

(dis)ABLED BEAUTY:

the evolution of beauty, disability, and ability



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- Dr. Tameka N. Ellington and Dr. Stacey R. Lim



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(dis)ABLED BEAUTY:

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Dr. Tameka N. Ellington and Dr. Stacey R. Lim
Guest Curators

Curatorial Statement

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The concept for the show began with a research project conducted by the guest curators, Dr. Tameka N. Ellington and Dr. Stacey R. Lim. The project entitled Adolescents' Aesthetic and Functional View of Hearing Aids or Cochlear Implants and Their Relationship to Self-Esteem Level, focused on what teens wanted in their hearing devices. We asked our teen participants, "If you could design your own hearing device, what would it look like?" The responses received sparked a desire within the curators to dive deeper into this topic of the aesthetic and functional properties of these devices.

While attending a symposium on Fashion and Health at the University of Minnesota, the curators met researcher, Martha Hall, who presented on fashionable prosthetic limbs. This connection was the beginning of further exploration of fashionable assistive devices, adaptive apparel, and prostheses for individuals with disabilities. During our exploration, we discovered the Alternative Limb Project in London, England, where Sophie de Oliveira Barata is the head prosthetic artist. She can be thought of as an Alexander McQueen of prosthetic limbs. Her pieces are fanciful and opulent, offering a means of deconstructing the paradox of what it means to be disabled and beautiful. Ms. de Oliveira Barata's work has inspired us to look at how perceptions of disability have changed and are changing as a result of today's technology and fashion.

(dis)ABLED BEAUTY: the evolution of beauty disability and ability features a collection of hearing devices, canes, prosthetics, apparel and other assistive devices which make their wearer fashionable, abled and to some degree... superhuman.

--Dr. Tameka N. Ellington and Dr. Stacey R. Lim, Guest Curators



Sophie de Oliveira Barata in her workshop in London.
Photograph courtesy of Alternative Limb Project.

Americans with Disabilities Act

“According to the Institute on Disability, “If people with disabilities were a formally recognized minority group, at 19% of the population, they would be the largest minority group in the United States,” (Invisible Disabilities Association, 2011). In 1990, the Americans with Disabilities Act (ADA) was signed into law (and amended in 2008), creating broad civil and human rights for people with disabilities. The ADA is comprised of five “Titles.”

Title I created equal employment rights for people with disabilities to remedy employment barriers at all stages of employment, including the hiring process, obtaining reasonable accommodations, training and promotion.

Title II requires public entities to provide equal access to all government programs and services.

Title III requires equal access to businesses including hotels, schools, museums, live theatres, restaurants, stores and more.

Title IV provides telecommunications access.

Title V includes a variety of other provisions including protection from retaliation when asserting these rights.

The ADA has greatly improved the lives of millions of people with disabilities over the past twenty-six years; yet, there is more work needed to continue these advances in the years to come.

-- Rachel Arfa, Disability Rights Attorney



Americans with Disabilities Act (ADA)
Twenty-fifth Anniversary Logo

Accessibility and People with Disabilities

Accessibility is based on the principle of equity. Accommodations, such as specialized technology, or alternate formats, are designed to overcome an existing barrier, whereas accessibility is the idea that the infrastructure is inherently usable by all.

A popular cartoon illustrates the concept of equity: an official-looking person sits at a desk facing a row of animals including a crow, monkey, penguin, elephant, fish in a bowl, seal, and dog. The text reads “For a fair selection, everybody has to take the same exam: please climb that tree.” Accessibility would give each applicant the opportunity to choose their most effective pathway to get from point A to B: a tree, flat surface, water, or air.

The digital world is particularly suited to accessibility as it can be structured to allow each individual to select pathways that work with the user’s preferred mode of operation. While we may not always be able to do the same with the physical world, the concept of accessibility remains valid. We can design spaces, tools, furniture, and other physical elements for the most effective use by the greatest number of individuals.

--Jay Wyant, Chief Information Accessibility Officer,
State of Minnesota



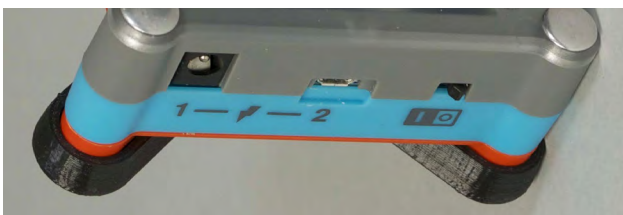
Tecla Shield DOS and Switch Interface

Komodo OpenLab at the Digital Media Zone, manufacturer
Canadian, 2016

Plastic enclosure with electronic board and battery

Loan Courtesy of company, KSUM L2016.1.1ab

The Tecla Shield was designed for those with limited upper body mobility and dexterity. It gives its user the capability to use iOS and Android devices with voiceover or switch technology.



Assistive Devices

Assistive devices (AD) are used to increase safety, opportunities for social interactions and movement, and promotion of independence. The decision of which AD is “best” for a person is often based solely upon safety. Frequently, the safest devices are bulky, rigid, heavy, and “ugly.” These design challenges may cause individuals to stop using ADs or use them incorrectly, resulting in further restrictions of independence – physically and socially. The social implications for use of an AD is driven in large part by the activities the user participates in and how well use of the AD allows them to participate to their desired potential in life activities.

Until recently, the design of ADs was driven primarily by safety and function, but now, designs of ADs also consider the social implications for device use. With this evolution for AD design and use, we gain a unique insight into our changing view of (dis)ABILITY. The concept of AD transcends medical devices and weaves itself into the world of jewelry, apparel, shoes and other wearable accessories.

--Jennifer K. Sansom, PT, MPT, MS, PhD,
Assistant Professor, School of Rehabilitation
and Medical Sciences, Central Michigan University

Hearing Aid Necklace

Location unknown, 1950

Red garnet-like rhinestones, embellishing plastic, hearing aid receiver cord

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.25



Prosthetic Limbs

The first prosthetic limbs used for legs were designed in the peg shape and for arms were in a hook shape made of wood and/or metals. Advancements were made to arm prostheses where the hook was controlled by a harness worn over both shoulders. Movement of the shoulders pulls a cable that opens and closes the hook. This simple mechanism was the standard after World War II and is still common today.

In the late 1940's and 1950's, doctors at Walter Reed Army General Hospital explored a different alternative to the harness - the cineplasty. Surgeons placed a tunnel through an arm muscle, frequently the biceps. When the individual contracted the muscle, a small bar through the tunnel pulled cables to close the hook. Many patients preferred this system to the shoulder harness, but the technique never became widespread because it required surgery and extensive follow-up care.

Today prosthetics have moved beyond the simple function and appearance of the hook arm and peg leg. New electric prostheses do not require a harness and instead are controlled by the electrical signals from muscles in the remaining portion of the arm. The newest wave of prosthetics to appear on the market are made by 3-Dimensional printing. These prosthetics have simple functioning with the use of bolts and or elastic threads. The main push for these products were was readily accessible to the masses.

--Bambi Brewer, Robotics Specialist and Dr. Tameka N. Ellington

3-Dimensionally Printed



Fashion and Health Professions Prosthetic Collaborative Concept

Dr. Tameka Ellington, Dr. Stacey Lim and Austen Bio Innovations Institute, designers and fabricators American, 2016

ABS plastic and paints

Loan Courtesy of The Kent State University Fashion School, KSUM L2016.90.18

This piece was designed by the co-curators of the show in collaboration with Mike Singer, engineer of Austen BioInnovations Institute in Akron, Ohio. This prosthetic is a representation of the interconnection of the fashion and health industries and a symbol of partnership between Kent State University and Central Michigan University.

“ENABLING THE FUTURE”

The E-Nable Community is a global network of digital humanitarians who are using 3D printing to create free (and low cost to produce) hands and arms for those born without fingers, or who have lost them due to war, disease or accident. For more information go to www.enablingthefuture.org/

-- Dr. Tameka N.Ellington



D-1

Evan Kuester, designer and fabricator
American, 2014

ABS Plastic, elastic cording

Loan Courtesy of Evan Kuester,
KSUM L2016.101.4

K-1

Evan Kuester, designer and fabricator
American, 2014

ABS Plastic, elastic cording

Loan Courtesy of Evan Kuester,
KSUM L2016.101.3

This hand was designed with a sleek appearance and contrasting red elastic bands which were tension set and allow for gripping objects. This piece won the 2016 Consumer Technology Innovation Award.



Ivania 2

Evan Kuester, designer and fabricator
American, 2014

ABS Plastic, and ribbon

Loan Courtesy of Evan Kuester, KSUM
L2016.101.3

This 3-D printed arm was designed by the lender while he was working on his Master's degree in Architecture at the California College of the Arts. This piece won the title of design of the week from the 3-D printing blog *Fabbaloo*.



JD-3

Evan Kuester, designer and fabricator
American, 2014

ABS Plastic

Loan Courtesy of Evan Kuester, KSUM
L2016.101.2

This 3-D printed prosthetic celebrates the concept of lightness in prosthetics with its airy appearance and partial see-through qualities.

Prosthetic Limb Covers



Venus

UNYQ
American, 2015

ABS plastic

Loan Courtesy of UNYQ, KSUM L2016.82.2

This item was designed for the UNYQ Style Collection and features beautiful curves and asymmetrical orientation.

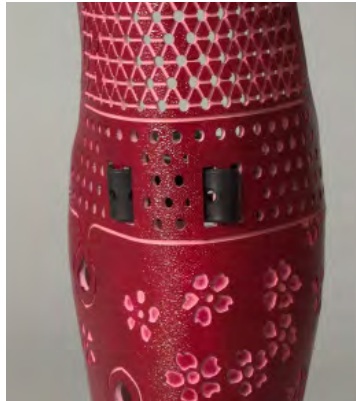
Reed

UNYQ
American, 2015

ABS plastic, polyamide knee bumper, dye

Loan Courtesy of UNYQ, KSUM L2016.82.1

UNYQ creates a variety of prosthetic covers to go over the top of basic metal stem upper and lower limb prosthetics. This item, inspired by the filigree structure of a blade of grass, is from the Style Collection, which encompasses elegant prosthetic covers featuring a variety of decorative looks from florals to stripes.



