

Accessibilità per tutti. Trieste 22 novembre 2019

Lucilla Frattura

Centro collaboratore OMS per la famiglia delle classificazioni internazionali
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ZERO BARRIERE NEL 2030:

applicazione pratica della
convenzione UN per i diritti
delle persone con disabilità e
della Classificazione
internazionale del
Funzionamento (ICF).

The Fourth Industrial Revolution: what it means, how to respond



14 Jan 2016

Klaus Schwab
Founder and Executive Chairman, World Economic Forum

AUDIO: LISTEN TO THE ARTICLE



This is an experimental feature. Some words or names may be mispronounced.

According to Professor Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, we are at the beginning of the Fourth Industrial Revolution; this Revolution is fundamentally changing the way we live, work, and relate to one another.



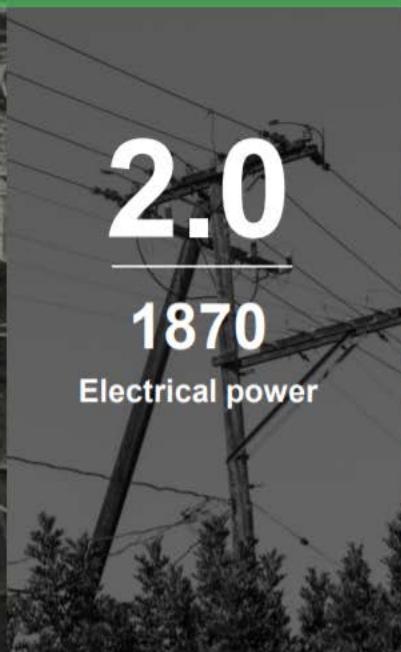
The Fourth Industrial Revolution is unlike anything we have ever experienced before, in its velocity, scope, and systematic impact. Contrary to the previous Industrial Revolutions, it is progressing at an exponential rather than a linear pace.



1.0

1784

Steam power



2.0

1870

Electrical power



3.0

1969

Computing power



*Blurring the physical world
with the digital world*

4.0

NOW

IoT power

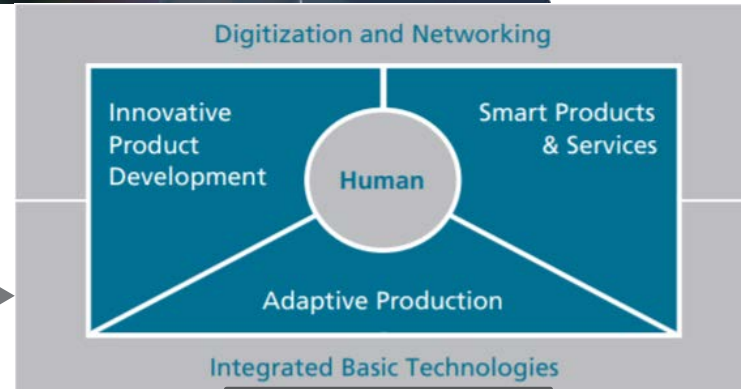
- Artificial intelligence
- Robotics
- Autonomous vehicles
- Quantum computing
- Nanotechnology
- Peer-to-peer networks



Disability in the Industrial Revolution

Physical impairment in British
coalmining, 1780-1880

DAVID M. TURNER
AND DANIEL BLACKIE

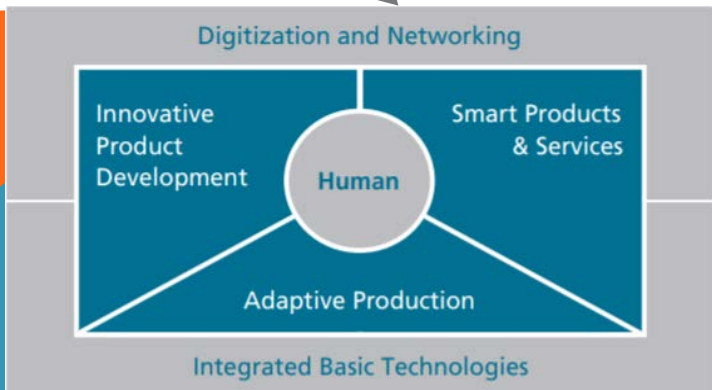


18***

NO DISABILITY?
EQUALITY IN
PARTICIPATION?



