Sexuality and Robots

CS 4002 – Robots and Society

I can predict the future by assuming that money and male hormones are the driving forces for new technology. Therefore when virtual reality [or Sex Robots] gets cheaper than dating, society is doomed.

Dogbert, via Kurzweil
Well, not exactly…

Consequences?
Robot Hugs

Ham-Ham finger sucking robot
CES 2022
Kissing Robot

Robotic Kiss Transmitter Lets You Smooch a Loved One From Afar

By Eliza Strickland
Published 23 Dec 2015 | 14:00 GMT

If you can’t be with your loved ones this holiday season, perhaps you’ve told them that you’re sending a kiss. But if you could really do just that—send a kiss by smashing your lips against a rubber pad that’s attached to your smartphone—would you want to?
Now, tongue-kiss your love online for real using a smooshing machine!

Japanese Herald
Tuesday, 3rd May, 2011
(ANI)

In a bid to enhance long-distance relationships, Japanese researchers have developed a kissing machine that lets users 'transmit the feeling of a kiss' over the Internet.

The device, created by the Kajimoto Laboratory at the University of Electro-Communications, consists of a hardware receptacle that is placed into the mouth.

Then the software records your tongue motion and transmits them to the other connected device, which moves accordingly.

The lab is still working on recreating other elements of a kiss other than tongue movement – like breathing and the sense of taste.

"The elements of a kiss include the sense of taste, the manner of breathing, and the moistness of the tongue. If we can recreate all of these I think it will be a really powerful device," the Sydney Morning Herald quoted them as explaining in a video showcasing the device prototype.

"If you have a popular entertainer use this device and record it, that could be hugely popular if you offer it to fans," they concluded. (ANI)

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Cultural Variations Regarding Physical Contact [Barnlund 75]

Japanese versus American Contact during conversation. Darker areas means greater frequency.
The Amazing Osakan Robot Sex Club Tout

By John Brownlee  April 17, 2007 | 11:41:02 AM

This garish, leering, green-haired muppet wearing a sailor suit style high school uniform is the robotic tout for a sex club in Osaka.

That fact in and of itself is worth of comment, perhaps followed by an ectoplasmic exclamation point bubbling out of the top of your head. But it's actually far more ingenious than that.

You are, an Osaka law introduced in 2005 prevents sex club outskirts from advertising their services on the city streets. At first, sex club outskirts took the ingenious tact of simply loitering on street corners, looking their seediest and most dissolute, but with a gigantic sign hung around their necks reading "ASK ME!"

Osakan lawmakers, none too pleased by sex outskirts' ingenuity, followed up the 2005 law with a farther stipulation: sex outskirts can't be human at all. The wording of this law gave one one savvy sex club owner a great idea: he repurposed a human sized robot, previously used to direct traffic around construction sites, into a cybernetic purveyor of fleshy wares.

In the future, pornographers are going to be remembered internationally as the most technologically innovative renaissance men of our generation.
Houston robot sex brothel

Brothels dumping prostitutes in favour of sex robots as latest model 'moans'

A SEX robot which "moans" when its boobs are massaged is all the rage in Europe and are becoming increasingly popular in brothels.

“Samantha will get an orgasm even more at a higher sex frequency”

Sergi Santos

It even reacts when someone massages her breasts and moans.

Dr Sergi Santos, who runs the company Synthea Amatus, based in the Spanish city of Barcelona is the man behind the development of Samantha.

He explained that through her AI, Samantha can remember individual people as she communicates according to the way she was treated by them before.

Santos said: “In addition, Samantha will get an orgasm even more at a higher sex frequency.”

The hype does not stop there, as Austrian media are now reporting that an interactive silicone sex doll has become the star attraction at the Ars Electronica Festival in the city of Linz.

Sex robot has orgasm in X-rated commercial
Nationally, sales are up 25% in 2020 compared to 2019. In New York City, sales spiked 65% compared to 2019. SexDollGenie claims NYC sales skyrocketed 218% from 2019 and close to 1,000 of the life-like dolls have been sold there.

Pole Dancing Robot
Japan’s raunchy restaurant uses ‘fembots’ instead of women to dance for customers

Japan Herald (ANI) Tuesday 19th February, 2013

A raunchy restaurant in Japan is using scantily-clad female robots instead of real life women to provide adult entertainment to its customers.

Revellers are charged with 25 dollars for a time to enjoy watching dancing ‘fembots’ at the Robot Restaurant in Tokyo's Shinjuku Kabukicho red light district, the Daily Mail reported.

The statuesque 12ft machines are controlled by real-life women, wearing an equally small amount of clothes.

Customers can also jump onto a robot’s lap and have a go at controlling the machine themselves.