Flora Prosthetic Leg Cover

ALLELES Design Studio, Ltd.
Canadian, 2016

ABS Plastic, paints and buckle straps

Loan Courtesy of 'The ALLELES Design Studio, Ltd.', KSUM
L2016.57.2

This product is designed in a lighthearted floral pattern that plays with textures to transform the prosthetic to appear less like plastic and more like a textile. This is one of the new items featured in the WONDERLAND Collection by the ALLELES Design Studio, Ltd.

Future Plaid Prosthetic Leg Cover

ALLELES Design Studio, Ltd.
Canadian, 2016

ABS Plastic, paints and buckle straps

Loan Courtesy of 'The ALLELES Design Studio, Ltd.', KSUM
L2016.57.1

This product is designed as a new variation of traditional plaid. The creators wanted the piece to transform the idea of a prosthetic cover to being considered fashionable clothing rather than just a medic device. Both covers are new items featured in the WONDERLAND Collection by the ALLELES Design Studio, Ltd.

Chromed and Airbrushed

Dan Horkey lost his lower left leg in a motorcycle accident in 1985 at the age of 21. Twenty years later, he is now proudly using his talents to create beautiful art pieces for himself and others of the amputee community.

--Dr. Tameka N. Ellington



Photography courtesy of Prosthetic Ink

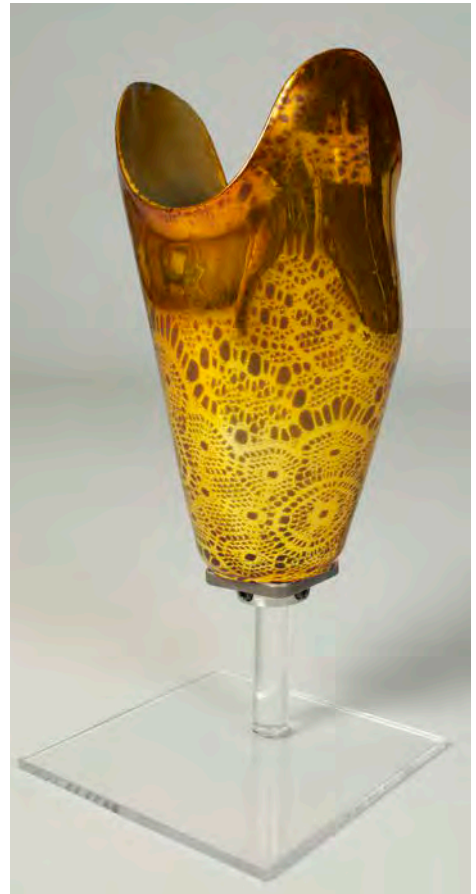
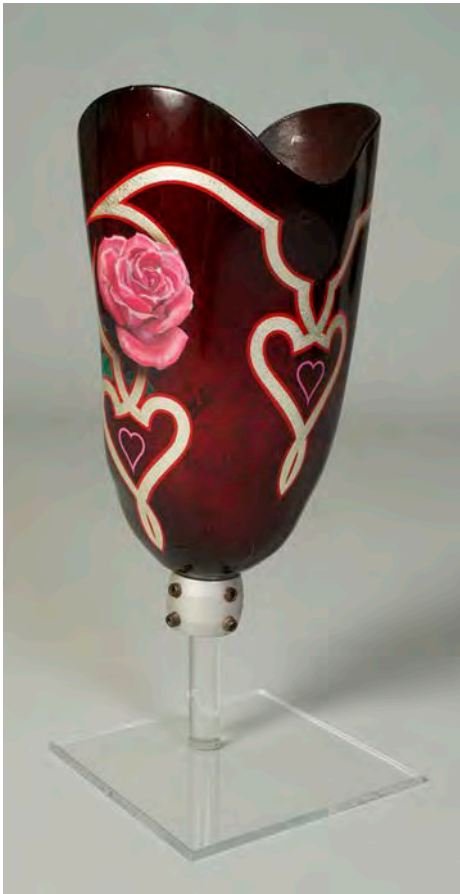
Copper Chrome Prosthetic Arm with Attached Hand

Dan Horkey, designer and fabricator
American, 2015

Chrome sprayed aluminum

Loan Courtesy of Prosthetic Ink, KSUM L2016.77.5

This glossy product was created as a lower arm attachment for an amputee.



Pink Rose Socket

Dan Horkey and W.M. Dalton, designers and fabricators
American, 2015

Aluminum with airbrush paint

Loan Courtesy of Prosthetic Ink, KSUM
L2016.77.2

This product was created as the socket which connects to a lower limb prosthetic. The beautiful rose and scroll detail were carefully inlaid on top of the marbelized effect.

Gold Chrome Lace Socket

Dan Horkey and Ed Persike, designers and fabricators
American, 2015

Chrome sprayed aluminum with airbrush paint

Loan Courtesy of Prosthetic Ink, KSUM L2016.77.1

This product was created as the socket which connects to a lower limb prosthetic. In a glossy lace pattern, this piece becomes a fashion accessory instead of just a medical device.

Bionic Prosthetics



BiOM Ankle

BionX Medical Technologies Inc.
American, ca. 2007

Prosthetic ankle with powered propulsion

On Loan from BionX Medical Technologies Inc. Bedford, Massachusetts,
KSUM L2016.3.1

This item was designed with a propulsion system which mimics the movements of a normal functioning ankle. This ankle offers enhanced mobility allowing its wearer the ability to walk faster and with more stability, even up hills and ramps.



Photography courtesy of Touch Bionics



i-limb ultra and skin active cover

Touch Bionics, Incorporated
American, 2011

Metal and electronic components, skin made from
silicone mixture

Loan Courtesy of Touch Bionics, Inc., KSUM L2016.76.1

This prosthetic hand has motorized digits which allow the hand to bend at the joints of each digit just as a human hand would. The hand has 14 programmable grip patterns, allowing flexibility and the ability to customize the hand for a variety of daily activities.



Historic Prosthetics



Historic Prosthetic with optional hook hand

American, ca. 1930

Steel, plastic, leather, rubber, textile

On loan from the Mütter Museum of the College of Physicians of Philadelphia, KSUM L2016.88.1

This arm was previously owned by Arline Stephan of Connecticut. The donor's father received the prosthetic in the late 1930s after he lost his left arm in a farming accident.





Pittsburgh Orthopedic Co. Catalog

American, 1916

Ink on paper

On loan from the Mütter Museum of the College of Physicians of Philadelphia, KSUM L2016.88.2

This catalog displayed a variety of fashionable leg and arm prosthetics for patients at the time.



Prosthetic Arm for WWII Veteran with Biceps Cineplasty

American, 1952, replication 1998

Acrylic resin socket, stainless steel hook and cables, leather

Loan from the family of Edgar L. Roberts, Jr. KSUM L2016.55.1

This prosthetic arm belonged to Mr. Edgar L. Roberts, a World War II veteran who lost his right hand in North Africa in 1945. This type of prosthesis did not require a harness like many other prosthetics of that time, and enabled Mr. Roberts to not only perform daily activities, but also to design and build things with machine tools.

Hearing Devices

Over 35 million Americans have hearing loss, and for some of these individuals, hearing aids can help them gain access to sounds. Hearing aids amplify sounds that would otherwise be difficult to hear. Hearing aids are electroacoustic devices designed to amplify sound, with the goal of making speech audible for people with hearing loss. The invention of the telephone inspired the development of the first electronic hearing aid in 1898.

Hearing aid styles have advanced from speaking tubes to body-worn hearing aids, to smaller hearing aids worn behind or in the ear. The technology in hearing aids has moved from analog technology to digital technology. Indeed, improvements in today's technology not only allow hearing aids to be smaller, but also provide better sound quality and connectivity to various devices, such as smartphones.

-- Dr. Stacey Lim and Dylan Stillpepper, Undergraduate Student in Health Sciences



S14V

Oticon, manufacturer
Danish, 1974

Electret microphone

Loan Courtesy of The Kenneth
Berger Hearing Aid Museum and
Archives, Oticon A/S, KSUM
L2016.74.8a-c

“WH-6000”

Panasonic, manufacturer
Japanese, 1984

Multi-colored plastic be-
hind-the-ear hearing aid

Loan Courtesy of The Kenneth
Berger Hearing Aid Museum and
Archives, HIS, Eden Prairie, MN,
KSUM L2016.74.36a-d

Historic Hearing Aids



Amplivox "Sonette"

American, 1958

Materials unknown

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Amplivox, Ltd., KSUM L2016.74.18



Acousticon A-660

Acousticon, manufacturer
American, 1962

Four transistors

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Milton H. Tavel, Indianapolis KSUM L2016.74.17



Siemens 104PP

Siemens, manufacturer
American, 1984

Tan plastic with a brown bottom
behind-the-ear hearing aid

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.10



Telex 333

Telex, manufacturer
American, date unknown

Includes four transistors; three-hole microphone opening

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.14ab



Philips 8295

American, 1970

Multi-colored plastic

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Ravenna Optical, KSUM L2016.74.9a



Historic Trumpets, Cups and Tubes

Ear trumpets are one of the earliest forms of technology used to enhance hearing. They were passive funnel-like amplification cones or cups designed to gather sounds and direct into it the ear canal. Trumpets were made of a variety of materials from shell to metal.