Lucilla Frattura



18***

NO DISABILITY =
EQUALITIES in
PARTICIPATION?



QUALE DISABILITÀ NEL 2030? PERCHÉ QUESTO INDICATORE?

Arts and Culture

My disability, my identity



Going for gold: Susie Rodgers at the London 2012 Paralympic Games

Image: Action Images

16 Jan 2019

Susannah Rodgers
Director, Spirit of 2012



Predictions for 2030:

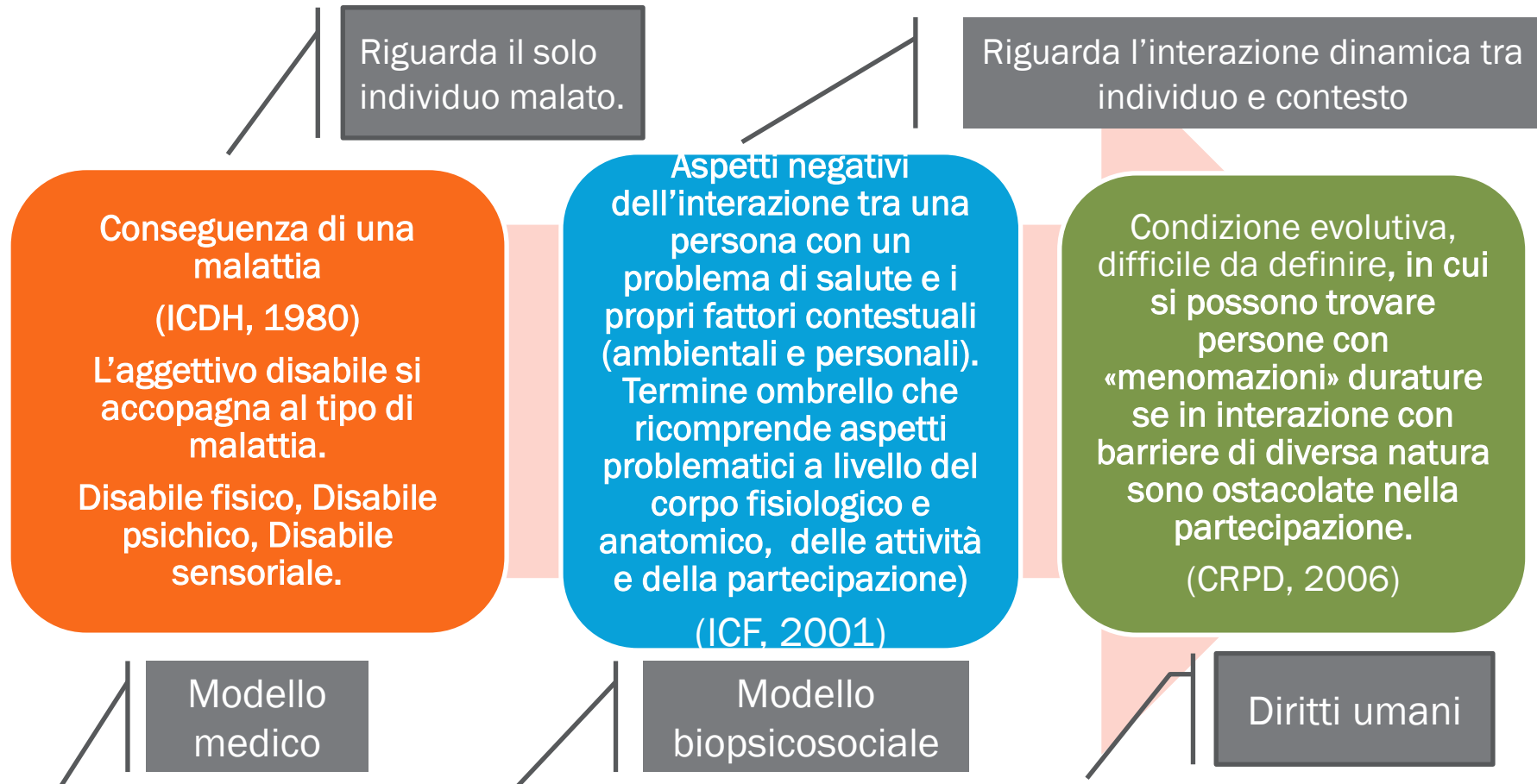
This article is part of the [World Economic Forum Annual Meeting](#)

