Anno VIII - n. 2/2009

Salute e Società

La medicalizzazione della vita

a cura di
Antonio Maturo
Peter Conrad

FrancoAngeli

Salute e Società

The medicalization of life

edited by
Antonio Maturo
Peter Conrad

FrancoAngeli

La rivista esce sotto l’alto patrocinio dell’Università degli Studi di Bologna

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Comitato Scientifico
Achille Ardigò (Presidente), Augusto Balloni, Domenico Berardi, Patrizio Bianchi, Ivan Cavicchi, Vincenzo Cesareo, Gianluigi Cetto, Daniela Cocchi, Nicola Comodo, Paolo De Nardis, Flavio Delbono, Pierpaolo Donati, Silvio Garattini, Mariapia Garavaglia, Riccardo Gatti, Leopoldo Grosso, Rossella Levaggi, David Mechanic, Aldo Morrone, Umberto Nizzoli, Marco Patierno, Alfredo Rebora, Giuseppe Remuzzi, Paolo Roberti di Sarsina, Alex Robertson, Giovanni B. Sgritta, Francesco Taroni, Marco Trabucchi, Paolo Vanni, Paolo Vineis, Bruna Zani.

Comitato Direttivo
Costantino Cipolla (Direttore Scientifico), Leonardo Altieri, Cleto Corposanto, Guido Giarelli, Sebastiano Porcu, Alessandra Sannella (Delegata NIHMP), Paolo Ugolini (Delegato SISS), Roberto Vignera (Delegato Sez. Sociologia della Salute - AIS).

Segreteria Tecnico-Scientifica
Antonio Maturo (Responsabile Scientifico), Linda Lombi (Coordinatore Scientifico), Agnese Accorsi, Veronica Agnoletti, Alessia Bertolazzi, Francesca Guarino, Maurizio Esposito, Ilaria Iseppato, Lorella Molteni, Luca Mori, Fabio Piccoli, Elisa Porcu, Alice Ricchini.

Redazione
Annamaria Perino (Coordinatore), Anna Apicella, Roberto Battilana, Rosemarie Callà, Sara Capizzi, Gerardo Catena, Antonio Chiarenza, Francesca Cremonini, Davide Donfrancesco, Elena Elia, Laura Farneti, Stefania Florindi, Ivo Germano, Barbara Ghetti, Rossana Giacomoni, Carlo Antonio Gobbato, Maura Gobbi, Silvia Lolli jr, Silvia Lolli sn, Luigi Mazza, Lorenzo Migliorati, Cecilia Morelli, Lara Nanetti, Andrea Paltrinieri, Nicoletta Poppi, Francesca Rossetti, Alessandra Rota, Roberta Russo, Elisabetta Scozzoli, Nicola Strizzolo, Rossella Trapanese, Marco Venturini, Valeria Verdolini, Susanna Vezzadini, Angelo Villini, Fabio Voller.

Redazioni Scientifiche “Locali”
SEDI UNIVERSITARIE: *Università di Ancona* (Coordinatore Scientifico: Maria Giovanna Vicarelli; Segretario Scientifico: Sabrina Dubbini); *Università di Cassino* (Coord. Scient.: Francesco Maria Battisti; Segr. Scient.: Paolo Russo); *Università di Catanzaro* (Coord. Scient.: Guido Giarelli; Segr. Scient.: Eleonora Venneri); *Università Cattolica di Milano* (Coord. Scient.: Clemente Lanzetti; Segr. Scient.: Rita Bichi); *Università di Palermo* (Coord. Scient.: Antonio La Spina; Segr. Scient.: Fabio Massimo Lo Verde); *Università di Roma III* (Coord. Scient.: Roberto Cipriani; Segr. Scient.: Luca Diotallevi); *Università di Salerno* (Coord. Scient.: Tullia Saccheri; Segr. Scient.: Giuseppina Cersosimo); *Università di Sassari* (Coord. Scient.: Alberto Merler; Segr. Scient.: Remo Siza); *Università di Siena* (Coord. Scient.: Roberto De Vita; Segr. Scient.: Fabio Berti); *Università di Torino* (Coord. Scient.: Willem Tousijn; Segr. Scient.: Vincenzo Giorgino); *Università di Trento* (Coord. Scient.: Antonio Scaglia; Segr. Scient.: Davide Galesi); *Università di Trieste* (Coord. Scient.: Alberto Gasparini; Segr. Scient.: Daniele Del Bianco); *Università di Verona* (Coord. Scient.: Mauro Niero; Segr. Scient.: Cristina Lonardi).
SEDI ISTITUZIONALI: *ASR Abruzzo* (Coord. Scient.: Francesco di Stanislao; Segr. Scient.: Alessandra Rosetti); *ASR Emilia-Romagna* (Coord. Scient.: Roberto Grilli; Segr. Scient.: Marco Biocca); *ASR Friuli Venezia-Giulia* (Coord. Scient.: Lionello Barbina; Segr. Scient.: Laura Minin); *ARS Marche* (Coord. Scient.: Maurizio Belligoni; Segr. Scient.: Andrea Gardini); *ASR Toscana* (Coord. Scient.: Stefania Rodella; Segr. Scient.: Stefano Beccastrini); *Arsan Campania*

