

Alife Mutants HackingSession on Systems and Organisms, Bielefeld 2004

Theories of Love

In this Lecture we present various Theories of Love, Mate Selection and Relationships and give an introduction to Simulating Artificial Love

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Love in Everyday Psychology I

- Birds of a feather flock together
 - The more similar you are, the better.
 - same opinion
 - same habits
 - same likes and dislikes
 - Most Partner Agencies rely on this principle when matching their clients
- Opposite poles attract
 - Humans seek for those traits they don't have themselves
 - opposite characters can complement each other

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Love in Everyday Psychology I

- love is temporary
 - people fall in and out of love at increasing frequency giving rise to funny German words such as ‚lebensabschnittspartner‘
 - everything seems to change faster nowadays, so do we, that's why we don't fit together anymore after some time
 - Love has always been temporary, that's why Institutions such as marriage have been invented
- your dream partner is out there
 - there are so many millions of people out there, there must be someone who fits you perfectly
 - maybe your dream partner does not exist, but hopefully someone comes close

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Love in Everyday Psychology III

- what are the underlying assumptions?
 - What matters are the constituting parts, if the parts fit the relation (love) will occur.
 - partners are consumer goods
 - they must fit your lifestyle, timeplan etc.
 - if the partner doesn't work you can return him/her
 - once you know the partner the relationship gets boring
- this is only one way to view love
 - there are many types of love
 - concepts of love have changed throughout history
 - many people have integrated one or more of those historical concepts into their own theory of love
 - Science tries to find out what love is

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{ a greek typology of love }

- eros
 - in classic mythology eros shot arrows through the eyes of the lover
 - love at the first glance
- storge
 - ancient greek for love that develops slowly between siblings or playmates
 - more like friendship
- ludus
 - love as a game
 - not restricted to twoplayer games (Don Juan)
- mania
 - ‚theia mania‘ = madness from the gods, type of love that strikes you like a bolt from the blue
 - obsession, addiction, in love with love(!), selfish
- pragma
 - (from pragmatic) practical approach
 - compatible partner
- agape
 - christian love
 - selfless, giving, altruistic, ideologic

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{ some historical views }

- love as bittersweet (mania)
 - love as addiction and torture
 - „Love the looser of limbs shakes me a creature bittersweet, inescapable“ (Sappho 630 B.C)
- love as a god (eros)
 - Aphrodite, Eros
 - Power beyond the control of Humans
- love as the need for reunion
 - Plato's Symposium, sphericals cut in halves by the gods
 - Man and Woman are imperfect, therfor they stride for unification

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{ the emancipation of love }

- curtley (18th century)
 - sexual love is an ideal in itsself
 - it is ethical and aesthetic
 - it makes you a better human
 - love pertains to courtesy and courtship but not necessarily to marriage(!)
 - love is an intense, passionate relationship that establishes a holy oneness between man and woman
- romantic love (19th century)
 - Romantic Optimism
 - and they lived happily ever after
 - Romantic Pessimism
 - this world is too restricted for love to unfold (Rome and Julia etc)

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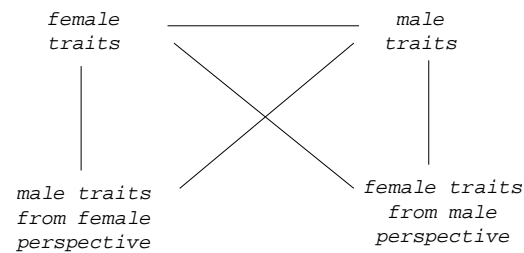
{ psychology of love I }

- how is love measured?
 - iterative process
 - formulate love hypothesis
 - create items for a questionnaire
 - use statistics to find significant traits
 - reformulate hypothesis etc.
 - what is measured?
 - happiness
 - duration of relations
 - investment, devotion ...
 - couple similarities
 - subjectively perceived similarities