The strange entertainment attracts men and women from a wide age range, who can enjoy the bikini-wearing robots with a tea or alcoholic drink.

The venue cost a reported 10 million yen (70 million pounds) to build.

The robots are based on the character Valkyrie from the video game Soul Calibur. (ANI)
Big Bang Theory

Sperm Collector Robot
China International Medical Equipment Fair 4/11
People are going to sell sex in driverless cars, researchers say

A new study forecasts mobile hotels.

By Danielle Paquette
November 12, 2018 at 8:00 AM
Robot Sex is a Common Theme in Science Fiction

- Asimov’s Robots of Dawn
  - A robot was loved by a human woman, and was used to make love to that woman
  - This robot was destroyed by another robot (roboticide)
- Star Trek TNG – Data engaged in Sex
- What are the potential realities?

Love and Sex with Robots
Sex Machines and Technology have a long history

Dames de Voyage
Late 19th Century - France

[Slide Courtesy of D. Levy]

A Sybian machine with one of its inserts in the center
American “Play-Girl” advertisement circa 1960

[Slide Courtesy of D. Levy]

WANTED
Agents & Salesmen

Make $5,000 This Year

American advertisement for “Swedish Vibrator” 1913

[Slide Courtesy of D. Levy]
Sexual Robots in Fiction often are used to exercise ethical questions

Issues with robots are more complex than with sex machines:

Notion of intimacy and bonding and not just physical sex enters the picture

Metropolis [Lang 1927]
Metropolis

‘Now we shall see whether people believe the Robot is a creature of flesh and blood.’

Bad Rap?

Forbidden Planet

Starring in CINEMASCOPE and COLOR
WALTER ANNE LESLIE PIGEON FRANCIS NIELSEN
WALTER ANNE LESLIE PIGEON FRANCIS NIELSEN
WALTER ANNE LESLIE PIGEON FRANCIS NIELSEN
WALTER ANNE LESLIE PIGEON FRANCIS NIELSEN

Robby, the Robot

Amazing!
Cherry 2000

Fembot – Austin Powers Movie Prop for sale on eBay
Lars and the Real Girl
Nominated for an Oscar (Original Screenplay)

SNL
From Fiction to Fact....

Android developed by Ishiguro Laboratory in Osaka University and KOKORO, CO. LTD
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Child Android (Ishiguro)
Sleepy Android
More recent by Ishiguro

Yokohama University

See any robots?
Yokohama University

Actroid

Actroid-MC
Actroid-DER

More Actroid
Roxxxy TrueCompanion

CES 2018: This bizarre sexbot can actually swap faces
By Chris Ciaccia, Fox News

Published January 12, 2018

(Credit: The RealDoll Team)

Though still nascent in terms of sheer numbers, sex robots have increased in popularity in recent years, with Abyss Creations’ Harmony RealDoll arguably the most famous one. Creator Matt McMullen has taken Harmony one step further, giving the robot another face, dubbed Solana.
Sex Dolls Are Replacing China’s Missing Women

The country's gender gap has left young men desperate for high-tech alternatives.

BY MEI FONG

SEPTEMBER 28, 2017

Warning: This story contains graphic images.

China’s sharing economy took a new turn recently, as a new app, its symbol a single yellow banana, briefly brought rentable sex dolls to Chinese phones. Called Ta Qu, to resemble the English word “Touch,” the app enables users to rent the life-sized dolls, which come in various models, for $45 a day — with a $1,200 deposit. The operators assured users that they would be washed between rentals.
Sex robot display model molested so much it breaks before anyone can actually use it

Sex doll Samantha was left filthy and in need of repairs after being mounted by excitable men

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CES 2019: 'Award-winning' sex toy for women withdrawn from show

A sex toy designed for women has been banned from the technology show CES.

Lora DiCarlo said it had been invited to display its robotic Ose vibrator at CES, after winning an innovation award.

CES organiser the Consumer Technology Association, which granted the award, said it had included the device by mistake and could withdraw any immoral or obscene entry at any time.

Lora DiCarlo chief executive Lora Haddock said the CES and CTA had a history of non-existent rules:

Ms Haddock said there was a double-standard at CES when it came to sexual health products targeted at men versus women.

"Men's sexuality is allowed to be explicit, with a literal sex robot in the shape of an unrealistically proportioned woman and VR porn in point of pride along the aisle," she said.

The products she is referring to are the RealDoll sex robot Harmony, which debuted at last year's event, and a room showcasing virtual reality porn off the main conference in 2017.
Kazakhstani bodybuilder marries sex doll after whirlwind romance

The wedding of a bodybuilder from Kazakhstan has gone viral after he posted it on Instagram ...

Male Sex Doll
Doctors slam sex robot 'family mode'

Published July 17, 2018

The Sun
A sex robot with a "family mode" that dials down her dirty talk has been blasted as "profoundly damaging" for kids by academics.

