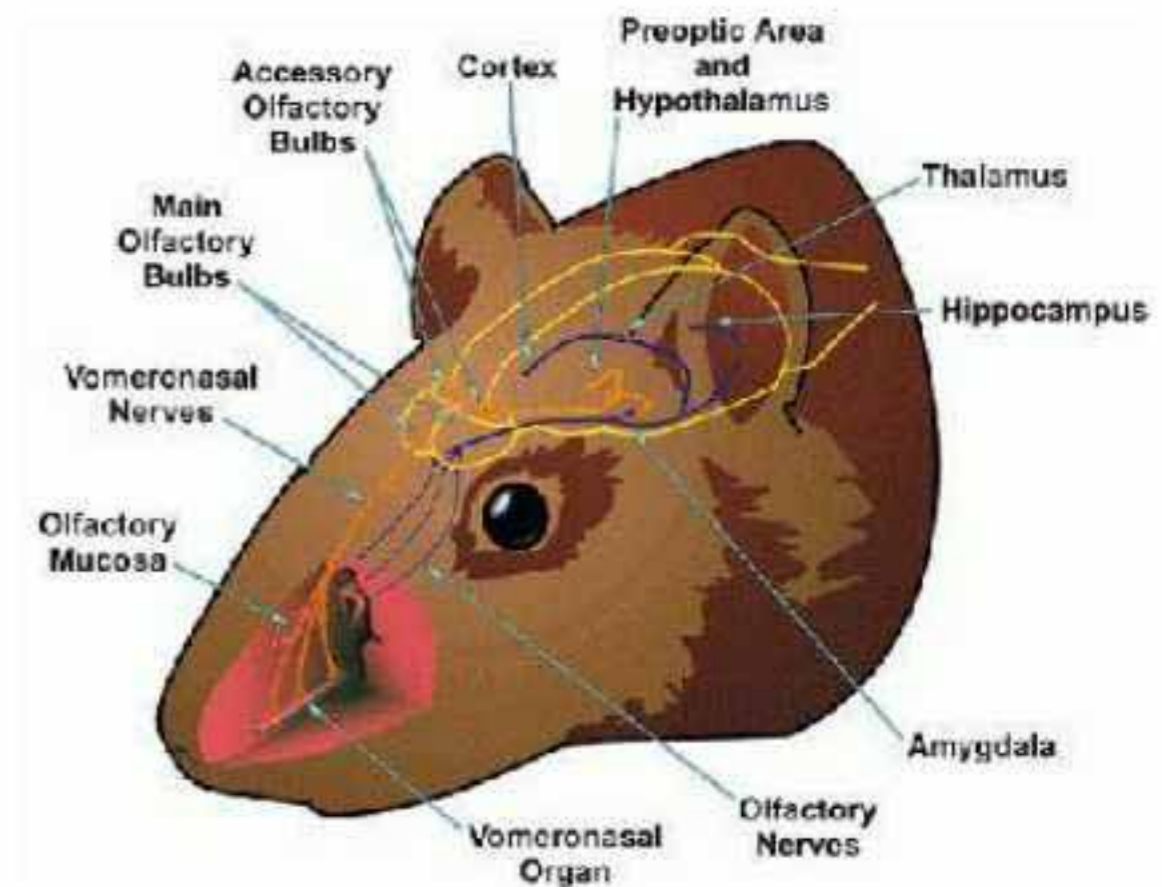
The smell of love



The scent of a woman

Two smell systems:
Vomeronasal and Main

Sex pheromones - Hamsters



The smell of love



The scent of a woman

Two smell systems:
Vomeronasal and Main

Sex pheromones - Hamsters

Pigs - androstenedione



The smell of love



What smells attractive can be highly species specific

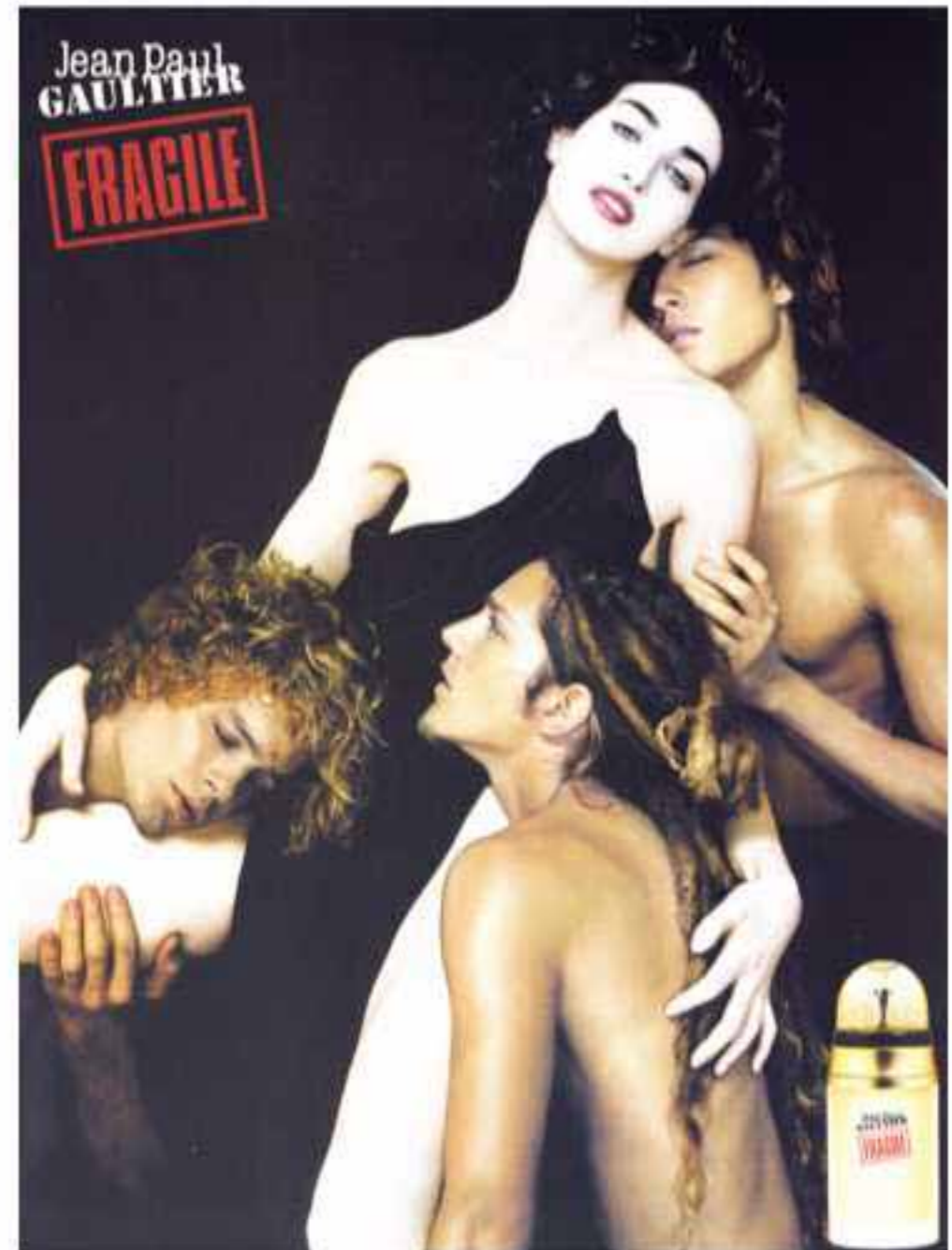


The smell of love

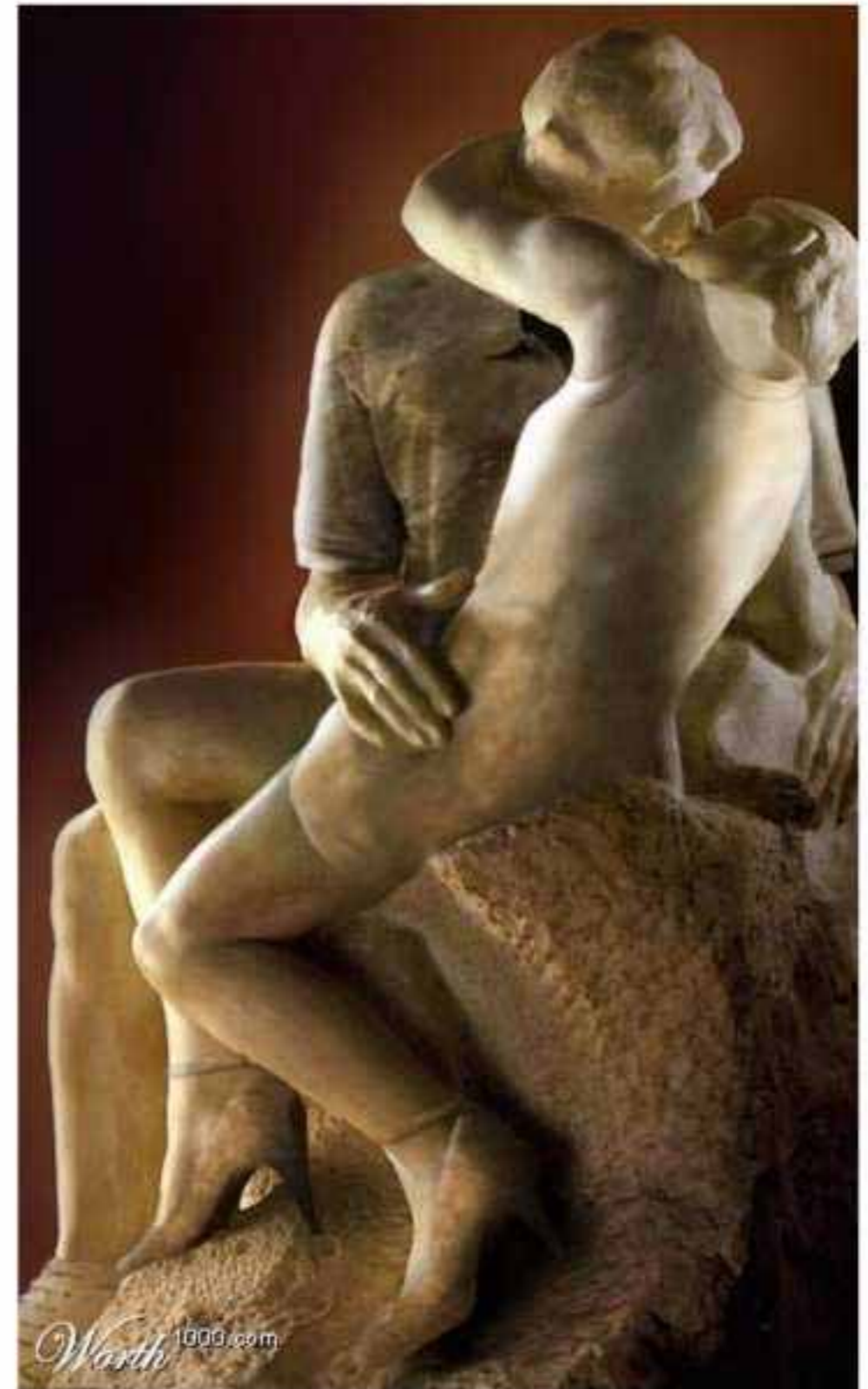


What smells attractive can be highly species specific

For humans odours are only a minor source of attraction



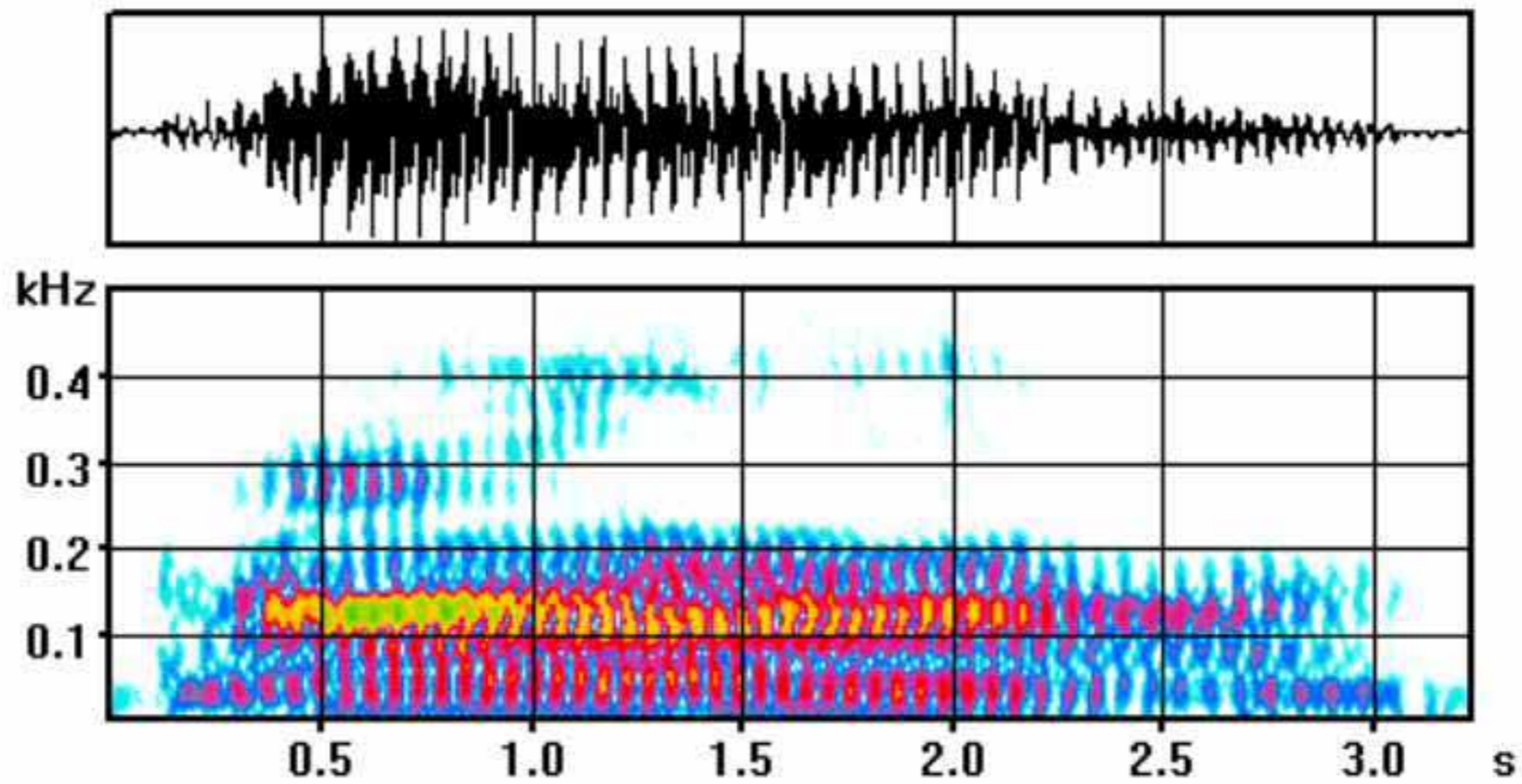
Love at first taste



Love at first touch



Love at first sound



Love at first sound



Love at first sight



Love at first sight



Human males are more interested in visual cues than females



Clever girls can be losers in love

Love at first sight



