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QUACK!

A travel through the landscape of quantum bullshit.

Pietro Pasotti

Cool Logic, 12 Sept 2014.



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Plan				

There is quite a lot of bullshit around



There is quite a lot of bullshit around Let's try to get rid of it



There is quite a lot of bullshit around Let's try to get rid of it Some examples of what is arguably bullshit



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easier

Some examples of what is arguably bullshit One after the other, shoot a battery of questions to the theories and see how they resist Meanwhile, trace the boundaries of the problem to make it

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There is quite a lot of bullshit around

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Some examples of what is arguably bullshit

One after the other, shoot a battery of questions to the

theories and see how they resist

Meanwhile, trace the boundaries of the problem to make it easier

...and see how far we can go (this usually involves appealing to Wittgenstein in some way)

two case studies bullshit meaning truth pragmatics Case study 1: A Quite Overwhelmingly Clear Instance of Quack, Postponing Indefinitely a Broader Definition

1951: Mr. Krebs invents a substance he later would have called "Laetrile". He then popularises it as a compound to cure cancer.

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- also, he claims that (negative) toxicity tests had been run on animals.

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• Later in court he claims that (positive) clinical trials had been run on humans.

unfortunately, they were underdocumented

 also, he claims that (negative) toxicity tests had been run on animals.

disgracefully, the records went destroyed

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Case Study 2: a very serious example





H2om's revolutionary Vibration Hydration® system:

 "Science says that at this level...at this almost non-conceivable level of wave form that ALL things already exist as a probability of existence. [...]" "You could say that this unseen wave form is "pure consciousness." When an idea is conceived a process of attraction is activated in this vast and infinite field of consciousness. [...]" two case studies bullshit meaning truth pragmatics A very serious example

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- "There are several distinctive vibrational frequencies that are incorporated in each bottle of H2Om. The First is the vibrational frequency of the label. [...]"

two case studies bullshit meaning truth pragmatics A very serious example

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- "There are several distinctive vibrational frequencies that are incorporated in each bottle of H2Om. The First is the vibrational frequency of the label. [...]"
- "As a bonus [...] we also introduce audio frequencies to the water through sound and music."

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This usually involves having employees sing at bottle pallets, or soothing music being played in the storages.

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And then it turns out that H2om Intentional Water is owned by the Chopra Foundation...





Let's consider just a handful of the statements of this man:

• "by consciously using our awareness, we can influence the way we age biologically... You can tell your body not to age."



Let's consider just a handful of the statements of this man:

• "remaining healthy is actually a conscious choice"

two case studies bullshit meaning truth pragmatics Deepak Chopra: just a few extracts

Let's consider just a handful of the statements of this man:

• "If you have happy thoughts, then you make happy molecules. On the other hand, if you have sad thoughts, and angry thoughts, and hostile thoughts, then you make those molecules which may depress the immune system and make you more susceptible to disease." (This turns out to be especially true of skeptics) two case studies bullshit meaning truth pragmatics Deepak Chopra: just a few extracts

Let's consider just a handful of the statements of this man:

 In short, using the power of quantum healing one can "transcend disease". [Quantum Healing, D.Chopra] two case studiesbullshitmeaningtruthpragmaticsAnd it's turtling all the way down

• Peer support, family therapy, individual counseling and the use of positive imagery to cure cancer. "Happy people don't get sick." [Bernie Siegel, M.D. *Love, Medicine & Miracles*] two case studies bullshit meaning truth pragmatics And it's turtling all the way down

• Why not eat shark cartilage? (e.g. William Lane, Ph.D. Sharks Don't Get Cancer)

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And it's turtling all the way down

- "Give her castor oil!" [reiki.org/reikinews]
- etcetera
- etcetera
- etcetera

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I believe, and so do you, that we have a problem here. (cfr. David Lewis)

two case studies bullshit meaning truth pragmatics The questions I would like to see answered somewhere in the future:

- Is that bullshit?
- 2 Is that even *meaningful*?
- Are in some sense these theories (sets of claims) bluntly false? (if so, on which conception of truth?)
- Turning to more pragmatic criteria: do (against all prejudices) these practices prove their worth in some way?

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- (5.) (And how do I get to mention Wittgenstein while ranting against quacks?)

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Let's begin with bullshit: A fundamental book.



What is bullshit?

(Frankfurtian) bullshit

bullshit is like a lie, with the only difference that the liar knows the truth he's avoiding to tell, whereas the bullshitter just doesn't care.



• Does Chopra really believe that molecules can be happy or sad?



• Did Mr. Krebs really think that the cyanide amygdaline gets metabolized down to wouldn't poison his patients?



• Is Auntie Healer just trying to make money?



 Do Reiki practitioners really think that by waving their hands and "manipulating energy flows" they can modify any person's DNA?



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- etcetera
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In many cases, this just won't work.

What if they really believe in what they say? What if they don't?



The nonsense landscape is SO densely populated that we have some clear instances of "what the hell: *they just can't be talking seriously* (as of 2014)".

The Flat Earth Society: [theflatearthsociety.org] Galileo Was Wrong (And The Church Was Right): [galileowaswrong.com]

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A Frankfurtian-bullshit-framework is too fragile to be used to talk about healthcare. Practitioners may not state clearly their intentions and beliefs, or may just refuse to commit themselves to whatever: "this is *magic*! Your science has no power over here".