The controversial droid named Samantha went on sale in the UK last September and made its TV debut that same month.

Samantha's "personality" is powered by an artificial intelligence system that allows her to react to the touch and voice of users and even turn down their advances if she isn't treated well.

Sex robot enthusiast Arran Lee Wright, 36, appeared on ITV's This Morning with his Samantha doll shortly after they went on sale and caused alarm by suggesting he lets his kids play with it.
Real Doll User Profile

What about intimacy?
What are the questions? Dare we ask?

- Is human-robot intimacy acceptable in reality? Are there any limits?
- Can a robot only be viewed as a sex toy, or could it be more?
- Is it perversion? Adultery? Bestiality?
- Can robots serve as a form of treatment/therapy for human sex offenders (heroin/methadone analogy)?
- Can the state/church sanction a human-robot union?
Can Child Dolls Keep Pedophiles from Offending?

One man thinks so, and he’s been manufacturing them for clients for more than ten years.

“I am helping people express their desires, legally and ethically.”

“Thanks to your dolls, I can keep from committing a crime.”

Would child sex robots stop pedophilia — or promote it?

Some say the devices could provide a safe outlet for individuals who are sexually attracted to children.

An example of a child sex doll. (M. Heise/Police Agency)

Norwegian customs officials confiscate a sex doll. (Ola Reiveland / NRK)
The Campaign Against Sex Robots is against the production of child sex dolls which are part of a cultural pattern to legitimate pedophilia more widely. The recent news that Japanese company Trottia is producing child-like sex dolls is something we want to address as a serious problem. The company, owned by Shin Takagi, offers buyers a chance to purchase erotic dolls of children. Many are room-sized in provocative underwear, while others are naked. We implore the Japanese government to take action and prohibit the sales of these disturbing and abusive artifacts.

House votes to ban shipments of child sex robots

By Adam Shaw | Fox News

File photo: Catalan nanotechnology engineer Sergi Santos holds the head of Samantha, a sex doll packed with artificial intelligence providing her the capability to respond to different scenarios and verbal stimulus, in his house in Rubi, north of Barcelona, Spain, March 31, 2017. Picture taken March 31, 2017. (REUTERS/Albert Gea)
Altering Human-Human Interaction

- Intimate robotics could have a broad range of effects on human-human interaction.
- For example:
  - Could segments of society deliberately forsake developing intimate bonds with other humans?
  - Will feelings of jealousy emerge if a significant other spends time with a robot?
  - Will those who become emotionally attached to robots be discriminated against, and if so, in what types of ways?
The Status of Intimate Robotics as a Research Field

- Social and companion robotics is currently a highly active research field, with numerous conferences on the subject.
- But little real research on actual intimacy and sexuality with robots
- Recent Conference (2015) in Indonesia on Sex and Love with Robots shut down by Malaysian Government

Establishing a Research Agenda

Among the research questions that warrant exploration include:

- What beliefs and attitudes about intimate robots will emerge from users?
- How will intimate robots contribute, or fail to contribute, to well-being of users?
- Would the technology change beliefs, attitudes, or values related to human-human relationships and if so, how?
- Is there a (causal) connection between interacting with an intimate robot and an increase or decrease in violent behavior by the user of the technology?
- Could an intimate robot serve a therapeutic purpose for certain kinds of medical or sociopathic conditions?
- Are there different cultural or religious perceptions of what is appropriate practice, and what might that mean in terms of societal acceptance or rejection?
Intimate Computing [Bell et al 03]

- Intimacy as cognitive and emotional closeness with technology, where the technology may be aware of and responsive to our intentions, actions, and feelings.
- Intimacy as physical closeness with technology, either on or within the body.
- Intimacy through technology where the technology is used to express our intentions, emotions, and feelings towards others.

Intimate robotics

- Intimate computing exists as a subfield already
  - Intimate computing workshop – Ubicomp 10/03
- Pervasive and anticipatory
- “woven into the fabric of our lives and possibly .. Into the fabric of our (cyber) bodies
- Includes love, closeness, spirituality, not simply titillation.
Categories of Human Sexual Behavior [Morris 67/69]

- Primary Reproductive functions
  - Procreational sex: to have children
  - Pair-formation sex: to establish bonding with mate
  - Pair-maintenance sex: to keep relationship ongoing

- Other Functions
  - Physiological sex: bodily requirement for activity
  - Exploratory sex: seeking out new stimulation
  - Self-rewarding sex: for its own sake (eroticism)
  - Occupational sex: Alleviation of boredom, something to do
  - Tranquillizing sex: To calm down from overstimulation (anti-turmoil)
  - Commercial sex: sold as a commodity, prostitution
  - Status sex: concerned with dominance

- Which are appropriate (if any) for human-robot interaction?