Human males are more interested in visual cues than females

Visual cues can be important for females too

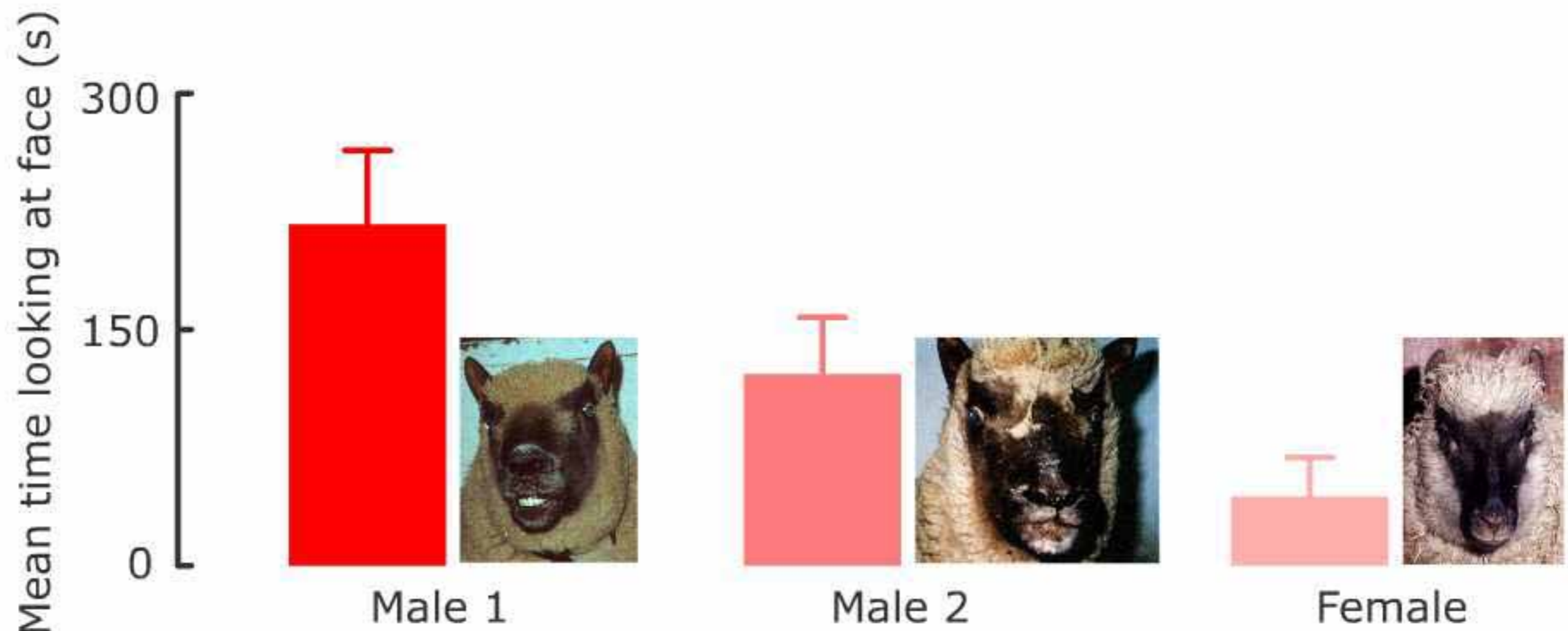


Love at first sight



Human males are more interested in visual cues than females

Visual cues can be important for females too



Love at first sight



Human males are more interested in visual cues than females

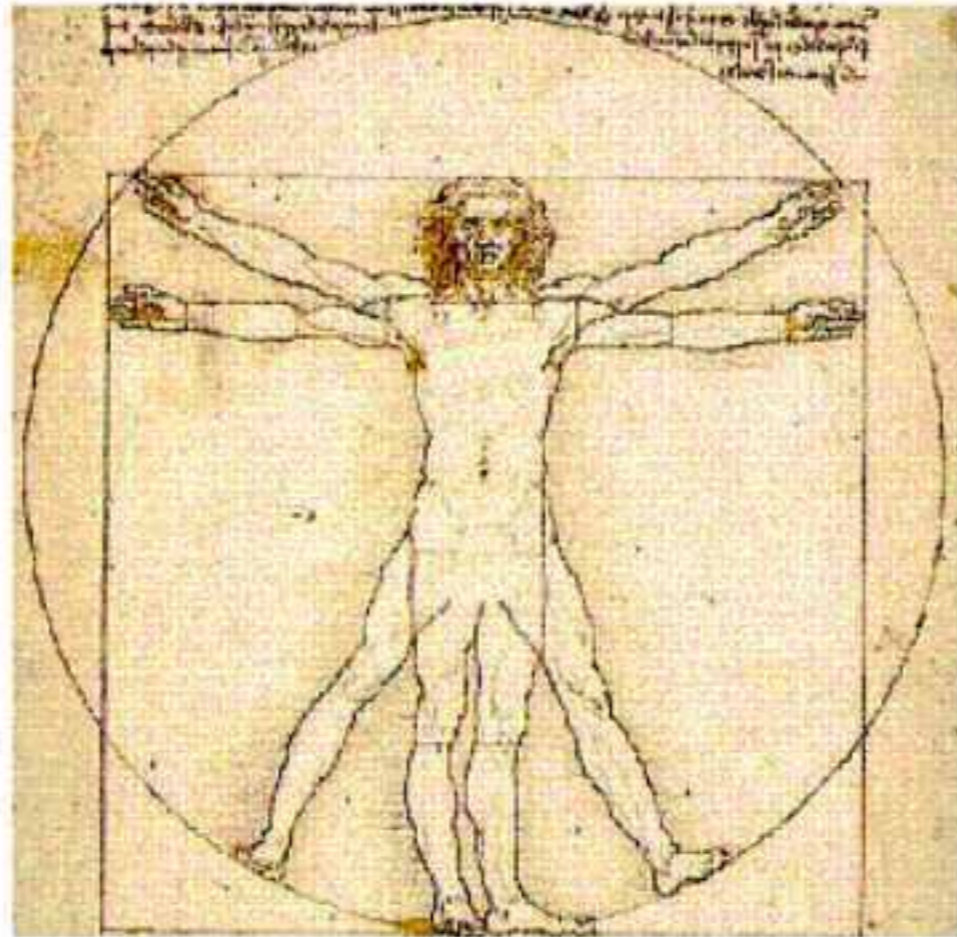
Visual cues can be important for females too



Love at first sight



Faces and symmetry



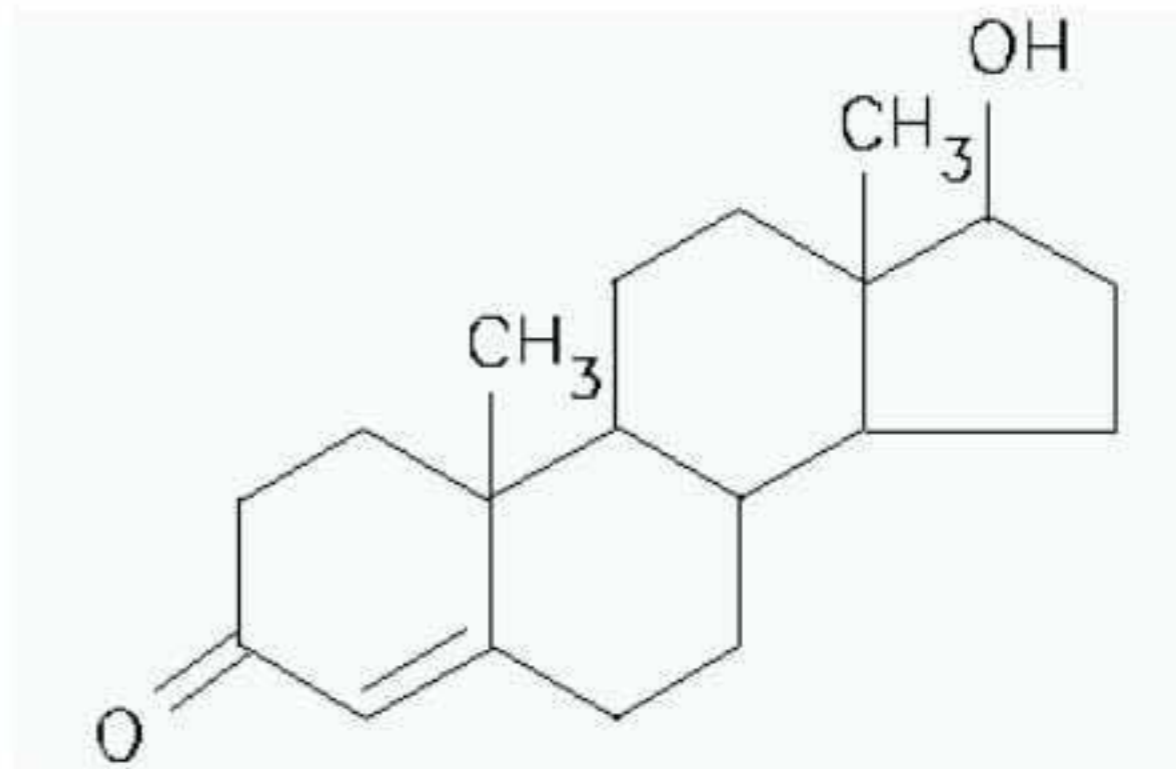
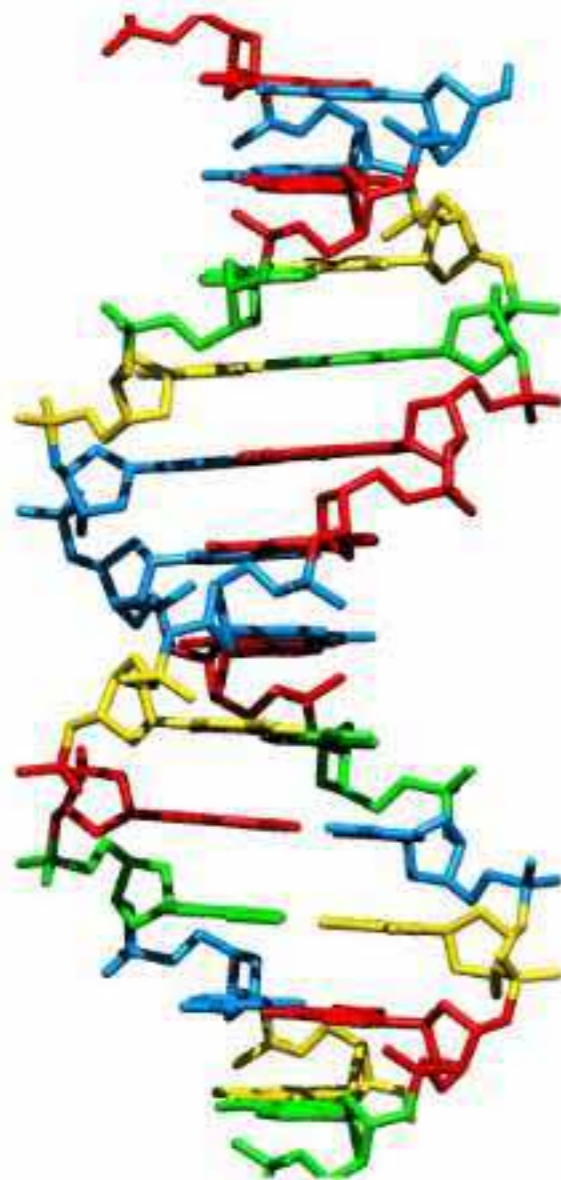
Love at first sight



Faces and symmetry

Symmetry:

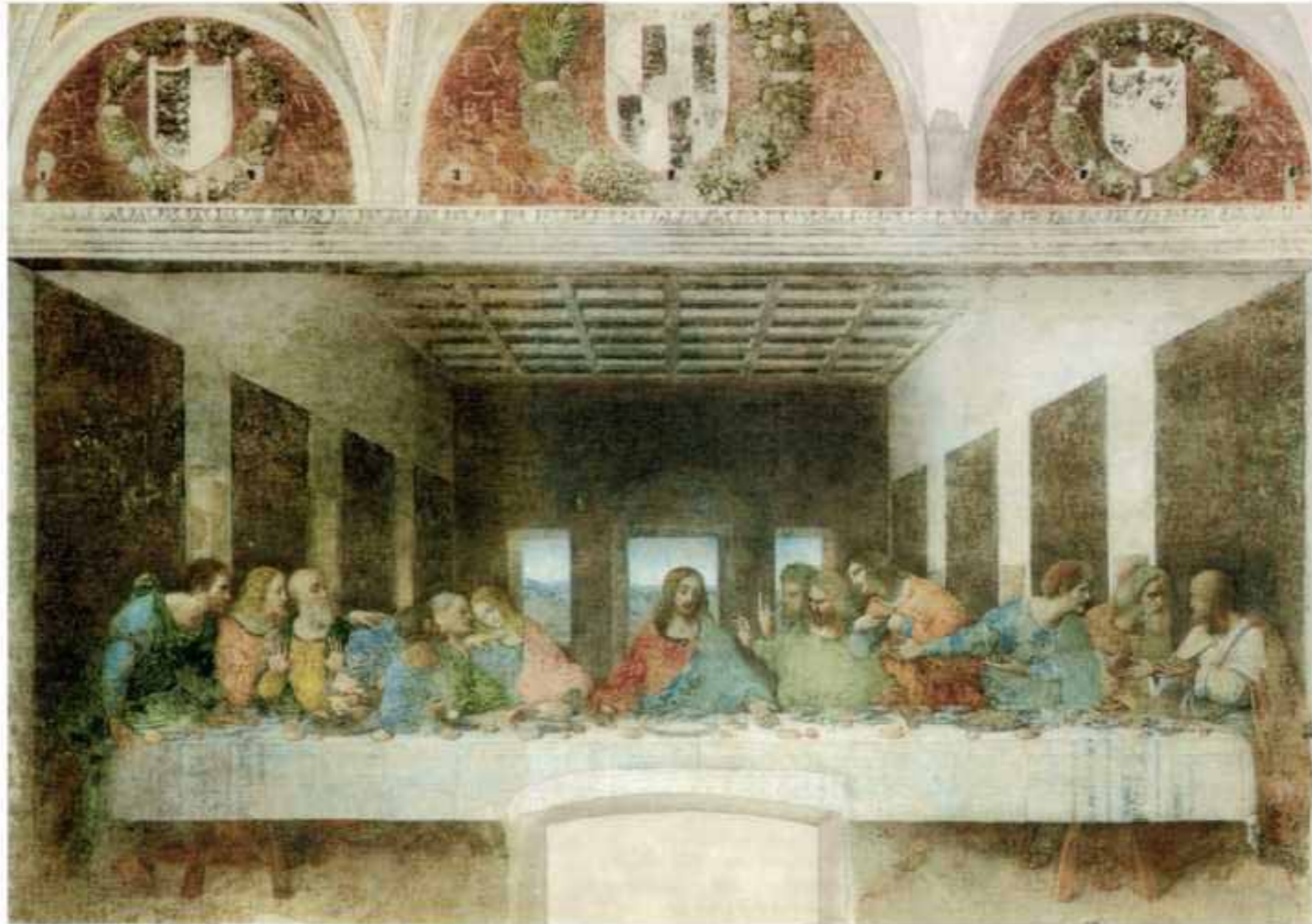
'good' genes and high testosterone



The concept of divine proportion



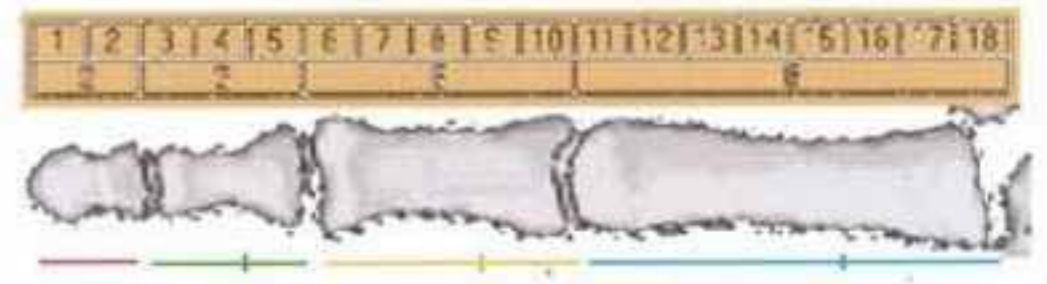
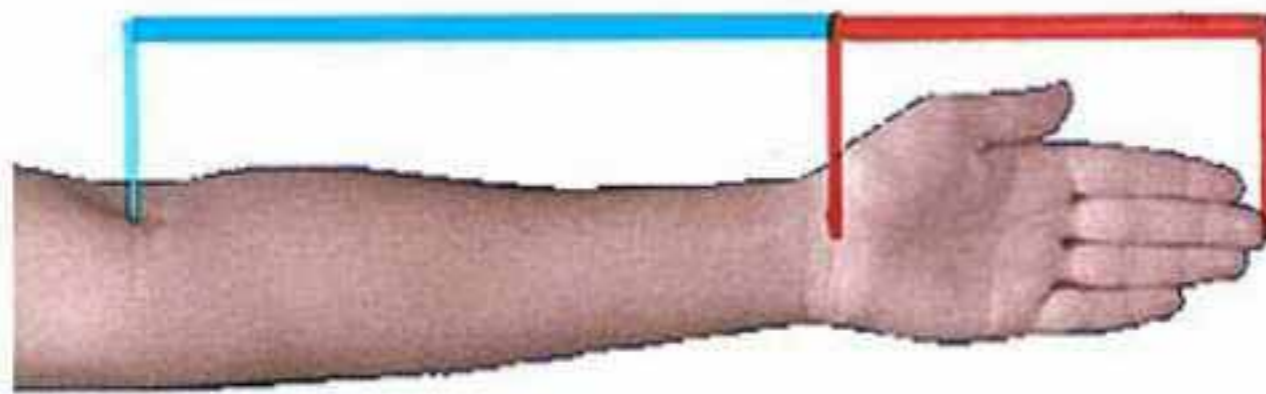
1 to 1.61803398874989... (Phi Φ)