Unless, of course, we assume unconstrained honesty. But this is too dangerous an assumption here...

The "we-all-love-life"-theorem

It seems that a relevant majority of humans share a common attraction towards avoiding their own death / sufferance, and preserving, if not enhancing, its flowery counterpart (health, life, pleasure).

Corollary

Hopefully, healthcare can be an *intersubjective enough* place to start looking for criteria of meaningfulness / non-bullshitness of what other people claim.

An imaginary dialogue

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- A "Allright, here you are 30.000 euro."

two case studiesbullshitmeaningtruthpragmaticsThe heroic way:question the plainmeaningfulnessof

what these people say

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What the hell?

two case studies bullshit meaning truth pragmatics Let's assume that the patient in the previous dialogue is not entirely stupid

What's going on then?

• Either he doesn't mind not understanding a word (she's too desperate)

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What's going on then?

- Either he doesn't mind not understanding a word (she's too desperate)
- Or he doesn't realize that he's not understanding a word (the healer is a natural born advertiser)
- Or they both are speaking a language we don't understand

two case studies bullshit meaning truth pragmatics Alien languages hypothesis

Chopra's definition of Quantum Healing

"Ability of one mode of consciousness (the mind) to spontaneously correct the mistakes in another mode of consciousness (the body)."

The underlying idea is that a person's thoughts and feelings give rise to all cellular processes.

(This has earned Chopra the 1998's Ig Nobel Prize in physics for "his unique interpretation of quantum physics as it applies to life, liberty, and the pursuit of economic happiness.") two case studies bullshit meaning truth pragmatics As of today, Chopra has:

> written 75 books

21 of which New York Times bestsellers

translated in 35 languages

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Assuming a relevant percentage of the people who bought them actually read them (and still there are crowded lectures, up to 20.000 each):

Principle of statistical charity:

Someone *must* have understood something.

How far could such a viewpoint lead us?

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- \Rightarrow "so many people seem to trust that guy, he must be worth it"

two case studies bullshit meaning truth pragmatics This leads us to considerations about the pragmatic value of a theory

A culturally relativistic viewpoint is structurally unable to provide a tool for choosing whose hands to put our lives in, for many reasons; especially two:

• life is finite

The suggestion of one who struggled with the problem is to assess the validity of any superstructure of norms (linguistical, social) not against their grounds (for they have none) but against their practical value.

And that's in fact what we will hint at in the last part.

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two case studies bullshit meaning truth pragmatics The boring way: an epic quest for truth

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The boring way: an epic quest for truth

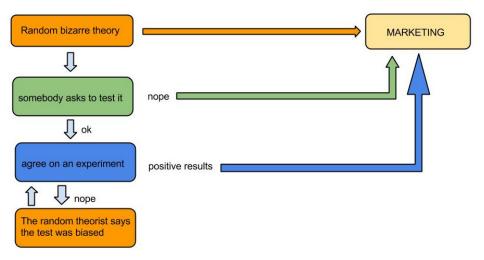
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milestones:

- Identify the theory (all too often this is a rather hard problem) (a minimal consolation: it's hard even for the proponents)
- Establish (and agree upon?) confirmation/refutation criteria.
- Test it!

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Typical flowchart of this kind of attempts:



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Interlude:	quack			

One of the mainstream definitions of it is:

quack:

Medical practice or theory merchandised as effective, but backed by insufficient or no evidence, and vastly ineffective according to all objective (i.e. measurable) criteria.

My first attempt would be to identify a central tenet of a given theory and tie to it the theory's credibility. Call it the *core* of a theory.

The Curing Metaassumption

We can in fact assume (well, assume we can) that any medical practice has as its aim the wellbeing (which may come in many forms: physical, social, psychological, blabla) of its patients.

Core of a theory/medical practice

The following assertion: "This theory provides an effective tool in treating = overcoming = curing this and that illness."

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Although, it looks like we may have found a criterion which is once more based on the practical value of a theory. two case studies bullshit meaning **truth** pragmatics

(This is what's nice with medical practices: they share a goal which is somewhat intersubjective. Most people don't like dying.)

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This leads us to the final stage of this search...

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"Look at how many happy customers I have!"

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 When it comes to customer satisfaction...

... we have a huge problem to face: *brainwashing*.

This is why, usually, self-made health assessments, reports and word-of-mouth play little or no role in 'scientific' medicine.

If we all agree in narrowing down what a medical practice should achieve as down as:

Curing

Removing an illness, postponing death or reducing sufferance.

And we accept the

Law of Reality:

No matter how much one self-deceives himself, a cancer is either there or not there (unless we are being deceived as well).

.. then we might have at least two out of three somewhat objective parameters to assess the worthiness of a theory.



• Some possible ways to go if you are interested in fighting a language game you disagree with.



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- A glimpse of the varieties of crap that go on in the world while we study formal systems.
- A few interesting debates that cross the boundaries of philosophy of science, philosophy of language (Did I mention Wittgenstein along the way?) and biochemistry.
- That nonsense is really hard to understand.



Thanks for your attention!

Some sources for deep-divers (distinguishing between bullshit and serious stuff is left as an easy exercise): www.davidicke.com www.chemtrailcentral.com www.h2omwater.com www.reiki.org www.scientology.org www.guackwatch.com www.guantummansite.com dnaperfection.com www.energetic-medicine.net/QXCI.html