--Dylan Stillpepper, Undergraduate Student in Health Sciences



Clarvox Lorgnette Trumpet

French, date unknown

Artificial tortoise shell

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives,
Widex Hearing Aid Co., New York, KSUM L2016.74.22



Small Ear Trumpet

Arnold and Sons, London, manufacturer
English, 1910

Brass with black composition eartip

Loan Courtesy of The Kenneth Berger Hearing Aid
Museum and Archives, KSUM L2016.74.28

The wearer would insert the eartip of the ear trumpet into his or her ear, and point the trumpet in the direction of the sound they wish to hear.



Speaking Tube

Location and date unknown

Materials unknown

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, F.P. Christman, KSUM L2016.74.31



Sonor

Drapier of Paris, manufacturer
French, ca. 1950

Imitation shell

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.29

Older models of these types of hearing devices were made of silver, often with a telescopic earpiece. Sometimes these were held in a leather pouch.



Metal Ear Trumpet

American, date unknown

Brass and copper

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Elsie Jones, Ashland, OH, KSUM L2016.74.30



F.C. Rein Ear Trumpet

F.C. Rein and Son of London
English, ca. 1907

Single flat auricle on headband

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Widex Hearing Aid Co., New York, KSUM L2016.74.32



Luchshören "Lynx Ear"

Hans Burschers, Manufacturer
German, 1938-45

Non-electric cups and plastic headband

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Dr. Zinser, Berlin, KSUM L2016.74.34



Double Auricle on Headband

American, date unknown

Brass painted black

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Russell H. Phillips Schenectady, KSUM L2016.74.33

The wearer would don the headband and position the cups on the ears, pointing outward so that the cups could collect sound.

Historic Glasses with Hearing Aids

Transistor hearing aids were built into the temples of eyeglasses. These were a popular option in the 1950's through the 1970's, because they were considered more fashionable and less obvious. These eyeglasses were even worn by those who had perfect vision.

--Dylan Stillpepper, Undergraduate Student in Health Sciences



"CO" (Fairmount)

Maico, Manufacturer
American, 1971

Eyeglasses; integrated circuit, three transistors

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Maico Hearing Instruments, KSUM L2016.74.6

Hearing aid eyeglasses had hearing aids built into the temples of the hearing aids, and were one way to conceal a hearing loss while remaining fashionable.



Magnatone M-3

American, 1963

Eyeglasses

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Wm. A. Jewell, Magnatone, KSUM L2016.74.4

Historic Body Worn Hearing Aids

Body worn hearing aids were the first type of hearing aid that was developed. It consisted of a case and an earmold attached to the case via a wire. The case would include the battery, electric amplifier components, and controls. The earmold was coupled to a mini loudspeaker. The individual would wear the case at chest level on his or her body. Along with this device came the challenge of incorporating new ways of making them look more appealing. Manufacturers and designers found ways to conceal the case under clothing, or to turn the case into a fashion accessory by adding decorative elements. Others designed the case to look like other wearable objects.

--Dr. Stacey R. Lim



Acousticon W-130 Battery Bandeaux

Acousticon, manufacturer
American, date unknown

Pouch for battery pack attached to bra

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.23



Beltone "Mono-Pac M" (Melody)

Beltone, Manufacturer
American, 1950

Chrome front and back over a wine-colored plastic chassis with brooch embellished with jewels; vacuum tube

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Jackson Educational Service, KSUM L2016.74.26

Body aids were worn on the individual's chest, with a cord that was attached to the wearer's ear. Some body aids had decorative components, such as this one, which has a jeweled brooch.

Historic Body Worn Hearing Aids



Multitone "Transitone"

American, 1954

Gold-tone metal front with a black back; grill upper center with filigree; four vacuum tubes

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.7



Acousticon A-90

Acousticon, manufacturer
American, 1947

Maroon and wine colored aluminum body worn hearing aid

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.19ab



Telex 300, Battery Pack and Hearing Aid

Telex, manufacturer
American, 1950

Gold metal case in the shape of a pen

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, from Radioear Corp., KSUM L2016.74.11

The wearer would wear the pen-shaped portion of the hearing aid in his or her lapel pocket, and the cord would be attached to the receiver worn in the ear. other prosthetics of that time, and



Ardente "Duchess"

Starkey Laboratories, Inc., manufacturer
English, 1958

Barrette; tortise shell plastic casing with silver moldings; three or four transistors.

Loan Courtesy of Loan courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Starkey Laboratories Inc., KSUM L2016.74.16ab



Telex 1550

Telex, manufacturer
American, 1942

Vacuum tube; D99 and 455 batteries

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.12

Historic Hearing Aid Jewelry

Hearing aids have been made to resemble jewelry or wearable fashion accessories. Examples of these include hearing aid necklaces, earrings, or brooches. By turning hearing aids into fashionable pieces, manufacturers and wearers were able to disguise hearing devices. Today, some wearers and designers embellish their hearing devices with either commercially available decorative items or specially designed items. As a result their hearing aids are more than just a necessity; they are transformed into a must-have accessory.

--Kay Caprez, Undergraduate Student in Speech and Language Pathology and Audiology



Coro Decorative Clips

Coro for Zenith Radion Corp, manufacturer American, ca. 1956

Decorative clips to secure hearing aid in place; silver leaf pattern and gold flower;

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.15ab



Hairband Receiver

Location and date unknown
Metal hairband covered with a braid of human hair

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.24

This was part of a bone conduction unit. The metal headband would be placed on the individual's head, and the black component on the end of the headband would be placed on the mastoid bone behind the ear. Sound would be transmitted to the inner ear through vibrating the wearer's skull. This particular headband is covered by a braid of human hair, making the device look as if it were part of the wearer's hairstyle.



"Hear-Rings"

Maico, Manufacturer American, ca. 1950

Hearing aid receiver concealed in a fashionable earring

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, Verne Augspurger, Fairfield, OH, KSUM L2016.74.3ab

The earrings would hold the hearing aid receiver, and the cord would attach to the body-worn hearing aid, which was usually worn under or inside the wearer's clothes.



Gaes 27 "Pedientes"

Spanish, 1970

Silver filigree; three transistors

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, GAES, Barcelona, Spain, KSUM L2016.74.35ab

The Gaes 27 "Pedientes" were designed to be worn as earrings, concealing the hearing aid components worn on the ear.



Hearing aid necklace Location and date unknown

Strand of pearls with attached hearing aid

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.37

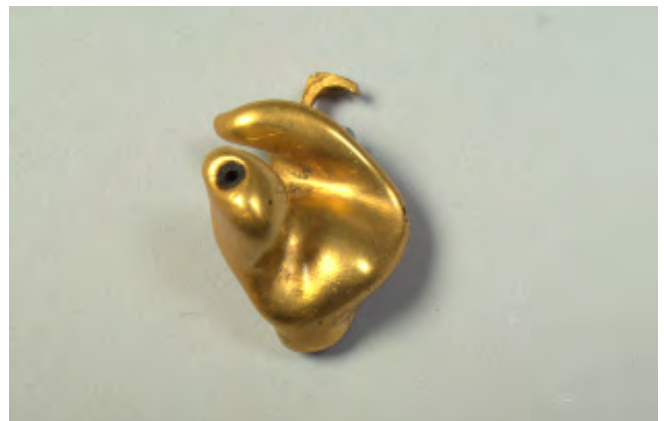


External Brooch Microphone

Maico, Manufacturer
American, date unknown

Materials unknown

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, F.L. Clark, KSUM L2016.74.5



Earmaster "Golden" 400

American, ca. 1963

Gold casing used in cases of extreme sensitivity to plastics

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.12ab

Contemporary Earmolds

Individuals who wear behind-the-ear (BTE) hearing aids will also wear an earmold that holds the hearing aid securely on the ear and delivers sound through the ear canal. Earmolds are custom-made to fit the wearer's ear. Depending on the person's hearing loss and needs, earmolds are made of materials such as silicone or acrylic, and can come in an array of colors. Westone Laboratories, Inc. is an American earmold manufacturer, and has made all the earmolds in the exhibition. The Westone earmold designers are having a "Fan Favorite" friendly competition. Vote for your favorite earmold at: www.facebook.com/disABLEDBEAUTY

-- Dr. Stacey R. Lim



Starry Night

Cassie Miller, Crystal Parker, Lillian Madrid, Tess Osborn, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Black silicone earmold with rhinestones

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.25

Happy Feet

Alex Rodriguez, designer, Westone Laboratories, Inc. American, 2016

Silicone earmold with penguin design

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.24

Mixed Minerals

Labs 3 & 4, designers, Westone Laboratories, Inc. American, 2016

Clear acrylic earmold with copper and silver flakes

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.23

Judicious Tones

Labs 3 & 4, designers, Westone Laboratories, Inc. American, 2016

Clear acrylic earmold with copper flakes, green glitter

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.36



Wolverines

Grace Kingston, Tess Osborn, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Light blue silicone earmold with white swirls and a lime green "M"

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.41

Wolverines

Grace Kingston, Tess Osborn, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Blue silicone earmold with green polka dots

On loan from Central Michigan University, KSUM L2016.86.40

Over the Rainbow

Andrea Williams, Ryan Reyes, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Silicone earmold with red, blue, yellow, and green designs

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.21

Spectrum

Andrea Williams, Ryan Reyes, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Clear silicone earmold with green, red, blue, purple, and orange swirls

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.37



Team Westone

Lab 5 designers, Westone Laboratories, Inc. American, 2016

US Flag silicone earmold

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.30

Stars and Stripes

Crystal Parker, Grace Kingston, Tess Osborn, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Silicone earmold with American flag and sparkles

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.22

Freedom is Not Free

Grace Kingston, Tess Osborn, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Clear silicone earmold with American Flag, red star, and glitter

Donated by Westone Laboratories, Inc., transmitted by KSUM L2016.86.39

Welcome Home

Crystal Parker, Grace Kingston, Tess Osborn, and Jake Garcia, designers, Westone Laboratories, Inc. American, 2016

Clear silicone earmold with American Flag, red star, and glitter

Donated by Westone Laboratories, Inc., transmitted by KSUM L2016.86.38

Contemporary Hearing Aids



SkyQ Behind-the-Ear Hearing Aid

Phonak, manufacturer
Swiss, 2014

Royal purple case,
red-orange tone hook,
internal circuitry, micro-
phones

Donated by Phonak, trans-
mitted by Central Michigan
University, KSUM L2016.86.4

Bling

Alex Rodriguez, design-
er, Westone Laborato-
ries, Inc.
American, 2016

Acrylic, rhinestones

Donated by Westone Labo-
ratories, Inc., transmitted by
Central Michigan University,
KSUM L2016.86.4



Naida SP Jr

Phonak, manufacturer
Swiss, 2008

Giraffe print plastic
case, , internal circuitry,
microphones

On loan from Central
Michigan University, KSUM
L2016.86.12a

This hearing aid was
designed for children
with moderately severe
to profound hearing loss.