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{ psychology of love II }

- similarity perception modell (Hassebrauck)
 - used for prediction of relationship quality & duration



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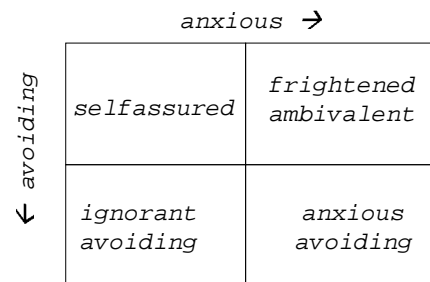
{ simulating similarity perception }

- agents have models of each other
 - ego model
 - alter model
- attraction is only based on perceived similarities and their change over time
- difference between the sexes can be based on relationship memory

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{ psychology of love }

- love styles
- relationship styles

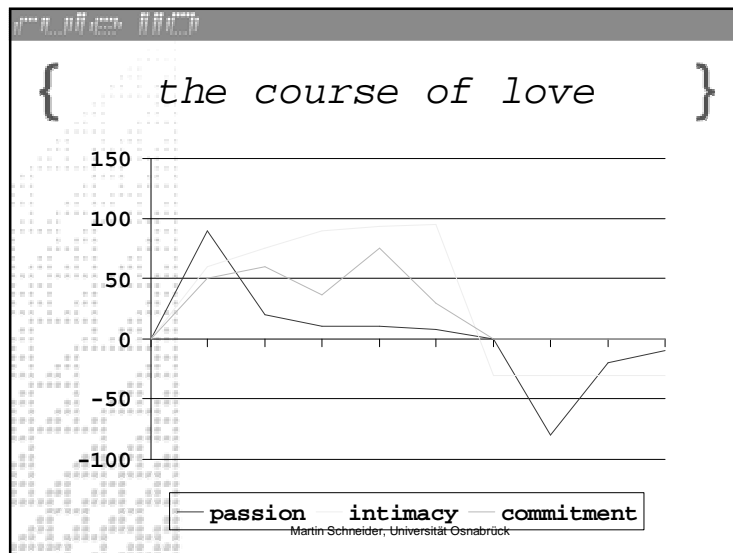
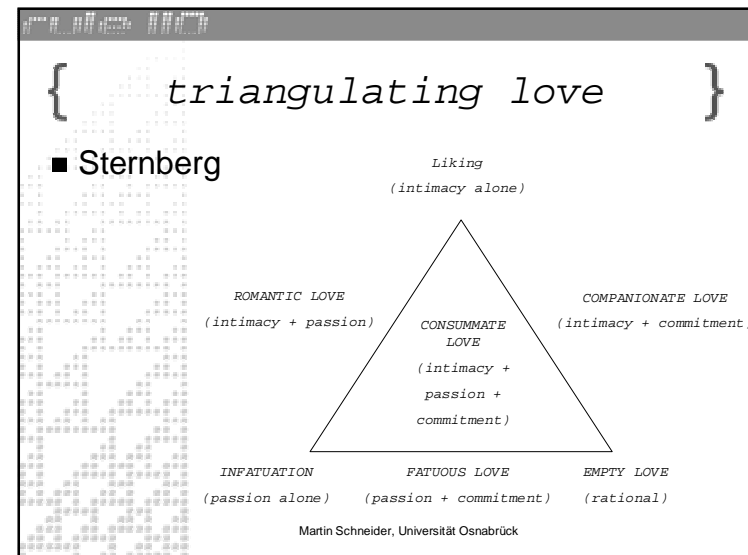
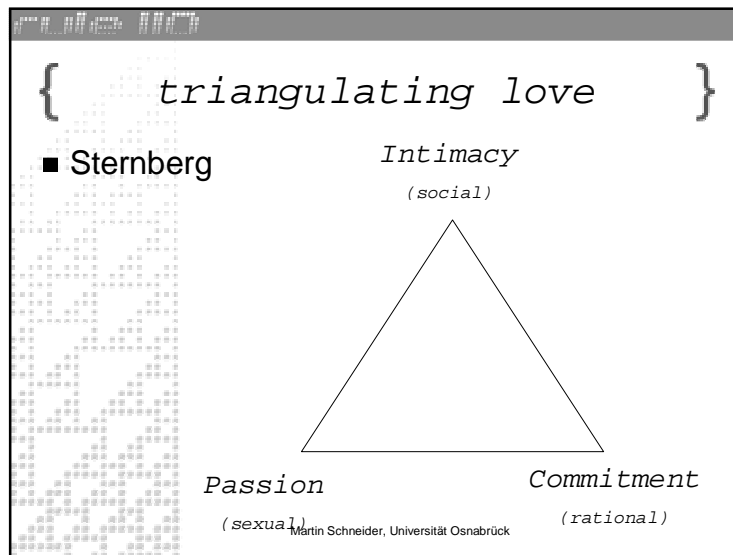