The concept of divine proportion



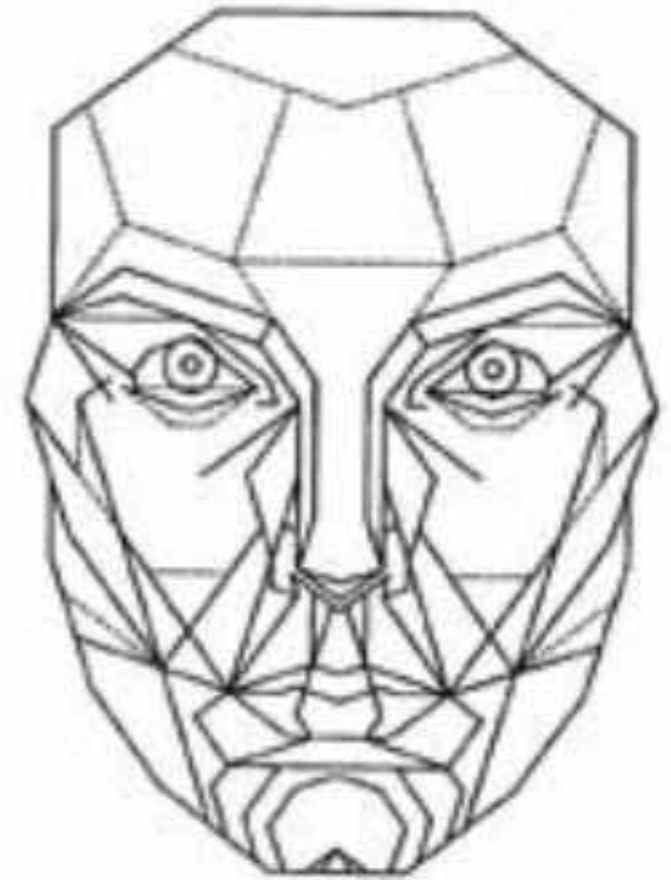
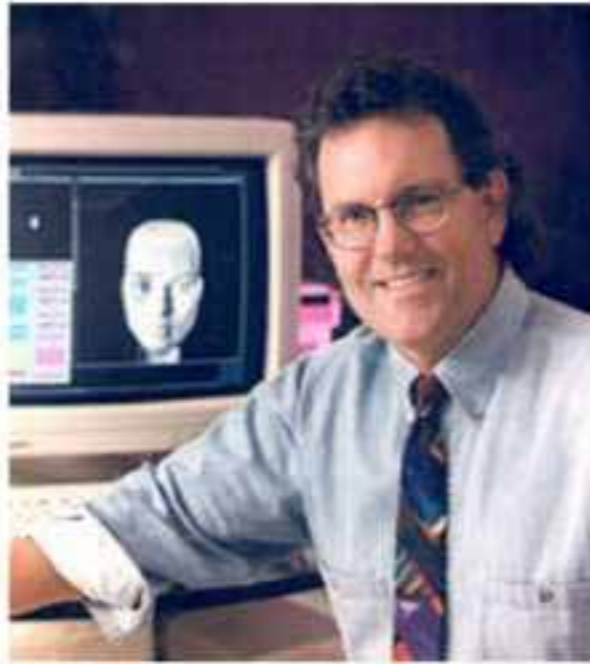
1 to 1.61803398874989... (Phi Φ)



The concept of divine proportion



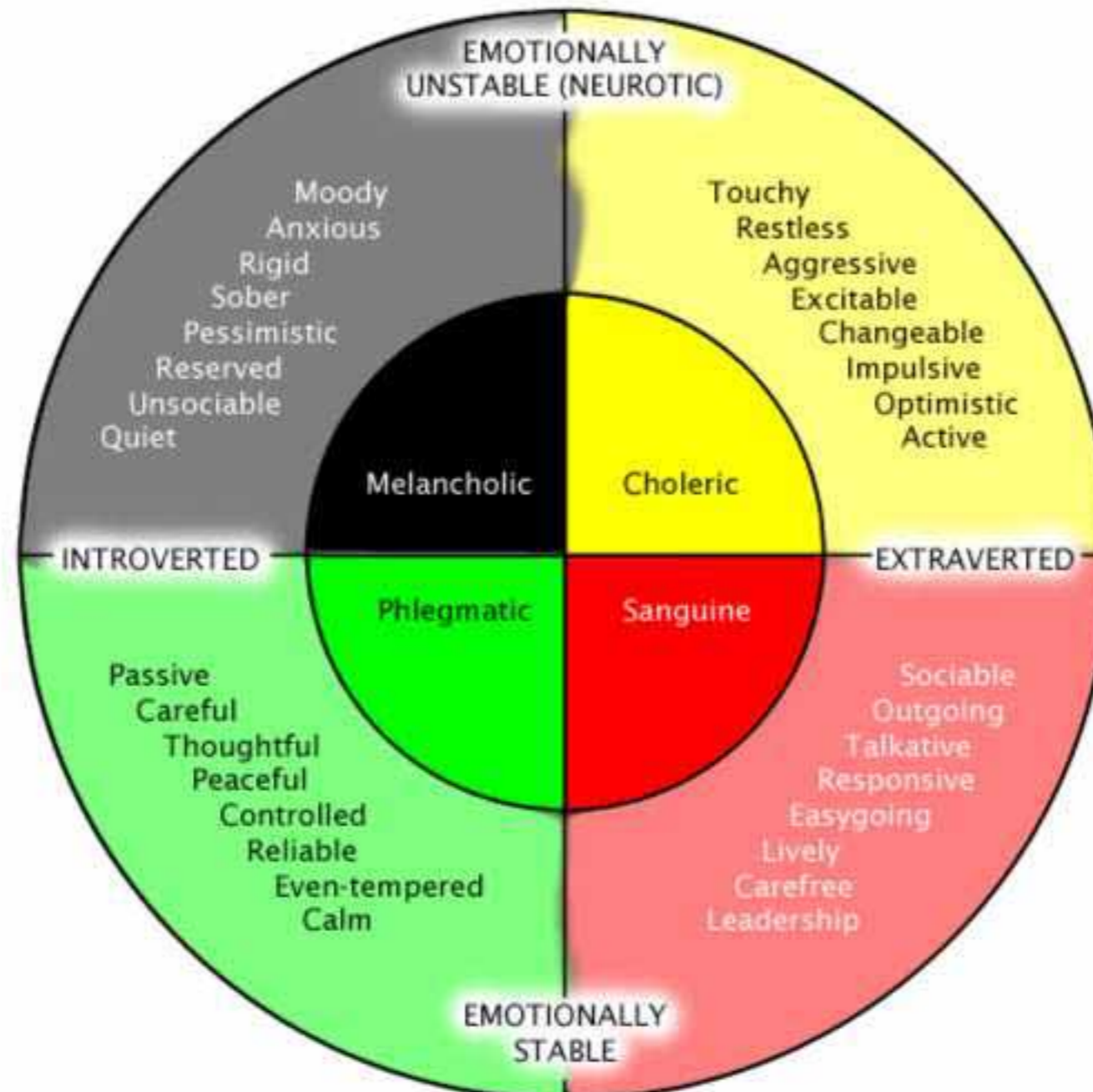
1 to 1.61803398874989... (Phi Φ)



Love your personality



People with similar personalities and interests are more attracted to each other



Eysenck, H.J and Eysenck, M.W. *Personality and Individual Differences*. Plenum Publishing, 1958.

Love your personality



People with similar personalities and interests are more attracted to each other

It is not usually the most important immediate determinant of attraction



"Sorry, Mr. Jenkins, but we couldn't find one woman who was young, rich, sexy and would want to carry your golf clubs on the weekends."

Love your personality



It is more important for females than for males

Computer-date

"This ideal man you found me?
It's worn out - got any more?"



What if you haven't 'got it'?



Reduce your expectations



What if you haven't 'got it'?



Reduce your expectations

Hang out with friends who have!



Ways to improve your chances



Ways to improve your chances



'Love at first fright!' (Dutton & Aron 1974)



Ways to improve your chances



'Love at first fright!' (Dutton & Aron 1974)

Try a rollercoaster ride together
(Meston and Frolich, 2003)



Ways to improve your chances



'Love at first fright!' (Dutton & Aron 1974)

Try a rollercoaster ride together
(Meston and Frolich, 2003)

Stare deeply into
one another's eyes



Ways to improve your chances

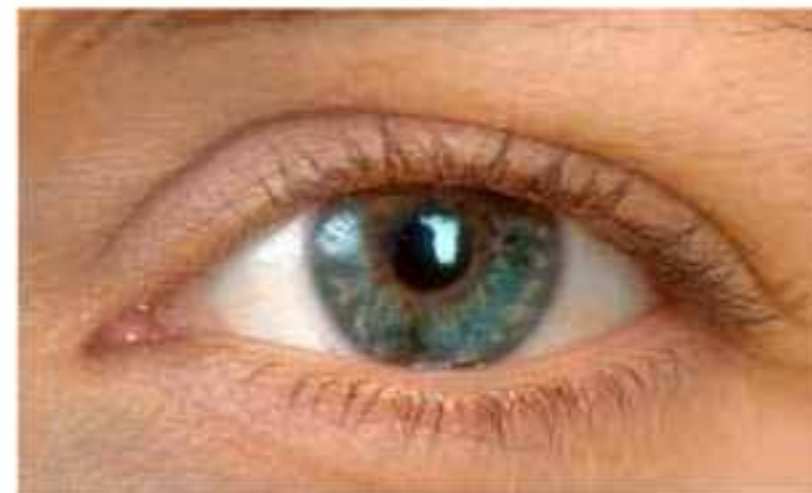
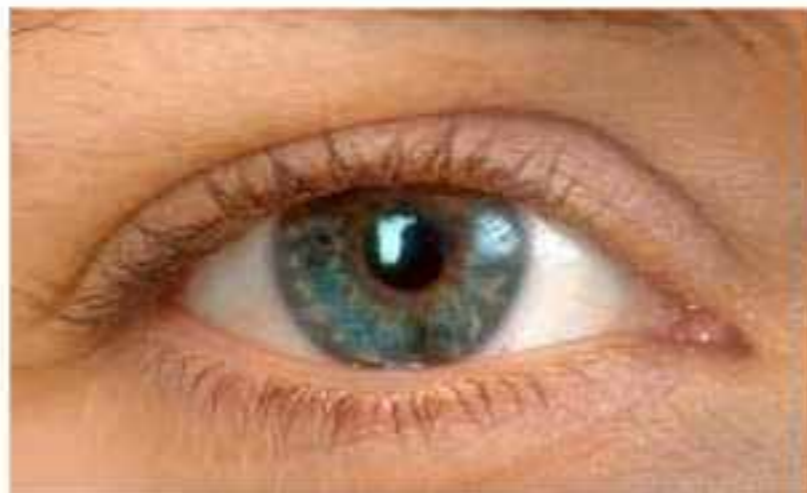


'Love at first fright!' (Dutton & Aron 1974)

Try a rollercoaster ride together
(Meston and Frolich, 2003)