Comet Hawk

Labs 3 & 4, designers,
Westone Laboratories,
Inc.
American, 2016

Acrylic earmold with
copper flakes and silver
glitter

Donated by Westone Labo-
ratories, Inc., transmitted by
Central Michigan University,
KSUM L2016.86.12b



SkyQ Behind-the-Ear Hearing Aid

Phonak, manufacturer
Swiss, 2014

Green plastic case, green
tone hook, internal cir-
cuitry, microphones

On loan from Central Michigan
University
KSUM L2016.86.3a

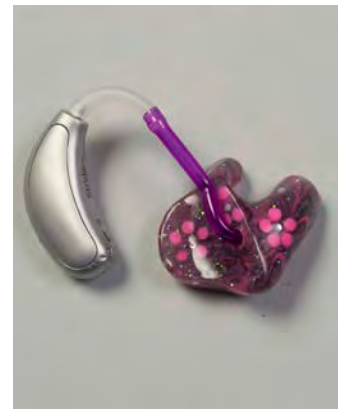
Flick Me Light Up

Liz Gardner, designer,
Westone Laboratories,
Inc.
American, 2016

Green silicone earmold,
LED lights

Donated by Westone Labo-
ratories, Inc., transmitted by
Central Michigan University,
KSUM L2016.86.3b

This earmold contains
LED lights, which flash
when the wearer flicks
the side of the earmold.



Stride P Behind-the-Ear Hearing Aid

Unitron, manufacturer
Canadian, 2015

Platinum tone plastic case,
circuitry, microphones

Donated by Unitron, transmitted
by Central Michigan University,
KSUM L2016.86.15

Summer Breeze

Alex Rodriguez, designer,
Westone Laboratories, Inc.
American, 2016

Silicone earmold with
rhinestones

Donated by Westone Labora-
tories, Inc., transmitted by Central Michi-
gan University, KSUM L2016.86.6



Fusion RIC/RITE Hearing Aid

Widex, manufacturer
Danish, 2015

Shocking pink plastic
case, internal circuitry,
microphones

Donated by Widex, transmitted
by Central Michigan University,
KSUM L2016.86.5

Pearlescent Star

Dave Miller, designer,
Westone Laboratories,
Inc.
American, 2016
Acrylic blue and silver earmold

Donated by Westone Laboratories,
Inc., transmitted by
Central Michigan University,
KSUM L2016.86.28



Delta Hearing Aid

Oticon, manufacturer
Danish, 2006

Silver and black plastic
case, circuitry, micro-
phones

On loan from Central Michigan
University, KSUM L2016.86.10

Marbles

Dave Miller, designer,
Westone Laboratories,
Inc.
American, 2016

Acrylic blue and gray
sparkle earmold

Donated by Westone Laboratories,
Inc., transmitted by Central
Michigan University, KSUM
L2016.34



Delta Hearing Aid

Oticon, manufacturer
Danish, 2006

Hawaiian Print plastic
case, circuitry, micro-
phones

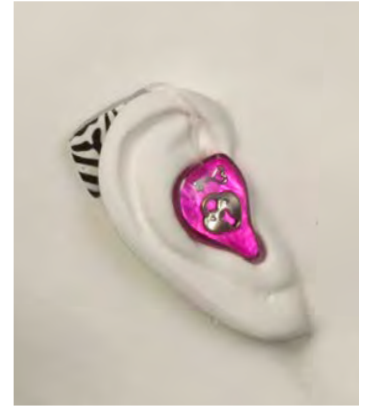
On loan from Central Michigan
University, KSUM L2016.86.8

Marbles

Dave Miller, Michelle
Pelletier & Mike Kling,
designers, Westone Labo-
ratories, Inc.
American, 2016

Acrylic turquoise and
white sparkle earmold

Donated by Westone Labo-
ratories, Inc., transmitted by
Central Michigan University,
KSUM L2016.86.33



Delta Hearing Aid

Oticon, manufacturer
Danish, 2006

Zebra stripe plastic case,
circuitry, microphones

On loan from Central Michigan
University
KSUM L2016.86.9

Key to My Heart

Dave Miller, Michelle Pelletier
& Mike Kling, designers,
Westone Laboratories, Inc.
American, 2016

Acrylic hot pink earmold
with silvertone accents

Donated by Westone Laboratories,
Inc., transmitted by Central Michi-
gan University, KSUM L2016.86.54

Contemporary Hearing Aids



Fusion RIC/RITE Hearing Aid

Widex, manufacturer
Danish, 2015

Tan Silk plastic case, internal circuitry, microphones

Donated by Widex, transmitted by Central Michigan University, KSUM L2016.86.6

Marbles

Dave Miller, Michelle Pelletier & Mike Kling, designers, Westone Laboratories, Inc.
American, 2016

Acrylic earmold in orange, gray, and black

Donated by Westone Laboratories, Inc., transmitted by Central Michigan University, KSUM L2016.86.35



Universal Hear-Ring

Pearson Lloyd, designer
British, 2005

Prototype hearing aid device with interchangeable covers.

Plastic, metal

Loan Courtesy of Pearson Lloyd, KSUM L2016.52.1

The Hear-Ring was designed in partnership with the Royal National Institute for the Deaf in London. The piece is a modernized take on the conventional hearing aid.

Artisan Hearing Aids

Hearing aids do not always need to be plain and boring. Some designers, as well as hearing aid users, have been working to promote a change in the current stigma of hearing loss. These individuals have turned these devices into wearable, unique pieces of art. Instead of being viewed as just a necessity, these hearing aids are transformed into fashion accessories and art that one can imagine coming down a runway.

--Dr. Stacey R. Lim



Prototype Hearing Aid

Ashley Temudo, designer
British, 2016

Wood and silver

Loan courtesy of the design-
ermaker Ashley Temudo, KSUM
L2016.84.1



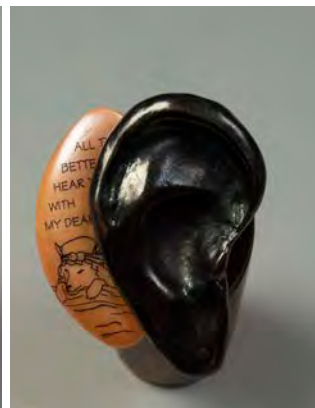
I Can't Hear You, I Have a Banana in My Ear

Mimi Shulman, Tokens of
Gilt Jewelry, designer
Canadian, 1991

Injection mold plastic,
elastic

Donated by Mimi Shulman,
transmitted by Central Michigan
University, KSUM L2016.86.19

Mimi Shulman is a jeweler and film prop designer with hearing loss. To break down negative stereotypes of hearing aids, she developed EarWear, which can be attached to behind-the-ear hearing aids.

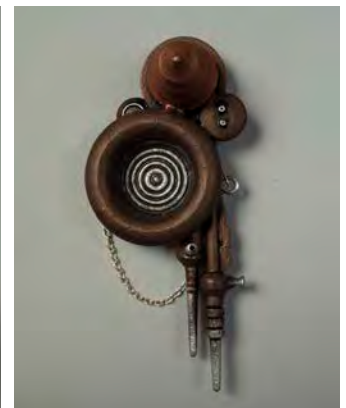


Said the Big Bad Wolf

Mimi Shulman, Tokens
of Gilt Jewelry, designer
Canadian, 1991

Injection mold plastic,
elastic

Donated by Mimi Shul-
man, transmitted by Central
Michigan University, KSUM
L2016.86.20



Trionic Steampunk Ear Wearable Hearing Aid

Builder's Studio, designer

American, date unknown

Wood, paint, finishes,
metal

Courtesy of Stacey Lim, KSUM
L2016.73.2

Historic & Contemporary Cochlear Implants

Cochlear implants are a relatively new technology compared to hearing aids. Single-channel cochlear implant devices were introduced in 1972. Multichannel cochlear implants were FDA approved for adults in 1984, and for children in 1989. Cochlear implants consist of an internal device that is surgically implanted into the cochlea and an external component, which collects sound that is sent to the speech processor. The speech processor converts sound into electrical information that is sent to the electrode array inside the cochlea, directly stimulating the auditory nerve. The signal is interpreted by the brain, allowing the wearer to hear sounds and speech. Although cochlear implants are an option for people with significant hearing loss, members of the culturally Deaf community hold conflicting views. While some members of the Deaf community use cochlear implants, others choose not to, because they consider deafness a cultural identity that does not need to be “fixed”. Those choosing cochlear implants have greater access to the sounds surrounding them.

--Kay Caprez, Undergraduate Student in Speech and Language Pathology and Audiology



Cochlear™ Nucleus® Spectra headpiece

Cochlear Ltd, manufacturer

Australian, 1994

Wire, plastic, magnet

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives KSUM L2016.74.38a

The Spectra headpiece was attached to the Nucleus® Spectra body worn device.