As human beings, in a complex world of divisions, boundaries and borders, it isn't surprising that we try to make sense of things by putting everyone and everything into groups, labels or boxes. Identity and individualism become even more complicated when we throw in the concept of nationalities and parameters to define ourselves: single or married, employed or unemployed, religious or atheist...

1. Le persone con disabilità sono un popolo a parte?
2. Nella quarta rivoluzione industriale aumenteranno o diminuiranno?



EVOLUZIONE DEL CONCETTO DI DISABILITÀ



LE BARRIERE E LA PARTECIPAZIONE NEL RAPPORTO MONDIALE SULLA DISABILITÀ, 2011



Raccomandazioni ai governi

- Adottare una strategia nazionale di **contrasto alla disabilità**
- Adottare un piano d'azione
- Coinvolgere e consultare le persone con disabilità nella pianificazione e implementazione di queste iniziative



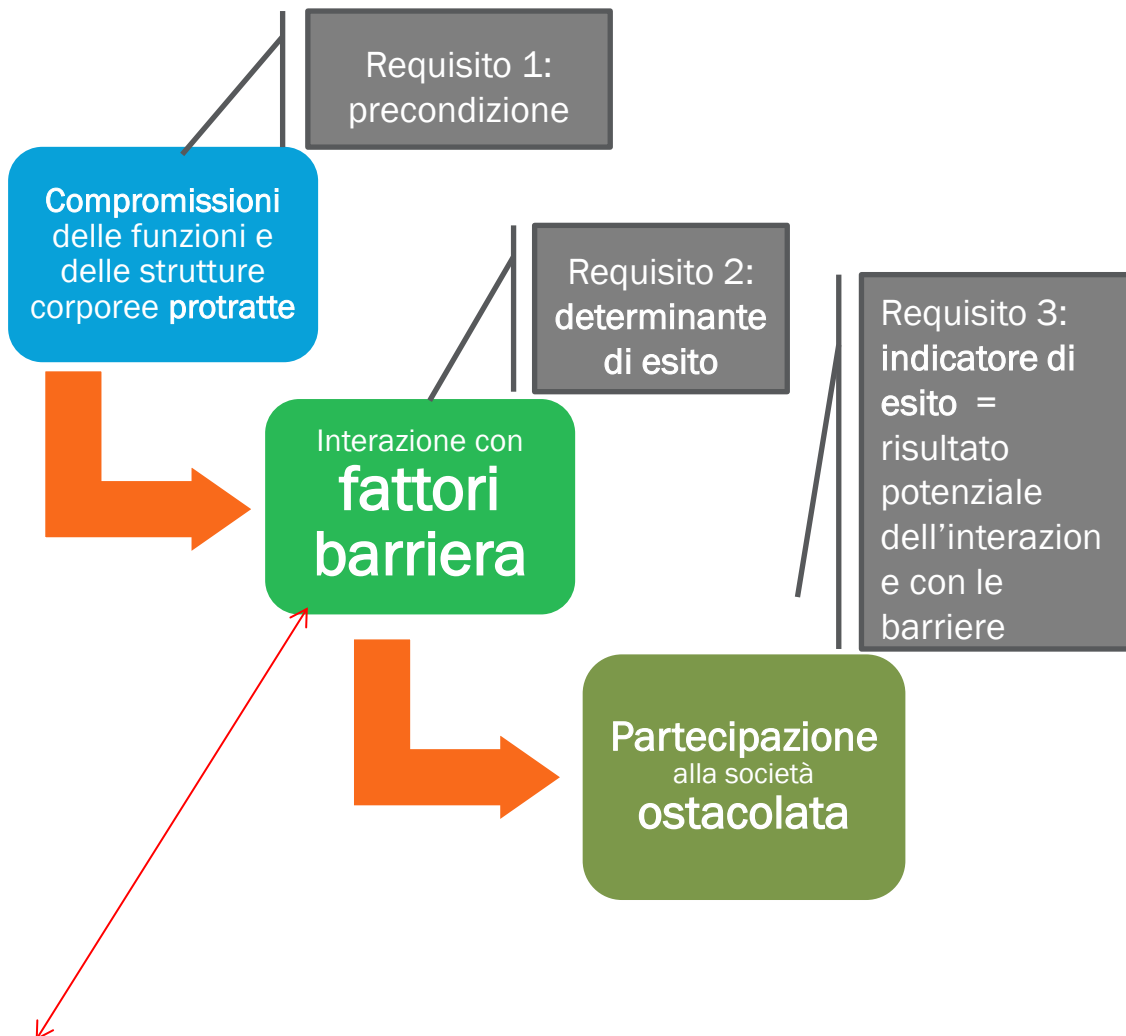
Accesso a tutti i principali servizi /strumenti / interventi attraverso specifici programmi