Stare deeply into
one another's eyes

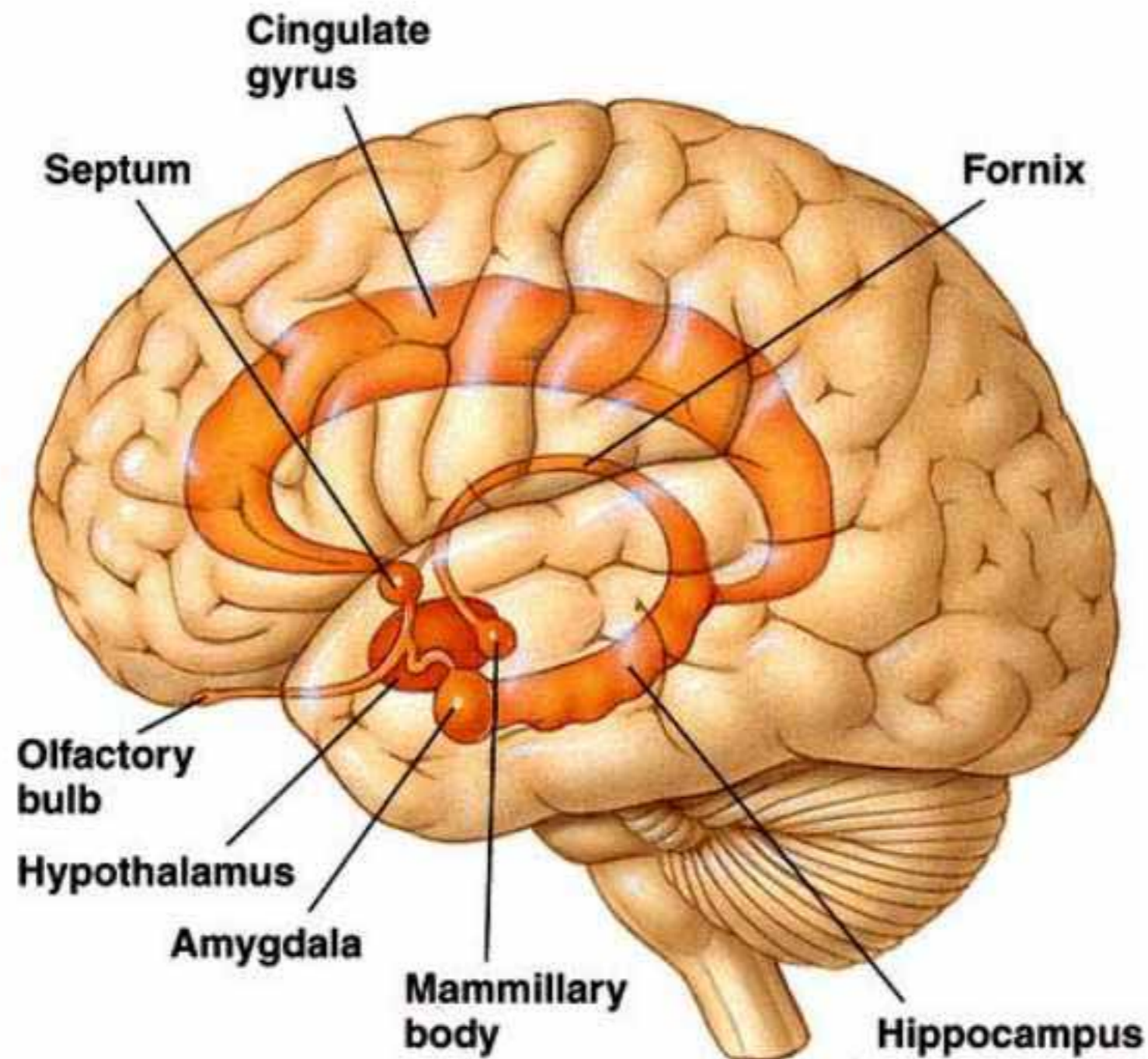
Make your eyes seem bigger



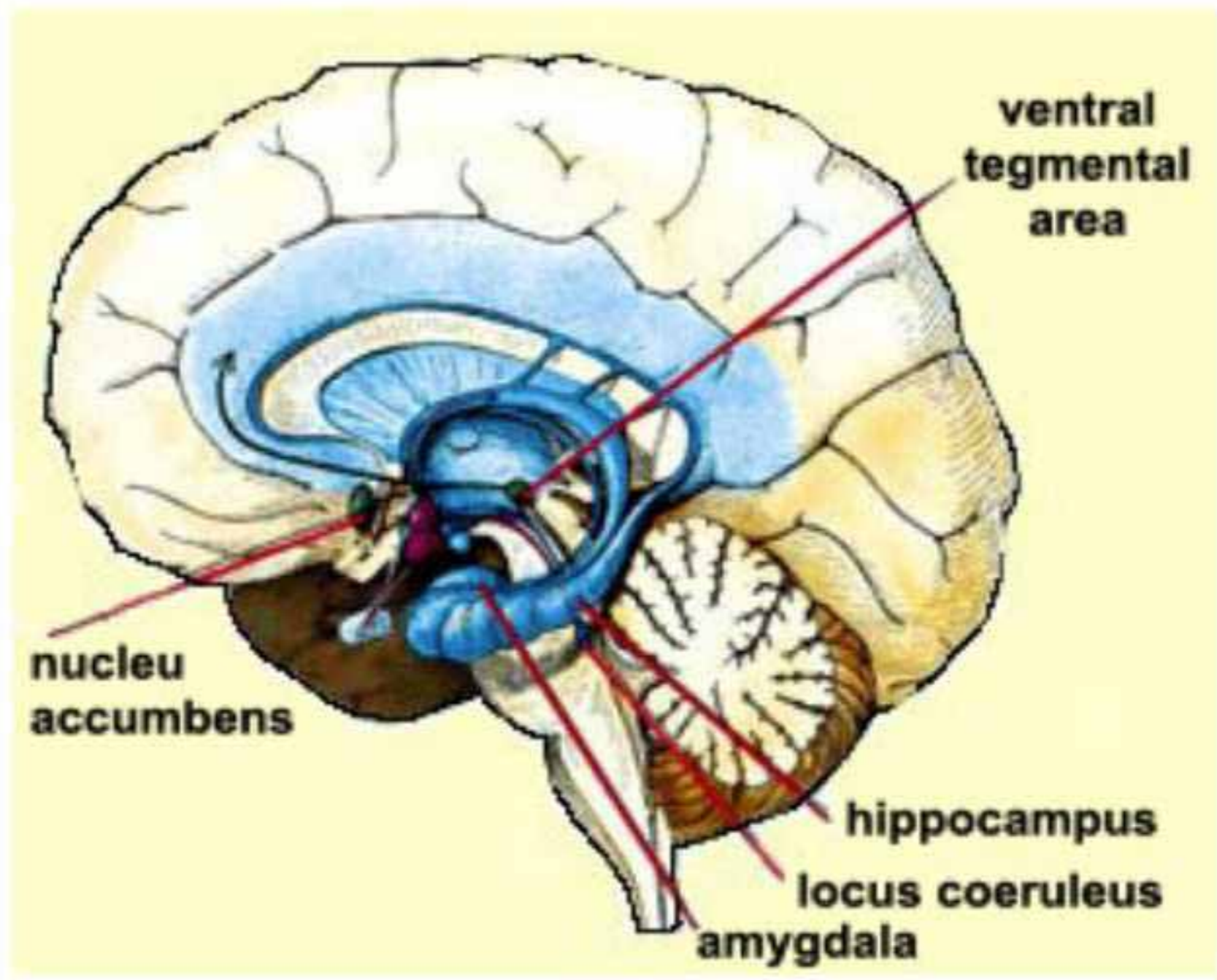
Attraction and the brain



► Location of Major Limbic System Structures



Attraction and the brain



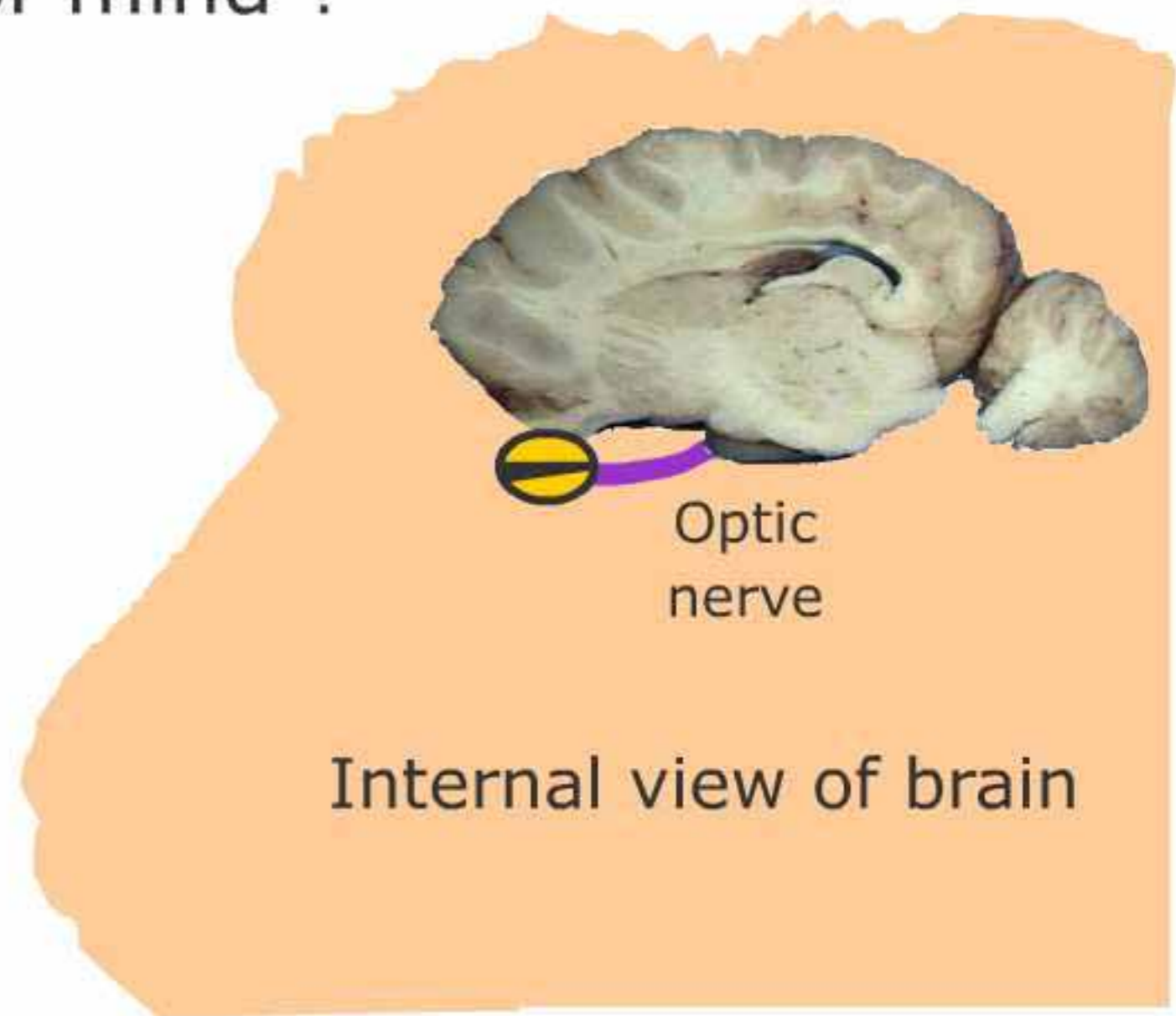


The impact of an attractive face





'In sight, but out of mind ?'