(Coord. Scient.: Tonino Pedicini; Segr. Scient.: Enrico de Campora); *Associazione Stampa Medica* (Coord. Scient.: Giancarlo Calzolari; Segr. Scient.: Filippo Calzolari); *Azienda Ospedaliera di Padova* (Coord. Scient.: Patrizia Benini; Segr. Scient.: Silvana Bortolami); *CERFE* (Coord. Scient.: Marco Montefalcone; Segr. Scient.: Daniele Mezzana); *Collegi IPASVI* (Coord. Scient.: Cleopatra Ferri; Segr. Scient.: Maria Grazia Bedetti); *CUP 2000* (Coord. Scient.: Mauro Moruzzi; Segr. Scient.: Giulia Angeli); *Federfarma Emilia-Romagna* (Coord. Scient.: Domenico Dal Re; Segr. Scient.: Dante Baldini); *Fondazione Cesar* (Coord. Scient.: Giancarlo Brunello; Segr. Scient.: Giulia Zamagni); *Ospedale San Martino - Genova* (Coord. Scient.: Loredana Sasso; Segr. Scient.: Rita Rosso); *Osservatorio Metropolitano Dip. Patologiche - Ausl Bologna* (Coord. Scient.: Raimondo Pavarin; Segr. Scient.: Silvia Marani).

Corrispondenti Internazionali
Cecilia M. Benoist (University of Victoria, Canada), John J. Bruhn (New Mexico State University, Usa), Peter Conrad (Brandeis University, Usa), Mary Fennell (Brown University, Usa), Eugene B. Gallagher (University of Kentucky, Usa), Siegfried Geyer (Università di Hannover, Germania), Claudine Herzlich (CERMES, Parigi, Francia), David Hughes (University of Swansea, Gran Bretagna), Inez Johansson (University College of Health Sciences, Jönköping, Svezia), David J. Kallen (Michigan State University, Usa), Donald Light (University of Medicine & Dentistry, New Jersey, Usa), Linda Montanari (Osservatorio Europeo Droghe e Tossicodipendenze, Lisbona, Portogallo), Jake Najman (University of Queensland, Australia), Jürgen Pelikan (Università di Vienna, Austria), Mike Sacks (De Montfort University, Leicester, Gran Bretagna), Josep A. Rodríguez (Università di Barcelona, Spagna), Mauro Serapioni (Universidade Estadual do Ceará, Brasile), Ulrich Stöessel (Università di Friburgo, Germania), Silvia Mamede Studart Soares (Universidade Federal do Ceará, Brasile), Hilary Thomas (University of Hertfordshire, Gran Bretagna), Göran Tomson (Karolinska Institute, Stoccolma, Svezia), Andrew Twaddle (University of Missouri-Columbia, Usa).

Tutti gli articoli che appaiono sulla rivista sono valutati da due referees anonimi.

Cura editoriale e redazionale di Paola Canestrini.

Direzione Scientifica
Costantino Cipolla, Dipartimento di Sociologia, Strada Maggiore 45, 40125 Bologna
tel. 051/2092858-0543/374205
www.saluteesocieta.com

Segreteria Tecnico-Scientifica
Antonio Maturo, Facoltà di Scienze Politiche, via G. della Torre 1, 47100 Forlì
tel. 0543/374207, e-mail: facscpol.saluteesocieta@unibo.it

Redazione, amministrazione, distribuzione, abbonamenti
FrancoAngeli srl, viale Monza 106, 20127 Milano, tel. 02/2837141
Ufficio abbonamenti: fax 02/2895762, e-mail: riviste@francoangeli.it
www.francoangeli.it
Coordinamento editoriale di Anna Buccinotti, e-mail: buccinotti@francoangeli.it

