

# For a Science-oriented AI & not servant of the business

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# We (will) live in an **AUGMENTED** and **MIXED** world/“**reality**”

Not just “Onlife” on the WEB (Floridi); living “connected”,  
but *in a new material world/reality*.

We will **act** in the Virtual for changing the Real;  
and vice versa.

We are “**present**” where we “are not”;  
we see and **act** where we “are not”.

And “somebody”, which is not “here”,  
will in fact *act* here and be “**present**” here.

We (will) live in a **HYBRID Society**,

a mix of human intelligences and artificial ones, **not only Robots**, but **Intelligent software Agents** or Agents in our smart environments (house, office, cars,..)  
and ***our cognitive prostheses.***

AI is not just building a new technology but **a new Socio-Cognitive-Technical System**, a new world and a new form of society,  
it is an **anthropological revolution**.

You are **social engineers**. Are you aware of?

You are **social engineers**. Are you aware of?

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I will focus on

**A)** The importance of the **SCIENCE** side of AI;

**B)** some **problems and dangers** of the Digital Revolution and of the “mixed” (virtual and physical) reality and “hybrid” society (natural and artificial intelligences) we will live in.

**A**

**For a Science-oriented AI**

**The pleasure of research** (also in AI) should primarily be knowledge, discover, ideas, not just application and technology.

AI has a too strong “technological identity” more than a SCIENCE identity.

AI provides conceptual and cognitive (formal) instruments for modeling and thus **UNDERSTANDING** minds, intelligences, action and interaction, emotions, organization, ...knowledge.

AI should be proud of the crucial contribution it gave to the **scientific revolution** in XX and XXI centuries due to **the impact of the *Science of the Artificial* on behavioral and social science** (Herbert Simon)

## **In science**

the economic, social, technical outcomes should mainly be “collateral/unintentional” effects.

There must obviously be a research not generically K-oriented (“basic”) but ***oriented to solve problems***, but also in this “applied” research *the priority is K, understanding, explaining, modeling..*

AI sometimes looks a bit perverted at the full service of business, for providing new market products:

the new richness, the new industrial capital (Google, Amazon, etc etc etc)



The *scientific* advantages of  
the ARTIFICIAL, **SYNTETIC APPROACH**  
to Mind and Society  
is **UNDERSTANDING by BUILDING and SIMULATING**

ISTC-CNR group exploited that in several domains. On language, on autonomy, cooperation, sociality, trust, emotions, norms, power, etc.

=====

**AI scientific models:**

- 1) for **modeling/explaining human & natural Intelligences;**  
(Grosz on Conversation & shared plans, Ferrari's cit. Winograd)
- 2) for **emulating** them;
- 3) for **creating new** intelligence  
and its theory ("General Intelligence")

Philosophers frequently claim that what AI and cognitive scientists are doing is to **“anthropomorphize” machines** (that cannot in principle really have “mind”, “intelligence”, “intentions”, etc. but just “simulate” them)

On this debate see for example Floridi and Sanders

It is exactly the other way around:  
what we are doing is  
to **“de-anthropomorphize”** such concepts,  
making them *no longer “anthropocentric”*  
*but more general and abstract*, and more  
clear, formalized, and “operationalized”. No  
longer common-sense “words”.

AI mission isn't just to acritically *buy concepts and theories from human and social sciences* and philosophy for **“applying”** them.

AI gives back a crucial contribution, not just “technological”, by **changing those concepts, models, and theories.**

Not only our environment and society will be hybrid and augmented, **but our brain and mind will be *augmented*, new cognitive power and new functions.**

**Our cognitive capabilities will not just be improved,  
but *changed*.**

It is not only matter of “mnemonic functioning”, externalized memory, Data access and processing, of “reading”, of “learning by doing”.

There will be a serious **evolution of our “social cognition”** in the Hybrid society.

In particular the WEB (“Minds on Line”) and Virtual reality will empower:

- >> “collective intelligence and problem-solving”,
  - >> “collective sense-making”,
  - >> “knowledge capital and sharing”,
  - >> “creativity”, and
- > a new “embodiment of our cognitive representations”
- > our perception of *space, time, intelligence*,... will be changed
- > an extremely “externalized/distributed cognition and mind”

One of the main functions of the brain is **integrating** and **augmenting** the perceived reality:

- > With the affordances, ..
- > With the past, the future (expectation, predictions, objectives,.....)