Il modello di riferimento CRPD per individuare la condizione di disabilità pone alla base **l'interazione tra persone e ambienti**.

Non bastano le compromissioni a livello del corpo per identificare una persona con disabilità.

Diventano **centrali i fattori barriera** e la loro interazione con la persona con funzioni e strutture corporee «compromesse».

E' necessario che si rilevi **se e quanto la partecipazione alla società sia a rischio di venire ostacolata**.



CONSEGUENZA PER LE POLITICHE DI CONTRASTO ALLA DISABILITA': Modificando i fattori barriera/introducendo adattamenti ragionevoli ci si aspetta che la partecipazione piena ed effettiva si realizzi e che le persone con compromissioni «del corpo» protratte («menomate/minorate») possano vivere **SENZA DISABILITA'**.



Convention on the Rights of Persons with Disabilities

Distr.: General
28 March 2019

Original: English

Conference of States Parties to the Convention on the Rights of Persons with Disabilities

Twelfth session

New York, 11–13 June 2019

Item 5 (b) (i) of the provisional agenda*

Matters related to the implementation of the Convention:
round-table discussions: technology, digitalization and information and communications technology for the empowerment and inclusion of persons with disabilities

Technology, digitalization and information and communications technology for the empowerment and inclusion of persons with disabilities

Note by the Secretariat

The present note was prepared by the Secretariat in consultation with United Nations entities, representatives of civil society and other relevant stakeholders to facilitate the round-table discussion on the theme “Technology, digitalization and information and communications technology for the empowerment and inclusion of persons with disabilities”. The Secretariat hereby transmits the note, as approved by the Bureau of the Conference, to the Conference of States Parties to the Convention on the Rights of Persons with Disabilities at its twelfth session.

The Convention on the Rights of Persons with Disabilities recognizes the critical role that information and communication technologies (ICTs) and assistive technology play in enabling and empowering persons with disabilities and in ensuring that they fully enjoy human rights and fundamental freedoms. The preamble of the Convention stresses the importance of accessibility to information and communication.

Gli articoli 4, 9, 20, 26 e 32 chiedono agli Stati Parti di rendere accessibili le tecnologie, la digitalizzazione, le informazioni e le tecnologie per la comunicazione e assistive.

Rientrano tra quelli che l'OMS chiama Fattori ambientali.

