

# AISTHESIS

Scoprire l'arte con tutti i sensi

DISCOVER ART WITH ALL YOUR SENSES

RECORDED ONLINE MAGAZINE

BY MUSEO TATTILE STATALE OMERO [WWW.MUSEOOMERO.IT](http://WWW.MUSEOOMERO.IT)

NUMBER 15 - YEAR 7 - MARCH 2021

MUSEO TATTILE STATALE OMERO

The Museo Omero supports and publishes research and studies on sensory perception and the accessibility of our cultural heritage.



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# INDISPENSABLE CONTACT

by Laura Crucianelli

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Touch is the first sense through which we encounter the world and the last to desert us on leaving it. "Touch comes before sight, before speech," writes Margaret Atwood in her novel *The Blind Assassin*. "It is the first language and the last, and it always tells the truth." Our biology bears this out. Human foetuses are covered in soft, fine hair, called lanugo, which appears around the fourth month of pregnancy. Some researchers maintain that these delicate filaments heighten the pleasurable sensations produced by the mother's amniotic fluid as it flows gently over the skin, anticipating the warm, soothing feeling that the newborn child will experience when hugged.

Touch has always been my favourite sense: a trusted friend, something I can rely on to cheer me up when I am down and fill me with joy when I am lighthearted. As an Italian living abroad for over ten years now, I have often suffered from a sort of "tactile hunger" which has affected my mood and my general wellbeing. In the north of Europe people use social touch much less than they do in the south. Small wonder then that, as a scientist, I have spent the last few years studying touch.

For quite a while, though, touch has been placed, so to speak, off limits: it has not been an easy time for this most important of senses. The pandemic has made it taboo, along with coughing and sneezing in public. While those infected by Covid-19 can lose their sense of smell and taste, touch is the sense that has been snatched from nearly all of us - whether positive or not, symptomatic or not, hospitalized or not. Touch is the sense which has paid the highest price.

But if physical distance is a means of protecting us, it is also a hindrance when treating us. Taking care of another human being almost inevitably means touching them: from looking after their basic needs, such as bathing and dressing them, lifting, assisting and nursing them (contact known as "instrumental touch") to more affective tactile exchanges, designed to communicate, give comfort and offer support ("expressive touch"). Research

in the field of osteopathy and manual therapy, where practitioners are working closely with neuroscientists on affective touch, suggests that the beneficial effects of massage therapy go well beyond the specific manoeuvres performed by the therapist: there is something special in the very act of placing one's hands on the patient's skin. Without touch there can be no cure.

The current tactile abstinence has come at a time when people had already grown wary of touching each other. Technology has tended to compound this distancing because social networks have become the main source of interaction for children and adolescents. A recent survey has shown that 95 per cent of adolescents have access to a smartphone and 45 per cent admit to being "almost constantly" online.

### **Touch has been one of the vectors of the pandemic, but it is also part of the cure**

This diffidence towards touch also stems from a widespread and growing awareness that it can be used by men to impose their power over women. The #MeToo movement has highlighted the practice: women are expected to allow themselves to be fondled as the price for being given access to certain opportunities. Which is why doctors, nurses, teachers and salesmen are instructed to reduce touch to a minimum. And yet studies suggest that touch improves the quality of our encounters with these professionals and leads us to assess the experience more positively. For example, we may well give a more generous tip to the waiter who touches us on the shoulder when taking our order than to one who keeps his distance.

### **The cuddle hormone**

What makes touch unique among the senses is that it is a shared experience. We can look without being looked at, but we cannot touch without being touched. Right from the start of the pandemic, nurses and doctors talked of how the reciprocity of touch has helped them communicate with their patients. When their protective clothing has prevented them from talking, smiling, or even being seen, they could always pat a shoulder, hold a hand or squeeze an arm so as to reassure patients that they were not alone. Touch is one of the vectors of the pandemic, but, paradoxically, it is also part of the cure. It is the most important means of social bonding, and the good news is that we are born fully equipped to make the best use of it.

Science is now starting to account for why touch is so important. Touching the skin can reduce stress factors such as heart rate, blood pressure and cortisol levels, in adults and children. It prompts the release of oxytocin, a hormone which calms, relaxes and induces a feeling of being at one with the world. Every time we hug a friend or stroke a pet this hormone is released into our body, producing a feeling of wellbeing. So oxytocin seems to strengthen our resolve to make contact and keep in touch with others, thus fostering the development of the socially-oriented human brain. It also plays a key role in our relations with ourselves.