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{ simulating relationship styles }

- evolutionary viewpoint
 - why should you run away from the opposite sex?
 - fear gives you an evolutionary advantage
- goal conflict
- attraction
 - love
 - sex
 - reproduction
- anxiousness
 - fear
 - escape
 - survival

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- ### { simulating the triangle }
- all corners of the triangle have been considered in various life simulations
 - we could do a simulation that will produce similar curves for the respective parameters
 - passion
 - evolutionary
 - biological simulation
 - intimacy
 - information sharing
 - agent simulation
 - commitment
 - game theory
 - economic simulation
 - but will it be love?
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{ love as communication }

- information theory (channel theory shannon)
 - communication can only be disturbed by noise
- systems theory (structural coupling)
 - systems are closed but can irritate each other
- there is a huge contingency (many possible meanings) in communication
- but we can construct consistent patterns of perception/interpretation that allow to reduce contingency and isolate a single meaning
- reduction mechanisms:
 - prejudices, roles
 - very useful for nonintimate relationships
 - love, stories
 - very useful for intimate relationships
 - love is just another (positive) prejudice (pink glasses)
- without those mechanisms communication would be improbable

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{ mission improbable }

- Niklas Luhmann
 - German Sociologist, Systems Scientist
 - „zur Codierung von Intimität“ (Coding Intimacy)
- love is a system to make communication possible which would otherwise be improbable
- love has become a selfsustaining system
 - before, you loved sb. because he was special
 - now you love sb. because you love him (if you could give a reason, it wouldn't be love anymore)
 - in the past centurys there was a love codex promoted by novel writers
 - the codex was known but had to be variated to show that you don't act by the script.
- love is a system for intimate communications
 - communications about you an your partner
 - communications about your communications

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{ love as a story }

- Robert J. Sternberg (Psychologist)
 - „Love is a Story“ – a new theory of relationships
 - only descriptive work, practically nothing on the functions of stories
- What defines a story?
 - a story has a temporal aspect
 - begining, end, climax...
 - we may learn about the development of love
 - a story has a plot
 - every story is unique
 - stories fall into genres
 - What Sterberg describes are actually genres not stories
 - He gives prototypical stories defining each genre
 - storys have characters and roles

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{ personal love stories }

- the story that you create for your own relationship
 - to explain (reduce past contingency)
 - to anticipate (reduce future continegcy)
- multiple stories
 - his story – her story
 - perceived story – perfect story
 - both can favour multiple stories
- resolving similarity-complementarity
 - similar stories
 - complementary roles
- matching stories instead of character traits!