Optic
nerve

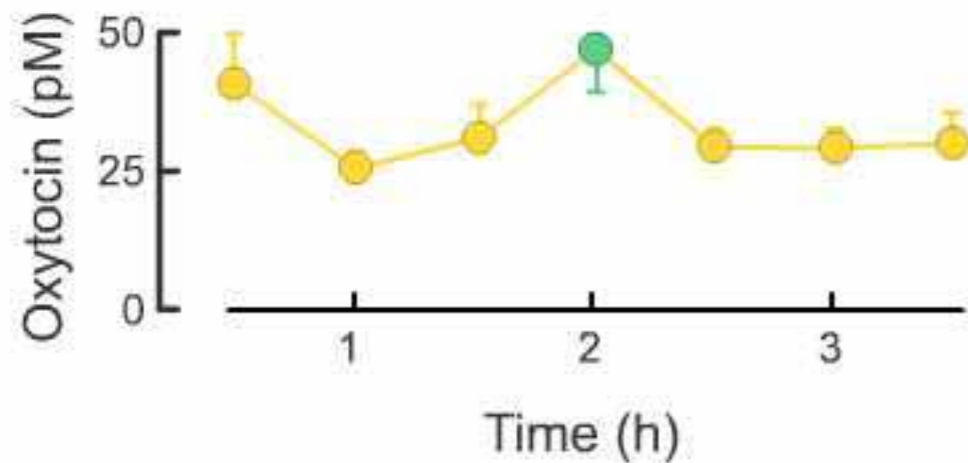
Internal view of brain

Not during oestrus - male not attractive

Attraction and the brain

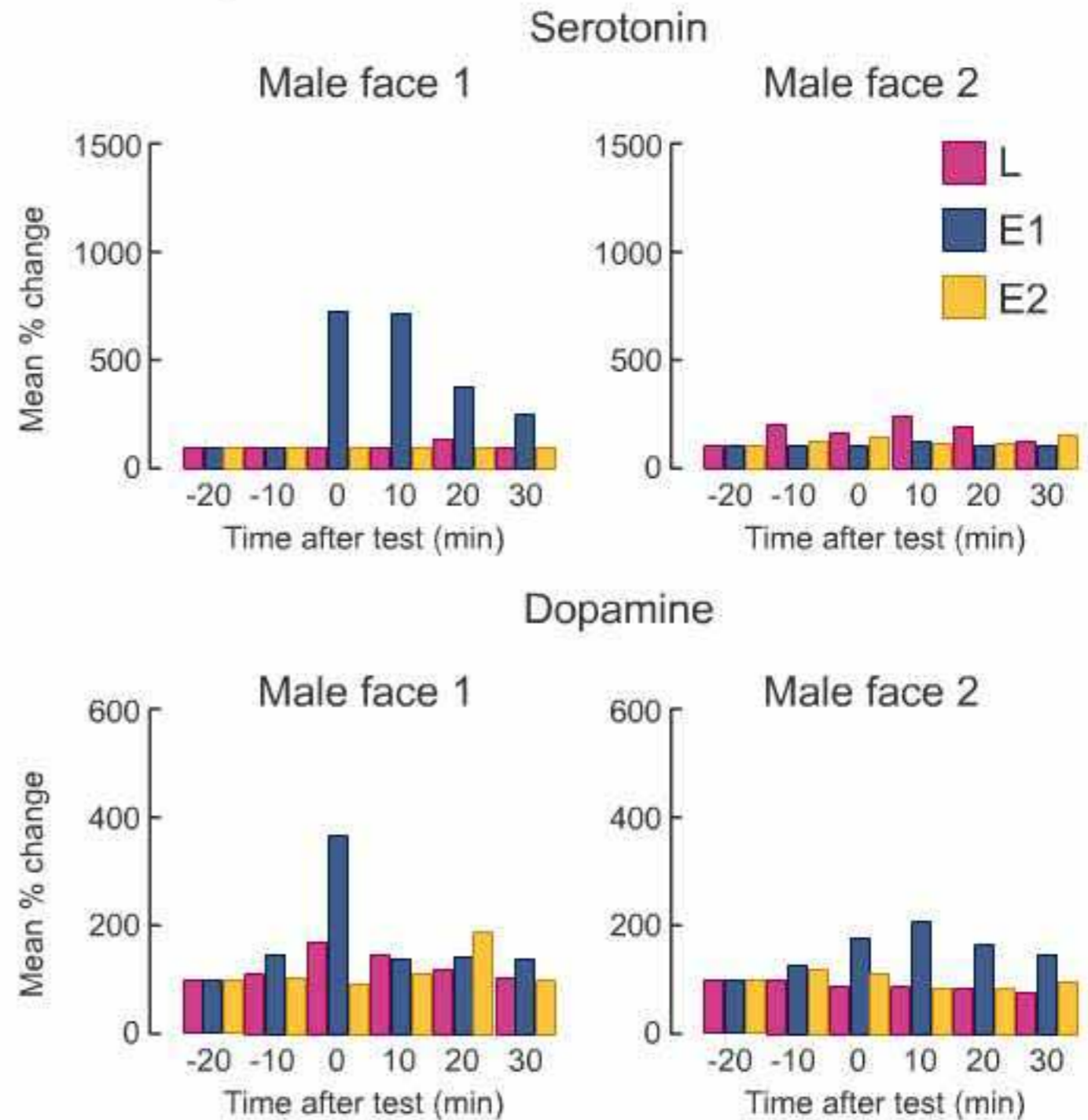


Attraction and brain chemistry



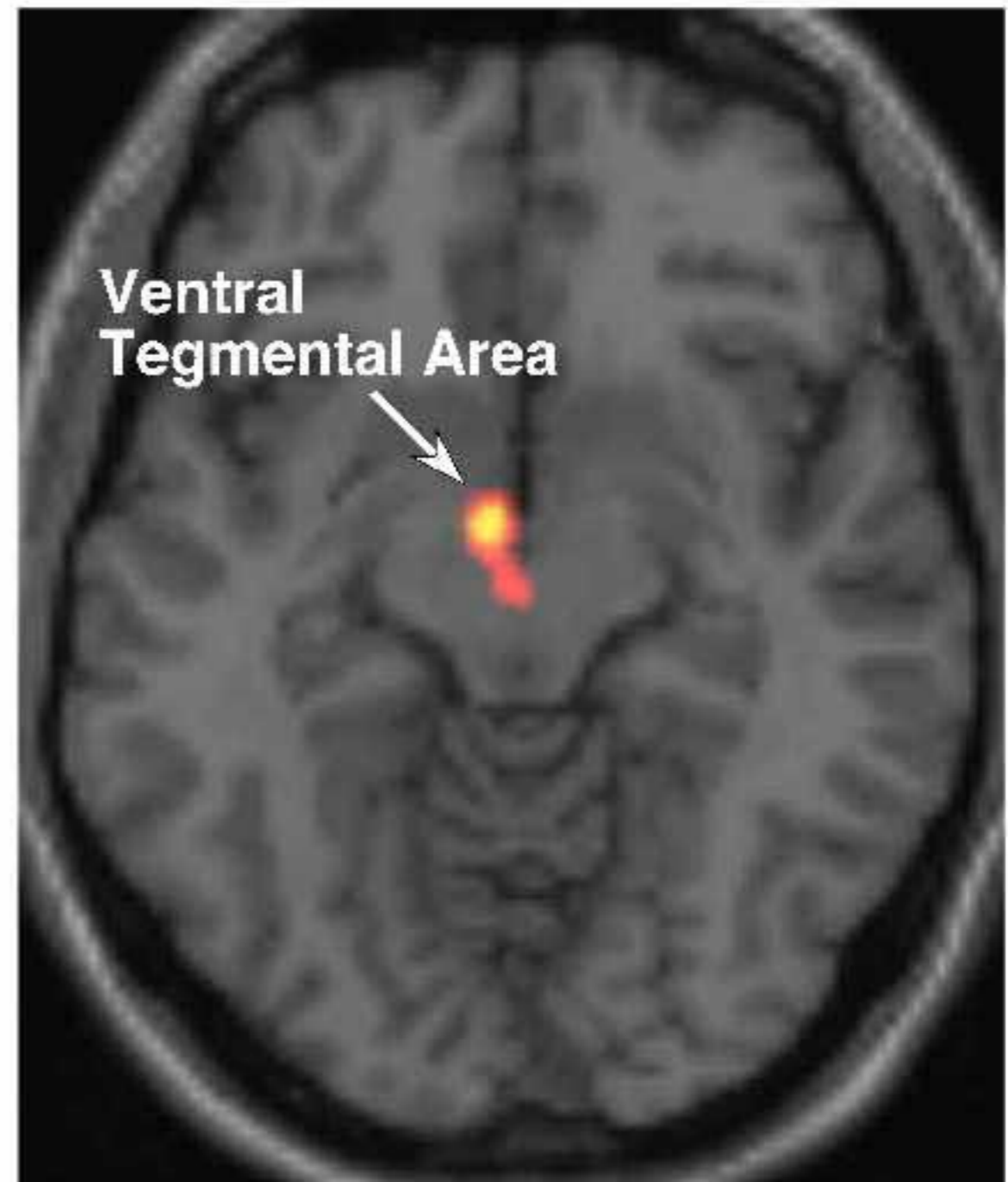
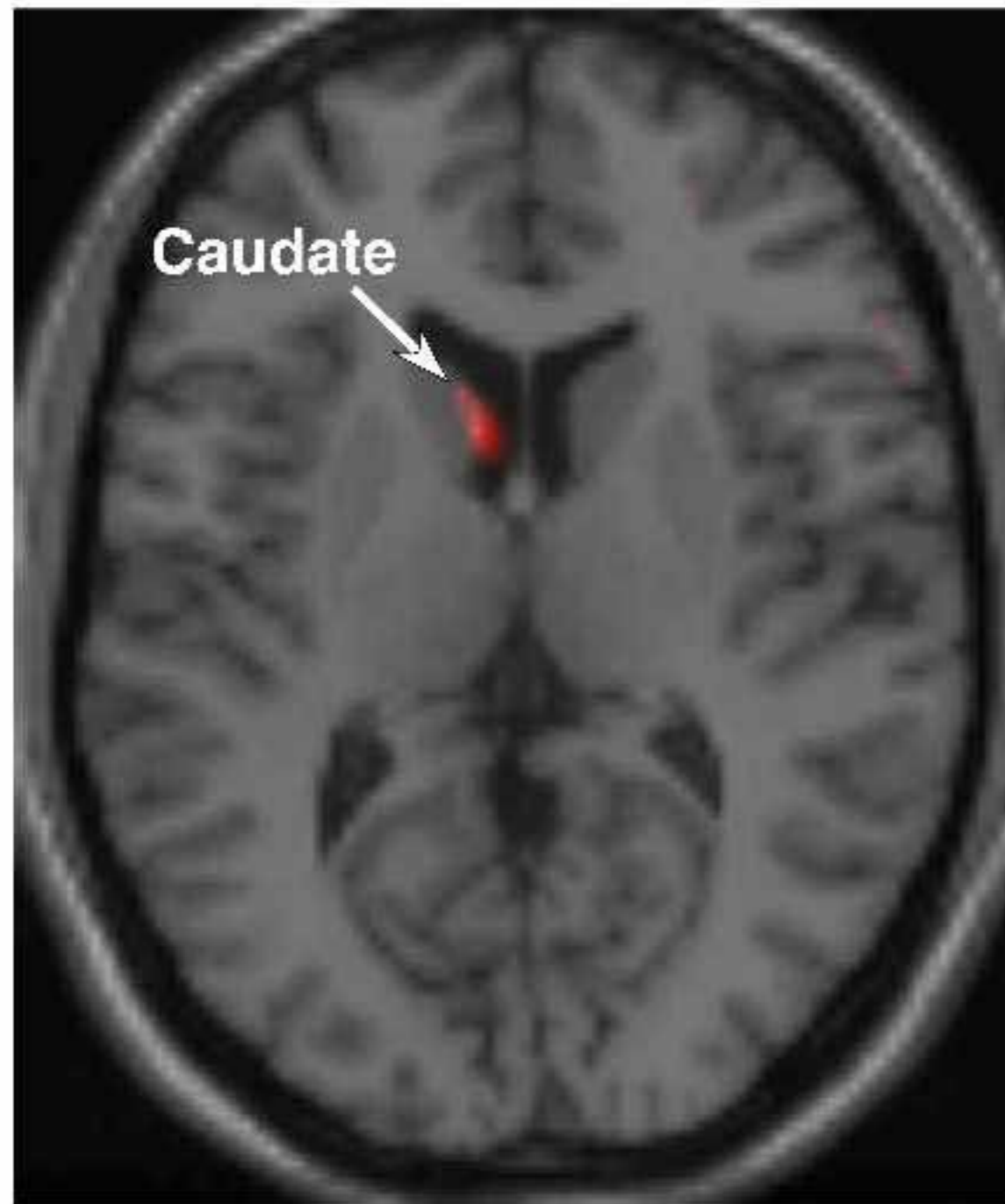
Kendrick *et al* J. Neuro. 1993

Fabre-Nys *et al* Eur. J. Neurosci. 1997





Human Brain Imaging studies

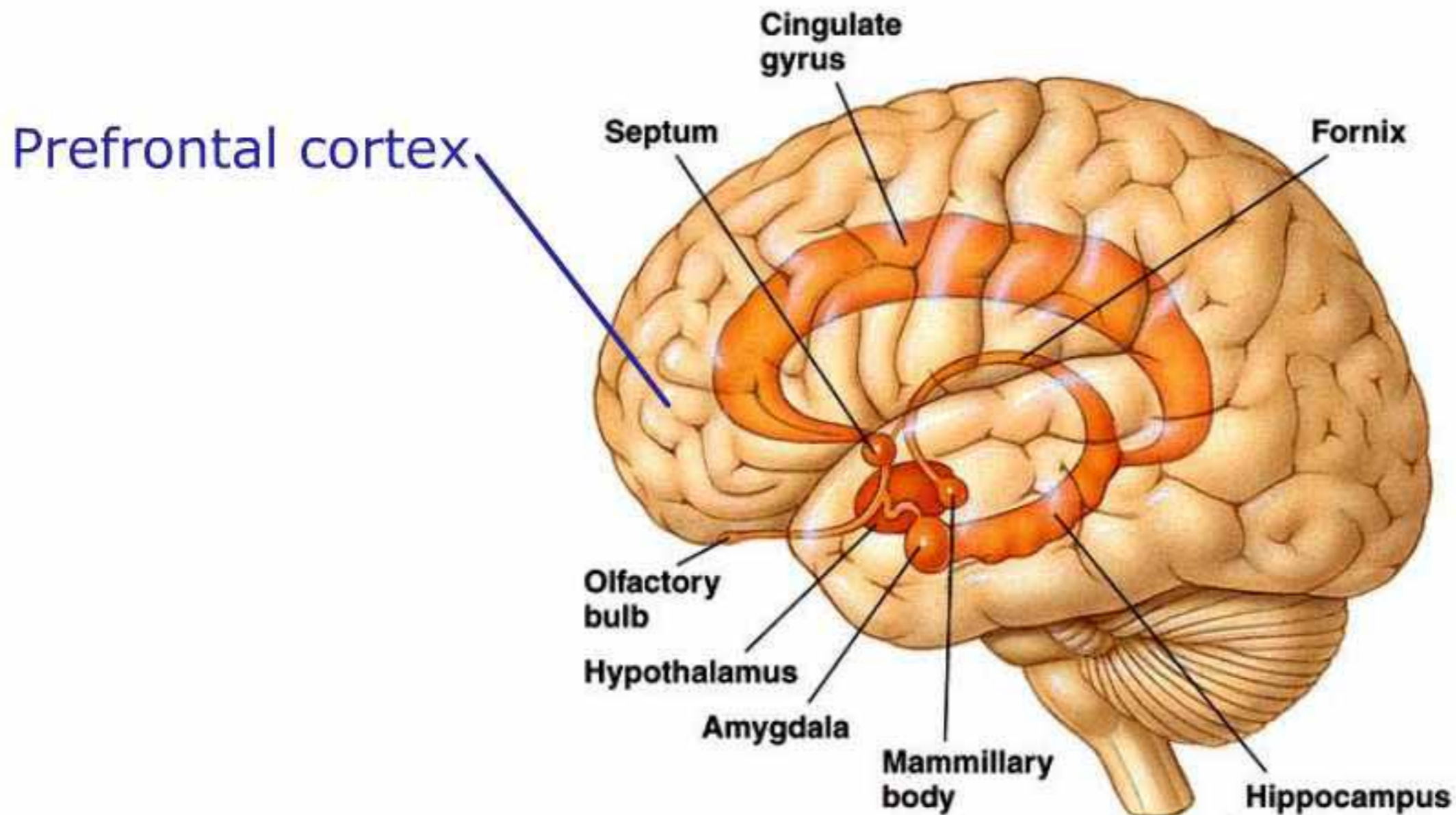


Attraction and the brain



Brain centres controlling moral judgements and impulsivity are deactivated

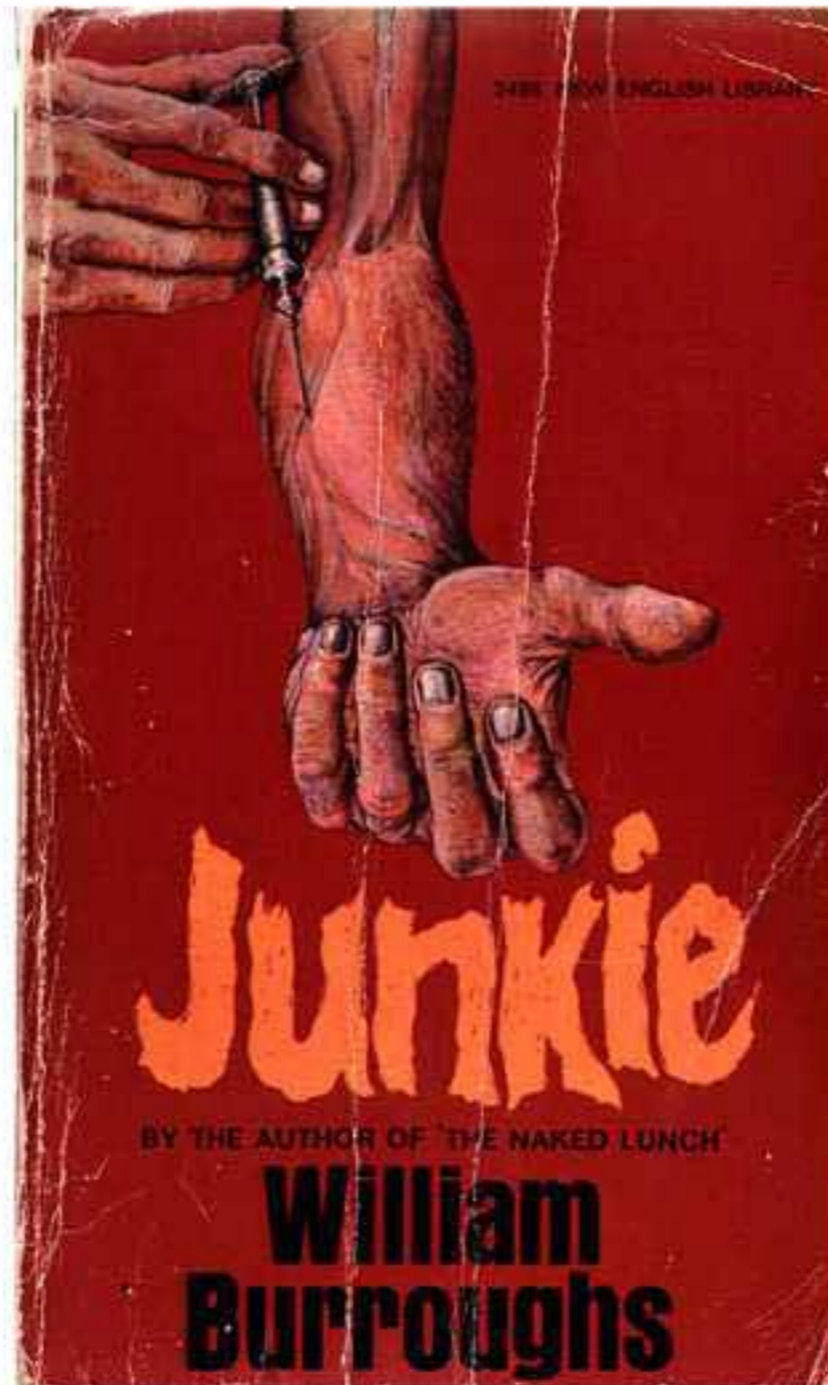
► Location of Major Limbic System Structures



Attraction and the brain



The brain in love is similar to drug addiction and obsessive compulsive disorder!



Attraction and the brain



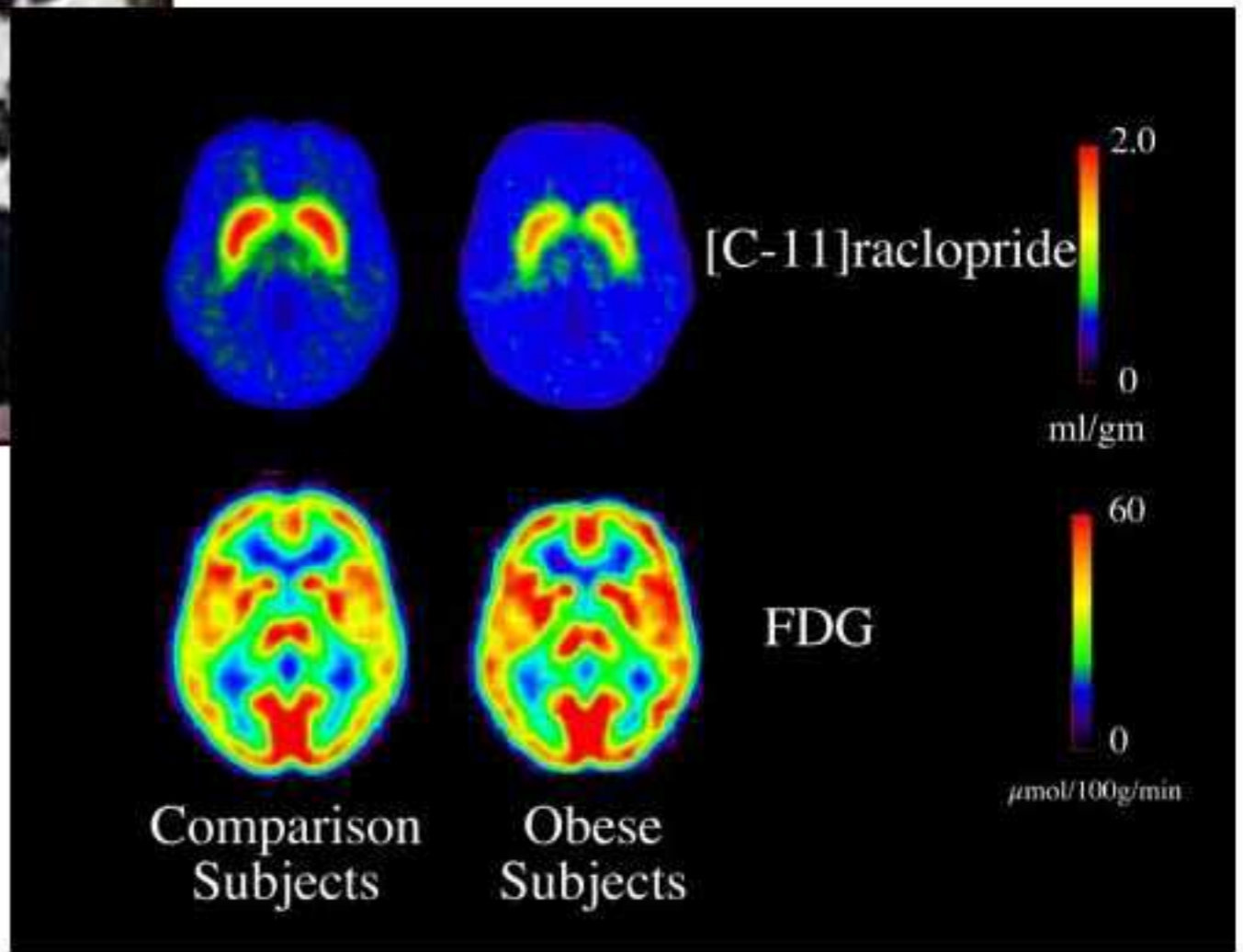
Love and brain serotonin – Prozac?