House/3M Speech Processor

American, 1985

Plastic, metal, electronic components

Loan Courtesy of The Kenneth Berger Hearing Aid Museum and Archives, KSUM L2016.74.38b

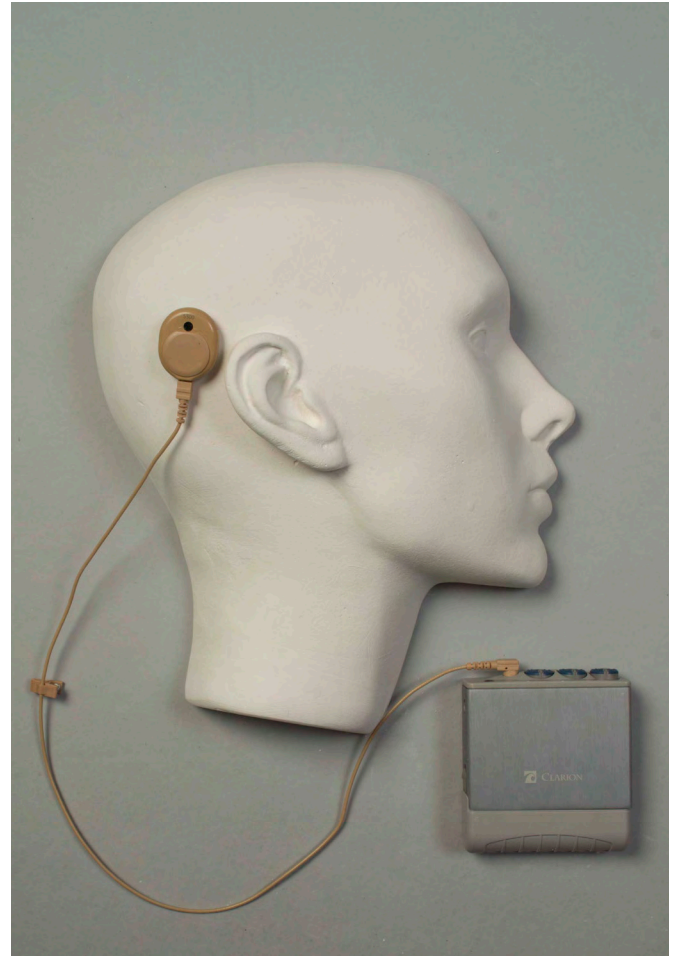
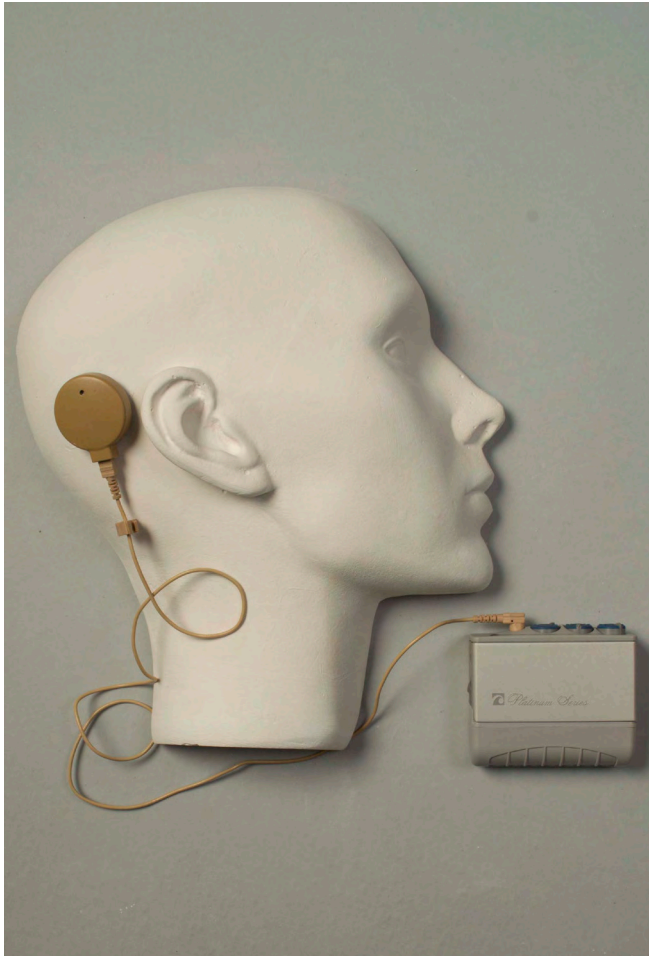
The House/3M was a single-electrode cochlear implant and was the first to be commercially marketed.

CII Behind-the-Ear Processor

Advanced Bionics, LLC, manufacturer
American, 2000

Beige outer plastic case with volume and program lever. Processor and headpiece microphones.

On loan from Advanced Bionics, LLC, transmitted by Central Michigan University, L2016.86.52c

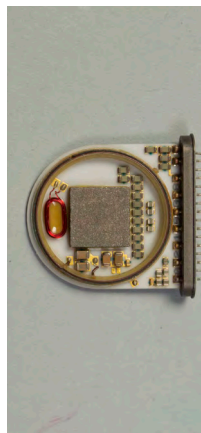


Clarion Platinum Series

Advanced Bionics, LLC, manufacturer American, 2000

Brushed aluminum body with upper case volume, sensitivity, and program dials. External LED.

On loan from Advanced Bionics, LLC, transmitted by Central Michigan University, L2016.86.52b



Clarion S-Series

Advanced Bionics, LLC, manufacturer American, 1997

Brushed aluminum body with upper case volume, sensitivity, and program dials. External LED.

On loan from Advanced Bionics, LLC, transmitted by Central Michigan University, L2016.86.52a

Contemporary Cochlear Implants



RONDO and Fine Tuner

MED-EL, manufacturer
Austrian, 2013

Plastic, circuitry, magnet, microphones

Donated by MED-EL, transmitted by Central Michigan University, KSUM L2016.86.16, KSUM L2016.86.18

Unlike other cochlear implant devices currently available on the market, the RONDO is a single-unit piece that is worn on the head, without the need of any external wires or a behind-the-ear unit. The Fine Tuner is a remote control that can be paired with the external MED-EL cochlear implant devices. The user can change the volume or program settings, using the Fine Tuner.



SONNET Behind-the-Ear speech processor

MED-EL, manufacturer
Austrian, 2015

Plastic circuitry, magnet, microphone, battery pack

Donated by MED-EL, transmitted by Central Michigan University, KSUM L2016.86.17



**Harmony™ HiResolution™
Bionic Ear System with T-Mic™ Micro-
phone**

Advanced Bionics, LLC, manufacturer
American, 2006

Dark sienna metallic plastic outer case with volume wheel, program toggle switch, and external LED. Multi-microphone configuration with T-Mic™ and processor microphones.

On loan from Advanced Bionics, LLC, transmitted by Central Michigan University, L2016.86.52d



**Naida CI Q Series Processor
with T – Mic™ Microphone**

Advanced Bionics, LLC, manufacturer
American, 2003

Silver metallic plastic outer case with digital volume and program buttons. External LED. Lightweight T-Mic™ microphone. Four-microphone input configuration.

On loan from Advanced Bionics, LLC, transmitted by Central Michigan University, L2016.86.52f

Clothing Inspired by People with Hearing Loss



CI Wear™ Shirt

Eric Sherman, designer
American, Invented 2012, Patented 2016.

80% Nylon and 20% Lycra. Treated with KoreDry™

Loan courtesy of CI Wear™, KSUM L2016.54.1

This high-performance shirt was designed to be worn as a rashguard, swim shirt, or an exercise shirt. The sleeve pockets and special collar loops keep the wearer's cochlear implant processor, such as the Advanced Bionics Neptune or AquaCase, in a comfortable position while protecting the device. The designer of the CI Wear™ shirt is a Kent State University alum, who designed this shirt for his son.



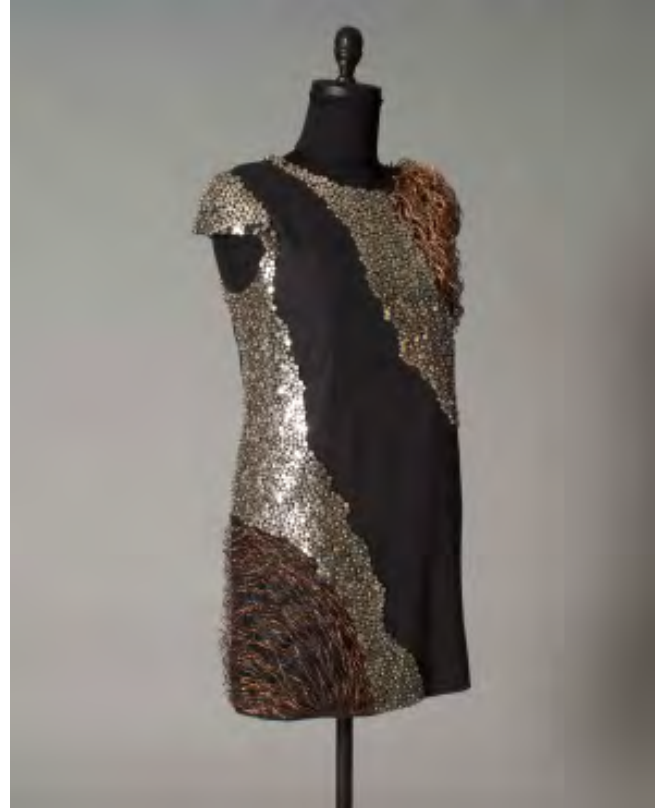
Flutter

Halley Profita, Nicholas Farrow, and Nikolaus Correll, creators
American, 2012

Cotton, Spandex, Polyester, PCBs, Microphones, Vibration Motors, Wire

Lent by the creators, Halley Profita, Nicholas Farrow, and Nikolaus Correll, KSUM L2016.2.1

Inspired to aid individuals with hearing loss, this dress gives vibro-tactile feedback in the direction of a loud sound or alarm to help those with hearing loss respond more intuitively to their external environment. Flutter received the 1st place award at the International Symposium on Wearable Computer's Design Exhibition in Newcastle, England in 2012.



