

# The physicality of play and of being communal

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We don't stop playing because  
we grow old; we grow old  
because we stop playing

George Bernard Shaw

# Play plays around with researchers

- Difficult to define, yet very easy to recognize
- Theoretical hide and seek
  - common thought: Play is meaningless
  - just letting off steam
- Play has a specific meaning for humans
  - 2500 years ago Plato proposed that play was crucial for child development
  - re-proposed 120 years ago by Karl Groos
- later Piaget and Vygotski built on this
- Evolution is a necessary perspective
  - species specific yet ubiquitous

# How can play be defined

- Play is repeated, seemingly non- functional behavior differing from more adaptive versions structurally, contextually, or developmentally,
  - and initiated when the animal is in a relaxed, unstimulating, or in a low stress setting
    - » Montgomery 2014
- (1) incompletely functional in the context in which it appears;
- (2)spontaneous, pleasurable, rewarding, or voluntary;
- (3) different from other more serious behaviors in form (e.g., exaggerated) or timing (e.g., occurring early in life before the more serious version is needed);
- (4) repeated, but not in abnormal and unvarying stereotypic form (e.g., rocking or pacing);
- (5) initiated in the absence of severe stress
  - » Burghardt 2005

# Different kinds of play

- Solitary locomotor play
  - playing with ones own physical body
  - spinning, rocking, summersaulting
  - running, jumping, climbing, sliding
  - diving, flying
- Object play
  - manipulating objects in the environment
  - especially common with young and in new environments
  - exploration often precedes play
- Social play
  - rough and tumble
  - chasing and running away

# Which animals play

- Basic assumption was that animals with larger brains play more
  - Montgomery 2014
    - play would give input for brain development
    - motor development would gain from coordination of movements
      - developmental timing of cerebellar development gives support
      - yet no clear relationship between brain size and play
      - but: clear relationship between brain development timing after birth: animals with long childhoods play more
- Humans -- primates -- mammals
  - birds – reptiles – fish
  - octopi – spiders: all kinds of animals!

# Social play

- Especially prevalent with primates

Montgomery 2014

- social play increases capacity to cope with surprising changes in activity, bodily positioning and dominance
- the amount of play does not correlate with group but with the variability of social relationships
- The limbic structure called the striatum seems to be the core structure for play (Graham, K. L. 2011).
  - the size of the striatum correlates with the amount of social play in primates
  - striatum is responsible for expecting and experiencing pleasure
    - dopamine neurons project from striatum to other limbic structures and the neocortex
    - reward – addictions: we should get addicted to social play
  - striatum responsible also for adequate social behavior
  - play is the social glue of societies

# Brain development creates basis for communality

- Everyday experiences of interactions create brain structures and, thus, mental capacities
  - inner world is born in resonance with the outer
  - home, day-care, education, hobbies etc.
- Child development
  - supporting and guiding positive development
  - its disorders and their treatment
  - are always in relationship to the environment and the people in it
  - our cultural delusion of us as separate individuals places too much stress on children



# What every child need to flourish

- **nutrition, physical activity, rest, protection**
- to be seen – as themselves, as bringing joy
- to be heard – and thus to be appreciated with their own thoughts and ideas
- possibilities for exploration – success and failure
- **freedom for play – enjoyment of their own bodies, feelings, thoughts and sharing them**
- receive teaching in the communal and societal values and expectations
- to be accepted into their own group
- to be taken into co-regulation – so as to be able to stay in social engagement

# Being a part of ones group is a basic right

- Humans are ultrasocial beings
  - most of our brain capacity is used for social feats: observing, understanding and taking part (Siegel 2012, 2014)
    - face, voice, hands, whole body, and language are all vehicles of social communication
    - the worst fate for a message is to be left without an answer (Bahtin 1930)
- Every human has a need to be accepted into ones group
  - need to be seen as a valuable asset
  - taking care of children has always been communal: cooperative child care (Hrdy 2009)
  - attachment relationships have been seen from an overly individualistic perspective
    - we are the only ape that is not a one mom species
  - many attachment relationships support the child to open to new dimensions