Attraction and the brain



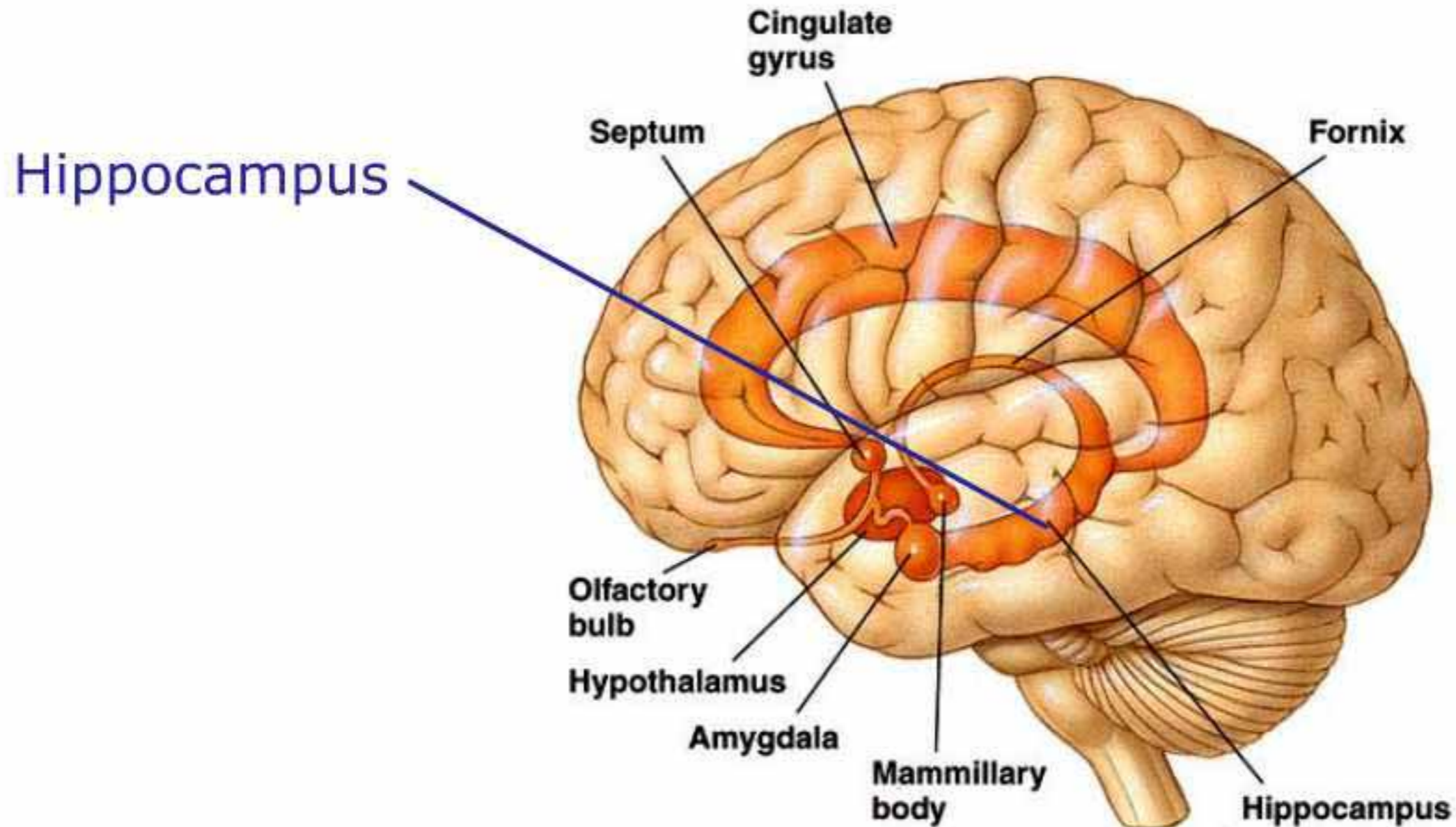
So is love an addiction?





Females engage brain memory systems more

► Location of Major Limbic System Structures



The road from romance to bonding



The vole story



Pine and Prairie voles are highly social, monogamous and show paternal care



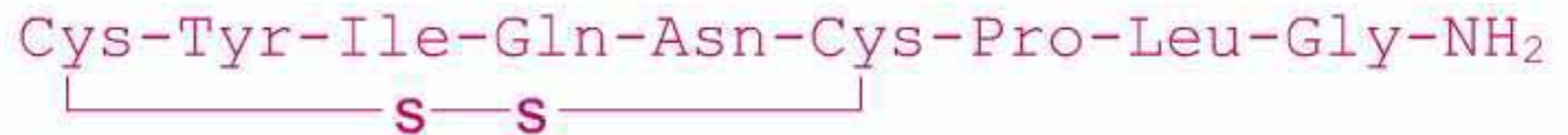
Montane and Meadow voles are asocial, promiscuous and show no paternal care



The road from romance to bonding



In females bonding is caused by release of oxytocin during sex



It helps females learn to recognise and remember their partner's smell

It stimulates the dopaminergic and opiate reward centres.....

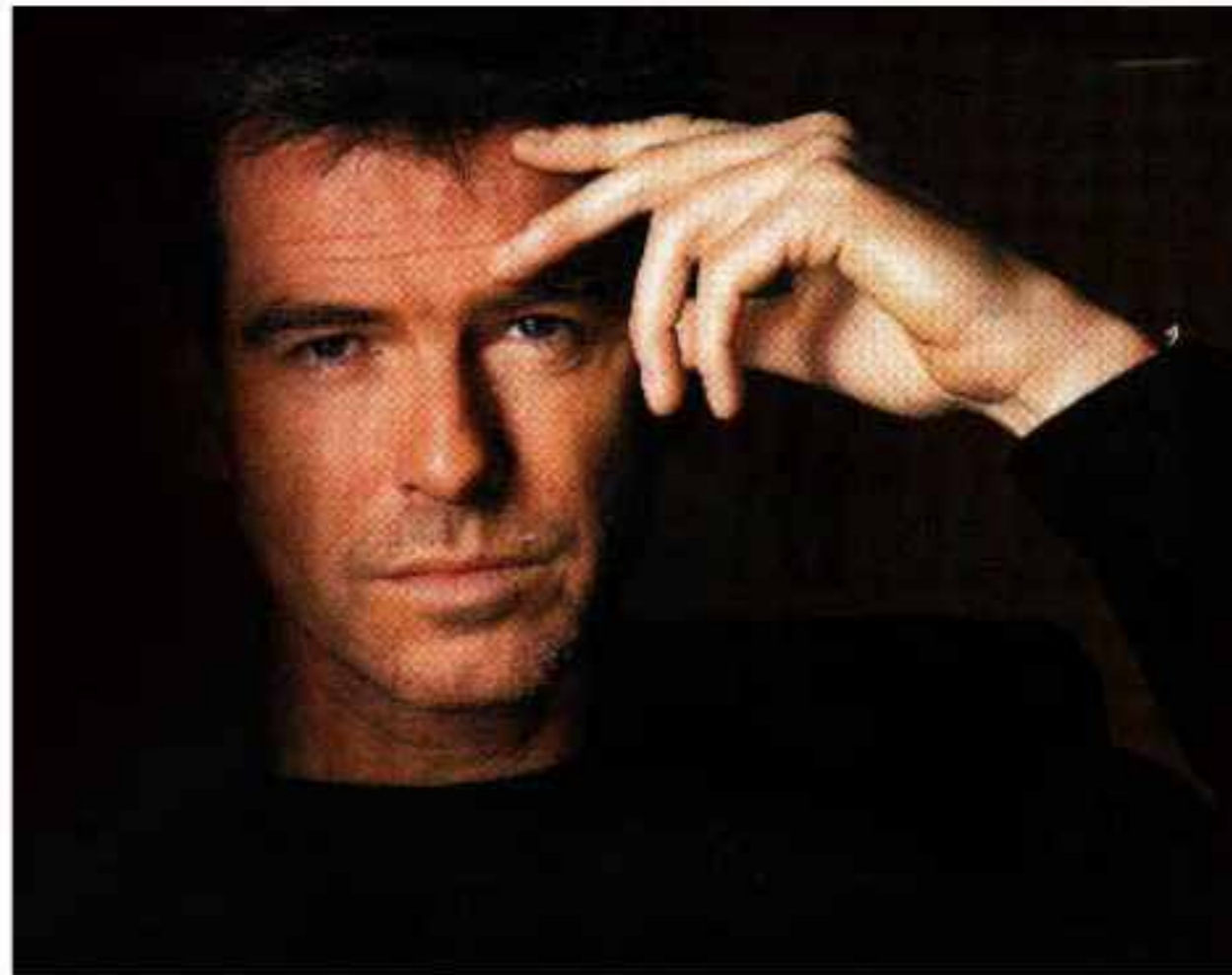
...and causes social anxiety which drives the need for social contact

The more they have sex the stronger they bond

The road from romance to bonding



To bond or not to bond?

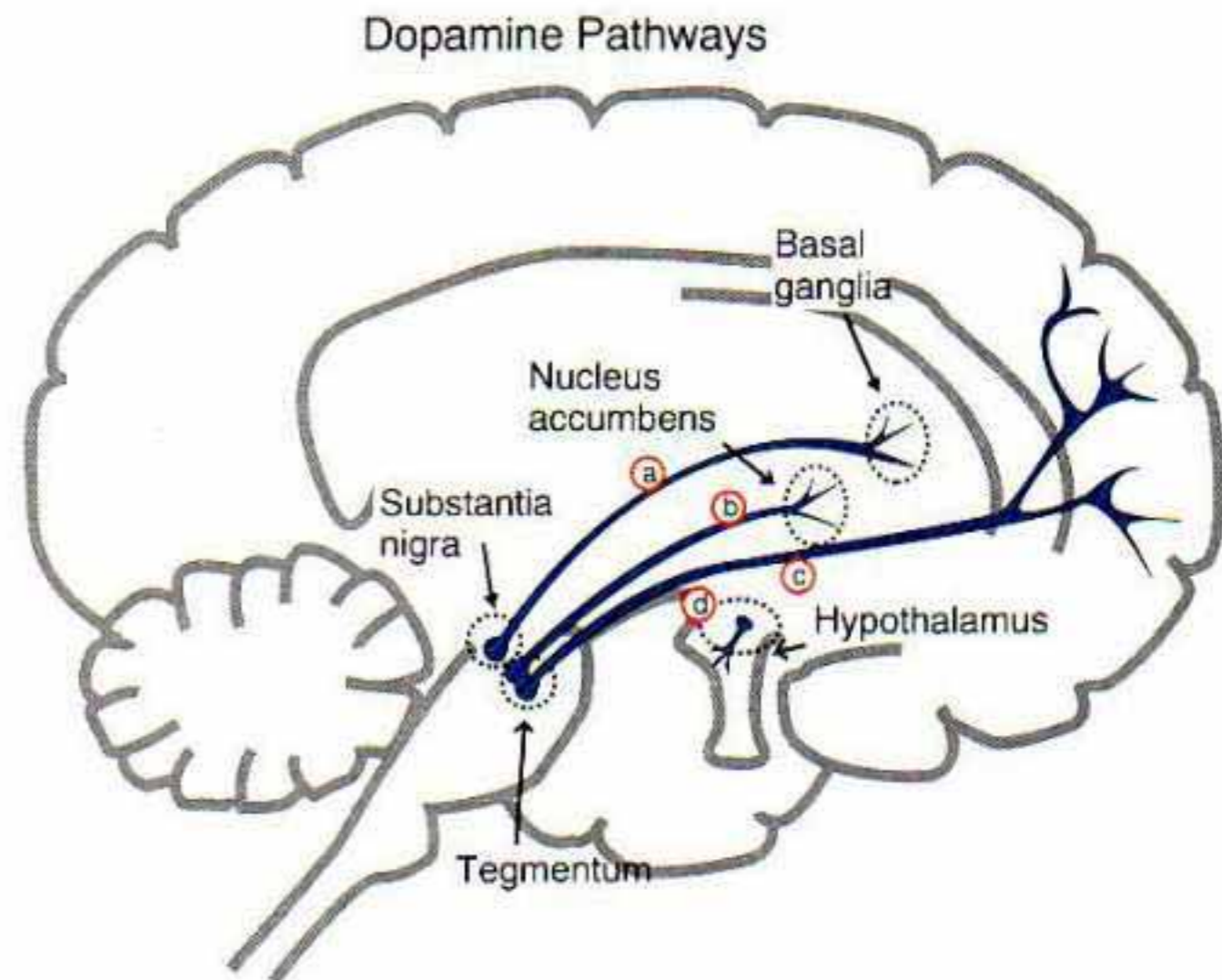
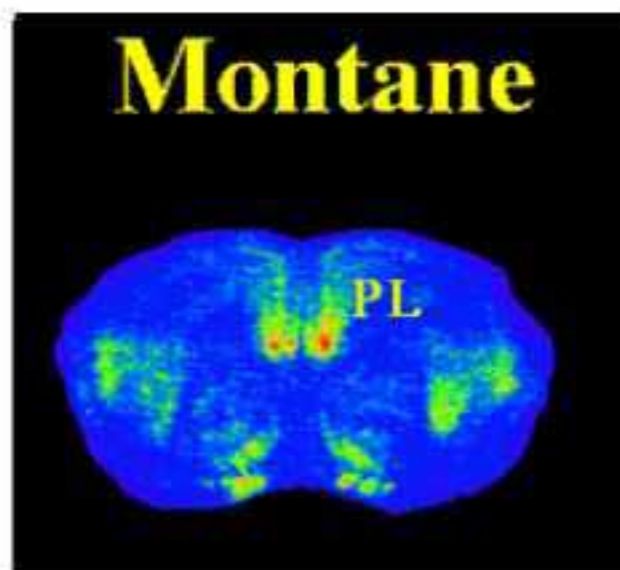
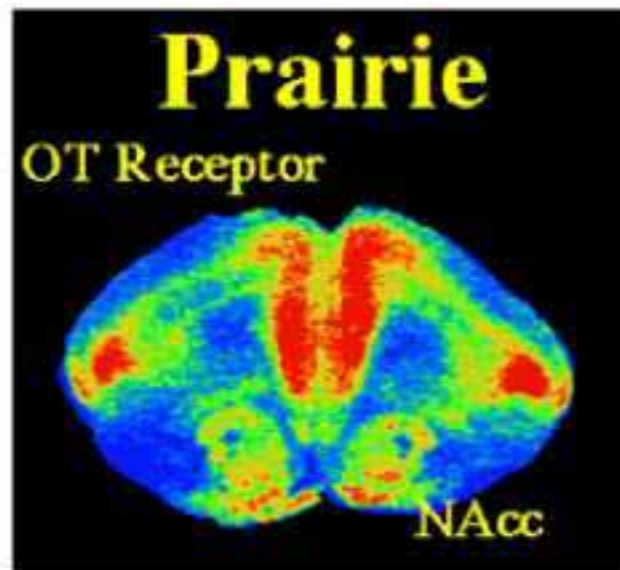


The road from romance to bonding



To bond or not to bond?

