

Deciphering the Nexus: Knowledge, Reality, and Quantum Magnetism

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ABSTRACT: *We understand that magnetism has a wave-particle duality due to experiments. Asking the question of what is it that can be known is what led to the experiments. This paper shows the importance of knowing the basic characteristics of everything leads to an easier understanding of existence and should be introduced early in the education curriculum. Everything we are studying has the same basic characteristics, a truly multidisciplinary tool.*

KEYWORDS: countability, discreteness, education information, isolation, knowledge, magnetism, multi-discipline, relationships, science

INTRODUCTION

We know that there is a force we have termed magnetism, and a lodestone will attract an iron nail. To accept magnetism, you must start with a lodestone, one starts from the very basics. There is no artificial current, no Maxwell, just a lodestone.

Magnetism has been known for millennia, lodestones were attracting iron nails long before there was electricity, and nobody has ever asked what is coming out of a lodestone, missing a crucial step in quantum physics.

How are we able to know that magnetism is a unique phenomenon, different from electricity, light, a tree, carbon dioxide, flu, or even a human being? Understanding the answer to the question, how do we know magnetism is a unique phenomenon is what led to experiments around magnetism that determined it always travels in a wave formation, but this wave formation is organized. Magnetism¹ organizes itself into a wave formation to travel, it has a wave-particle nature like all other quantum phenomena.

This paper explains how asking how we know what a thing is, and what is it that we can know led to experiments that led us to know the basic quantum nature of magnetism, It is a great model for what is termed interdisciplinary.

What is knowledge

Knowledge is what one knows. Knowledge is the tool for human survival. The ability to interact with our environment is through knowledge. All knowledge comes to us through our senses.

It is the knowledge that allows us to hunt, sow seeds, weed, skin the animal, make a water canal, design experiments, make a computer, write a program, change the car battery, and go to space. Our survival depends on knowledge.

Knowl, a unit of Knowledge

Nothing can be understood scientifically without a unit. Borrowing from economics, the ²knowl is introduced. The knowl is a unit of knowledge and comes from the word knowledge. In economics, there is a concept of utility, and satisfaction, to understand it reasonably scientifically and analyze the concept we use utils which are units to measure utility.

The ability to count knowledge starts first with understanding it must be isolated.

The Quality of Isolation

We know things because we can isolate them. A baby learns that one is a father and the other a mother and that becomes knowledge. They can learn this because in their mind they can isolate the father and mother. A baby then learns food comes from the mother's breast and has isolated that part of the body from the rest of her body. We can differentiate between the grass and the trees.

We know things because we can isolate them. We know about atoms and particles. We have isolated them because we have found techniques to isolate such phenomena and study it. We know about viruses because we have isolated them and studied them. A thing must be identified first. You can not experiment on magnetism unless it is first isolated in the mind and thus differentiated from another phenomenon.

That we can isolate things means we can categorize things, those are Zebra, those are humans, that is a planet, that is a sun, that is a gas planet, that is a rock planet. That is a grassland elephant, that is a forest elephant. Those are particles, these are electrons.

The Quality of Being Discrete

Think about the salt and pepper containers. Through isolation, we know that is a salt container and that a pepper container. We can pick up these containers because they are discrete. If they were continuous we would not be able to pick them up or isolate them from each other because everything would be everywhere, just unrealistic.

Discrete Means it can be Counted

As what we know is discrete it can be used to count. Anything we know can be used for addition subtraction and counting. One can use salt and cattle, trees, stars, planets, galaxies, people, rocks, atoms, particles, deer anything.

It Must Be Consistent

We know consistent things, salt will not become pepper tomorrow.

What is it that we Know, enter Information?

The ³characteristics of what we can know have been identified thus far:

- It can be isolated
- It is discrete
- It can be used to count
- It must be consistent.

What is it that we know? We are born with little knowledge. Our knowledge increases over time, finally from a baby one gets enough knowledge to survive we get carpenters, electricians, engineers, chemical engineers, computer programmers, and all sorts of knowledge gathered in time.

We see that is a bicycle, a pair of scissors, a hat, all these things inform us through our senses. We thus know what we are informed about, we know information. The information we know is what we call knowledge. If we know information and theoretically, we can know everything that means everything is information. That means information must have the same characteristics as knowledge because we can for example only know discrete things, which means information is discrete, and everything is discrete. Because what we know can be isolated, it means information can be isolated, it means everything can be isolated.