LA PARTECIPAZIONE COME «ULTIMATE HEALTH OUTCOME»



Fig 3. Community participation outcomes framework.
<https://doi.org/10.1371/journal.pone.0216112.g003>

OMS/ICF definisce:

- **partecipazione** «il coinvolgimento nelle diverse situazioni in cui ci si viene a trovare nella vita»
- **restrizioni di partecipazione** «le difficoltà che una persona con problemi di salute sperimenta nel coinvolgimento nelle diverse situazioni in cui si viene a trovare nella vita» **per effetto di un insieme di fattori «ambientali» e di «fattori personali»** che caratterizzano il proprio contesto di vita in quel dato momento

Convenzione UN per i diritti delle persone con disabilità (Legge 18/2009)
«Per persone con disabilità si intendono coloro che presentano durature menomazioni fisiche, mentali, intellettuali o sensoriali che in interazione con **barriere** di diversa natura **possono ostacolare la loro piena ed effettiva partecipazione nella società su base di uguaglianza con gli altri**»
(traduzione italiana del Ministero del Lavoro, 2007).

VERSO FATTORI AMBIENTALI 4.0

Come oggi previsti da OMS/ICF

- prodotti e le tecnologie
- ambiente naturale
- supporti e relazioni
- atteggiamenti
- servizi, sistemi e politiche

Esempi di aggiornamenti che sarà necessario introdurre in OMS/ICF

- **Protezione** della privacy e dei diritti del consumatore nella predisposizione del “fenotipo digitale”
- **Sicurezza** dei devices salvavita
- Scambio di dati sull’human **sicuro**
- **Prezzo** “popolare”, **tempi** rapidi e **interpretazione** certa dell’analisi del DNA
- Politiche, sistemi e servizi per la **digitalizzazione**, il superamento del digital divide e della marginalizzazione digitale
- Politiche di **contrasto alla potenziale robotizzazione dell’umanità**.



“But as a complement to the best parts of human nature - creativity, empathy, stewardship – 4IR can also lift humanity into a new collective and moral consciousness based on a shared sense of destiny. It is incumbent on us all to make sure the latter prevails .”

VERSO FATTORI PERSONALI 4.0

Generazione Z (nati tra il 1997 e il 2012):

- Technology native
- Focused on authenticity
- Entrepreneurial
- Educated
- Multicultural
- Socially progressive

The 10 skills you need to thrive in the Fourth Industrial Revolution



Image: REUTERS/Sergei Karpukhin

Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

SI PUO' PENSARE DI «AFFRONTARE» LE «COMPROMISSIONI DEL CORPO/MENTE/CERVELLO» AL FINE DI PREVENIRLE?



Healthcare providers believe that this information has the potential to transform not only **individual care**, but also **medical research**.

According to the results of a poll by the Economist Intelligence Unit that was released in January 2016, a significant majority of executives surveyed (45%) believe that **healthcare** is the **sector that will benefit most** from the merging of physical, digital, and biological systems.

“It’s clear that the Fourth Industrial Revolution could significantly improve the **quality of life of billions around the world**”.

Source: Are We Ready for the Fourth Industrial Revolution?
[Hyeoun-Ae Park](#), President of IMIA
IMIA Yearbook of Medical Informatics 2016

In 4IR, healthcare is the sector that will benefit most from the merging of physical, digital, and biological systems

Problemi di salute
(disturbi, malattie, traumatismi)

4.0

This information has the potential to transform not only individual care, but also medical research

**Funzioni
e Strutture
Corporee**

4.0

Attività

4.0

Partecipazione

4.0

Fattori Ambientali

4.0

Fattori Personali

4.0



- I prodotti e le tecnologie 4.0
- L'ambiente naturale 4.0
- I supporti e le relazioni 4.0
- Gli atteggiamenti 4.0
- I servizi, i sistemi e le politiche 4.0

- | | |
|-----|------------------------------|
| 1. | Complex Problem Solving |
| 2. | Critical Thinking |
| 3. | Creativity |
| 4. | People Management |
| 5. | Coordinating with Others |
| 6. | Emotional Intelligence |
| 7. | Judgment and Decision Making |
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| 10. | Cognitive Flexibility |

