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co-author of *Anchor Modeling*  
an award winning agile modeling technique  
for evolving data environments

 @anchormodeling

 **ANCHOR**<sup>TM</sup> 



*The only constant  
is change!*

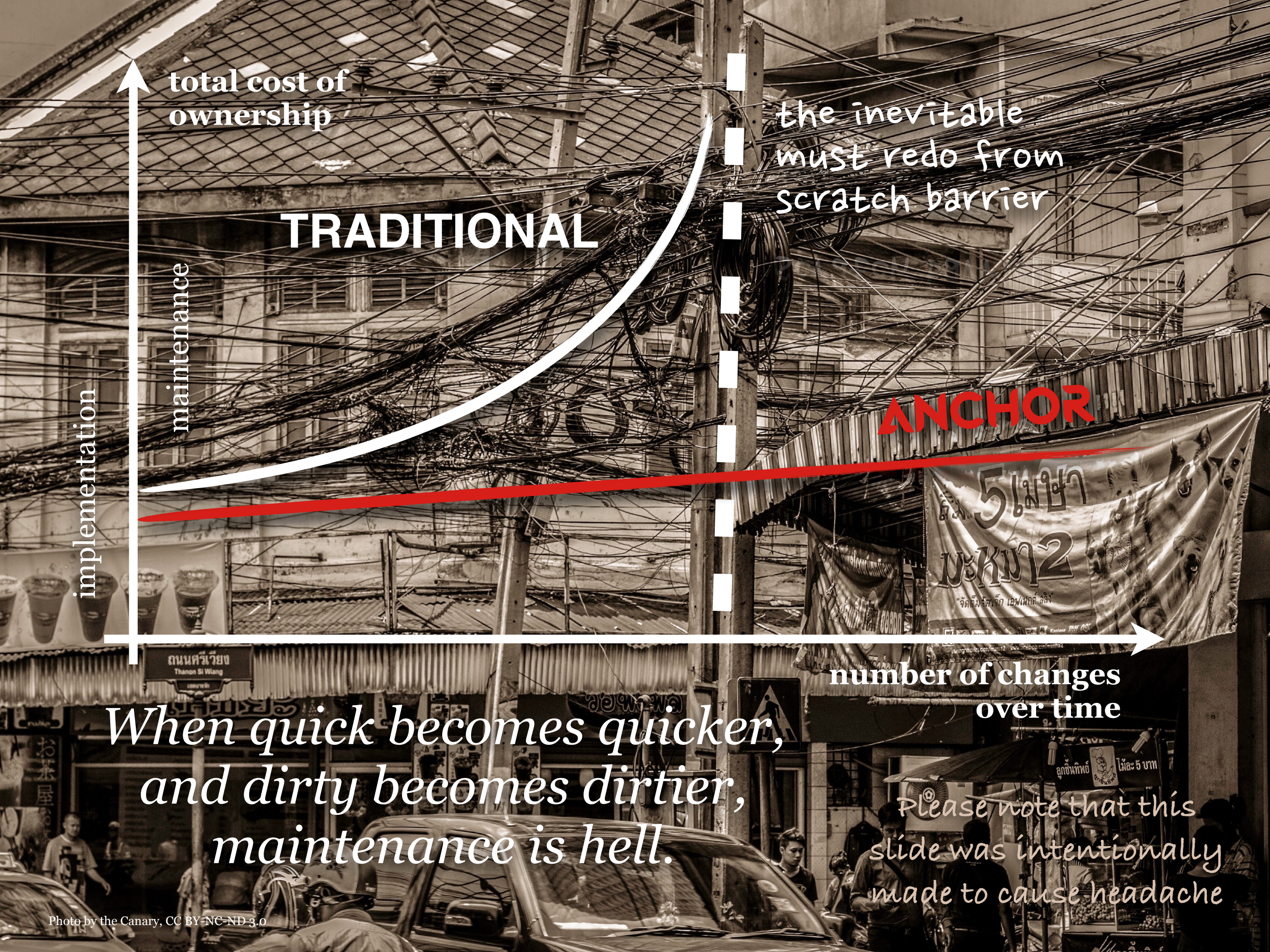
*H. Bruggen fecit 1628*

Heraclitus of Ephesus,  
~500BC

But change is  
accelerating...