What other theory of knowledge gets to define itself in such a manner? what concept of information out there defines information in such a manner? Ancient philosophers never understood knowledge in such a manner. Knowledge economy discipline does not understand knowledge and information in such a manner. The only definition of information that was in line with knowledge economics, which was looking at knowledge scientifically came from quantum physics even though it was not well developed.

The basic particle is the most basic information package; it is thus far accepted as the simplest thing we can know. The basic particle fits with the reality of what we can know, it can be isolated, it is discrete, it can be used to count and is used to count in modern computers. An electron will not become a gluon tomorrow, it is consistent.

Information and the Complete Picture of What Can Be Known

Quantum physics utilizes statistics. You can only utilize statistics on things that are discrete, can be isolated and are consistent. What we know we can apply statistics to it to observe behavioral patterns. Economics relies heavily on statistics, on quantifying. Knowledge economics with its understanding of knowledge tells us what we can apply statistics to.

Understanding that everything we can know must have the same characteristics, once accepting the most basic information package is the basic particle, it means that the characteristics of the basic particle will tell us about all the characteristics of what we can know.

Everything is In a Relationship

All the characteristics of information, of what we can know, are equally important. They are equally important because if even one characteristic did not exist, we would be in a different reality. Understanding that looking at the characteristics of the particle has given more knowledge of what can be known over and above the characteristics of knowledge above, and all are equally important, looking at the fact that everything is in a relationship is important because science is about the study of these relationships.

Everything is in a relationship and all relationships have a cost and that cost is energy. It is energy that maintains a relationship, even if that relationship is with a thing by itself, energy is needed to maintain the structure. A rock as an example, is in a relationship first with itself, energy is needed to maintain that structure, and then it is in a relationship with its surroundings. Same as with a human being, anything that is discrete, that means everything, thus having a structure, and being discrete all particles are first in a relationship with themselves, energy is needed to maintain their structure.

Take an atom, it is a relationship between protons, neutrons, and electrons. Those who study atoms are looking at the relationships between protons, neutrons, and electrons, once we talk about relationships, there are energy exchanges involved.

Other humans look into the relationship between human beings, galaxies, or alloys, elements, viruses and germs, others the motions of things, science looks at relationships in a scientific manner. Philosophers talk about relationships in a philosophical manner.

Nothing that a human being can conceive is outside the reality that everything is in a relationship and that all relationships are random.

The Characteristics of Information

The characteristics of the basic particle build upon the above-known characteristics from knowledge economics. Since everything is understood to be made up of basic particles, everything will have these basic characteristics up to the largest galaxies. These characteristics are, all⁴information:

- can be isolated
- is discrete
- can be used in aiding to count
- is consistent
- is in random relationships
- is independent
- can be used to tell the time
- can be used to aid with measurement

Magnetism cannot be Unique

⁵The same with magnets, if they are not discrete, it is up to those who say magnets defy everything else by giving impossible proof and leading people astray. Merely thinking about magnets as discrete makes it more exciting, the implications.” This statement was made in 2019. During COVID 2020 magnetism was ⁶tested and indeed it does not defy the rest of existence. No matter the interference pattern it reorganized into a wave.

This could only mean that it is a particle, and certainly, when the relationship between north and south magnetic phenomenon is investigated, they ⁷annihilated each other as expected when a particle meets its antimatter. The particle was named a khumalon: a very unstable particle, most of the stuff disappearing within 2 cm. Gravity does not affect it, nothing affects it except certain metals to certain degrees.

Understanding it is a particle means we can now look at quantum reasons for why magnets attract iron, and what is happening at the quantum level.

Having to organize itself into a wave, it must be the most efficient way for it to travel there is a finer medium. Any award ever given saying there is no ether needs to be recalled. It turns out that even large molecules display ⁸wave-like behaviour if everything to a degree behaves wave-like, this would be another characteristic of everything and means everything to some degree is reacting to moving through this finer medium, most likely the ether.

It means we can track charged particles through the magnetic particles they release. One can know the precise position and momentum of a particle. Bringing a new principle, anything that emits anything the more precise we can predict its position and momentum.

Implications

Magnetism has unique equations associated with the behaviour of the khumalon. But it was not maths that led to its discovery as a particle, mathematicians completely missed the true basic nature of magnetism. It was asking the question, what are the characteristics of a thing that can be known?

The characteristics of a thing that can be known should be introduced early in a human's life. As they grow they will understand what education is for and that at the end of it all, they want to understand relationships, how they happen, how they break, and the happenings and breakings all have to do with energy, and motion.

The characteristic of a thing is multidisciplinary as all disciplines are looking at things, and all things have the same basic characteristics.

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