**B**

**The AI revolution:  
empowering whom?**



**ARTIFICIAL SOCIALITY?**

We – AI & MAS community - are responsible for the introduction of “Agents” as

★ “**autonomous**” (proactive, with initiative, with their own learning, reasoning, evolution, .. ) and “**social**”,

cooperating with human by following true

★ “**norms**” (but also – in case – violating them),

and critically adopting our goals (**not just**

★ “**executing**”), with *over-help, critical-help, .....*

And **this was a correct and unavoidable solution**, for a real “Intelligence” interacting with us and usable from humans.

We (ISTC group) are **not repented AT ALL**, of contributing to model

**ARTIFICIAL sociality**

on the contrary.... however

This obliges scientists to **become aware** of **possible appropriation** of their creations, of possible **unacceptable uses** of these instruments.

**Are we missing the control?**

**Not** of our Autonomous Agents, Robots, etc.

but of **their possible uses?**

Are we ready for the **ANTHROPOLOGICAL REVOLUTION** grounded on  
Intell Technologies and artificial mixed society?

Which also is

**an economic, social, and political revolution.**

Are there **DANGERS** in *living with* Artificially Intelligent Agents and Robots?

Being **replaced** (practically or *cognitively*) or supported and **guided** by them?

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Are there **DANGERS** in AUGMENTING our INTELLIGENCE and changing COGNITIVE PROCESSING?

For the mass media, the main **PROBLEMS** are :

- *Privacy*
- *Security (on WEB, ... on access ..)*
- *Fake news, misinformation*
- *Hackers' attacks*
- *Anthropomorphism*
- *War and Artificial soldiers/arms*
- *Ethics **inside** Artificial creatures and algorithms*

For the mass media, the main **PROBLEMS** are :

- **War and Artificial soldiers/arms**

Subra Suresh, Carnegie Mellon's president, said **injecting ethical discussions into A.I. was necessary** as the technology advanced. While the idea of "Terminator" robots still seems far-fetched, **the United States military is studying autonomous weapons that could make killing decisions on their own...** —

Finally solved the problem of the poor general:



## Bertolt Brecht (1898-1956)

“General, your tank is a powerful vehicle  
It smashes down forests and crushes a hundred men.

*But it has one defect:*

*It needs a driver.*

General, your bomber is powerful.  
It flies faster than a storm and carries more than an elephant.

*But it has one defect:*

*It needs a mechanic.*

General, man is very useful.  
He can fly and **he can kill.**

**But he has one defect:**

**He can think.”**

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Finally generals no longer need a (human) driver or mechanic!!

**The AI driver can think, yes; but we/generals can *decide and control*  
*HOW it will think! (?)***

# “Engineering **Moral Agents**” :

Dagstuhl Seminar etc.

“Imbuing robots and autonomous systems with **ethical norms and values** is an increasingly **urgent challenge**, given rapid developments in, for example, driverless cars, unmanned air vehicles (drones), and care assistant robots.”

- *implementation of moral reasoning and conduct in autonomous systems*
- **NOT just surveillance but INTERNALIZED values and control**



# The mass media' **PROBLEMS** are mainly:

- *Privacy*
- *Security (on WEB, ... on access ..)*
- *Fake news, misinformation*
- *Hackers' aJacks*
- *Anthropomorphism*
- *War and Artificial soldiers/arms*
- *Ethics **inside** Artificial creatures and algorithms*

## For me not less serious problems....

Putting aside the future of **WORK** in 4.0 economy!

**B1**

Is our Intelligent Technology research  
**ONLY BUSINESS ORIENTED**  
**just because it needs money?**

## Meeting of **the minds** for machine intelligence

**Industry leaders, computer scientists and students, and venture capitalists** gather to discuss *how smarter computers are remaking our world.*

Once a machine is educated, it can help experts make better decisions

... **savvy machines can help us evaluate (social) policies.** Etc...

Are **ONLY THESE THE RIGHT SUBJECTS/MINDS TO INVOLVE ?**

for discussing about ethical and political and social consequences of machine intelligence and hybrid society?

**What about other subjects to be involved** like: moral and political philosophers, social scientists, trade unions, social movements (like women movement, like “occupy Wall Street”,..), politicians, poor countries, etc.?