5,000,000,000	The earth forms
500,000,000	Vertebrates
50,000,000	Mammals
5,000,000	Primates
500,000	Humans
50,000	Great migrations
5,000	Civilizations
500	Printing press
50	Television
5	Mobile Internet





total cost of ownership

the inevitable must redo from scratch barrier

TRADITIONAL

ANCHOR

implementation


maintenance

number of changes over time


*When quick becomes quicker,  
and dirty becomes dirtier,  
maintenance is hell.*

*Please note that this  
slide was intentionally  
made to cause headache*





**Unmodern  
filing  
cabinet**



**Modern  
database  
server**



**Lost In Translation**

**TCO  
FLEXIBILITY  
EASE OF USE  
LONGEVITY  
FEATURES**

**DENSITY  
SCALABILITY  
DO-OVERS  
SPEED**

***ENGINEERING***



Reference number: #42  
Available since: 1909-09-21  
**changing time**

Bradley, F. H.:  
Appearance and Reality,  
S. Sonnenschein, London  
Second Edition (1895)  
**happening time**

Classification:  
~~Politics~~  
Philosophy  
*changed in 1910 by Bella*  
**positing time**

This card was printed on  
the 22nd of September, 1909.

Reference number: #42  
Available since: 1972-02-13

Bradley, F. H.:  
Appearance and Reality,  
S. Sonnenschein, London  
First Edition (1893)

Category:  
Philosophy  
**evolution time**

Subcategory:  
Phenomenalism

**recording time**

This card was printed on  
the 16th of February, 1972.



## The common workaround

***“We cannot trust that the numbers in the report will be the same tomorrow so we have to print and store all reports on paper.”***

CFO commenting their BI-solution



# The identification dilemma: How do you know I am me?

FEATURES

CENSUS

PERIPHERALS

HERITAGE





CLASSIFICATION

*When I see a bird  
that walks like a duck  
and swims like a duck  
and quacks like a duck,  
I call that bird a duck.*

James Whitcomb Riley



**LOCUS**

Is this duck that duck?



A *posit* is a syntactical construction:  
 $(\langle i_1, \dots, i_n \rangle, \langle r_1, \dots, r_n \rangle, v, t)$

*Charlie says:*

I think I saw a man  
with red hair  
and a red beard.

*Bella thinks:*

Hmm... that sounds  
like Archie, her  
lover since Friday.

$(\langle A \rangle, \langle \text{hairColor} \rangle, \text{red}, -10\text{min}) = p1$   
 $(\langle A \rangle, \langle \text{beardColor} \rangle, \text{red}, -10\text{min}) = p2$   
 $(\langle A, D \rangle, \langle \text{lover, of} \rangle, \text{active, friday}) = p3$   
 $\text{asserts}(C, p1, \text{now}, 0.7)$   
 $\text{asserts}(C, p2, \text{now}, 0.8)$   
 $\text{asserts}(B, p3, \text{now}, 0.9)$   
 $\text{asserts}(E, p2, \text{now}, -0.8)$   
 $\text{asserts}(B, p3, +10\text{min}, 0)$

*Emma recognises:*

That must be Donna.

An *assertion* is a predicate:

$\text{asserts}(P, p, T, \alpha)$





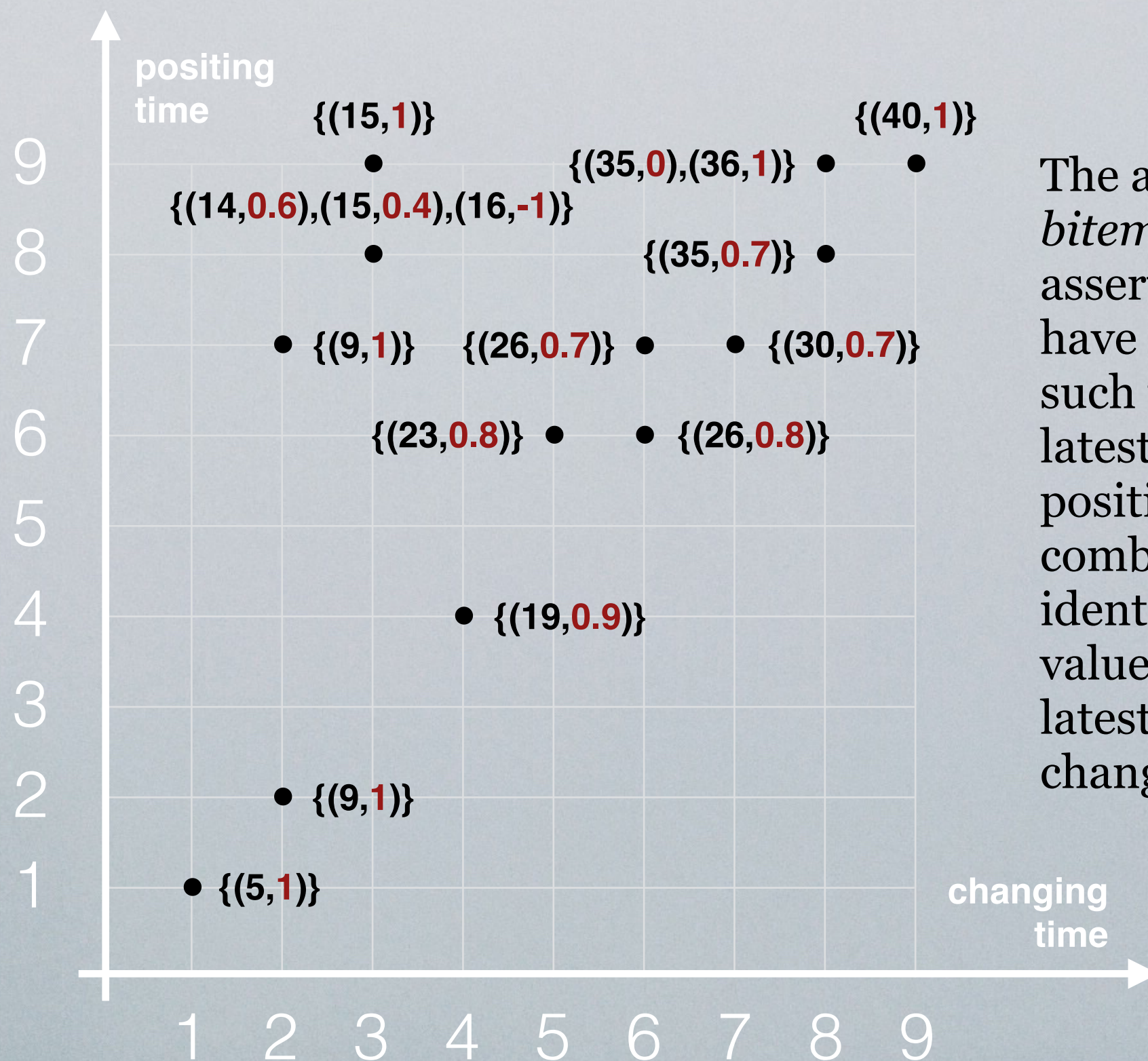
The background of the entire slide is Salvador Dali's painting 'The Persistence of Memory'. It depicts a dreamlike landscape with a dark, flat foreground and a hazy, yellowish sky. In the upper left, a gnarled tree branch holds a blue, melting pocket watch. In the lower left, another blue, melting pocket watch lies on a wooden surface next to a small red plate of ants. In the lower right, a large, melting pocket watch is draped over a distorted, melting face. In the upper right, a rocky cliff is visible, with a small figure sitting on a ledge. The painting's surreal imagery of melting clocks and distorted forms serves as a visual metaphor for the text overlaid on it.

A *memory* of a universe of discourse is  
a set of assertions that model it.

A *model* is that which  
displays the boundaries between  
similar and dissimilar things.

The act of *modeling*  
is to define boundaries  
by determining when  
things are similar enough  
to stay within  
the same boundary.





The assertions in *bitemporal effect* are the assertions of posits, that have not been retracted, such that they are the latest with respect to positing time, for each combination of positors, identities, roles, and values, and of those the latest with respect to changing time.

Assertions made by *Archie* for the score of *his round of golf*.



## **Traditional database**

Single positor, only certain statements, no history of versions, and no history of corrections.