Touch is the first sense to develop and it is mediated by the skin, our largest organ. Very few mammals are born at such an early stage of their development as humans: our motor system is not yet fully developed; we are unable to feed ourselves; we cannot regulate our temperature beyond a certain threshold, and so our survival depends upon others. As babies, being cared for mainly involves physical contact and being held. All the basic activities entail touch: changing nappies, being bathed and fed and, naturally, cuddled. Even after we are over the first months of life, tactile social interaction is crucial for our development. For example, it is well known that postnatal depression impacts negatively on newborns, but the maternal touch can have a positive effect. So encouraging tactile interplay between mothers with depression and their babies can reduce negative outcomes for the infants later on. And the benefits are two-way: skin contact between the newborn and its parent raises oxytocin levels in the mother, the father, and the infant, producing a feeling of wellbeing, promoting a healthy relationship and helping to synchronize the interaction between parent and child.

### **Recognition through skin contact**

Many neuroscientists and psychologists believe that we have a system dedicated exclusively to perceiving social and affective touch, distinct from the one which comes into play when we touch objects. This first system seems to be able to distinguish a touch which is similar to a caress. This is then processed in the insula, an area of the brain concerned with the retention of a sense of self and an awareness of our body. A caressing touch is important not only for our survival but for our cognitive and social development: for instance, right from our earliest years it can affect the way we learn to recognize other people. A study conducted on four month old infants has shown that babies who were delicately caressed by their parents learned to recognize a previously seen face more

easily than infants who had been subjected to non-tactile stimulation. It would seem that delicate physical contact can incline a child to pay particular attention to social stimuli such as faces.

In childhood, it is not merely the quantity of tactile stimuli that is important, but their nature and quality. In a recent study, my colleagues and I have shown that babies just twelve months old can distinguish the way in which their mothers touch them in their day-to-day dealings, such as playing together or while sharing a book. Mothers less attuned to the needs of their offspring tended to employ a rougher touch. And the offspring tended to respond likewise.

It is no exaggeration to say that touch is a type of language, one we learn, like our spoken language. We use touch every day to convey our feelings and to tell people that we are frightened, happy, in love, sad, sexually aroused, and much else besides. For our part, we are fairly good at reading other people's intentions and feelings according to how they touch us. In a recent study, we asked a group of volunteers to try to recognize the emotions and intentions which the experimenter was attempting to communicate by means of touch. The participants were touched at different speeds: more slowly, as generally happens between parents and children, or between lovers; or more quickly, as is usually the case between strangers. We found that the slow, caressing touch tended to communicate love, even when it came from a stranger, while participants were unable to assign any particular significance or emotion to the more hurried contact.

**At any age, to feel good we need to touch and be touched.**

Exchanging communicative tactile gestures is not just a way of forging social links; it also serves to establish power relationships. In the West, in professional contexts, when people meet for the first time they usually exert a certain pressure in shaking hands. A firm handshake signals competence and trust; we feel the touch of the other person and we wonder: "Do I trust him or her enough to offer them a job?" or "Am I prepared to take this person on as a babysitter for my children?" A study has shown that a firm handshake is the sure sign of a successful job interview, perhaps because it is the first real opportunity to close the physical gap between the two parties.

The language of touch also affects the way in which we relate to ourselves and to our bodies, and this has profound implications for our psychological wellbeing.

This finding, together with the results of other studies, suggests that there is a close link between social touch and mental health. Whatever our age, we need to touch and be touched if we are to feel well.

### **Digital manipulation**

So what happens to our tactile capacity when touching becomes taboo? It is at times when we are most fragile that we have the greatest need to be touched. Everything we know suggests that social touch ought to be encouraged, not inhibited. We need to appreciate the distinctions in order to recognize the dangers, but avoiding all physical contact would be disastrous. The pandemic has given us an idea of what life without touch would be like. Fear of contagion has brought home to us just how much we miss those impulsive embraces, those handshakes, those pats on the shoulder. Physical distancing leaves invisible scars on our skin. It is no accident that most people say that the first thing they want to do once the pandemic is over is “hug their loved ones”.