# MIT News

ON CAMPUS AND AROUND THE WORLD

Meeting of *the minds* for machine intelligence

Industry leaders, computer scientists and students, and venture capitalists gather to discuss *how smarter computers are remaking our world.*

Why alliance only between **academy,**  
**scientists,** and **capitalists** and **business men?**

Is this so OBVIOUS and UNDISPUTABLE in  
current culture to become **INVISIBLE?**

## Meeting of **the minds** for machine intelligence

**Industry leaders, computer scientists and students, and venture capitalists** gather to discuss *how smarter computers are remaking our world.*

Once a machine is educated, it can help experts make **better decisions**  
... **savvy machines can help us evaluate (social) policies.** Etc...

### **“Better” for whom?**

It is **not a “technical” problem**, but a political problem. “Better” for poor and powerless people/countries

**or** for dominating classes, lobbies, powers, countries?

**“Better” for whom?**

It is **not** a **“technical” problem**, but a political problem.

**WE want a “beneficial” AI, but... for whom??**

Do not assume that *if something is beneficial it is beneficial for everybody*.

In society there are serious contrasts of interest and goals. Thus if something is beneficial for X (that is favors his/her goals or interests) is noxious for Y.

If AI is subordinated to and beneficial for profit and business interests is NOT necessarily beneficial for workers.

If is Beneficial for dominant countries not necessarily is beneficial for poor and colonized countries.

>> For being **BENEFICIAL** AI should first choose on which side to be.

# AI can be **VERY** beneficial

- for DEMOCRACY,
- for good market, with reduced deception and manipulation;
- for social planning and decision, and political imagination, projects;
- or transparency and control, participation

**“AI for FREEDOM”** (JICAI-ECAI ‘18) **of PEOPLE!**

# New Research Center to Explore **Ethics of Artificial Intelligence**

By JOHN MARKOFF

**NYTimes** - NOV. 1, 2016

Carnegie Mellon University plans to announce on Wednesday that *it will create a research center that focuses on the ethics of artificial intelligence.*

The ethics center, called the **K&L Gates Endowment for Ethics and Computational Technologies**, is being established at a time of growing international concern about the impact of A.I. technologies.

That has already led to an array of **academic, governmental and private** efforts to explore a technology that until recently was largely the stuff of science fiction. ... Peter J. Kalis, chairman of the law firm, said the potential impact of A.I. technology on the economy and culture made it essential that **as a society** we make thoughtful, ethical choices about how the software and machines are used.



# “AS A SOCIETY”?

“an array of **academic,**  
**governmental** and **private** efforts”

AGAIN:

Why an alliance **only** between academy, scientists, and capitalists  
and business men, (and war powers)?

Is this so OBVIOUS and UNDISPUTABLE in current culture?

Is our Intelligent Technology research **ONLY BUSINESS**  
**ORIENTED** just because it needs money?

**B2**

**Hidden Interests  
&  
AWARENESS technology**

Security, Privacy, War, Ethics, .. are for sure very relevant issues, we have to reflect on,

**BUT not the most or the only relevant ones** from the moral and political point of view.

>> **Hidden interests, manipulation** of us (users and programmers), exploitation, ... **emptying democracy**, etc. are NOT less important.

Scientists have to **be conscious**

not just manipulated, unaware although genial servants of those forces and interests.

>> **Democracy is not a formal and misinformed voting ritual.**

**WE** have to foster a **real “intelligence”** (understanding) and **EMPOWERMENT** of people in/on the hybrid societies evolution.

Not only **improved and collective INTELLIGENCE**  
but

improved and **collective AWARENESS,**

which is a crucial form of “intelligence”,

Understanding **what we are doing** and **WHY**  
we are doing that; who is “nudging” us.

HELP in **RATIONAL DECISION MAKING**, (by revealing and correcting our rational & affective **BIASES**) is OK, but...

the real problem is not that “our” decision be fully efficient and **rational** (not misinformed or biased), but:

**in favor of whom?**

With **AWARENESS** of “**interests**” we are serving

Intelligent Agents and algorithms have to **help us to understand** *not only our Goals* and how to RATIONALLY decide (not misinformed or biased), but also to **understand**

**in favor of whom?**

**Our “finalities”/“aims” ,**

**which go much beyond our mental Goals.**

## Also the **Goals of our Agents and Robots**

Are they explicit, **transparent at least for us?**

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(Ro)Bots & Agents should be *comprehensible* and *trustworthy*: they must be able to **EXPLAIN us**:

- **WHY** they do/did what they do/did;
- The **REASONS** and **MOTIVES** of their actions, decisions, or suggestions.