In species that bond oxytocin receptors occur in brain reward centres



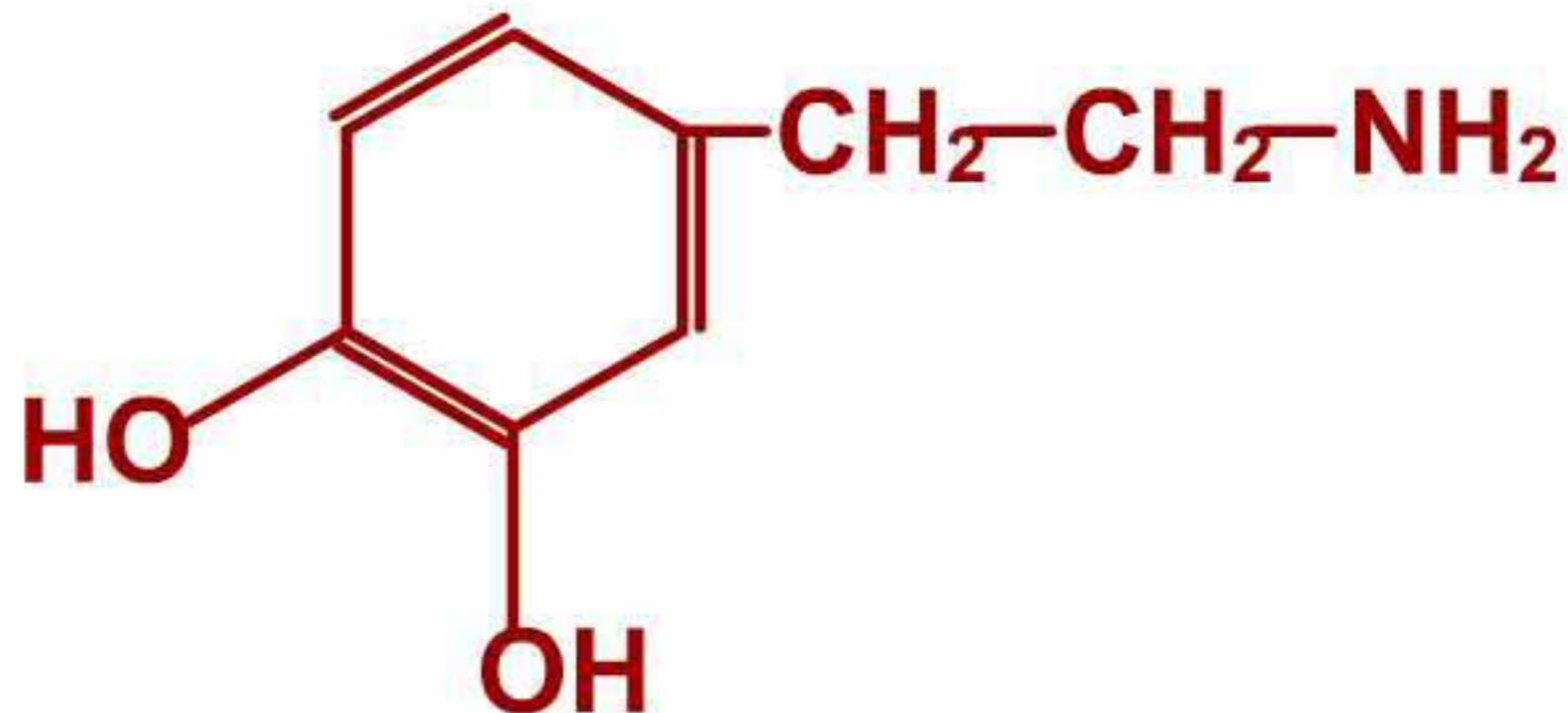
The road from romance to bonding



To bond or not to bond?

In species that bond oxytocin receptors occur in brain reward centres

Oxytocin stimulates dopamine release



What about human females?



Oxytocin is released following orgasm



What about human females?



Oxytocin is released following orgasm

Impatient males and women who fake orgasms take note!

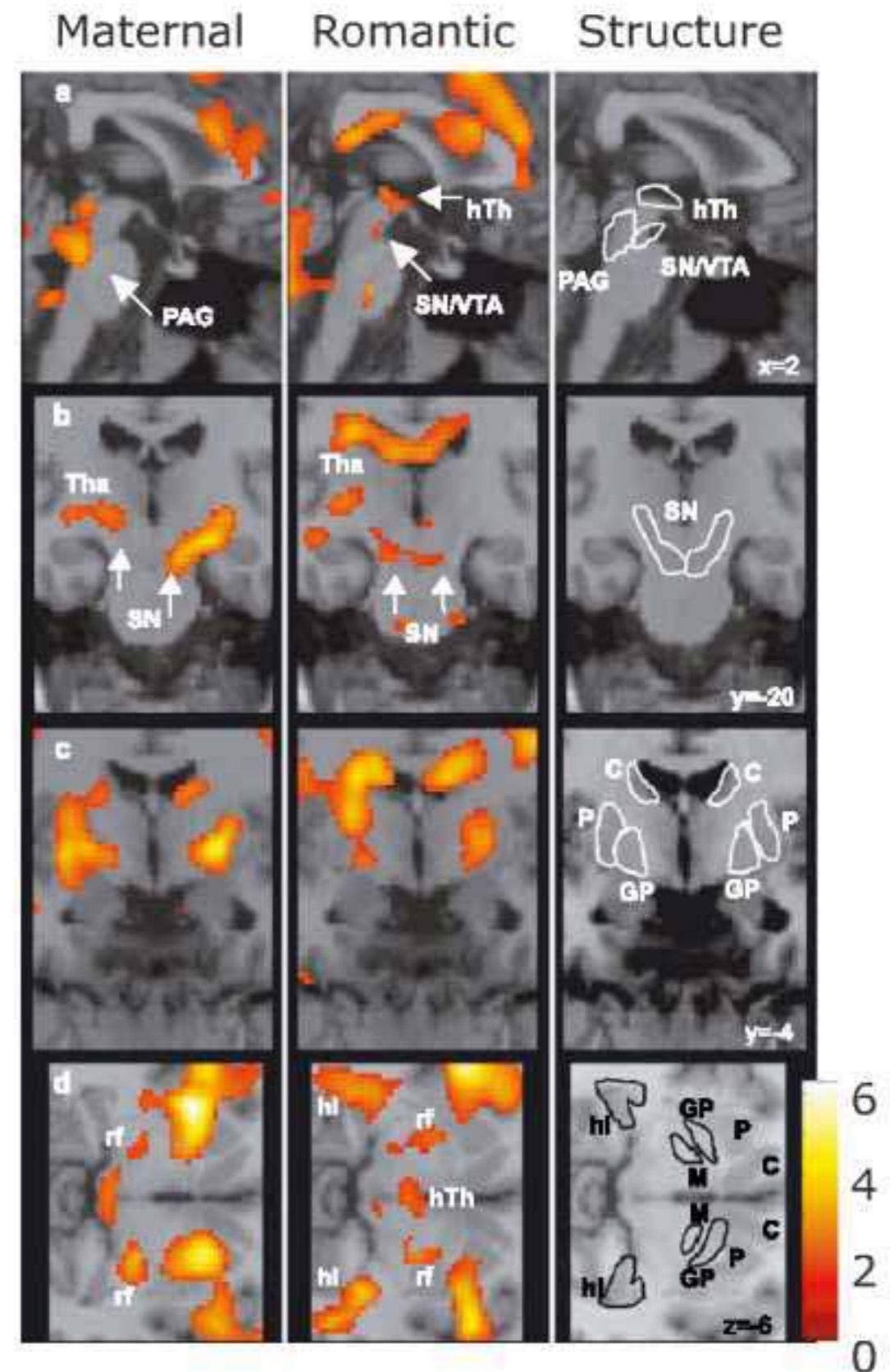


when
HARRY
met
SALLY.

What about human females?



Brain regions with oxytocin receptors are active when you see a loved one



Bartels & Zeki Neuroimage 2004

What about human females?



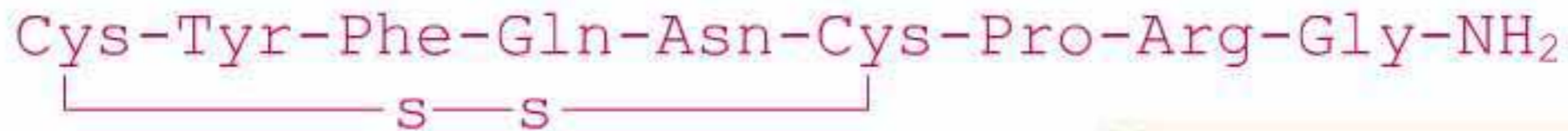
The same systems cause mother/offspring bonding and reduce aggression – make love not war



What about males?



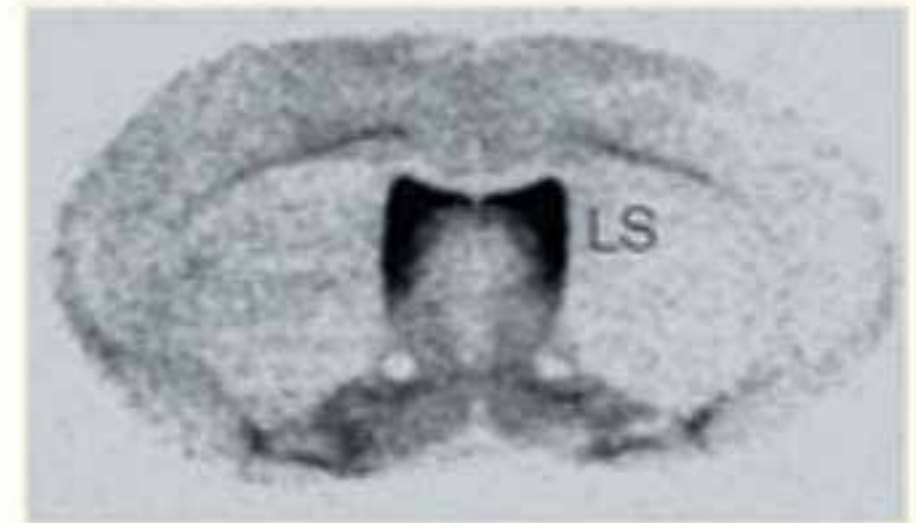
Vasopressin is the all-important peptide



Bonding males:

Vasopressin receptor (V1a) is localised in dopamine reward centres

Montana



Pairie

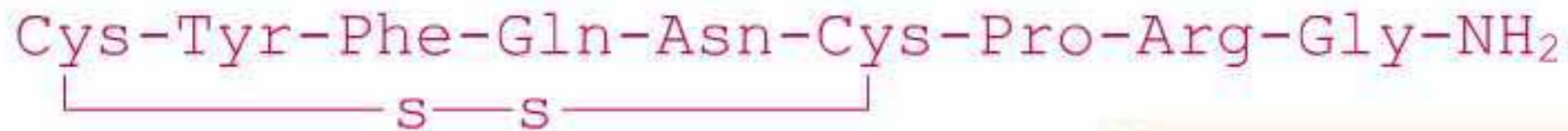


Young et al 2001

What about males?



Vasopressin is the all-important peptide

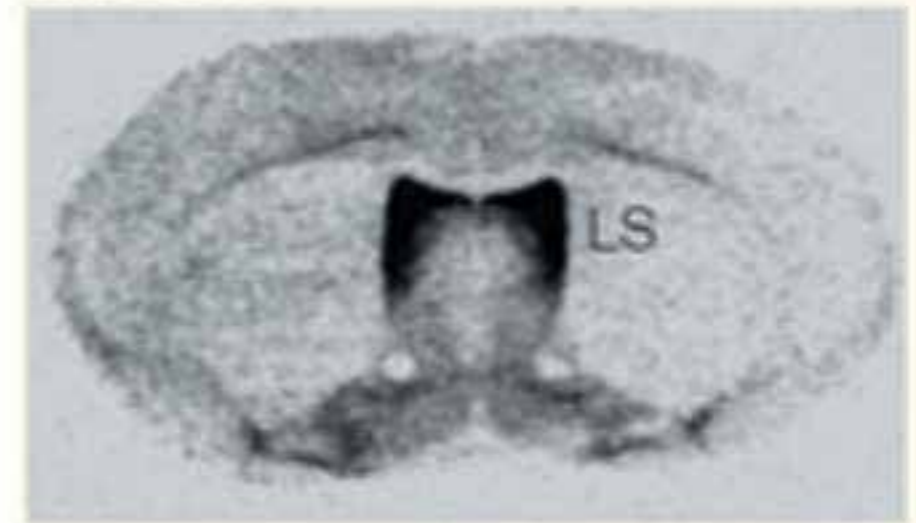


Bonding males:

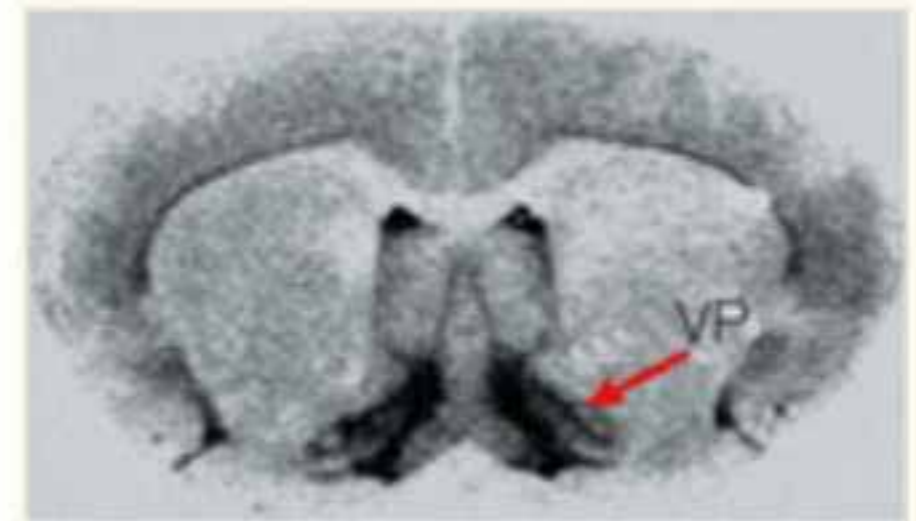
Vasopressin receptor (V1a) is localised in dopamine reward centres

Also increases brain dopamine release and decreases serotonin

Montana



Pairie

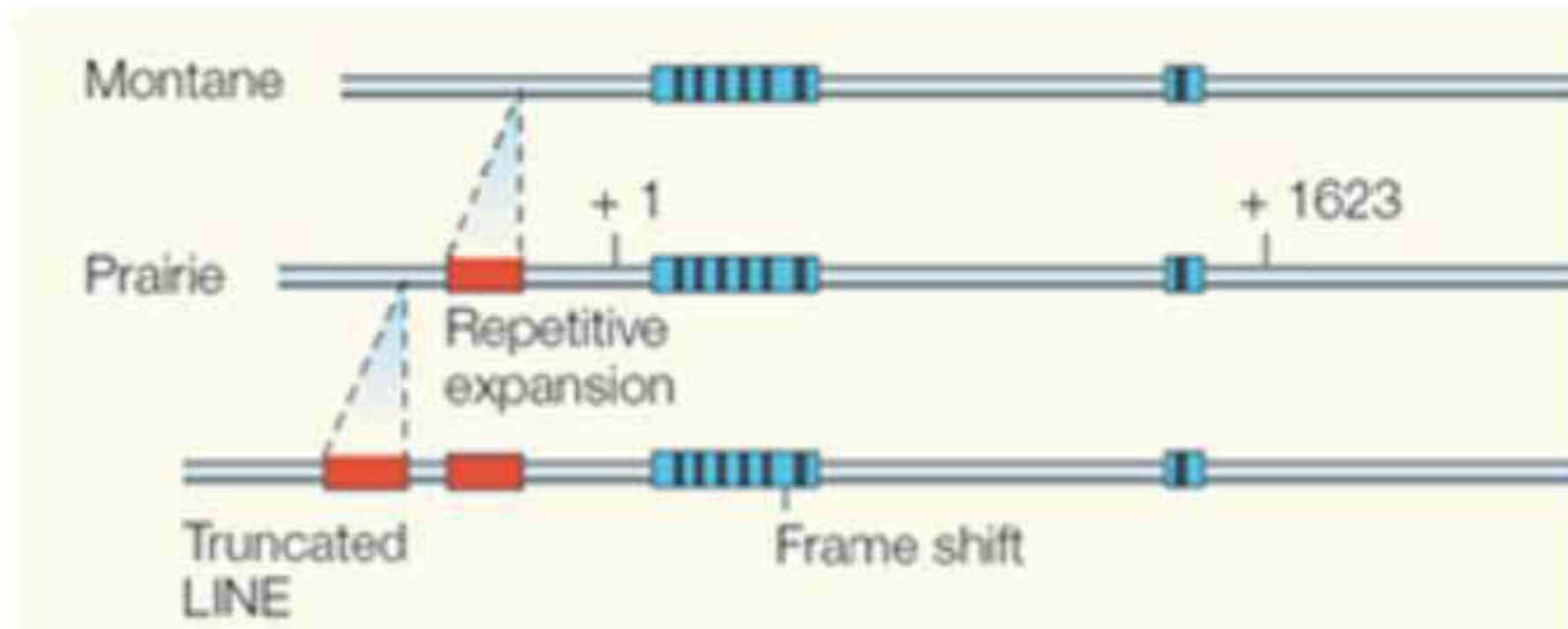


Young et al 2001

What about males?