# Autonomic nervous states

- We are always in one autonomous nervous state or another (Porges 2003, 2018)
- Faint: dorsal vagal tone (primitive parasympathetic)
  - out of contact with others – child does not seem to hear, see, or even feel
  - gaze is empty, breathing shallow, pulse slow
- Freeze, fight, or flight
  - aversive contact towards others
  - immediate reactions, no flexibility
  - gaze quickly scanning, breathing and pulse quick and strong
- Social engagement (Leikola ym 2016), Lindaman&Mäkelä 2018)
  - relaxed contact: gaze, voice, orientation
  - communicating prosocial readiness
  - breathing and heart-rate variable and dynamic
  - State for renewal and creativity:
  - dialogues, therapy (Lindaman & Mäkelä 2018, Leikola ym 2016)

# Humans are born prosocial

- Collaboration is rewarding in its own right
  - aiming towards a common goal (Henderson, Woodward 2011)
- Sharing is a very human propensity (Warneken, Tomasello 2006)
  - readiness to share ones food is extremely rare in nature
  - human culture is sharing ideas and experiences
- Natural morality:
  - helping and supporting others – but not unconditionally (Hamlin, Wynn 2011)
  - only if the other is seen to be "human": eyes are key
    - the ones more "like me" are helped and shared with more
  - not, if the other has been seen to bully (hindered another)
  - playing together brings others into a part of the "we"-group

# Rhythmic synchrony and attunement

- Inborn skill at noticing the rhythm and vitality of all communication (Trevarthen 1998)
  - being able to anticipate creates sense of safety
    - repetition is important – and boring, if it continues for too long
  - surprise and syncope is the basis of humour
  - joyful play combines safety and surprise
- Communicative musicality (Malloch, Trevarthen 2009)
  - the dynamic shape of communications create sense of liveliness, of vitality (Stern 2010)
  - interaction is a dance of communication
  - dance is not mechanical but flexible responsive
  - changes itself through responding to response of the other

# Interactive joy

- Joy can be seen on the face of both adult and child
  - when one receives a synchronous answer
  - when one sees that one can bring joy to the other
  - shame is the opposite experience of not receiving an answer
- Joy is healthy: it open new and broader possibilities for development (Fredrickson 2004)
  - new connections in the brain are formed
  - new behaviors and actions are made possible
- Joy rises along three pathways (Panksepp 2005)
  - 1) curious exploration and elation of finding
  - 2) physical and rough and tumble play
  - 3) attachment experiences of nurture and engagement

# Playing is serious stuff

- Playing can be costly
  - energy consumption
  - accidents
  - vulnerability
- Skill-learning
  - no differences in hunting skills (Caro1980)
  - no differences in fighting skills (Sharpe 2005 a)
  - some differences in fine motor skills
- Social bonding
  - no more prone to stay with group or to be accepted into new group
  - less aggression in some species (Pelagi et al 2004)

# Playing is for having fun

- Pleasure is useful
- For becoming sensitively social (Pellis, Pellis, Bell 2010)
  - not for dominance but for attuning
  - becoming better at parenting
  - becoming better at leading groups
- For regulating stress
  - social stress: having to wait (Pelagi et al 2004)
  - personal stress: trauma
- For growth of brain
  - most of brain capacity used for social interactions
  - both OFC and mPFC grow with play-interactions
  - neocortical brain growth factors (Ferchmin, Eterovic, 1982)
- For longevity (Fagen, Fagen 2009)



# Playing is therapeutic in its own right

- Rhesus-monkeys deprived of play become socially handicapped
  - stereotypy, self-soothing, self-harming
  - cowering, aggression
  - abuse of own pups
- Only effective treatment is play (Novak, Harlow 1975)
  - not with peers but with naïve young
  - young pups were totally accepting
  - would not take no for an answer but enticed the withdrawn monkey to play
  - play was physical, but primary and rough-and-tumble
- Monkeys became socially and parentally competent
- Model for Theraplay-therapy

Thank you –  
more on Theraplay and more play tomorrow 😊