NOT showing us their “algorithm”!

This requires a **COGNITIVE MODEL** of “reasons” and “motives” for believing, and for goal processing and decision. (AI for **SCIENCE**)

Moreover: **the Goals of our Agents and Robots**

*serve to* ***FUNCTIONS***: external, not chosen and represented GOALS.

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**Do they favor some interest?**

*Is this transparent for us?*

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To which **VALUES** do they respond ?

Perhaps do not shared by us but at least clear! **Or obscure?**



# "INTERESTS" Theory

What is better for me and my goals but...  
... I do not understand or intentionally  
pursue them.

## **Tutelary Role** Theory:

X takes care of my "interests", of my good, even in conflict with me, with my current goals; X helps me or pushes me or obliges me!

In a lot of circumstances Agents will:

- **decide *for us*** (delegated or not by us),

**or**

- **give us recommendations or just a little push** (the celebrated liberal “**nudges**”) *like in marketing,*

**But.. in a TUTELARY ROLE ?**

Moreover:

**Who** is judging what is **better for me**, or for us?

Is this really “in *our* interest” or primarily in the  
INTEREST of financial and informational  
dominant powers?

Or (in many countries) of the political regime?

This holds also for more explicit influencing devices like

>> ***RECOMMENDER SYSTEMS***

which will **know us better than us.**

Will they give us recommendations and suggestions “in our INTEREST”, in a TUTELARY attitude, or will they follow market criteria

just a **more effective, personalized advertising**?

**On the side of the “user”?!**

**Or of the “seller” (of our data or of some good)?**

They will **decide "for us"**,

but... **AMBIGUOUS: "instead of" us**  
or also **"for our good"?**

---

**Social Robots and Intelligent Agents will NOT**  
**govern in their own interest** (science fiction!)

but... **in the interest of whom?**

**EMPOWERING whom?**

And will we be able to monitor and  
understand that?

And to **make that "transparent" to people?**

Moreover: “TUTELARY” doesn’t means  
“protecting me”

only caring of our “**individual**” “**personal**”  
**interests**, but also helping us to understand and  
take care of:

- of **Common interests** and possible collective subjects and communities and pressures;
- of hidden **conflicts of interests**;
- of the “**commons**”, of public goods and their relevance and respect (environment, energy, water, **public health**, ...)

**“AUGMENTED INTELLIGENCE”**

**also means**

**AUGMENTED SOCIAL AWARENESS:**

**HOW** does it work the **“INVISIBLE HAND”** (the god of liberalism)

**which organizes the emergent and  
“spontaneous” social “order”.**

# **PRESENCES, Agents, robots, ...**

It is **again** a matter of:

**Which political and moral values will they care of?**

not our “car driver”

but the “society drivers” !!

and **our life-navigator.**



**3**

# **The “Mouth of Truth” Algorithm**



Clearly we are developing **algorithms for ascertaining the “truth”** in that mess of data, of assertions, hoaxes, and news, which will be diffused and accessible through the WEB.

An Algorithm for deciding about *reliable sources, credible information*, what is “true” among so many different claims and data.

**There is no alternative on that. However:**

- On which base such algorithm will “ascertain what is true”? Only on the basis of reliable and convergent sources? Of their number and net? On direct or indirect access to the “fact”?
- Also on the basis of the “values” and on the sharing and acceptability of the values of the source?

Even for ‘official’ science: is it always capturing or saying the truth?

- And there will be **dogmatic truths** and **undisputable authorities**, like in any culture?



*The people will believe what  
the media tells them they believe.*

*- George Orwell*

- And **which culture and values** will be assumed as the “right” ones?

How will we allowed to distinguish between a conflict of values or of interests from a mere conflict between more or less credible data, more or less grounded, direct, controlled, reliable, ..?



3

**'PRESENCES'**  
in our  
**MIXED REALITY and SOCIETY**

The autonomous and proactive intelligent entities will **become** **‘presences’ and ‘roles’** in our **hybrid society** (human and artificial agent) and **mixed and augmented reality** (combined **virtual and ‘real’, ‘natural’** and **automatic/prosthetic** world).