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{ *implications for love* }

- stories are very consistent, they will be pertained as long as possible
- conflicts concerning mate choice occur usually because each potential partner satisfies one of your stories
- if perceived story and perfect story diverge to much, the partners become unsatisfied and the relationship will eventually break

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{ *genres of PLS* }

- asymmetrical stories
 - teacher student story
 - sacrifice story
 - government story
 - police story
 - pornography story
- object stories
 - person as object
 - science-fiction story
 - collection story
 - art story
 - relationship as object
 - house and home story
 - recovery story
 - religion story
 - game story
- coordination stories
 - travel story
 - sewing and nitting sotry
 - garden story
 - buissness story
 - addiction story
- narrative stories
 - fantasy story
 - history story
 - science story
 - cookbook story
- genre stories
 - war story
 - theater story
 - humour story
 - mistery story

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{ *love as metaphor* }

- Sternbergs Genres (Storys), always describe love in terms of other cultural systems (business, hunting & gathering, harvesting, history, theater, war...)
- love seems to be a second order system that can only be described in terms of other possibly primary order systems
- it is also a theory about theories of love:
 - every lover has his personal theory according to which he shapes and perceives his loving behaviour
- love is used as a metaphor but in a very concrete sense:
 - people act according to metaphors
 - people perceive actions as love according to those metaphors

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{ *artificial metaphors* }

- what is a metaphor?
 - application of an old concept to a new domain
- how can artificial agents incorporate metaphors?
 - they should interact with each other ,as if' love was business, war etc.
- action and symbolic action
 - action – symbolic action
 - hitting, shaking your fist
 - kissing, throwing a hand kiss
 - etc.

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{ a theory of actons I }

- actons
 - smallest unit of action
- action
 - a package of actons that is the fingerprint of your system interacting with the environment
- perception of actions
 - you can only perceive those aspects of an action
 - for your sensual apparatus was made
 - for which you can form a concept
 - shadow metaphor
 - the perception is the shadow cast of a highdimensional acton molecule
- language is symbolic action
 - messages are actons that are not intended to affect the physical environment directly (sometimes indirectly: command, query)

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{ a theory of actons II }

- example : opening a door
 - the door
 - perceives functional actons only
 - doesn't care about any other actons
 - other humans
 - perceive all kinds of actons
 - some of which are interpreted as: elegance, respect, politeness, hastyness...
 - important for love: the way she opens the door :-)
- example : the message
 - the door
 - perceives actons like soundwaves
 - but it doesn't really care
 - other humans
 - perceive actons, interpreted as message, question, proposal...

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{ a theory of actons III }

- agents evolve contingent behaviour when interacting with the environment
- action occurs between two system
 - whether the opener acts on the door or vice versa is a question of your view point
- action is situation
 - it might be better to call an action situation, to get away from the unidirectional active-passive metaphor that is associated with the concept of action
 - from the perspective of an agent there is a difference between his intended action (open the door) and the situation that arises from agent/environment coupling
- metaphors in acton theory
 - metaphors are filters or projections through which actions are perceived and mapped into agent (mental) states
- being is acting
 - physical presence is already action

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{ artificial love }

- where is the love in the system?
 - if an agent ,likes' the actions (situations) that occur, it will seek to reexperience them
 - if the presence of somebody else plays an important part in situation perception we may call this love
 - what type of love it actually is depends on the metaphor which the individual agent applies.
- how to represent action
 - ,action string'
 - inescapable actons (your own physical presence ...)
 - voluntary actons
 - the action strings of agent / environment are multiplied to produce a situation string
 - reinforcement of agent actions (not single actons) that result in positive situations

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{ *artificial love* }

- how to represent stories/metaphors
 - function to map (possibly complex) situation strings to simple agent states
- how to exchange concepts
 - metaphors can only be exchanged via messages
 - unfortunately an agent can only interpret them using the concepts/metaphors he already has!
- how to acquire concepts
 - we might have some innate concepts. existing concepts are subject to darwinian evolution inside the agent brain (meme theory)
- if a concept is applied to a new situation we call it a metaphor
 - what does 'new' mean?
- is it really love?
 - aimed at physical presence but mental representation in metaphors

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