The monogamous version of this gene is structurally different



Young *et al* 2001

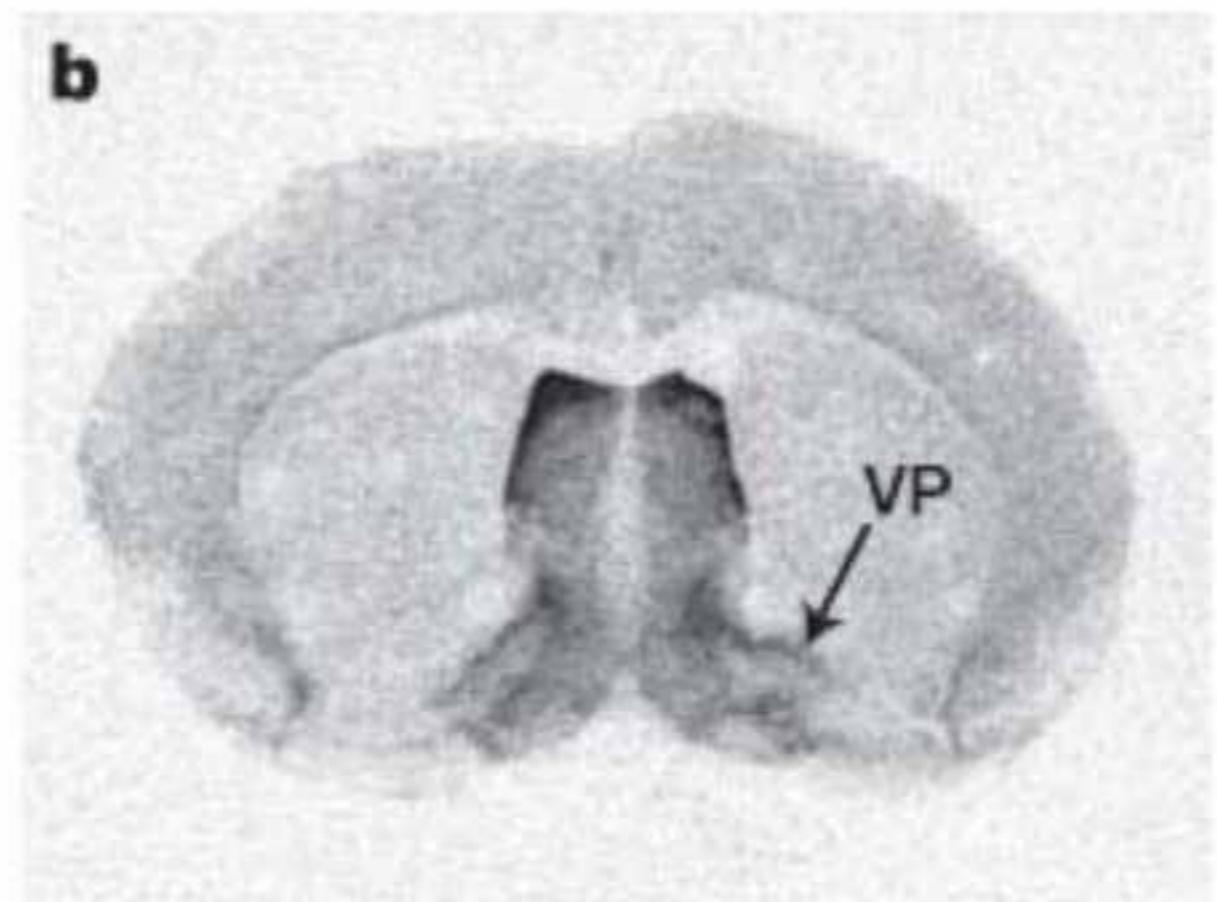
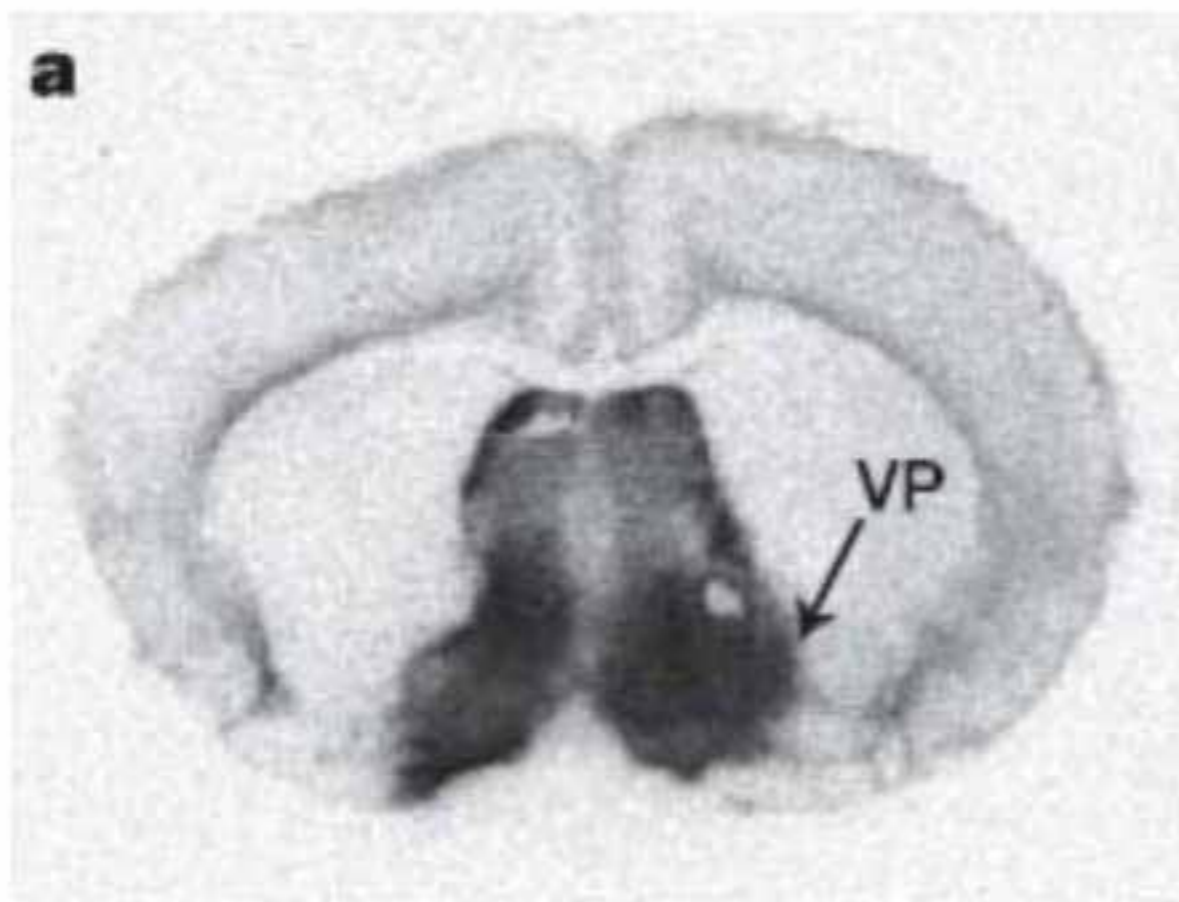
What about males?



The monogamous version of this gene is structurally different

Making a promiscuous vole into a monogamous one

Lim et al Nature 2004



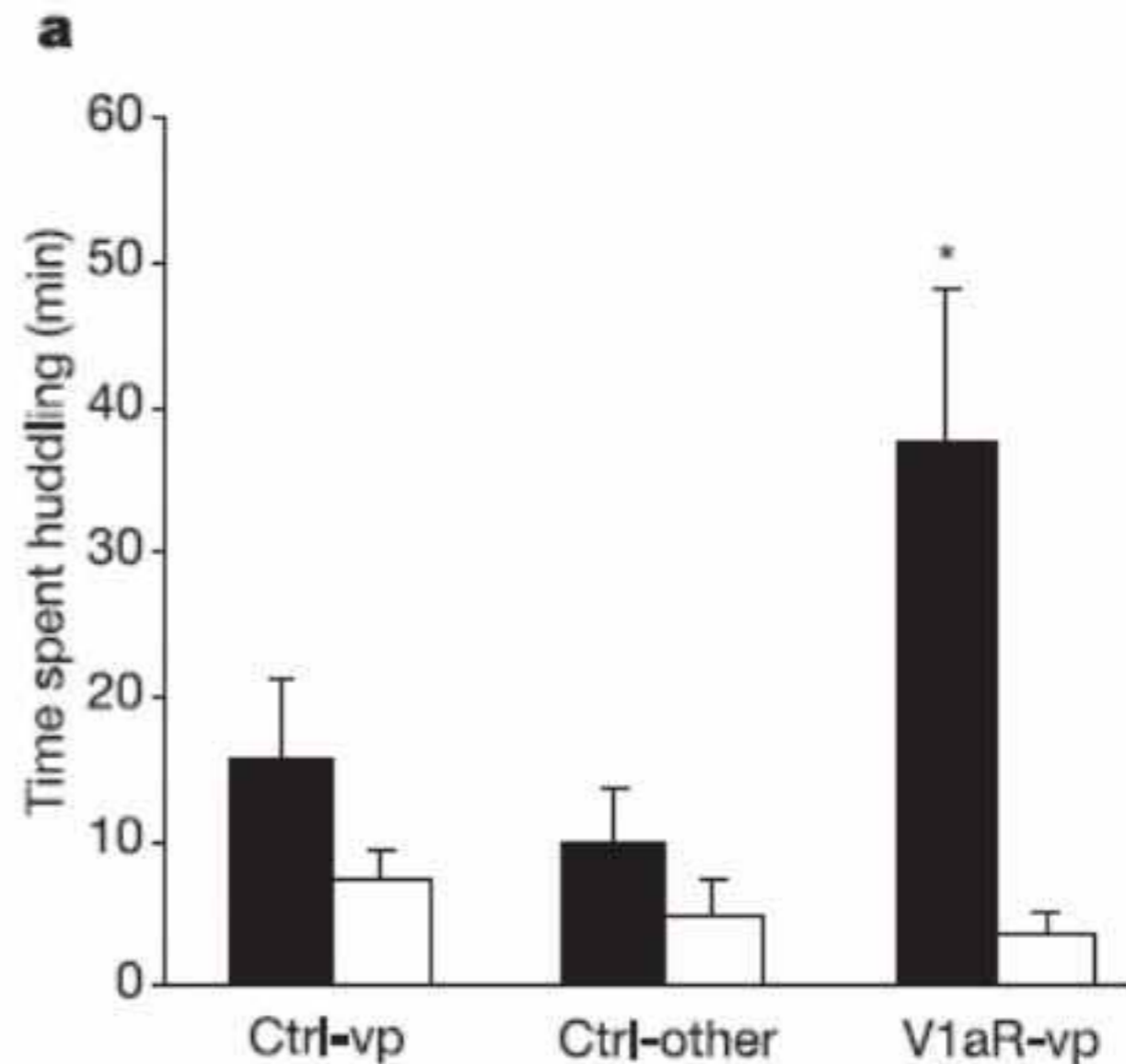
What about males?



The monogamous version of this gene is structurally different

Making a promiscuous vole into a monogamous one

Lim et al Nature 2004



What about males?



Is genetic engineering the answer to the philandering human male?

Page 26

Daily Mail, Thursday, August 19, 1999

Science finds a way to cure the love rats



All over: Jagger and Jerry

SCIENTISTS could be on the verge of finding a cure for love rats, it emerged yesterday.

Research on rodents has shown that a genetic tendency to infidelity can be reversed - and the effects on philanderers of the human kind may be just as drastic.

Sadly, it is a discovery that has come too late for the long-suffering Jerry Hall.

The latest success of genetic

By JENNY HOPE
Medical Correspondent

engineering might have allowed the former model, who never quite managed to get Mick Jagger to a legally-recognised altar, to have kept him by the fireside instead.

Scientists have managed for the first time to turn promiscuous, anti-social animals into friendly and faithful mates.

An American team achieved the transformation by inserting a

gene from a monogamous species into a polygamous one.

The finding may also be important in treating such human disorders as autism, schizophrenia and Tourette's syndrome - a condition where sufferers spout obscenities in public.

The study, carried out at Emory University, in Atlanta, built on previous research involving voles.

Larry Young and his colleague Thomas Insel had already studied the monogamous prairie voles and their cousins the mon-

tane (hill-dwelling) voles, which have many mates.

'After mating, the male prairie vole forms a strong social bond. He prefers to be with that mate to the exclusion of all others,' said Dr Young.

'That pair nests together. When she has her babies he spends as much time with those babies as she does. He defends the nest. They stay together for the next litter and the next and the next.'

But montane voles behave in a

'He takes off to search for another'

vastly different manner - even though their genetic make-up is 99 per cent identical to that of their prairie vole cousins.

'When the montane vole mates, he immediately takes off and searches for another female,' said Dr Young.

The researchers managed to identify the DNA sequence that separated the two types of vole.

It is responsible for regulating how much of the peptide hormone vasopressin is released into the brains of

animals, including humans. Vasopressin plays a role in male behaviours, including aggression, communication, sexual activity and social memory.

In the new study, scientists took a vasopressin receptor gene from a monogamous vole and inserted it into a polygamous mouse.

To their surprise, the resulting 'new mice' formed close relationships with females, says a report in the science journal *Nature*. Mice were used first because it is easier to change their genetic make-up.

The next step is to see whether genetic implants will also make the montane moles more faithful.

Dr Young said much more research would be needed to determine whether genetic manipulation could help treat antisocial disorders in humans.

He warned: 'In human cultures we may find that experience and values have a lot more to do with behaviour.'

In other words, the human love rats may not want to be cured.

What about males?



Is genetic engineering the answer to the philandering human male?

Vasopressin is also associated with male aggression – make love and war?



Stress and bonding



Stress and anxiety increase both oxytocin and vasopressin activity



Stress and bonding



Stress and anxiety increase both oxytocin and vasopressin activity

but...

...unrequited love will stimulate increased compulsion and anxiety



'Love changes everything'



Love:

Additive actions of sexual attraction and bonding



'Love changes everything'



Love:

Additive actions of sexual attraction and bonding

Constancy:

Bonding hormones that reorganise the brain



'Love changes everything'



Love:

Additive actions of sexual attraction and bonding

Constancy:

Bonding hormones that reorganise the brain

Only the original partner
can press the right buttons



Love is:



Love is...



... good, clean fun.

Love is:



Similar to sexual attraction and bonding in other monogamous mammals

Intensified by voluntary control of conscious thought, self awareness and empathy

An obsessive drive that has the potential to become an addiction

A potential economic disaster in the work place

Love is:



Seeing only the best in someone else

Finding someone who looks like Mum or Dad!

Less about personality, kissing, smells, songs and touching hands....

...or even being single, sexy and promiscuous

Love is:



More about sight, symmetry and Phi

Frightening him/her to death while looking into their eyes

Making sure he/she is wearing their bonding genes in the right place

Remembering his good points when he can't remember yours

Love is:



Knowing that attraction or sex without love is a pale imitation

Love is...



... the most intense happiness.