Now the problem will be:

**are we able to manage these *autonomous and too informed and intelligent* agents?**

It is a matter of:

➤ **A)** Which **roles** will those material or immaterial, visible and invisible “entities” play in our life and environment?

(work with Ricci & Tummolini)



A) Which **roles**

Will they be

**our Guardian angel**  
with a **'tutelary' role?**

By helping, protecting and empowering us



A) Which **roles**

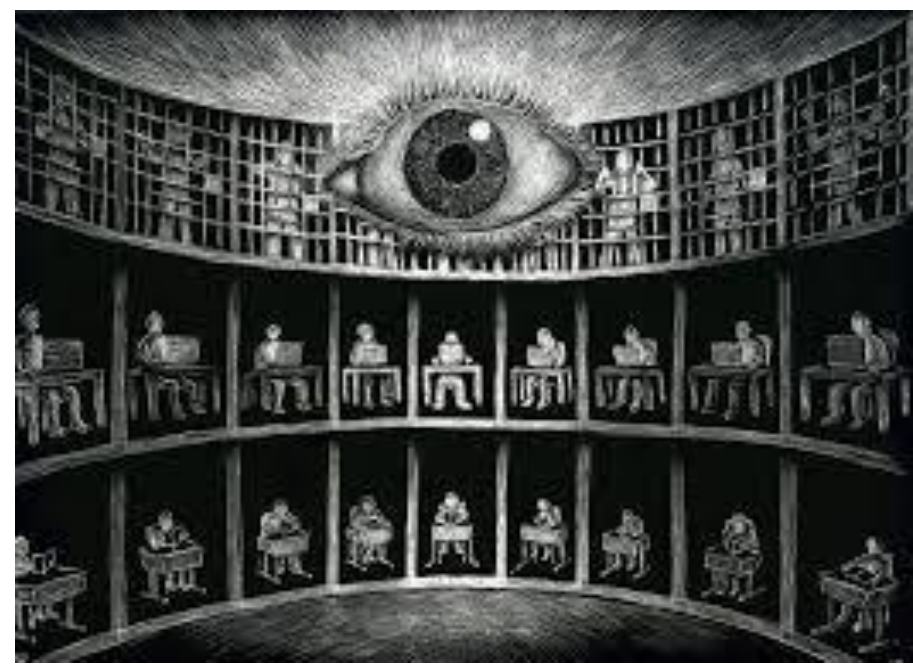


Or – less religiously – our Jiminy Cricket  
**(The Talking Cricket)**  
with its recommendations?

For example, we will not be the addressee and manager of our own  
“quantified self” and “lifeLog”.

# A) Which **roles**

Or our **supervisor** in the  
**ICT-Panopticon**  
we live in?



## The Prisoner and the Free



can't see the watcher

knows he's being watched

rounded back

all alone  
within a crowd of people



A) Which **roles**

or **our tempting Spirit**



A) Which **roles**

or our **tempting Devil** :

for the benefit of some  
marketing policy or monopoly,  
or the influencing and  
manipulating manager  
for hidden political  
or economic powers ?



# MIXED REALITY, MIXED BODY & MIND

Will we "incorporate", feel them as **parts of "us"**,  
our **"mental prosthesis"**?

Will we listen to that moral or rational "voice"  
as **our own** mental or consciousness voice  
**our (expanded) *SuperEgo***.

# MIXED REALITY, MIXED BODY & MIND

Or will our **Super Ego** be “externalized”?  
Not “me”.

Will we listen to "her" as to the voice of our mother,  
our teacher?

Or will we become “voice hearers”??

# MIXED REALITY, MIXED BODY & MIND

Both solutions will be probably there:

> The “social” one: **Externalized voices and Agents**

Our best friend; our sexual partners,..

&

> The “reflexively social” one: **an augmented internalized  
Self and Consciousness**



# PRESENCES

It is **again** a matter of:

➤ **B) Which political and moral values will they care of?**

not our “car driver” but the “society drivers” !!  
and **our life-navigator.**

They will **decide "for us"**,

but... **AMBIGUOUS: "instead of" us**  
or also **"for our good"?**

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**Social Robots and Intelligent Agents will NOT**  
**govern in their own interest** (science fiction!)

but... **in the interest of whom?**

**EMPOWERING whom?**

And will we be able to monitor and  
understand that?