Touch is so vital that even the language of digital communication is awash with tactile metaphors. We ask to “keep in touch” and confess to being “touched” by the kindness of others. Some researchers have suggested that technology could improve our physical connection with others by prompting new kinds of interpersonal tactile relations by means of hug blankets, kiss screens and caress devices. For example, a team from University College London is looking into whether digital practices such as clicking “likes” and sending emoji – social feedback signals that indicate emotional states – might be extended to include the remote manipulation of different textures and materials. Two people, distant from one another, could each have a device capable of detecting and transmitting tactile feedback: for instance, my sensor could become warm and soft when my partner on the other side of the world is available and wants me to be aware of his or her presence; conversely, it could turn cold and rough if my partner needs to feel my presence. These devices could have multiple applications, especially for people who have difficulty making contact, like the elderly, or people living alone, or children in orphanages. 15 per cent of human beings worldwide live alone, often far from their loved ones, and according to statistics an increasing number of people die alone. It would make a real difference if we were able to feel physically close, even though far apart.

However, these devices should complement, and not be a substitute for, skin-to-skin contact. Nothing can compare with the magic of a moment of intimacy with someone,

when touch is often accompanied by a series of other sensory signals such as smell, sound, body temperature. Touch is a pledge of physical and temporal proximity; it says, “we are close and we are here now together”. Unlike other senses that can be digitalized - we can see someone’s face and talk to them via Zoom – to touch we need to be in the same place, at the same time, with another human being. A digitalized version of touch would not allow this sharing of a particular moment in time and space, though it would offer a more limited experience of a true embrace. If I were in a position to hit the pause button and withdraw from someone who is sending me a digital caress, that “feeling of being together with another person”, which is the hallmark of touch, would be lost.

As things stand at the moment, is the idea of a “renaissance of touch” only for the brave and the foolish? I do not believe so, and scientific evidence is clear on this point. Depriving ourselves of touch means losing a lot. We are renouncing one of the most sophisticated languages. We are missing opportunities to make new relationships, and we might even be jeopardizing those we already have. If social relations start to deteriorate, we begin to lose touch even with ourselves. The need for people to be able to touch one another should be recognized as a priority when we come to define the “new normal” in the wake of the pandemic. A better world is often only an embrace away. As a scientist, but also as a human being, I claim the right to touch and to dream of a status quo in which no one will be deprived of physical contact anymore.

(from “INTERNAZIONALE”, 11 February 2021)



# THE MUSEO OMERO WEBSITE: NEW STANDARDS OF ACCESSIBILITY AND FUNCTIONALITY

by Roberto Scano, Fabrizio Caccavello, Sauro Cesaretti

Experts in accessibility, web projects and assistive technologies

The website of the Museo Tattile Statale Omero in Ancona ([www.museoomero.it](http://www.museoomero.it)) has recently been completely restructured in terms of contents and technological infrastructure, ushering in a season of major innovations.

Although the previous website had been created in compliance with the accessibility requirements stipulated by international standards and national legislation, the comprehensive overhaul of the web project has seen the introduction of new accessibility features, available to all users but intended especially for people with visual impairments. The new, revamped site also incorporates features designed to make it more appealing to everyone from a graphic and interactive point of view.

The project was carried out through the open source content management system WordPress, one of the best-known worldwide, whose content administration system (backoffice) is accessible in its basic version. So the upgrade was carried out while continuing to guarantee access both to backoffice material for management and, more importantly, the part available to the public.

During the design and implementation stages, certain indispensable requirements for this type of project were carefully observed. These included compliance with national legislation in matters of web assessibility and observing the public administration guidelines set out by the Agency for Digital Italy (AgID) and enshrined in the Civic Museum Directorate's Plan for the Elimination of Architectural Barriers, in order to ensure an appropriate contents architecture which could be innovative while remaining consistent with what had been published on the previous site. The aim was to provide a high quality user experience for everybody, especially those with low vision of various kinds or with visual impairment.

The three web designers have pointed out the innovative features of their work in their own words.

