

## Neurobiology of *pedophilia* or *paraphilia*?

### Towards a 'Grand Unified Theory' of sexual interests

James M. Cantor, PhD, CPsych

Director, Toronto Sexuality Centre  
Associate Professor, University of Toronto Faculty of Medicine



## Atypical Sexual Interests in Males

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What counts as a paraphilia?

Gay?

Kink?

Furries?

## Atypical Sexual Interests in Males

Androphilia  
Urophilia, Coprophilia  
Stuff fetishism  
Autogynephilia  
Gynandromorphophilia  
Partialism  
Pedophilia & hebephilia  
Infantilism & diaperism  
Acrotomophilia  
Apotemnophilia  
Exhibitionism, Voyeurism  
Toucherism, frotteurism  
Sexual masochism  
Sexual sadism & biastophilia  
Paraphilic hypersexuality  
Exclusive vs non-exclusive  
Asexuality

## Prior Taxonomies

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Asexuality (?)

Object paraphilias  
vs.  
Activity paraphilias

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Courtship Disorder

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Erotic Target  
Location Error  
(ETLE)

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3-D Model of  
Object interests:

Male/female  
Self-target/other-target  
Child/adult

## Etiological Thinking

Psychodynamic theories

Learning/environmental theories

Neurological perturbation(s)

## Sex and the Brain

### The Sex Network

- Hypothalamus
- Occipital cortex
- Fusiform gyrus
- Parietal lobules
- Insula
- Mirror neurons

## Sex and the Brain

### The Sex Network

- Hypothalamus (hormone control)
- Occipital cortex (vision processing)
- Fusiform gyrus (face processing)
- Parietal lobules (physical movement)
- Insula (sensory integration)
- Mirror neurons (!?)

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Network spans all (?) sexual interests

Pedophiles, gynephiles, and androphiles all “light up” in the same areas when shown sexual stimuli corresponding to their preference.

### *How do pedo- & teleio- processing differ?*

<u>Study</u>	<u>Anatomy</u>	<u>Subjects</u>	<u>Results</u>
Walter (2007)	whole brain	13 pedophiles 14 healthy controls	pedophiles respond analogously to controls
Schiffer (2008a)	whole brain	11 homosexual pedophiles 12 healthy gay men	pedophiles respond analogously to controls
Schiffer (2008b)	whole brain	8 heterosexual pedophiles 12 heterosexual controls	no pedophilic responses
Poepl (2011)	whole brain	9 pedophiles 11 nonsexual offenders	pedophiles respond analogously, but > controls
Habermeyer (2013)	whole brain	8 heterosexual pedophiles 8 heterosexual controls	pedophiles respond part analogous, “heterogenous”
Ponseti (2014)	whole brain	24 pedophiles 32 teleiophiles	pedophiles respond to face analogously to controls
Cazala (in press)		25 non-exclusive pedophiles 24 teleiophiles	pedophiles respond analogously to controls

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Pedophiles, gynephiles, and androphiles all "light up" in the same areas when shown sexual stimuli corresponding to their preference.

### Autism is often co-morbid with paraphilias

### Antisociality/psychopathy is often co-morbid with paraphilias (?)

## Towards a Grand Unified Theory

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the paraphilias were NOT categorized among the sexual dysfunctions; and  
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the paraphilias were NOT categorized among the sexual dysfunctions; and the paraphilias were categorized among *social* dysfunctions.

What if *all* these problems—antisociality, autism/Aspergers, and paraphilia—were *all* the result of a problems in white matter circuitry that typically serve to handle social functions (of which sex is just a subset).

## Cross-wiring in the Sex Network

Innate stimulus–response instincts:

Neoteny	→	Nurturance
Reproductive age	→	Sexual arousal
Parent	→	Imitation/mimicry/learning
Alpha/aggression	→	Deference/counter-aggression
Disease/waste	→	Avoidance/disgust

## Cross-wiring in the Sex Network

Innate stimulus-response instincts:



## Cross-wiring in the Sex Network

Innate stimulus-response instincts:



Exclusive vs. non-exclusive pedophilia

## Cross-wiring in the Sex Network

Innate stimulus-response instincts:



Erotic Target Location Errors (ETLEs)

## Sex and the Brain

### The Sex Network

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## Cross-wiring in the Sex Network

Innate stimulus-response instincts:



Sexual Sadism / Masochism

## Cross-wiring in the Sex Network

Innate stimulus-response instincts:



Urophilia, coprophilia, necrophilia

## Sex and the Brain

### The Sex Network

- Hypothalamus (hormone control)
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- Mirror neurons (!?)

Acrotomophilia/apotemnophilia, gynandromorphophilia, partialism

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Lower animals don't show paraphilias?

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*Ontogeny recapitulates phylogeny.*

Dual Opponent Process Network?

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Dual Opponent-Process Network?

If the white matter mediated opponent-process mechanism:

- fails to suppress primitive responses...
- only partially suppresses primitive responses...
- suppresses responses to everything...
- suppresses responses to nothing...

## Towards a Grand Unified Theory

Lower animals don't show paraphilias?

*Ontogeny recapitulates phylogeny.*

Dual Opponent-Process Network?

If the white matter mediated opponent-process mechanism:

- fails to suppress primitive responses... Courtship Disorders
- only partially suppresses primitive responses... Non-exclusive para's
- suppresses responses to everything... Paraphilic Hypersex
- suppresses responses to nothing... Asexuality

## Connectivity Model Can Explain:

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Urophilia, Coprophilia  
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*Now, wouldn't that be interesting?*

Thank you!