Abbonamenti
Per conoscere il canone d'abbonamento corrente, consultare il nostro sito (www.francoangeli.it), cliccando sul bottone "Riviste", oppure telefonare al nostro Ufficio Riviste (02/2837141) o, ancora, inviare una e-mail (riviste@francoangeli.it) indicando chiaramente il nome della rivista. Il pagamento potrà essere effettuato tramite assegno bancario, bonifico bancario, versamento su conto corrente, o con carta di credito.
L'abbonamento all'annata in corso verrà attivato non appena giunta la notifica dell'avvenuto pagamento del canone.

Autorizzazione del Tribunale di Milano n. 137 del 6 marzo 2002 - Quadrimestrale - Direttore responsabile: Stefano Angeli - Poste Italiane Spa - Sped. in Abb. Post. - D.L. 353/2003 (conv. in L. 27/02/2004 n. 46) art. 1, comma 1, DCB Milano - Copyright 2009 by FrancoAngeli srl - Stampa: Tipomonza, via Merano 18, Milano.

II quadrimestre 2009 - Finito di stampare nel mese di luglio 2009

Contents a. VIII, n. 2, 2009

Editorial

9 Donald W. Light

Introduction

11 Antonio Maturo and Peter Conrad

Theory

13 Antonio Maturo
The Shifting Borders of Medicalization: Perspectives and Dilemmas of Human Enhancement

31 Peter Conrad
The Shifting Engines of Medicalization

49 Allan V. Horwitz and Jerome C. Wakefield
The Medicalization of Sadness: How Psychiatry Transformed a Natural Emotion into a Mental Disorder

67 Rossella Ghigi
The Medicalization of Ugliness

78 Luca Mori
At the Core of Life. The Medicalization of Society in Michel Foucault

Discussion

99 *Medicalization, Multiplication of Diseases and Human Enhancement* (Antonio Maturo)
ROUND TABLE with Kristin Barker, Ivo Quaranta, Martijntje Smits and Louis Francois Vedelago

Research

123 Wendy Christiaens and Edwin van Teijlingen
Four Meanings of Medicalization: Childbirth as a Case Study

142 Stefano Tomelleri
Metaphors in Action in Medical Practice

155 Laura M. Carpenter
Demedicalization and Remedicalization of Male Circumcision in Great Britain and the United States

172 Lia Lombardi
The Medicalization of Human Reproduction: Body *and* Gender

189 Joshua Murray
Direct-to-Consumer Prescription Drug Advertising in a Global Context: A Comparison between New Zealand and the United States

Debate

209 Adele E. Clarke and Janet K. Shim
Medicalization and Biomedicalization Revisited: Technoscience and Transformations of Health, Illness and Biomedicine

Comments

243 Marco Marzano
Old Concepts and New Paradigma: The Biomedicalization in Italy

248 Andy Miah
Medicalization, Biomedicalization, or Biotechnologization? Biocultural Capital and a New Social Order

252 Adele E. Clarke and Janet K. Shim
A Reply to Marco Marzano and Andy Miah

NOTES

NEWS
255 Linda Lombi
Young People and Drugs into the Eurobarometer Researches: a Reversal of Trend?

COMMENTS
265 P. Paolo Guzzo
Medicalization and Juridification in Tardian Inter-Mental Socio Psychology

269 Giovanni Bertin
Changes to the Welfare System in Post-Modern Society

EDITORIAL

Donald W. Light*

The language of life is exhibiting dynamic changes, from sickness to wellness and medicalization, with implications for programs, professions, markets, and how we feel about ourselves. Sociologists and anthropologists play an important role in chronicling these changes and their institutional dynamics, allowing the ironic perspective that C. Wright Mills advocated for helping to understand the underlying causes of personal troubles.

Susan Sontag, picking up the thread of Thomas Mann's novel, *The Magic Mountain*, wrote about *Illness as Metaphor*, and now we have more on the metaphors of cancer. If I feel deeply sad, am I depressed? What pill shall I take for it? Is pregnancy a natural state or a growing health problem? Perhaps the highly excitated state that precedes pregnancy calls for a tranquillizer too!