## **Anchor Modeling**

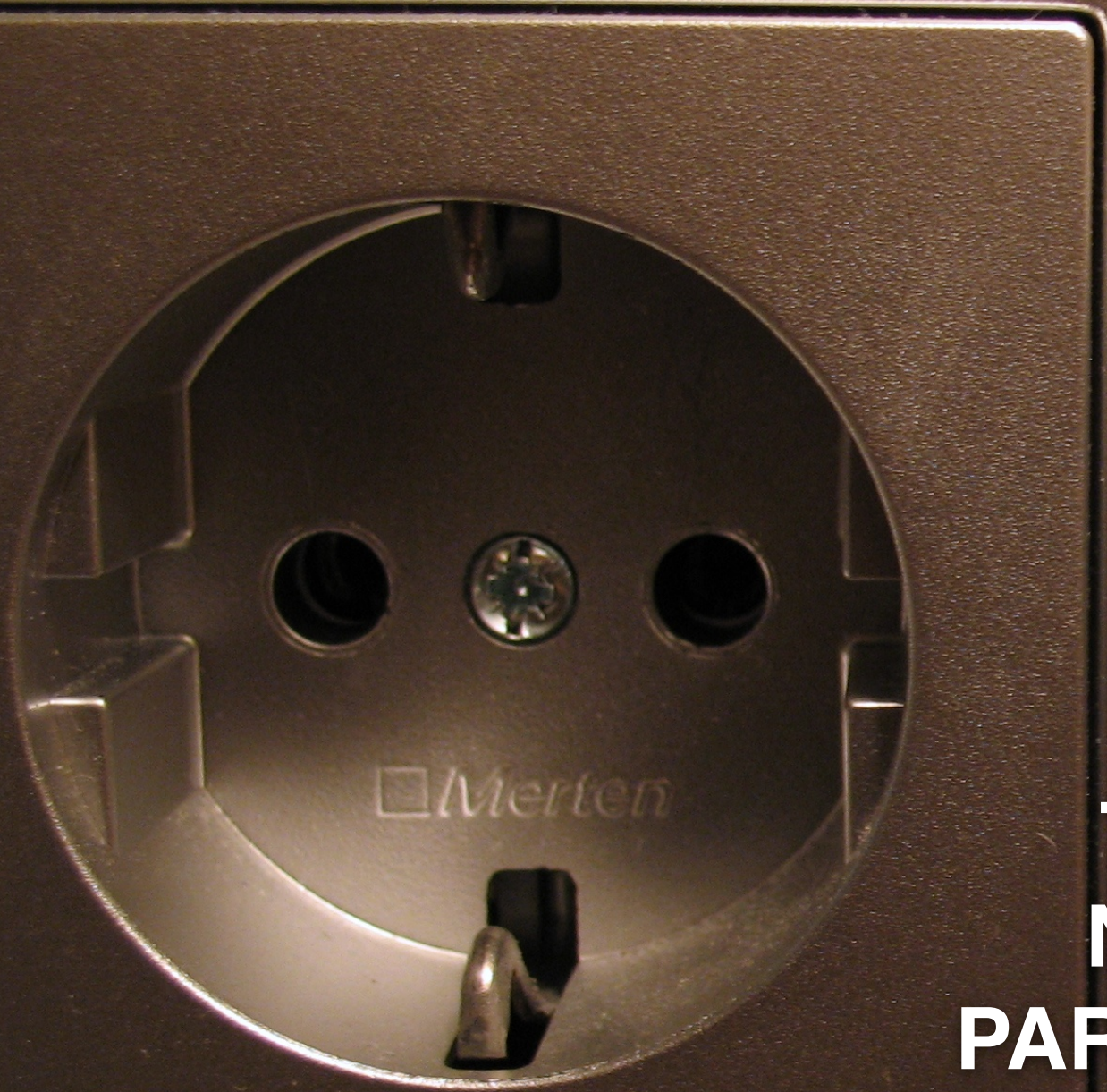
Multiple positors, reliability ranging from being certain of a statement to its opposite, complete history of versions and corrections.

## **Uni-temporal Anchor Modeling**

Single positor, only certain statements, complete history of versions, but no history of corrections.



When you rather try to push a square peg through a round hole than modify your model, you know you have the wrong technique.



## THE NEW PARADIGM



*A model should not be built to last  
it should be built to change –  
only then can it truly last.*







# Anchor Modeling ...

- has a solid scientific formalization.
- is built on well known principles.
- is easy to learn.
- is hard to make mistakes with.
- fully supports agile development.
- shortens implementation time.
- lowers maintenance costs.
- preserves all previous versions of the database.
- increases the lifetime of the database.
- has Open Source tools.
- is free to use.



GET INVOLVED!





# ANCHOR™

- **Homepage:** [www.anchor modeling.com](http://www.anchor modeling.com)
- **E-mail:** [lars.ronnback@anchor modeling.com](mailto:lars.ronnback@anchor modeling.com)  
[sales@uptochange.com](mailto:sales@uptochange.com)
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- **MSDN:** [Anchor Modeling](#)

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