Human Sexual Ethology: Observed Modes and Behaviors [Morris 67]

- Pair-formation mode
  - Prolonged in terms of animals (weeks to months)
  - Tentative ambivalent behavior
  - Conflicts between fear, aggression, and sexual attraction
  - Sexual signals include facial expressions, body postures and speech
  - Body contacts, juvenile play may reappear, running, chasing, jumping, dancing may appear

- Pre-copulatory mode
  - Privacy sought
  - Adoption of horizontal posture
  - Skin contact
  - Oral stimulation

- Copulation mode

- Is any or all of this programmable for a robot?
Proxemics [Weitz 74]

Sensor Usage in Middle Class Americans/Europeans

Spatial separation in adults as related to behavior

In this chart the kinesthetic portion has been illustrated with sketches to indicate visually how these distances are set.
Courting Reciprocals

Figure 11: Courting Reciprocals. (Left) Female Postures (Right) Male Posture

Ethology of Human Bar Behavior (Graemmer et al)

- Observed predominantly in females is the hairflip. When coupled with open legs it indicates low female interest.
- Head akimbo, where the breast is pushed out and hands folded behind the neck, is associated with high interest when occurring during laughter, but low when it occurs before laughter.
Love?

- Moravec: “Not every emotion found in humans makes sense in robots…. Yet there may be sound business reasons for giving robots a platonic love of their owners, similar to the loyalty bred into domestic dogs”.
- Why stop here?

Sternberg’s Triangular Theory of Love

- Non-love – none of the components are present
- Liking – intimacy only
- Infatuation – passion only
- Empty love – commitment only
- Romantic love – intimacy and passion without commitment
- Companionate love – intimacy and commitment without passion
- Fatuous love – passion and commitment without intimacy
- Consummate love - all components

Figure 9: (Top) Major Love Components  (Bottom) Love Combinations
Love Style Characteristics

Eros—Higher self-esteem, more disclosure, related to relationship satisfaction, important to both women and men
Ludus—Less disclosure, more sensation seeking, less relationship satisfaction, more tolerated by men than by women
Storge—Greater endorsement by women, involves greater contentment
Pragma—Many commonalities with Storge, but less quietly contented. Mexican-American couples more pragmatic than Anglo couples
Mania—More endorsed by women, related to less relationship satisfaction for women. Lower self-esteem, greater relationship communication, greater relationship turbulence
Agape—More characteristic of persons who are religious and/or who are in long-term love relationships, more agapic women have more satisfied relationship partners, related to greater relationship stability and contentment

Which are acceptable for robot-human interaction?

Human Need for Love [Branden 88]

- The need for human companionship: For sharing of values, feelings, goals, interests.
- The need to love: Humans seek out persons to admire, be stimulated by, to whom we can direct our attentions.
- The need to be loved: People desire to be valued, cared for and nurtured.
- Psychological visibility: To be able to see oneself through the responses of another, in essence acting as a mirror for our behavior and actions.
- The need for sexual fulfillment.
- The need for an emotional support system: To have someone who is reliably present in times of need.
- The need for self-awareness and self-discovery, that develops through intimacy and confrontation with another.
- The need to explore one’s gender: To understand what it is like to be either a man or a woman.
- To share the excitement of being alive and to be nourished by the joy of another’s aliveness.

Could Robots do any of this (eventually?)
Characteristics of Successful Human-Human Relationships

- Expressing love verbally, e.g., saying “I Love You”.
- Being physically affectionate, e.g., handholding, hugging, kissing, cuddling, comforting.
- Expressing love sexually.
- Expressing appreciation and admiration – Showing that you like, enjoy and admire each other.
- Participating in mutual self-disclosure – Share inner lives.
- Providing emotional support for each other in times of distress and crisis.
- Expressing love materially – Giving gifts.
- Putting up with shortcomings or accepting demands (tolerance).
- Creating time to be alone together.

Could robots do this (eventually)?

Strategies for Creating Intimacy

[Hatfield 88]

- Encourage people to accept themselves as they are.
- Encourage people to recognize their intimates for what they are.
- Encouraging people to express themselves.
- Teaching people to deal with their intimate’s reactions.

Can robots do this (eventually)?
Some Thoughts

- If roboticists continue to develop intimate robots, this could significantly impact the well-being of users and the stability of human-human relationships.

- What follows is an ethical obligation to systematically investigate the likely effects that the technology may have on individual users and society overall.

Proposal to the Institute

- Create the Kinsey/Arkin Institute at Georgia Tech for the Scientific Study of Human-Robot Intimacy.
- Arguments For? Arguments against? Who would sponsor? Is this timely?