Disease seems to be out, while health and wellness are in, except for medicalization; so we see diverging movements. The old German terms, sick-house for hospital, and sickness insurance for health insurance, indicate how much things have changed, though not really. We quip in the U.S. that our insurance companies in fact only want to insure the healthy. Many hospitals have changed their name to "medical center" and more recently to "health centers". Yet ninety percent of their work still involves treating the same kinds of serious medical problems.

Centers for Well-Being are booming – grants pouring in – but what vocabulary is then left for being unwell? A notice on the door of a secretary in England last spring said, "Sarah is unwell and will not be in". Henry James, might say she was "indisposed". But suppose Sarah broke her leg, would she be "very unwell"? And if she had just learned she had cancer, what language of wellness would be available? A sociologist recently complained that a section on the sociology of health did not have people studying death and dying. How unfashionable of her! Hasn't she

* Donald W. Light, Professor of comparative health care and policy, University of Medicine & Dentistry of New Jersey, dlight@princeton.

heard – aging and death are options now. Do you want to get older and die? It's up to you.

At the same time, medicalization keeps proliferating in the opposite direction, to indicate that any kind of unwellness can be treated. Mystification and information asymmetry, or rather selective good news and hidden risks, surround medicalization. Do you know that adverse side effects from drugs taken to improve health have become a leading cause of disease and death? Illich vindicated. Even "hidden killers" like menopause or high cholesterol need to be measured, monitored, and treated, though the patient may feel fine. Medical categories, as Antonio Maturo wrote, give sense to non-medical aspects of life. Medicalization is modern theology, a coherent account of beginnings, fallen man, virtue, and divine interventions to those of faith. Believing persons are empowered to make themselves more ideal and well, in ways carefully nurtured by an army of medical journalists, clinical researchers on company grants, leading clinicians on retainer, and medical journals that only take ads pertinent to the practice of medicine, when they should only take ads *not* pertinent to the practice of medicine. From these come accounts, for example, that depression is caused by serotonin, or heart attacks come from arrhythmias, or broken bones come from "bone loss", or your child not getting A's is due to ADHD. But modern medicine has discovered a miracle or an indulgence for each. Feeling blue, having a heart attack, or breaking a bone is optional. Foucault's clinical gaze is now guided by pharmaceutical masters of education and their models of risks, conditions, or pathology. They spent $57 billion in 2004 to "educate" American physicians as well as their patients. Several of these entire models of medicalization have been discredited in the past two years.

One interesting question is raised by Le Fanu's *The Rise and Fall of Medicine*, which concludes that nearly all the major advances of modern medicine had been made by about 1970. Since then, with an occasional exception, new procedures and medicines have been footnotes. The new genetics and new social theories – the reducing health disparities industry – have failed to make a significant difference. Are we medical sociologists then chronicling the engines of medicalization and the commercial construction of patho-realities because those who make a living have to find or create new markets?

INTRODUCTION

Antonio Maturo and Peter Conrad*

Medicalization is a fascinating area of research and of theoretical reflection. In the sociology of health discourses, few topics are able to raise a more intense participation. This area of study stands at the crossroad of ethics, psychology, economics, mass-media studies and therefore it goes beyond the borders of sociology of health. Indeed, it is possible that medicalization shows how the borders of our discipline are blurred – for some a point of weakness, for us a sign of strength. The aim of this volume of *Salute e Società* is to describe and analyse what point medicalization has reached in our society. It is clear that today we witness the extension of medical frames, technologies and pharmaceutics in parts of human life which were not medicalized before.

It is not by chance that the editors are an American and an Italian. The US is certainly the most medicalized country in the world whilst Italy is one of the least. However, in recent years, or even in recent months, in Italy there are also clear signs of the growth of this phenomenon: from TV ads that show Italy with three million adults suffering from erectile dysfunction, to the obsessive advertising of stem cells in the newspaper (Labo), from attempts to spread a distorted idea of ADHD by a self-declared voluntary organization (in Bologna), to the dramatic and controversial medicalization of the death of Eluana Englaro.