And to **make that "transparent" to people?**

**B3**

# **DIS**AGREEMENT TECHNOLOGIES

**A)** There is a **too strong ideology and rhetoric**  
**about society as cooperation, collaboration,**  
**common intent, collective advantages,.....**

how to reach convenient agreements and  
equilibrium, etc.

Moreover, the web is (non accidentally) favoring a deviating political feeling: *“we” against “them”* (governors, political caste, centralized powers).

This perception of “we” is completely misleading: there is no a “we” with common values and goals and interests, which has to be unified against the political power as such (in case against the real power (financial power) that has usurped the political power).

Population is composed of **different classes, genders, generations, .. and cultures** with very different and conflicting values and interests;

this is **the real conflict**

**(not “we” and “them”),**

and political activity and forces were supposed precisely to represent and protect those different social interests, and not just the “common” interest.

**Some conflict of interest or of value can be solved and reconciled in **a common interest**,**

but a large part of political/government decision is **not for a common advantage** (except reducing civil war), for a fair distribution;

it is for the prevalence or advancement of **the interests of a given group** (class, lobby, gender, view, ...) by reducing the powers of the others.

# The Need for Conflicts

## Conflicts: the presupposition of Democracy

Conflicts are **not just conflicts of views or opinions**, or due to different conceptions, information, reasoning.

**There are conflicts of "objective interests"**

the problem is conflicts between interests of group or classes, or conflicts between "private" interests vs. common interests, the "commons" and public goods.

Social conflicts in fact **do not have** a "verbal/cognitive" or a "technical" solution, just based on data and technical principles;

**they have a "political" solution;**

it is a matter of "power" and of prevailing interests and compromises (equilibrium, partitions/shares).



# The Need for Conflicts

## Conflicts: the presupposition of Democracy

### *No conflicts no democracy*

Democracy is not only a "response" to Cs and for moderating them; it would be a way of encouraging, growing (and solving).

Conflicts are not only to be governed, reduced, reconciled: they should even be *promoted* and this is in fact the role/function of specific forces and organizations, like trade-unions, parties, group of interests, associations, movements, etc. Crucial stakeholders of democracy, but also definitely responsible of the typical social, cultural, economic "progress" of western countries in the last centuries and now of the rest of the world.

Of course conflicts might be dangerous conducting us to fighting, violence, war, .. So it is true that societies and groups need "rules" for governing them, to avoid degeneration. Centralized state was one of these solutions: the state monopolizes violence; private or group violence is forbidden.

# Viva Conflicts!

Conflicts

with their **disagreements and agreements**

are thus the motor and principle of Democracy and of its possible effectiveness in changing society in favor of the submitted subjects, disadvantaged classes and groups, etc.

**Viva conflicts!**

# Democracy

Mark Twain is brilliantly right

*"If voting made any difference they wouldn't let us do it."*

But... the problem is much harder; it is not just a complot, is that we vote in a self-defeating way, and, in general, our collective stupidity.

**Might political "education" and education to "commons"  
& Digital society and participatory democracy  
be enough, and solve this "cognitive" and social problem?**

They will help. But

given the immediate local perception of the conflicting interests and competition and the *blindness to common interests* among different countries and poor classes and ethnic groups, and affiliation and identity feelings, conformism, and in-group vs. out-group psych, ... I have some doubt.

In a couple of centuries they will see.

- To *give voice to people* never in condition to protest, and to be listen to....
- *Making **conflicts** to **emerge** and become aware of, making express disagreement, making transparent which interests are hidden and prevailing, ...*

should be (in democracy) **one**  
**of the main tasks of intelligent social**  
**technologies.**

## B) “critical thinking”

Using WEB technologies for organizing “movements” it is OK; but **not so good**

**without promoting critical consciousness**

Not only by:

- Counteracting our *Confirmation Bias*;
- Counteracting our *tendency to gregariousness* and the “*bubble effect*” on the WEB

but by helping us to

**understand hidden powers, and also  
our prejudices.**

We need environments and Agents for learning and developing a **“critical thinking”** attitude; to manage our **cognitive and motivational biases**; etc.

To support us in argumentation and discussion, and in understanding the tricky arguments of the others.