Dress

Lexine Schumm, designer
American, 2016

Black canvas, shoulder and hip pieces of copper wire attached to plastic mesh, hearing aid batteries (sizes 10, 312, 13)

Loan Courtesy of Lexine Schumm, KSUM L2016.95

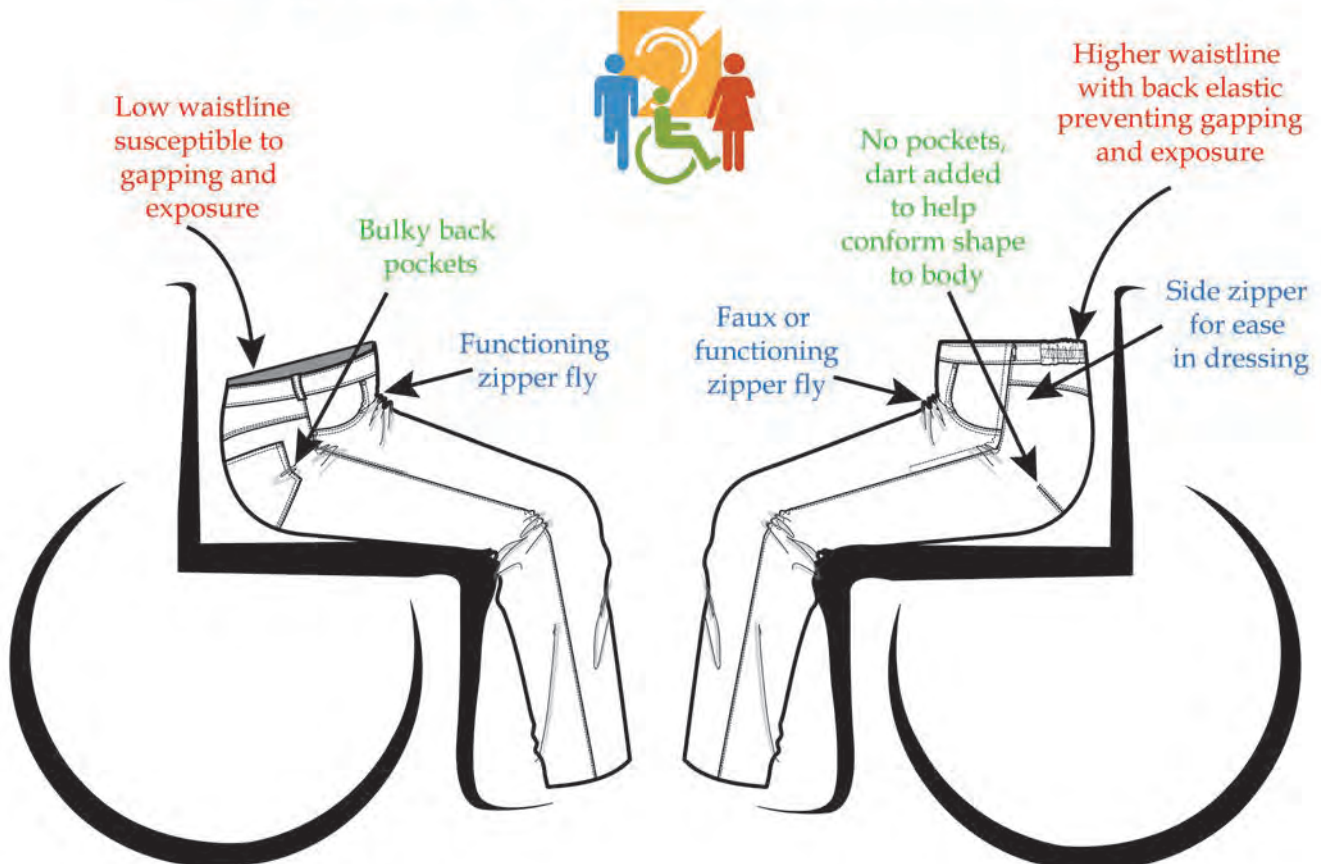
Lexine Schumm is a fashion design student at The University of Minnesota. She has had single-sided deafness since the age of four, and uses a Baha® auditory ossse-integrated hearing system to help her hear.

Adaptive Clothing by IZ Collection

Adaptive clothing today come in a variety of fashionable styles. The adaptive clothing on the market years ago were more concerned with function and form than fashion; now customers can take advantage of all these elements. Izzy Camilleri's IZ collection is leading the market for fashionable adaptive clothing. Her pieces have signature cuts and styles to comfortably fit a seated body shape and to avoid interference with wheelchair mechanics. The adaptive clothing allows for wheelchair users to have access to the same styles and trends as everyone else, without compromising comfort. The designs also include discrete functionality details that allow ease in dressing and undressing.

-- Kay Caprez, Undergraduate Student in Speech and Language Pathology and Audiology and Dr. Tameka N. Ellington

Regular Bottoms vs. Adaptive Bottoms designed for people who use wheelchairs





Pencil Skirt

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

72% polyester, 22% rayon, 6% spandex

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.7

This item, designed for the seated wearer, features a curved zipper and a discreet elasticized panel at the back waist for comfort. The back of the skirt has a dart at each hip to accommodate the sitting position and allow for more comfort.

Wrap Dress

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

95% rayon, 5% spandex

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.6

This item was designed as a traditional wrap dress created for the seated working woman. This dress features extra fullness in the back panel controlled by pleats at the side of each hip. The dress skirt is longer in the back to accommodate the sitting position.

Adaptive Clothing by IZ Collection



Leather Moto Easy Zip Back

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

100% leather

Loan Courtesy of Izzy Incorporated, KSUM
L2016.53.3

This high fashion piece was designed for ease in dressing the wearer. Assisted dressing becomes a more pleasant and autonomous experience because the zippers down the back and front allow the jacket to be put on as two separate pieces.

Fashion IZ Freedom Tee

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

50% polyester, 25% cotton, 25% rayon

Loan Courtesy of Izzy Incorporated, KSUM
L2016.53.10

This cool graphic t-shirt has a philanthropic purpose with 100% of the proceeds from the shirt going to fund accessibility construction throughout North America. Those living with the need for a wheelchair are often faced with inaccessible facilities that restrict where they can go without assistance.

Faux Leather & Ponte Legging

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

Front: 100% polyester, Back: 73% rayon, 23% nylon, 4% spandex

Loan Courtesy of Izzy Incorporated, KSUM
L2016.53.5

This item was designed for the trendy, fashionable wearer with an extended back crotch and elastic waist.



Women's Easy-Zip Back Parka

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

Shell: 100% nylon, Fill: Thinsulate, Lining: 52% acetate, 48% cotton, coyote fur trim

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.9

This stylish coat makes assisted dressing a more pleasant and autonomous experience. The zipper down the hood onto the back and the zipper separating front allows for the jacket to be put on as two separate pieces. The high cut back panels and the longer front prevents bunching in the back and allows a smooth drape on the front.



Women's Slim Leg Chino with IZ Panel

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

97% cotton, 3% spandex

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.4

This item has an extended back crotch and elastic waist specially designed for a seated wearer. The IZ elastic panel adds extra comfort and more tailored fit.

Adaptive Clothing by IZ Collection



Rain Coat

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

65% polyester, 35% cotton

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.8

This item is utilitarian and fashionable with a removable back flap that is meant to drape over the back of the wheelchair to prevent rainwater puddling in the seat of the wearer.



Men's Peacoat

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

100% wool, lining 52% acetate 48% cotton

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.2

This coat is not your traditional peacoat. It has special features such as a slight A-line shape and longer angled front panels to cover the thigh area of a seated wearer. The minimum bulk back panel also enhances comfort for the wearer.

Adaptive Denim



Women's Slim Leg Jeans

IZ Collection, Izzy Camilleri, designer
Canadian, 2015

70% cotton, 28% polyester, 2% spandex

Loan Courtesy of Izzy Incorporated, KSUM L2016.53.1

This jeans feature the elasticized IZ panel and signature high-cut waistband to prevent wheelchair users from worrying about gapping, bunching or riding down. There are and no rear pockets to sit on; shown with a grey installation T-shirt.



Vintage Adaptable Jeans

Alter Ur Ego, designer
American, ca. 2004

89% cotton, 8% polyester, 3% spandex

Loan Courtesy of Alter Ur Ego, KSUM L2016.80.1

These jeans have a variety of features designed for those in a wheelchair. Accessible pockets and catheter opening make these jeans unique. Founder Heidi McKenzie was paralyzed in a car accident in 2007. She saw a need in the market and began her company to provide fashion and functionality to others needing a wheelchair.

Adaptive Denim and Bottoms



Slim Leg Women's A-Jeans

ABL Denim, Stephanie Alves, designer
American, ca. 2015

Premium Stretch Denim in 92% cotton, 7% polyester,
and 3% Spandex

ABL Denim, KSUM L2016.87.2

These jeans have replaced pockets and back yoke seams with stylish stitch lines to prevent pressure sores for people with disabilities, i.e. spinal cord injuries, MS, and Spinal bifida. At the waist there are side zips as well as a center front zip. The founder and designer, Stephanie Alves provides designer denim with high functionality.