**Roberto Scano**, international expert in ICT accessibility and president of IWA Italy (the association of Italian web professionals), who oversaw the choice of resources and the final accessibility control, tells us:

“The Museo Omero’s website is proof that accessibility for everyone is achievable; there’s no room for ifs and buts. By now, thanks to the standardization work carried out internationally (which I’m proud to be a part of), the world of the developers has all the rules and tools available to ensure management solutions and accessible content for all. For example, the use of WordPress makes it possible to guarantee, not only that the site accessible to the public meets international guidelines, but the compliance of the administrative side, too, thereby enabling people with disabilities to be included in the active business of creating and publishing content. Accessibility underpins development and, if applied right from the start, it enables web professionals to arrive at inclusive solutions, so that no user is excluded from a museum, or an online shop, or a digital service, or social participation on the web generally

**Fabrizio Caccavello** - an expert in accessibility and the development of accessible applications, and coordinator of [webaccessible.org](http://webaccessible.org) - created the website’s user interfaces and coordinated the working group. He stresses that:

“Every single part of the interfaces used to visit the site has been carefully designed to ensure optimal access to all users, regardless of disability.

We have followed a policy of aiming to simplify the infrastructures, as far as possible removing anything unnecessary and focusing the user’s attention on what is important in the context.

Crucial to the project was the work of enhancing the interfaces for the benefit of people with low vision, those who are usually penalized when it comes to consulting a website because the web designers are concerned almost exclusively with visual interaction (with the mouse), and, in the accessible projects, with people who use the screen readers. On this site, though, also people with low vision (who don’t generally use assistive technologies but browse with high magnification) will find it easy to consult the contents because the interfaces are suited to any degree of enlargement.

Despite the meticulous attention paid to meeting accessibility requirements, the site has been designed so as to ensure that its outward appearance is in no way jeopardized – proof, if any were still needed, that it is possible to design websites to the highest accessibility specifications without compromising the aesthetic side at all.

The section devoted to the art works has been given a radical overhaul. Compared with the previous site, the cataloguing has been completely rethought so as to ensure new standards of accessibility and allow the Museo Omero to catalogue the works according to the actual visitor itineraries in place in the museum.

**Sauro Cesaretti**, an expert in assistive technologies and accessible development, ends with this assessment:

We tried out and tested numerous assistive technologies which people with visual impairments routinely use, so as to have as complete a set of records as possible.

Specific commands (WAI-ARIA) have been implemented to improve the user experience, always taking care to avoid information overload.

In the assessment and planning stages, it is crucial to understand what information the user will be provided with by the screen readers and what information will require specific instructions before becoming available.

Success depends on walking a fine line between providing comprehensive information and avoiding data overload.

Teamwork involving designers, developers and users with disabilities was essential in striking the right balance and ensuring that the users' experience of the assistive technologies coincides with the expectations of those who devised the interface.

It has been a complex project, but also an exploratory, experimental undertaking, resulting in the creation of a product which is accessible to a very high level and which might be used as a starting point by other similar organizations in creating their own digital services.

# BY TOUCHING A RENT

by Gerald Pirner

Essayist and photographer

For a blind person – or rather, for somebody who has gone blind – the absence of a visual image releases a flood of inner images which engulf all the senses at once. If a blind person touches an object, that touch is transformed into images which rise up inside him. The same happens with sound and smell: without a visual image, all the sensory experiences of the blind man overwhelm him with internal images, precisely because they are not held in check, or dominated, or domesticated by an external visual image which repulses them, conceals them behind itself. For its part, the inner image extends well beyond the eye's visual image: it is born blindly of the body and grows for as long as the touch lasts.

As if it had eyes in every pore of its skin, the hand of the blind person looks at everything it touches. The "touching eye" encompasses everything that comes close to it: sounds, smells, the touch of an object, a person, being touched by others. But all this, through memory and reflecting on appearance, transforms that flood of images into a thick fabric, coagulates temporal appearance in the substance of the body, and transforms that very substance into imagination, where the blind person dwells as in a cocoon. And it is just this imagination which appears to the blind person as a still image that encloses him once again in himself, becoming as it were the other face of the protective cocoon: like a curtain that becomes a second skin. The inner, imaginary image of the blind person, and this alone, thus springs from all his senses and forms a tissue of images, conjured by those same senses, and which - through the attention paid to an individual sense – can be torn again, indeed must be torn, otherwise the blind person would find himself in an illusory, almost hallucinatory, world which could submerge him in somnambulism and render him totally unfit to cope with reality.

