



Internet Business Systems

A Lesson in Semantics

Alan Metcalfe, January 2009

The hottest word in the IT industry today is “semantic”. Sir Tim Berners-Lee, the inventor of the World Wide Web, said in 1999 that “the Semantic Web is essential before electronic commerce expands as a mass of vaguely defined semantics and ad hoc syntax which leaves no room for automatic treatment, and in which the court of law rather than a logical derivation settles arguments.” Since Sir Tim said this however, the real meaning of semantics has been lost in the rush to market with a whole host of products being labeled as being semantic, that really are not.

Having made this statement, I will also say that the Safe Worlds system that I designed based on my 1999 discovery of Universal Logic is the ONLY semantic web. And having said this, I am more than happy to have anyone prove me wrong.

A Time for Truth

Ordinarily, it would not be a big deal that the IT industry “stretches the truth” at times to sell its products, because, sadly, most people today know and understand this. However, this approach to business is now seriously hurting the IT industry at a time when it needs public trust in semantic technology.

Understanding and acceptance of the Semantic Web is now critical to the long term survival of the World Economy. Without it, as Sir Tim said in 1999, global e-business is not going to happen in any believable way; and I would also be delighted for someone to prove me wrong about this. I would like to believe that there is another way – but I know there is not.

What is Semantics?

Wikipedia, the online encyclopaedia says that “Semantics is the study of meaning in communication.” I agree with this interpretation of semantics, regardless of the type of communication. What troubles me is, as Wikipedia also acknowledges, “Semanticists differ on what constitutes meaning in an expression.”

To understand this argument that some try to make; that there is more than one meaning of meaning, one needs to recall then President Bill Clinton’s classic statement: “I did not have sex with that woman”. The statement may be semantically true, you see, if you believe, as President Clinton may have, that what

he did with “that woman” was not sex. However, if you are a traditionalist (as I am), then you know that any such interaction is generally called “having sex”, regardless of the type of “sex” it may have been.

As Wikipedia says, “traditionally: the formal semantic view restricts semantics to its literal meaning.” But,” it says that “**many find this distinction difficult to defend.**” Why? Because, it does not give them enough “wiggle” room. As Wikipedia goes on to say: “the degree to which a theorist subscribes to the literal-figurative distinction decreases as one moves from; the formal semantic; semiotic; pragmatic; to the **cognitive semantic traditions.**” Don’t you just love the way these guys invent these new words?

Design Problems

And this is where IT system designers get into trouble, as they try to discover how to create The Semantic Web, because, the very meaning of semantics means that there can be ONLY ONE Semantic Web. If we are to **communicate meaning** that is to be believed, it cannot be left to each individual to interpret the meaning as it suits them. Otherwise, as Sir Tim Berners-Lee warns “electronic commerce (will) expand as a mass of vaguely defined semantics and ad hoc syntax (order) which leaves no room for automatic treatment, and in which the court of law rather than a logical derivation settles arguments.”

As the Holy Bible says in defence of its truth, “no prophecy of the Scripture is of any private interpretation.” (2 Peter 1: 20) Why? Because, there is such a thing as: Truth. There has to be for The Semantic Web to be possible.

Now, having said this, it does not mean that within the context of The Semantic Web that a person cannot apply their own meaning to things, because they can, just as it is possible to “play with the truth” in the real world. The only difference is that, once The Semantic Web becomes reality, if you do this, then the world will know that you are “playing with the truth”. This is what being truthful means.

The Power of Computers

This is the great power of computers that cannot be ignored, as every good computer system designer knows: “If you put trash in, you get trash out”. Why? Because this is what computing means; if it didn’t, then why would we use computers? If we could not rely on the 100% reliability of computers when we use them, then they would be of absolutely no use to us. And, the same is true with semantics, because, semantics is not an invention of computing; semantics is synonymous with computing in the same way that mathematics is synonymous with computing. For computers to work, they must be semantic, just as mathematics must be semantic to work. And this is true because computers, semantics, and mathematics all work on binary code (the combination of opposites).

This way that all things basically work is what I call Universal Logic; the common way that all things work. This is why it is correct to say that this world is a mathematical equation of all of its parts. What I was able to do, that no one else has yet been able to do, to my knowledge, is to apply binary code (the law of opposites) to the way the human mind thinks. When I was able to do this, I was able to understand the logic of intelligence and see how to design a common database object that is artificially intelligent inasmuch as it reliably communicates meaning. Based on this object, I was able to design the artificially intelligent (semantic) system that we now call Safe Worlds.

Semantics and Artificial Intelligence

Strangely (at least to me) many IT system designers do not see the inescapable bond between semantics and artificial intelligence (AI). In a 2004 paper titled "The Vision of Autonomic Computing," that they wrote for the Institute of Electrical and Electronics Engineers (IEEE), IBM researchers Jeff Kephart and Dave Chess ask: "Is it possible to meet the grand challenge of autonomic computing without magic and without fully solving the AI problem?" "Autonomic computing", by the way, is just another name for The Semantic Web.