Men's seated WCH denim

ABL Denim, Stephanie Alves, designer
American, ca. 2015

100% Cotton denim and jersey

ABL Denim, KSUM L2016.87.1

These jeans are made with a higher back rise, extra-long center front zipper with rubber string lasso pull for easier opening and closing, and accessible pockets. What makes this jean special is the back seat being made of denim like jersey for ultimate comfort without sacrificing style. The founder and designer, Stephanie Alves provides designer denim with high functionality.



Jacob Dip Down Jeans

Downs Designs Dreams, manufacturer American, 2015

100% Cotton

DOWNS DESIGNS DREAMS (Downs Designs & NBZ Jeans), ,
KSUM L2016.100.2

These jeans are made with a low front rise and high back rise, full elastic waistband and faux zipper fly.



Lori Dress Pants

Downs Designs Dreams, manufacturer American, 2016

100% Polyester

DOWNS DESIGNS DREAMS (Downs Designs & NBZ Jeans), KSUM
L2016.100.1

These pants are made with a full elastic waistband and faux zipper fly. Downs Designs® brand provides people with Downs Syndrome with proper fitting clothing that are comfortable and easy to don and doff with extra width added to the waist, hips and knees.

MagnaReady® Adaptive Clothing

MagnaReady® and Runway of Dreams are changing the world of fashion with their adaptive clothing. They have gotten press via CNN, People Magazine, and the Wall Street Journal, just to name a few.

-- Dr. Tameka N. Ellington



MagnaReady® Shirt

American, 2015

Magnetic closures, stain resistant, and wrinkle free cotton oxford cloth

Loan Courtesy of The Kent State University Fashion School, KSUM L2016.90.1

This shirt was designed by MagnaReady CEO, Maura Horton, for her husband. Parkinsons disease left him with limited dexterity mobility and the inability to button his shirt. Mrs. Horton wanted to find a way to give her husband back his autonomy and a front magnetic closure was the perfect solution.



Tommy Hilfiger Ivy Polo Shirt and Academic Chino

Runway of Dreams
American, 2016

100% cotton with MagnaReady® closures and Velcro fly

Loan Courtesy of Runway of Dreams, KSUM L2016.99.2ab

These items have magnetic closure plackets which makes donning and doffing easier for someone with limited mobility and dexterity.



Tommy Hilfiger Pique Dress

Runway of Dreams
American, 2016

100% cotton with MagnaReady® closures

Loan Courtesy of Runway of Dreams, KSUM L2016.99.1

This dress has a magnetic closure placket that makes donning and doffing easier for someone with limited mobility and dexterity. Runway of Dreams is a nonprofit organization working with the fashion industry to adapt mainstream clothing for the differently-abled community. Partnering with top brands and retailers, Runway of Dreams works to integrate wearable technology and design modifications into clothing, to make it adaptive and wearable for all.

Custom Adaptive Clothing



PlayskinLift as imagined by Emma, Exo-skeleton

Martha Hall, artist
American, 2016

Polyester blend knit, vinyl channels and removable wires

Loan Courtesy of the artist, KSUM L2016.5.1

This item was designed for a toddler with limited mobility and upper body strength. To wear the exoskeleton, the child is dressed in the garment, and then a caregiver slides the inserts under each arm into the vinyl casing. These inserts support the weight of the arm and allow the child to play, feed herself and interact with the environment. Families are provided with 3 sets of wires, each with different thicknesses. This way as the child gets stronger they use lighter weight inserts.

Man's Sweater

American, 2016

Acrylic and wool yarn

Anonymous loan, KSUM L2016.112.1

This sweater was based on a knitting pattern for wounded soldiers in World War II and was adapted for a man needing a wheelchair. Off-set front and back separating zipper closures and button neckline make assisted dressing easier.

Custom Arm Slings



Listening Tour Arm Sling

J.R. Campbell, Linda Ohrn-McDaniel, Kim Hahn, and Prerna Suri, designers and fabricators American, 2015

Cotton with digital embroidery threads

Loan Courtesy of Dr. Beverly Warren, President, Kent State University, KSUM L2016.98.1

This sling was designed and created by the Kent State University Fashion School for the university's 12th President after she injured her arm. The embroidered phrases are recordings from the Listening Tour where she took the time to learn about the culture of the campuses.

Gray Squirrel Arm Sling

J.R. Campbell, Linda Ohrn-McDaniel, Kim Hahn, and Prerna Suri, designers and fabricators American, 2015

Cotton with digital embroidery threads

Loan Courtesy of Dr. Beverly Warren, President, Kent State University, KSUM L2016.98.2

This sling was adorned with the famous Kent city black squirrel.

Contemporary Canes and Walking Sticks

Canes and walking sticks have been in existence since the beginning of mankind. One of the oldest stories referencing walking sticks is the staff of Moses which transformed into a snake at the Pharaoh's feet. Canes and walking sticks help individuals maintain balance in everyday functional activities while also being uniquely whimsical. Fanciful canes and walking sticks feature hand painted, hand carved, gem embellished, and metalsmithed designs displaying its users personality. These unique designs are not only pieces one can be proud to utilize, but can also serve as interesting conversation starters.

-- Kay Caprez, Undergraduate Student in Speech and Language Pathology and Audiology
and Dr. Tameka N. Ellington

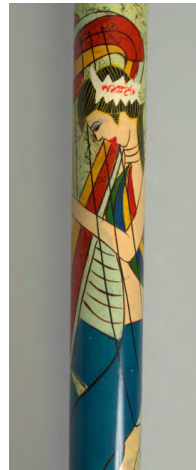


Proud Peacock Walking Stick

Design Toscano, manufacturer
American, ca. 2016

Chrome, barley-twist hardwood
shaft, rubber ferrule tip and
chrome metal collar

Loan Courtesy of The Kent State University
Fashion School, KSUM L2016.90.15

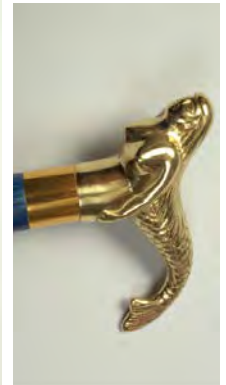


Lime Chord Lute

Incredible Canes, manufacturer
American, ca. 2016

Hand painted solid wood derby
handle and shaft

Loan Courtesy of The Kent State University
Fashion School, KSUM L2016.90.17

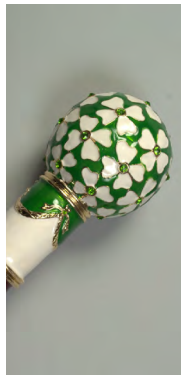


Brass Mermaid Walking Stick

Design Toscano, manufacturer
American, ca. 2016

Brass handle on a blue ash wood
shaft, rubber tip

Loan Courtesy of The Kent State University
Fashion School, KSUM L2016.90.16

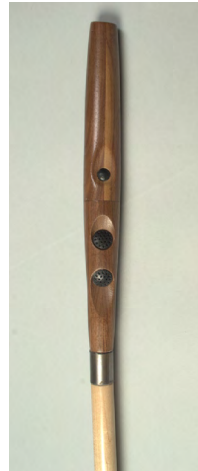


**Four Leaf Clover
Fabergé-Style Premi-
um Enameled Walk-
ing Stick**

Design Toscano, manufac-
turer
American, ca. 2016

Cast metal alloy, enam-
el and faux gem handle
with hardwood shaft and
ferrule and rubber tip

Loan Courtesy of The Kent
State University Fashion School,
KSUM L2016.90.8



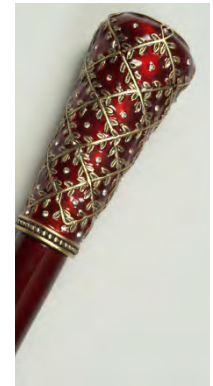
Xeti Cane with Haptic Feedback

Rodrigo Guadarrama Murrieta, designer
American, 2016

Maple and walnut wood, Plexiglas rod, steel tubing,
plastic.

Loan courtesy of Rodrigo Guadarrama Murrieta. KSUM
L2016.109.1

Xeti is a smart white cane for people with visual
disabilities that uses ultrasonic sensors to alert the
user about objects and obstacles on their path, both
on the ground and overhead. This cane alerts users
through haptic feedback and learns its user's habits
over time. Xeti challenges our preconceptions of
what a medical device should look like by elevating
the forms and materials used to a level closer to a
high-fashion accessory, therefore dignifying its use
and exposure.



**'Crown of Laurel'
Fabergé-Style Enam-
eled Walking Stick**

Design Toscano, manufac-
turer
American, ca. 2016

Metal alloy, enamel and
faux gem handle with hard-
wood shaft and rubber tip

Loan Courtesy of The Kent State
University Fashion School, KSUM
L2016.90.10

This cane was designed
to evoke the 19th-century
style made famous by Carl
Fabergé.

Contemporary Cane and Compression Socks



House Replica Cane with Flames

Royal Canes, manufacturer
American, ca. 2016

Mesh carbon fibers

Loan Courtesy of The Kent State
University Fashion School, KSUM
L2016.90.9

This derby style cane was inspired by the cane used by the famous Dr. Gregory House on the hit television series *House M.D* on Fox.



The Chatfield Cane

Top & Derby Limited, Ben Grynol
and Matt Kroeker, designers
Canadian, 2013

Aluminum and silicone handle, solid
walnut shaft and thermoplastic
rubber SHOE™

Loan Courtesy of Top and Derby, KSUM
L2016.56.1

This cane is a modern and fun rendition of a traditional derby cane. Ben Grynol and Matt Kroeker wanted to inspire the self-confidence of cane users with this product. The designers trademarked a cane tip which they call a SHOE™; inspired by the treads of a sneaker. This piece won the 2014 IDEA Award from the Industrial Designers Society of America.