ITALIA: OGGI VERSO IL 2030

Il superamento delle barriere e del rischio di restrizione di partecipazione nella nuova certificazione di disabilità in età evolutiva ai fini dell'inclusione scolastica (D.Lgs. 66/2017)

- **Prima concreta applicazione del concetto di persona con disabilità della CRPD**
- **Prima volta che uso di ICF viene regolato da linee guida nazionali per SSN e istituzioni scolastiche**
- **Prima volta che «restrizione di partecipazione» viene usato come health and educational outcome nella progettazione personalizzata**
- **Prima volta che chiaramente si centra la progettazione personalizzata sulla modifica dei fattori ambientali**

- ✓ **Traguardo importante**
- ✓ **Impianto trasferibile ad altre fasce di età**
- ✓ **Chiede un nuovo approccio nella valutazione delle interazioni persone-contesto e nella progettazione e messa a disposizione degli accomodamenti ragionevoli**



Le 30 visioni del World Economic Forum per il 2030, in cui, a sorpresa, ne è inserita una sulla salute mentale che personalmente mi sconcerta. (30 visioni per il 2030<https://www.weforum.org/agenda/2019/10/future-predictions-what-if-get-things-right/>).

Ci sono visioni che riguardano il dimezzamento della criminalità, l'occupazione per 8 bilioni di menti con le Tecnologie *mobile*, la battaglia climatica vinta, l'aria pulita come diritto umano, la creazione di una gig economy democratica, una nuova piattaforma per la pace in Medioriente, città fatte per le persone e non per le auto, ecc.

In mezzo a queste 30 visioni c'è quella della professoressa Helen Christensen. (*Professor Helen Christensen, director and chief scientist at Black Dog Institute, Australia; member of the Global Future Council on Media, Entertainment and Culture*). La sua è la nona vision: Virtual reality will protect our mental health.

MA, I SEE A WORLD...

where technology such as smartphones improve mental health and reduce suicide risk. Sensors in smartphones combined with AI will allow software to create “buddies” that will assimilate mental health knowledge about each person, and then help them navigate safely day-to-day. This so-called ‘digital phenotyping’ uses both passively collected data, voice analysis, cognitive indicators and self-reporting from smartphones, and it will yield these prediction and monitoring capabilities within a decade.

I predict that people around the world will have continuous, immediate and effective access to digital therapeutics for mental health. Support will be offered proactively and ‘just in time’. The clunky and rigid digital interventions we have today will be transformed into interactive games and experiences that deliver ‘therapeutic content’ enjoyably, by stealth, using technologies such as virtual reality.

I see people having access to mental health dashboards on their devices so that they can share their data - which they own - when and how they wish. I see more research into how people relate and learn to live as ‘cyborgs’ from an early age. I see the potential of social networks to be used to reduce stigma and promote understanding.”

Prof. Helen Christensen, 2019



REVIEW ARTICLE OPEN Toward clinical digital phenotyping: a timely opportunity to consider purpose, quality, and safety

Kit Huckvale¹, Svetha Venkatesh² and Helen Christensen^{1,3}

The use of data generated passively by personal electronic devices, such as smartphones, to measure human function in health and disease has generated significant research interest. Particularly in psychiatry, objective, continuous quantitation using patients' own devices may result in clinically useful markers that can be used to refine diagnostic processes, tailor treatment choices, improve condition monitoring for actionable outcomes, such as early signs of relapse, and develop new intervention models. If a principal goal for digital phenotyping is clinical improvement, research needs to attend now to factors that will help or hinder future clinical adoption. We identify four opportunities for research directed toward this goal: exploring intermediate outcomes and underlying disease mechanisms; focusing on purposes that are likely to be used in clinical practice; anticipating quality and safety barriers to adoption; and exploring the potential for digital personalized medicine arising from the integration of digital phenotyping and digital interventions. Clinical relevance also means explicitly addressing consumer needs, preferences, and acceptability as the ultimate users of digital phenotyping interventions. There is a risk that, without such considerations, the potential benefits of digital phenotyping are delayed or not realized because approaches that are feasible for application in healthcare, and the evidence required to support clinical commissioning, are not developed. Practical steps to accelerate this research agenda include the further development of digital phenotyping technology platforms focusing on scalability and equity, establishing shared data repositories and common data standards, and fostering multidisciplinary collaborations between clinical stakeholders (including patients), computer scientists, and researchers.