### **Back to the hand**

A further, careful touch of the hand results in a rent in the fabric of inner and imaginary images – a rent which, despite everything, through touch conjures up more images which then try to repair the rent caused by the hand itself. To deal with this almost infinite experience of his own sensory perceptions, to interrupt and at the same time banish it, the photographer who has gone blind builds images from memory, from what he has seen, in order to change them into sensations. This gives rise to completely different worlds which he will undoubtedly have to let sighted people describe to him again, but which are reflected in his memory precisely because he knows them, because he himself has created them, and which he needs to recreate in real terms so that they do not elude him in his dreams or assail him on all sides. So, on the one hand, touch interrupts the image while, on the other, it continues the image with other means that serve to generate images completely different from the initial concept. From the blind person's gaze on the world which he used to see there arises, through the exercise of touch, a sort of mirror world which allows the blind person's sight to emerge from his sensations, his corporeity, in a way that is completely new and different. On the models he photographs, he allows his touch to become light. The lamp takes on the role of skin and, at the same time, paintbrush. But the worlds which the blind person builds are not merely intended as interior furnishing; they are worlds bedecked with images retrieved from memory, images that beset him in a fantastic manner and are often drawn from art history and cinema.

Poses and gestures appear from film scenes in Polanski, Pasolini, Buñuel or Herzog, images from Francis Bacon and Caravaggio, but included in a completely different context: the products of his obsessions, his nightmares, which gel anew in real images, in photographs, bent on holding back the flood of inner images. At the same time, a cabinet of mirrors is created, from which to release the memory of one's own body as actor. Like the somnambulist prisoner in *The Cabinet of Dr Caligari*, forced by a madman to plunder his dreams, the blind person freezes the images to render them harmless. The blind photographer does not see his photographs visually, he traces them in a mixture of staging and conceptual art, so that when they are described by sighted people, on the one hand his inner images are mirrored, but they can also extinguish themselves through a sort of duplication, as in a collision between matter and antimatter. The description of the photo, essential for his work, becomes the black fluid in which he immerses himself, as in Cocteau's film where Orpheus encounters the weeping Death, played by a woman.

**The second way: the emancipation of the blind skin from the gaze of the sighted**

Because of the awkwardness of using touch to create images, whose beauty can be described again only by the sighted, the blind person withdraws completely into his touching and considers that touching something that always tears even what or who has already been touched. In the absence of an image, every touch of the hand on another's body causes a rent, just as it does on himself; the tear occurs in his body, too. In the wake of this experience of contact without image, photographs are created which, in their fragmentation, trace the blind touch. We should focus now on the self-portrait because, in the act of self-touching, we apprehend the torn image once again, though in a completely different way, in the experience of the tearing self-touch.

So going blind can be understood as the blind person's emancipation from the voracity of the seeing eye, and he himself can verify this by touching - a touch which, while feeling, becomes time and duration. In a show of his photographs at the Galerie FHoch3 in Berlino, the blind photographer exhibits self-portraits complete with texts – partly concepts underlying the images, partly poetic descriptions, partly accounts of how they came about which the photographer himself has recorded in his own voice and can be heard on a mobile phone via a QR code. We move from his first self-portrait in which he traces the process of his own blindness, caused by retinitus pigmentosa, through the reduction of the self-portrait to a single pose, until we come to the transformation into image of the concept of Christianity based on Nietzsche's philosophy, via a film of Marin Scorsese's and Kafka's story, "Conversation with the Suppliant": autobiography is intertwined with an aesthetic nourished by touch, no longer understood merely as tenderness, but as a tearing assault which rends the image of three-dimensionality so as to reduce it to the protective two-dimensionality of the photograph.

## AISTHESIS. SCOPRIRE L'ARTE IN TUTTI I SENSI

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Museo Tattile Statale Omero - Mole Vanvitelliana

Banchina da Chio 28 – Ancona

sito [www.museoomero.it](http://www.museoomero.it).

**Publisher:** Associazione Per il Museo Tattile Statale Omero ONLUS.

**Director:** Aldo Grassini.

**Site manager:** Responsabile: Gabriella Papini.

**Editorial board:** Monica Bernacchia, Andrea Sòcrati, Annalisa Trasatti, Massimiliano

Trubbiani, Alessia Varricchio.

**Translation by** Simon Jarvis.

**Master recording:** Matteo Schiaroli.

**Voice:** Luca Violini.