Trig Compression Socks

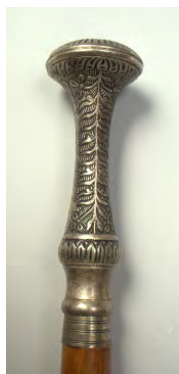
Top & Derby Limited, Ben Grynol
and Matt Kroeker, designers
Canadian, 2015

75% Nylon, 25% LYCRA®

Loan Courtesy of Top and Derby, KSUM
L2016.56.2ab

Modern compression socks by Ben Grynol and Matt Kroeker are fashionable and functional with 15-20mmHg (moderate) compression support. These are not your grandpa's compression socks.

Historic Canes and Walking Sticks



Cane

Unknown Culture, ca. 1800-1930

Ornate silver handle with solid wood shaft

Gift of Ralph and Terry Kovel, KSUM
2009.13.5



Cane

Romania, 1900-1999

Solid wood shaft with twenty metal togs

Popescu-Judetiz Collection, KSUM
1991.030.0042



Cane

Romania, 1900-1999

Solid wood shaft with geometric carvings

Popescu-Judetiz Collection, KSUM
1991.030.0041

Historic Canes and Walking Sticks



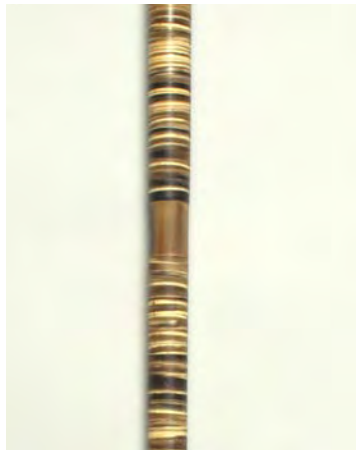
Cane

American, 1867

Solid wood with gold handle, engraved

Transferred from the Allen Memorial Art Museum, Oberlin College, Oberlin, Ohio, gift of Gladys Sellew, Helen Ward Memorial Costume Collection, 1958. KSUM 1995.017.1711

The engraving states: Presented to Mr. Sellew by his employees, Cincinnati, Ohio, Jan 1st, 1867



Cane

Unknown Culture, ca. 1800-1930

Striated horn and ivory

Gift of Ralph and Terry Kovel, KSUM 2009.13.2



Cane

Unknown Culture, ca. 1800-1930

Slit metal hook handle and solid wood shaft

Gift of Ralph and Terry Kovel, KSUM 2009.13.3

This cane has a dual purpose as it is used for balance while walking but also provides a temporary resting seat for its user.

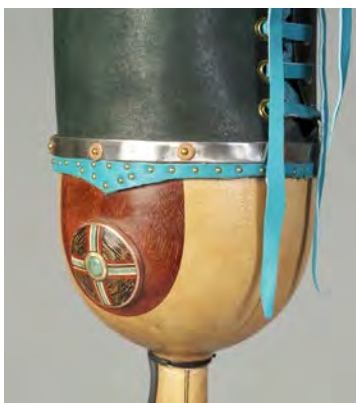
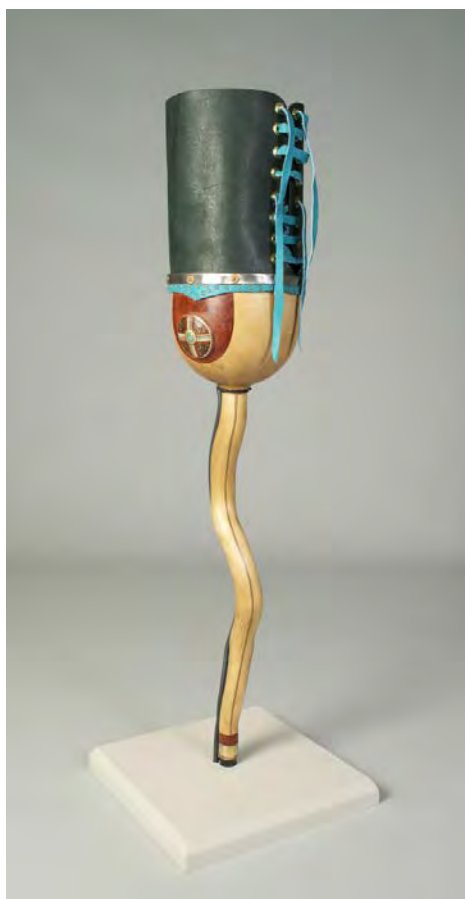
Cane

Unknown Culture, ca. 1800-1930

Metal shaft wrapped in bull penis

Gift of Ralph and Terry Kovel, KSUM 2009.13.7

Artisan Walking Devices



Peg Leg

Robert Katkowsky, Kanemaker Studios, artist American, 1979 and modified in 2016

African padauk, hand dyed ash, white ash, Macassar ebony, black palm, maple, gabon (or gaboon) ebony, copper, steel, brass, and leather.

Courtesy of the artist, KSUM L2016.72.1

This beautiful piece is not only functional but a piece of art. With its beautiful leather, copper and turquoise details this peg leg is reminiscent of Spanish/Caribbean culture. The artist can be contacted at kanemaker@gmail.com.



Crutch

Robert Katkowsky, Kanemaker Studios, artist American, 2016

African padauk, Macassar ebony, hand dyed ash, white ash, black palm, steel, copper, brass, leather, and recycled metal.

Courtesy of the artist, KSUM L2016.72.2

This beautiful crutch is a work of art designed for someone who needs support. The lovely inlaid woods and leather details make this crutch into a fashionable accessory as well as an assistive device. The artist can be contacted at kanemaker@gmail.com.



Afro-Historical Family Tree Walking Stick

Fredrick Shortridge, artist
American, date ca. 2015

Solid maple and wood stains

Courtesy of Fredrick Shortridge, KSUM L2016.110.1



This walking stick tells the story of the ancestral African American lineage. At the lower base Africa, the Mother Land, is the root of the lineage. As the images spiral around the shaft, similar to the natural growth pattern of a tree, powerful African and African America forefathers and mothers are represented: Queen Nefertiti, Harriet Tubman, Marcus Garvey and the Obamas. This cane won the 2015 Akron Art Prize.

Wheelchair Devices



Photograph by Sam Jenkins, photo editing by Moorph Productions



Toothless Concept Drawing by Ryan Weimer

Toothless Wheelchair Surround Magic Wheelchair, Ryan and Lana Weimer, creators

American, 2015

Sculpted foam, heat set plastic, metal and wood mounts and metal retractable hinges

Loan Courtesy of Magic Wheelchair, KSUM L2016.89.1

This surround was inspired by the fantasy DreamWorks film *How to Train Your Dragon*. Magic Wheelchair is a non-profit organization developing fun wheelchair costumes for children. Ryan & Lana Weimer, the founders, have been featured in newspapers, on television, and were recipients of funds from a very successful Kickstarter campaign in order to continue to create imaginative covers for other children.



Top End Eliminator OSR Racing Wheelchair

Invacare, manufacturer
American, ca. 2015

Aluminum and rubber tires

Loan Courtesy of Invacare Corporation, Elyria, Ohio KSUM
L2016.96.1

This dynamic racing wheelchair is the top choice for athletes. The relaxed head tube angle and the super-stiff, roll-formed horizontal main tube provide exceptional stability and aerodynamics. In 1992, 1996, 2000, 2004, 2008 and 2012 Paralympics athletes have won a variety of metals with the use of the Top End Eliminator OSR Racing Wheelchair.

Adaptive Shoes



The FLYEASE are the first shoes made with a full zipper closure opening from the side to back making the shoe easy to slip on or off and close or open. The shoe design was inspired by a young man named Matthew Walzer who lives with Cerebral Palsy. He wrote to Nike's CEO, Mark Parker, via a social media letter which went viral. The letter explained that he will be going off to college soon and he expressed his anxiety, frustration and embarrassment about not being able to tie his own shoes. Walzer loved LeBron James therefore, Nike created this shoe in the LeBron Soldier style.

Nike Zoom LeBron Soldier 9 FLYEASE

Nike, Tobie Hatfield, designer
American, 2015

Loan Courtesy of The Kent State
University Fashion School, KSUM
L2016.90.3ab

--Dr. Tameka N. Ellington

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A mighty thank you goes out to our behind-the-scenes team who worked so hard to help us secure the Invacare Top End Racing Wheelchair: Dr. Amy Quillin, Director of the Student Accessibility Services at Kent State University; Kolt Codner, Director of Corporate Relations, Corporate and Foundation Relations; Mickey Rzymek, Representative with North Coast Multisports, Inc.; and Sara Harper, Ph.D. Candidate in Exercise Physiology at Kent State University.

The *(dis)ABLED BEAUTY Documentary* would not have been possible without our film maker Adam Millstrom, Director of Due South Productions, and all of the people who shared their stories: Symphonie Mosley, Fashion Merchandising Student at Kent State University; Mari Gannon, Fashion Merchandising Student at Kent State University; Mimi Shulman, Designer/Owner, Tokens of Gilt Jewelry; Jasmine Simmons, Deaflympian and Graduate Student in Audiology at Central Michigan University; Dr. Stacey Lim, Assistant Professor of Audiology at Central Michigan University and Co-curator; Nick Long, Head Coach, Grand Rapids Thunder Wheelchair Rugby; Kristen Milefchik--Ms. Wheelchair Michigan 2015; Bryan Biagioli, President, Michigan Amputee Golf Association; Nick Bowers, Michigan Amputee Golf Association; Jerry Vanderwall, Michigan Amputee Golf Association and Heidi McKenzie, Founder of Alter Ur Ego Denim for people who use a wheelchair.

Without our the support of our family, none of our endeavors would be possible. We love you and appreciate all that you do!

Further Reading

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“What kind of fashion are disabled people into?
The thing is, is that disability is not a genre.”

--Bell Owen, Social Media Manager at IZ Collection Adaptive Clothing