The reason why many authors are Americans is due to the fact that they "breathe" medicalization daily and have had to deal with it for a long time. But this volume also contains contributions from authors of other nationalities and concentrates on the realities of other countries, such as: New Zealand, Great Britain, Holland, France, Belgium and obviously Italy. In this issue of *Salute e Società*, the range of topics treated is varied: profound reflections on medicalization in Foucault (Mori); how sadness has been constructed by psychiatry as a pathology (Horwitz and Wakefield); the medicalization of childbirth (Christianens and van

* Antonio Maturo, Assistant professor of Sociology of health, Università di Bologna, antonio.maturo2@unibo.it; Peter Conrad, Harry Coplan Professor of Social Sciences, Brandeis University, conrad@brandeis.edu

Teijlingen, Lombardi); processes of de- and re-medicalization of circumcision (Carpenter); aesthetic surgery and the medicalization of ugliness (Ghigi). The role of lobbying in the de-regulation of pharmaceutical ads (Murray) and the role of medical metaphors in oncological settings (Tomelleri) have also been addressed. The medicalization of normality, in order to enhance the human condition, is a fascinating theme which is also dealt with (Maturo). The Round table has confirmed the theory that medicalization is fuelled by shifting engines – which are not necessarily medical (Conrad). In fact, the discussion at the Round table lead to a lively debate with different opinions. The fact that all the participants (Barker, Smits, Quaranta, Vedelago) were of different nationalities was certainly a point of strength. The in-depth article by Adele Clarke and Janette Shim has also provoked an exchange of different opinions (Marzano and Miah). As a matter of fact, the intertwining of technology, biological sciences and corporations focused on genetics opens new hypothesis on medicalization.

This issue is therefore an important contribution that most certainly interests the Italian reader, for the lack of publications on this theme in Italy, and the American reader for the variety of non-American perspectives that widen the spectrum of analysis. Both, together with readers of other nationalities, can benefit from these original and stimulating discussions.

The preparation of this issue has taken a long time. Coordinating authors from all over the world is never simple and also on an editorial level preparing a bilingual journal has been incredibly intense. The idea for the journal came in Boston in August 2008 at the annual conference of the *American Sociological Association*. However, the first seeds were sown in 2006 when Antonio Maturo, a Visiting Professor at Brown University, met Peter Conrad, a Professor at the nearby Brandeis.

We sincerely hope that the readers will appreciate our efforts and especially that they deepen their interest in this theme which has become central over the last few years and will no doubt be more so, in new forms, in the future. For the moment, we have found a profound passion in our authors: few respected the space-limits, a clear sign of interest.

Bologna-Boston, April 25th 2009

THEORY

The Shifting Borders of Medicalization: Perspectives and Dilemmas of Human Enhancement

Antonio Maturo*

While medicalization is the process of extending the medical gaze on human conditions through the mechanism of pathologization, human enhancement actions are implemented towards normal conditions. In this sense, human enhancement can not be considered either health care or health promotion because its aim is optimization, not healing nor prevention. As the borders between normality and pathology are blurred, biomedical interventions aiming at improving a normal individual today could be conceived as health care practices directed towards a sick person tomorrow. Therefore, human enhancement actions should be analyzed through the lenses of the medicalization-theory proposed by Conrad – but on a long-term scale. Under an ethical perspective, human enhancement interventions – being very heterogeneous – should be analyzed case-by-case.
Key words: medicalization, human enhancement, medicine, normality, health promotion, disease.

Introduction

On February 24th 2009, in Bruxelles, in a hall of the *Altieri Spinelli Bulding* of the European Parlament, a handful of really attentive members of the europarliamentary members, participated for more than five hours on an intense seminar. The members listened, asked for clarifications and posed questions on various topics: post-humanism, medicalization of the cyberspace, drugs which increase intelligence, "metahumans", bioluddism, virtual immortality, and genetic doping. In front of the politicians stood thirtish scholars with different epistemological roots: medical philosophysts, biologists, anthropologists, media experts, media and utopia experts, neurophyschiatrists, bioeticists, psychopharmachologists and sociologists of health. The title of the workshop, decided by some

* Antonio Maturo, Assistant professor of Sociology of health, Università di Bologna, antonio.maturo2@unibo.it

As indicated in the references, the books and the articles are quoted in their original versions. However, the page-numbers are taken from the Italian translations (when available).

members of the European Parliament, was *The New You: Smarter, Stronger, Faster and Better? A European Approach to Human Enhancement* and it was organized by the European Technology Assessment Group and the Rathenau Institute of Den Haag. The centrality of human enhancement was confirmed by the debates which characterized the workshop.