To resist to the prevalence of “audience” against “quality”, of self-marketing and indexes against originality and quality; etc.

.... about propaganda, Academy, gender models, fanaticism, superstition, urban legends, ...

We have impressive possibilities with new intelligent and interacting technology, big data, etc.

They shouldn't be just used for selling and for dominating.

# Demystifying the Ideology of the NET

*NET interaction is perceived as non hierarchical, without superstructure and mediation, individually managed, spontaneous, thus “free”. Really and directly “democratic”.*

A neoliberal view and a wrong perception.

- There are **new Powers** beyond the WEB and its activity and information;
- Impressive **oligopolistic economic interests**
- **Influence, manipulation,**
- **Exploitation** of data, Exploitation of work

## DISAGREEMENT TECHNOLOGIES

### C) *anti-manipulation*

ICT and cognitive technologies are used for recognize our profile and interests but

**NOT for EMPOWERING US,**

**but**

in order to propose/*induce us to “buy” something* (goods, ideas, ..)

They are monitoring and analyzing us in order to **manipulate** us and influence our choices.

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We need *anti-manipulation* **AI technologies:**

I would like to have not so much a **personal virtual or robotic psychotherapist or physiotherapist;**



# DISAGREEMENT TECHNOLOGIES

## C) *anti-manipulation*

I would like much more a **“life navigator”** in my main “social role” (ex. consumer!), but not a navigator saying “turn right, turn left”, “buy that; do not buy this” ...

But a **tutor, a trainer**, inducing me to understand and to reflect about why I’m oriented in that direction, I’m choosing that product; worrying if I have the right information, or I have wrong beliefs, etc.

**Making me conscious of **who** and **how** is persuading or just unconsciously manipulating me;** and so on.

# **Concluding Remarks**

The great **REVOLUTION** of ICT, of digital monitoring and predicting (by simulation) and **BIG DATA** can give to society (to demos)

**a glass were to observe themselves and follow what it is happening.**

**A glass reflecting also what is invisible: hidden presences, the future (predictions for planning):**

**A GLASS OF the INVISIBLE**

The great **REVOLUTION** of ICT, of digital monitoring and predicting (by simulation) and **BIG DATA** can give to society (to demos)

**a glass were to observe themselves in the future:**

“The best way to build the future  
is to predict /simulate/imagine it”

(Nala Yak)

# The GLASS of the INVISIBLE

Not only "PRESENCES"; what is "not present" here, but can be virtually present for interaction, can act in this word and vice versa, etc.

But also a glass able to show what cannot be seen/understood: the **future, predictions**, the "emergent" order, and

**hidden phenomena and interests**

(for example, can I **see** who is now getting my personal data? And for what?

For whom am I **working for free**?)

# Can We Overcome Human **Alienation**?

Could we, by exploiting

> **collective, distributed, hybrid INTELLIGENCE**

and

> **BIG DATA**

and

> run-time feedbacks and information from **local stakeholders and intelligent sensors**

and

> **Computational LEARNING and PREDICTING**

and

> Computer (Agent-based) **Social SIMULATION**, and **VIRTUAL REALITY and SERIOUS GAMES**, etc.

could we

**MAKE VISIBLE the INVISIBLE  
HAND?**

and (partially) **GOVERN IT?**

# Can We Overcome our **Alienation**?

Will the **Leviathan** become

a giant *connected and informed community of agents,*

managing their Collective Power?

1. I'm skeptical about that (also for cognitive reasons)
2. I worry about possible **net-Demagogy**

***To See What Is (currently) Invisible:***

***Artificially Augmented Awareness***

**the real revolution of AI**

**(Including itself! It uses)**



In the Digital Society

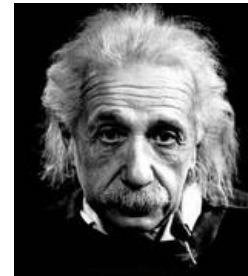
**Artificial Intelligence**

may either **exploit**

or **overcoming**

our **Natural Stupidity**

“Two things are infinite: the universe and human stupidity;  
and I'm not sure about the universe.”



SORRY for such a PESSIMISTIC TALK

not very funny

but

I wish you get the message of

**the Optimism the WILL** (Gramsci)

**and the Pleasure/Beauty of AI**

**END**

Thank you for your attention!

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<http://www.istc.cnr.it/group/goal>

