

Kent Beck just reinvented the wheel

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....TDD?

where have I heard all this stuff before?



« COGITO ERGO SUM »

René Descartes (1596-1650)

French philosopher, mathematician, scientist and lay Catholic who invented analytic geometry, linking the previously separate fields of geometry and algebra



René Descartes:

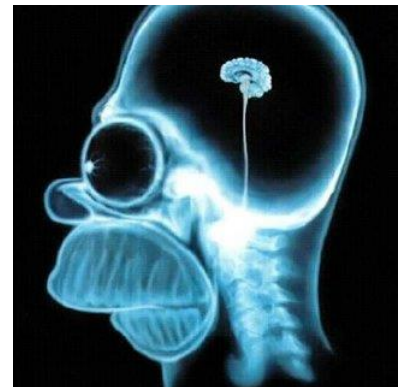
Res cogitans - Res extensa

Descartes famously postulated two kinds of "substance" in the universe, *res extensa* and *res cogitans*. Res extensa is, roughly the physical world. Res cogitans is, roughly, mind and consciousness. This view of two kinds of substances is called "**dualism**"

... was a precursor of a new brand of philosophy...

Philosophy of the mind

Philosophy of mind is a branch of philosophy that studies the ontology and nature of the mind and its relationship with the body. The mind–body problem is a paradigmatic issue in philosophy of mind, although a number of other issues are addressed, such as the hard problem of consciousness and the nature of particular mental states. Aspects of the mind that are studied include mental events, mental functions, mental properties, consciousness and its neural correlates, the ontology of the mind, the nature of cognition and of thought, and the relationship of the mind to the body.



Alternative to dualism: MONISM

Idealism asserts that it is not man nor his intellectual power nor his consciousness which determines the happenings of the physical world. The ideal or the eternal spirit determines the movements of the physical world (Hegel, Shelling)

Materialist philosophy emphasizes that its core idea is neither idea nor idealism, but rather it is physical world



Materialism – currents of thought

Reductive physicalism is the view that mental states are both nothing over and above physical states and reducible to physical states

Functionalism is the thesis that mental states (beliefs, desires, being in pain, etc.) are constituted solely by their functional role, which means, their causal relations with other mental states, sensory inputs and behavioral outputs

...



Materialism - Behaviorism

Behaviorism was a movement in psychology and philosophy that emphasized the outward behavioral aspects of thought and dismissed the inward experiential, and sometimes the inner procedural, aspects as well.

Any mental term can be understood in terms of observable physical processes or events. For example, if I say I have a toothache, a scientist should be able to point to a problem with my gums, the transmission of information regarding this problem through my central nervous system to my mind, and the characteristic changes in the chemical makeup of my brain. Conversely, if those particular physical events and processes were observed, a scientist would be able to say "he has toothache".

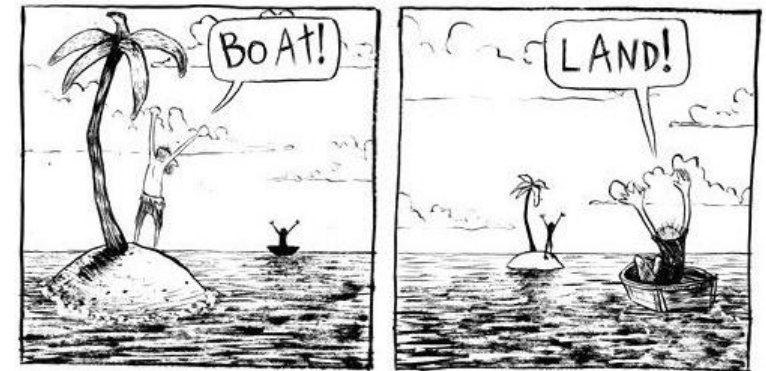
Behaviorism ?



Behaviorism

That's exactly what most of TDD is about.

Change the way we look to software development by switching our attention from algorithms and states toward how software should **behave**.

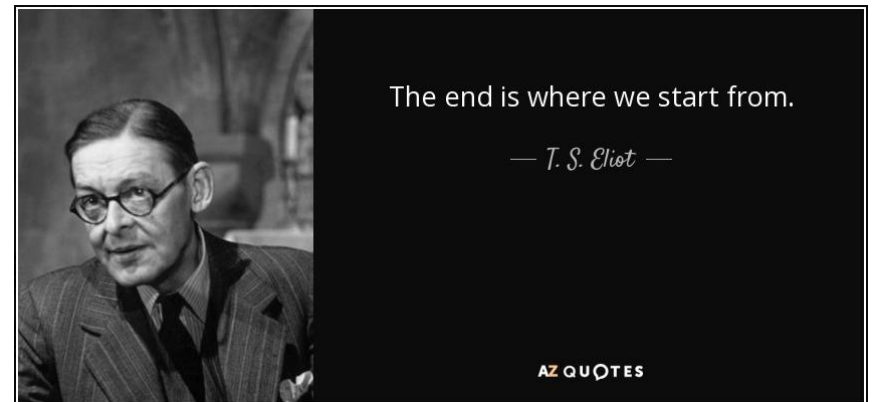


Behaviorism: howto

...and what's the best way to archive this target?

Start thinking and coding from the opposite side: **TESTS**.

That's the best way to focus on behavior from beginning of our project.



Behaviorism: measurement

Tests are unit of measurement for system behavior.

Behavior measure allow us to understand real system potential and have an honest description of its features.

Moreover with tests we can monitor system upgrades (features/refactoring) in real time.

Important: Every single test target need to be clear!



Behaviorism

There is another level of behavior in software development:
The behavior of code building the system. It should be as trivial as possible.

How we can measure it?
Through **Cognitive effort** needed to understand each line.

High cognitive effort means high entropy leads to low measure.

So what's the best way to improve ?

..... **CALISTHENICS !**



Behavior: calisthenics

- Use only one level of indentation per method
- Don't use the else keyword
- Wrap all primitives and strings
- Use only one dot per line
- Don't abbreviate
- Keep all entities small
- Don't use any classes with more than two instance variables
- Use first-class collections
- Don't use any getters/setters/properties

So.... is it possible to have a small discount?



References:

- ❖ [Philosophy of Mind: Classical and Contemporary Readings \(David J. Chalmers, 2002\)](#)
- ❖ [Mind: A Brief Introduction \(J. Searle, 2004\)](#)
- ❖ [A History of Western Philosophy \(Bertrand Russell, 1945\)](#)

Courses:

- ❖ [Alcor academy socio-technical-excellence](#)

Thank you

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