Nowadays, there are drugs to improve the mood and drugs to enhance the quality of sexuality. Without being sick some could use Ritalin in order to enhance his/her cognitive performance; this is even without mentioning doping in sport (Altopiedi, 2008). Some drugs are used in order to dance more energetically, speak better English, or just to be brighter (Mori, 2007). The use of cosmetic surgery to improve the human body is today socially accepted. Botox' injections to pump up lips and prosthesis to enlarge the breasts are common practices, also out of the world of celebreties. Transforming the human body through the scalpel does not raise any particular social dilemmas: «A practice widely regarded not a decade ago as physically risky, morally doubtful, prohibitively expensive and socially embarassing has been re-branded as something so innocuous and sensible as to be mundane» (Aitkenhead, 2006, p. 104).

In Brussels, a participant posed a "moral" question: "How can Western civilization justify driving the scientific agenda in this field while there is still hunger. And basic diseases are left untreated? Why not make pills that stimulate compassion, and diminish greed and selfishness?". There were many answers to the moral question, the majority of them sympathetic to the partecipant's cause, but some facts were highlighted: huge investments in this field; an insatiable demand from consumers and rapid technological progress make the actions of human enhacement an ongoing process. It can be carefully mapped, at the State-level or even at the EU-level, but it is difficult to think that this process could ever be stopped.

In the following sections I show the main sociological components of human enhancement. I try to describe the role of medicine in this process and I propose a way to clarify the distinction between medicalization and enhancement, that is; medicalization, as recommending a treatment, and subsequently pathologizing normality while enhacement interventions are carried out on normality in order to optimize it. As a result, it is possible that the health conditions considered normal today might become the pathological conditions of tomorrow. Therefore, enhancing actions of today could become, in the future, considered as treatments – more or less indispensable. In this sense, practices of enhacement could be defined within medicalization categories of medicalization, given enough time. Even though my approach is not a normative one, I could not avoid touching on some ethical dimensions.

1. What is "human enhacement"?

In the wider sense, human enhacement can be seen as any activities which, without compromising the quality of life, increase one or more of the following dimensions:

– the mental wellness of people;
– their cognitive and physical performance;
– the extension of their life.

As it can be noted, the definition is quite broad, even somewhat fugitive. As it is known, the feeling of wellness, that is neural changes, increase with sleeping, eating, reading, and sex. Yet, to eat and to sleep are indispensable activities in order to live, even before enhancement. Sexuality is a compulsion difficult to escape from: its control needs an effort. Reading is not an indispensable activity in people's lives. Education is a process which changes and enhance the learning abilities of a person, his/her critical skills, the memory. In a certain way, life itself could be considered as a learning process, and therefore a cognitive enhancement. But there are possibilities of the enhancement of human characteristics also using prosthesis: books and the internet are tools which expand human memory. Moreover, there are substances which help people to concentrated. We should also mention emotional enhancement. Psychotherapist should permit their patients to improve the selfconfidence and the sociability. Some psychopharmaceutical drugs improve people' wellness, but it is debatable if they improve quality of life in the long run. In some respects, heroin improves mental wellbeing, but at the same radically reduces life-expectancy (Grosso, 2007). Cosmetic surgery does not improve physical capacities nor the cognitive ones. Life-extension is also not involved in cosmetic surgery. Yet, an improvement in the physical traits probably increases a person's self-esteem and (perhaps) leads to better social relationships which, in turn, result in an increased mental well-being. Therefore, cosmetic surgery could be seen as a practice of human enhancement.

STOA researchers propose to frame human enhancement in four areas:

– cognitive enhancement;
– psychological and emotional enhancement;
– physical enhancement;
– life-extension.

Their definition of human enhancement is based on Douglas (2007) and necessarily comprises the technological aspect (pharmaceutical or medical devices). Therefore, human enhancement, according to them, could be defined as «the use of biomedical technology to achieve goals, other than the treatment or prevention of disease» (Douglas, 2007, quoted in van Est *et al.*, 2008, p. 9).

At present, the technological devices used for cognitive enhancement are drugs such as Ritalin and Adderal. To improve ones mood, more common drugs are the antidepressants, but there are experiments with *Deep Brain Stimulation* (DBS). DBS was created to mitigate Parkinson's disease, and is based on electrons implanted surgically in the brain which work as a brain pace-maker. For the enhancement of the body, there are many kinds of technology, primarily, cosmetic surgery: a technology used for centuries[1] (Ghigi, 2008). Exoskeletons and prosthesis could also be mentioned. Exoskelonts are external frameworks which give more power and strength to the body. Here, we might recall the debate on Oscar Pistorius' prosthetic-legs, which enabled him to run faster than "normal" people, and was not allowed to compete at the Olympic Games.