In September the same year (2004), Sir Tim Berners-Lee announced in the MIT Review that the World Wide Web Consortium (W3C) had started to develop what they call The Semantic Web. This is despite the fact that the Semantic Web Challenge group concluded three months later in November 2004 that: "An attractive integrated example of what the Semantic Web can provide **does not yet exist.**" (The Semantic Web Challenge, 2004 report)

By then however, it is clear that Sir Tim had abandoned his concerns about "electronic commerce expanding into a mass of vaguely defined semantics and ad hoc syntax which leaves no room for automatic treatment, and in which the court of law rather than a logical derivation settles arguments"; and was more concerned about staking out commercially valuable territory to stop anyone else from claiming that they had beaten the W3C to The Semantic Web (we live in a fiercely competitive world).

This is clear if one reads the MIT Review article which asked Sir Tim the very pointed question: "Does the Semantic Web merely automate many of the things that a human assistant would do?"

Sir Tim's response, to his credit, was at least honest. He said: "No. A human assistant uses a form of intelligence that we are not mimicking here. The human assistant will have the human mind's ability to suddenly think of correlates across the whole spectrum of his or her experience. **In the future**, The Semantic Web will be a great place to develop artificial intelligence (AI), in the strong sense. But right now we are making something quite mechanical, even if we are using bits and pieces of the machinery developed by the AI community over the years."

I have no qualms with the honesty of Sir Tim's statement. I just believe that, given the seriousness of this issue, it needs to be pointed out that this is not the way that it works, but the other way around: first you must understand semantics before you can create The Semantic Web; you must understand intelligence (how the mind works), before you can develop artificial intelligence (AI). The truth is that, until you understand artificial intelligence (AI), you cannot create The Semantic Web because the two go together like night and day. To say that you can is like suggesting that mathematics can exist without the concept of equation.

The BIG Problem

What then is this problem? Why is that so many very smart people are obviously talking so foolishly; or, if you prefer, so unscientifically? To understand this you need to know and understand what the ultimate discovery of artificial intelligence (AI) and semantic logic means to the scientific community: it means the destruction of one of science's most beloved theories, Darwin's "theory of evolution" which dictates that there is no such thing as Truth, but that what we call Truth, is an understanding that has evolved over time. Sadly, this is like saying that there was once a time when mathematics did not exist; that mathematics has also evolved over time.

For this to be correct, then it cannot be true, as science says, that everything is a mathematical equation of its parts, because, for Darwin's theory of evolution to be correct, there had to have been a time when this was not true. If this is true, then there had to also have been a time when gravity and all the other laws of science did not exist, but were in the process of evolving. The problem with this is that it is foolishness – it makes no sense at all.

Now, if it is foolishness that there was ever a time when mathematics and (gravity) did not exist, then what was the purpose of these things existing, if there was not a man to understand them. And this question is relevant, because nothing exists without purpose.

Do you see the conundrum that is developing (evolving) for science? Having married themselves so tightly to Charles Darwin, unusually, they have not left themselves enough "wiggle" room to escape.

Semantics and Darwin,

Now, having said this, I need to say at this point, that as soon as I make this argument about Darwin, a lot of my very well-meaning friends raise their eye-brows and wonder if I have not lost my "marbles", so great is the influence that Charles Darwin has on modern science. And, I need to say that I do understand their concern: I am not trying to get myself numbered among the foolish, if I can avoid it.

To be honest however, I make this observation because I cannot make Darwin's idea of the "origin of the species" (creation by evolution) fit with Universal Logic, because

it clearly does not, regardless of how many Nobel Prize winners may line up to say that it does.

Universal Logic, like mathematics, semantics, and ALL laws natural laws is a three (3) equation of its parts, wherein the first part is eternal (it never changes); the second part changes (evolves) in harmony with the first to create the third part, which a combination of the two in the same way that $1+2=3$.

There is NO law or mathematical equation that works contrary to this order. Sir Isaac Newton's three foundation laws of science that work together as an equation of their parts, works this way, so that Newton's Second Law of motion (communication); not the First, describes change (evolution). Einstein's Theory of Relativity ($E=mc^2$) also works this way so that it is the second part (the speed of light) that changes and not the first part (the mass).

The probably with this, which frustrates the "hell" out of most of my very scientific friends is that it means that there has to be an intelligent design for the universe. Moreover, there has to be a supreme intelligence that is worthy of being called God.

The amazing thing, which frustrates them even more is when I tell them that Jesus Christ predicted such an outcome 2000 years ago when he said: "The stone which the builders rejected, the same is become the head of the corner." In other words, the law that the builders of this world rejected has now been shown to be the mind (head) of evolution (corner = change).

As the apostle Paul said: "**God hath given them the spirit of slumber, (eyes that they should not see, and ears that they should not hear;) unto this day. As David says, Let their table be made a snare, and a trap, and a stumbling block, and a recompense unto them: let their eyes be darkened, that they may not see, and bow down their back always.**" (Romans 11: 8-11)

Because, as Paul later explains in this letter to the Romans, "*if the first fruit be holy, the lump is also holy: and if the root be holy, so are the branches.*" (Romans 11: 16) And although the language is different and flowery, surely this is what $E=mc^2$ means?

For further information

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