npj Digital Medicine (2019)2:88; <https://doi.org/10.1038/s41746-019-0166-1>



J Int Bioethique. 2011 Mar-Jun;22(1):71-88, 209-10.

Cyborg identities and contemporary techno-utopias: adaptations and transformations of the body in the age of nanotechnology.

Maestrutti M¹.

The possibility of improving the human body through a closer relationship with technology in order to overcome the human species toward new stages of evolution is a constant element of techno-utopian visions, among other transhumanism.

This projection to a radical transformation of the body - and mind - as a result of technological action is based on the concepts of adaptation, or non adaptation, of a human being to a world constantly changed by technoscience.

The belief is that not only the body has to change, but that identity is not a stable concept.

Robots and cyborgs: to be or to have a body?

Palese E

Department of Classical Philology and Philosophical Sciences, Università del Salento, Lecce, Italy.

Poiesis Prax. 2012 Jun;8(4):191-196. Epub 2012 May 30.

Being human in a global age of technology.

Whelton BJ.

Wheeling Jesuit University, 316 Washington Avenue, Wheeling, WV, 26003, USA.

Nurs Philos. 2016 Jan;17(1):28-35. doi: 10.1111/nup.12109Epub 2015 Nov 25.

[A cyborg is only human].

[Article in Dutch]

Schermer M.

Erasmus MC, afd.
Medische

Ethiek en Filosofie,
Rotterdam.

New biomedical technologies make it possible to replace parts of the human body or to substitute its functions. examples include artificial joints, eye lenses and arterial stents. Newer technologies use electronics and software, for example in brain-computer interfaces such as retinal implants and the exoskeleton mindwalker. **Gradually we are creating cyborgs: hybrids of man and machine.** This raises the question: **are cyborgs still humans?** it is argued that they are. First, because employing technology is a typically human characteristic. Second, because in western thought the human mind, and not the body, is considered to be the seat of personhood. However, it has been argued by phenomenological philosophers that the body is more than just an object but is also a subject, important for human identity. From this perspective, we can appreciate that a bionic body does not make one less human, but it does influence the experience of being human.

Disabled or Cyborg? How Bionics
Affect Stereotypes Toward People With
Physical Disabilities

Bertolt Meyer* and Frank Asbrock

Front Psychol. 2018; 9: 2251. Published online 2018
Nov 20. doi: [10.3389/fpsyg.2018.02251](https://doi.org/10.3389/fpsyg.2018.02251)

IN CONCLUSIONE: QUALE DISABILITÀ NEL 2030? PERCHÉ QUESTO INDICATORE?

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My disability, my identity



Going for gold: Susie Rodgers at the London 2012 Paralympic Games

Image: Action Images

16 Jan 2019

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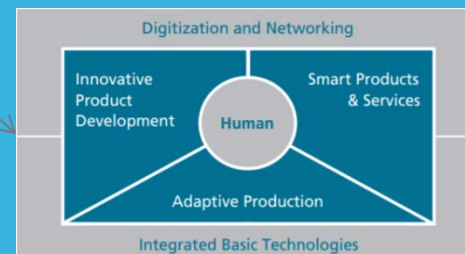


Predictions for 2030:

This article is part of the World Economic Forum Annual Meeting

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1. Le persone con disabilità saranno ancora un popolo a parte?
2. Nella quarta rivoluzione industriale potranno diminuire o saranno cambiati i presupposti per parlarne?
3. Il cyborg in un ambiente sostenibile sarà ancora considerabile una persona con disabilità?



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