Brain Computer Interfaces (BCI) are a different kind of enhancement which improves human skills thanks to a computer. There are BCIs that permit paraplegics to use prosthetic limbs, but also BCIs, (and this example is perhaps even more incredulous) that permit the brain to control a computer thanks to a device implanted in the cerebral cortex. Concerning life extension, the research is mostly focused on nanotechnologies and specifically on "molecular machines".

A particular delicate field of research is the genetic one. Almost everyday the media release news on the "success" of genetics which have a quasi-miracolous tone. Some of the news is almost difficult to believe: in the last few months we have been informed of the existence of the gene of cheating; the gene which make us conservative or radical, the obesity-gene…

Often, the mass-media transmits these news in a simplistic way, risking the fostering of false expectations. Let's take the obesity-gene. On the front page of *la Repubblica*, one of the most important Italian newspapers, on the 24th of February 2009, the title was: *Eat as much as you want without becoming fat*. On the same day, the Daily Telegraph informed us about the *The gene that lets you eat as much as you want*. One of scholars leading the research, Ulrich Ruther, declared to the Italian newspaper that «By creating drugs which are able to regulate the activity of Fto gene, we will be able to control the risks of being too fat». This example makes clear one of the biggest risks posed by the discourse on genetics (not by genetics itself) and by the technologies for human enhancement: the marginalization of social and economic factors in shaping human trajectories of well-being, health and illness (Conrad, 2007; Illich, 1991).

From this quick review of the possibilities for human enhancement, a question emerges: what is the relationship between medicine and enhancement? Does medicine comprise, among its aims, the examples of human enhancements we described above?

1. See Ghigi (2008) and her article in this volume.

2. The relationship between medicine and health enhancement

One of the most important attempts to clarify the borders of medicine was undertaken by Lennart Nordenfelt in his *On Medicine and Health Enhancement – Towards a Conceptual Framework* (1998). The volume of *Medicine, Health Care and Philosophy* which contains the article was entirely dedicated to this topic. As the article is based upon the concept of enhancement, it has a special relevance for us.

According to Nordenfelt, the well-know WHO definition of health – "a state of complete physical, mental and social well-being" – is too broad and therefore he proposes that a person is in a complete health «only if this person is in a physical and mental state which is such that he or she is able to realise all his or her vital goals given a set of circumstances» (1998, p. 6). I will not make a deep analysis of this definition – in the mentioned volume many authors have provided intelligent analysis of this – I just would like to highlight the fact that Nordenfelt's definition is stricly connected to the subjectivity of the individual, on his/her intentions and beliefs: many "vital" goals – such as eating, working and reproductive actions – may probably be pursued also in a state of imperfect physical integrity (Maturo, 2007a; Mordacci, 1998). I propose to focus the attention on the actions which can enhance or support health. Nordenfelt distinguishes two genera within the family of health enhancement: *health care* and *health promotion*.

The principle which divides the two genera is the agent's perception of the initial state of the subject to whom the activity is directed. That is, while in the case of health care the starting point of the action is a health problem of the individual to whom the action of the health care is directed; this is not the case in human promotion.

Health care: A performs an act of health care towards B, if and only if A acts with the intention to improve or support B's health as a consequence of the fact that A perceives (or believes) that B's state of health is unsatisfactory or that it is immediately threatened with becoming unsatisfactory, because of the presence in B of some disease, injury or other internal risk factor (1998, p. 7).

Health promotion: A is performing an act of health promotion towards B, if and only if A acts with the intention to improve or support B's health. B's initial state of health may vary from complete health to a very low degree of health. In neither case is it B's initial state of health which is the reason for the health promoting act (1998, p. 8).

In general terms, a health care activity is the answer to a problem recognised in a certain individual. The provider is not necessary a professional or someone who holds specific skills. The "species" of activites comprised in the genre "health care" are: medical care (diagnosis and

treatment); nursing; rehabilitation; and social care. While the activities of health care are generally directed towards someone who requires[2] a treatment for a health problem, the health promotion activities do not start from an individual health problem and are directed towards a ill definined entity, often a collective one[3]. Among the activities of health promotion, Nordenfelt mentions: environmental health; legal health protection (the prohibition of smoking on public premises); health education; medical disease prevention (i.e. vaccination). Health promotion activities may imply an action on the body, for example a vaccination or tonsilectomy, as well as an action directed towards physical environments or organizations. Health education activities might be very heterogeneous: the instructions found in packet of drugs or self-helps groups, both educate in different ways.

Nordenfelt also investigates the role medicine plays in the different kinds of health enhancement activites. This role is related to the way in which we define medicine. Nordenfelt, on the basis of this extension of the concept, proposes to consider three definitions of medicine. The first definition is the *traditional* one: *medicine as the treatment of diseases by a doctor* (Nordenfelt, 1998, p. 9). This definition is echoing the Parsonsian conception of the patient-physician relationship (Parsons, 1951) and is very restrictive.

Definition 1: «Medicine is the practice performed or monitored by trained physicians/psychiatrists in their professional activity of enhancing the health of a person by treating his or her diseases, injuries or defects or by reducing the consequences of the diseases, injuries or defects» (Nordenfelt, 1998, p. 9).

Yet, from an historical view, it is easy to notice that doctors have been doing also other things. The doctor gives advice, performs inocculations against infectious diseases, supervizes screening activites. The doctor thus makes activities that fall under the Nordenfelt definition of health promotion. This consideration leads Nordenfelt to *enlarge* his notion of medicine to the dimensions of prevention and to some aspects of health education.

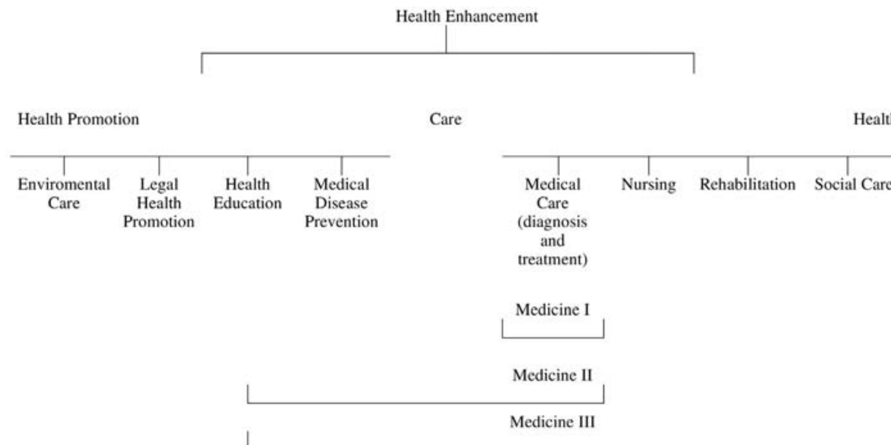
Definition 2: «Medicine is the practice performed by trained physicians/psychiatrists in their professional activity of enhancing the health of their patients» (Nordenfelt, 2008, p. 10).

However, the potential definition might could even be made more comprehensive than the last one, by including health activities which are

2. Exceptions are infants, seriously mentally retarded and psychotic persons, who are not able to require help.

3. There are exceptions: to suggest to someone to make some sport is a health promotion activity directed towards one individual.

Fig. 1 - An extended notion of medicine (Nordenfelt, 1998, p. 11)



not connected to the performance of the doctor. Nordefelt here refers to *clinical activites*. These kinds of actions are performed in a clinic by nurses, physiotherapists, occupational therapists, psychologists, social workers and laboratory personnel. Medicine considered as activities in the clinic brings us to the third definition.

Definition 3: «Medicine is the practice performed or supervised in the clinic by its physicians/psychiatrists and by its paramedical personnel in their professional activity of enhancing health» (Nordenfelt, 1998, p. 10).

This extended notion of medicine adds, to the activities already comprised in the traditional and enlarged definitions of medicine, the activities of nursing, rehabilitation and social care (Fig. 1).

Now, so how can Nordenfelt's proposals be integrated with human enhancement perspectives?

It is quite evident that the framework proposed by Nordenfelt does not address the actions of human enhancement as I described in the previous pages. Hence, *even if Nordenfelt considers medicine as a set of activities which are performed in order to enhance human health he does not conceive human enhancement as a part of medicine*. Perhaps, at the time of his article, 1998, sociological reflections on human enhancement had still not being developed. Most of the human enhancement actions could be precisely placed inbetween the definition of health care and of health promotion given by Nordenfelt. In fact, human enhancement actions are generally directed towards an individual (as are the actions of health care) who is not ill. Human enhancement interventions are directed towards individuals who do not suffer from a specific health-problem (as are the actions of health promotion), yet they are not directed toward collective