

# The Hidden Mysteries of Nature and Science

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Brethren, tonight I'm going to give you just a taste of a big topic. You'll be glad you're getting just a taste as otherwise we'd be here all night. I'll leave out any conclusions and answers to questions and leave you to think about things. Isn't that a totally Masonic idea? I'll post this talk on the District 2 website with some further references and discussions. I'm also going to develop a few of my themes at other official visits.

In the second degree we are told that we can now extend our researches into the hidden mysteries of nature and science. When I first heard this I wondered if it wasn't just sophistry. Over the years however, as I listened and participated in many second degrees, an important concept gradually took shape in my mind

By a variety of inquiries, experiments, accidents, mankind has discovered truths about matter and its properties. We have created tools, which allow these properties to be utilized and exploited. Chief among them were squares, levels, and plumb rules, and we have invented tools to use on them: gavels, rulers and chisels. We have moralized on these as Freemasons and established a code of conduct, extrapolating from their uses some important rules for human happiness.

Thus "Knowledge, grounded on accuracy, aided by labour and promoted by perseverance, will finally overcome all difficulties, raise ignorance from despair, and establish happiness in the paths of science."

But what if we looked at more than just blocks of stone and how we could use them to construct a pillar, a column, an archway, and a cathedral? We have discovered that a square is an angle of 90 degrees or the fourth part of a circle (without which discovery we could never have built anything that didn't fall down)

The laws of nature, the hidden mysteries of nature and science, were not laws made by men, by kings, dictators, parliaments, senates or any other legislative body. Their properties were decided by a much higher power, by a great architect in fact.

So, if you ask me what I believe, I will say "I believe in life after death." If you ask me what I know, I will say, "that which can be proven - that a square is an angle of 90 degrees or the fourth part of a circle"

Now can we consider subatomic particles, Einstein's theory, the Higgs boson and nanotechnology as the building blocks of our present and future civilization?

Should the working tools of a 21<sup>st</sup> Century mason include the computer chip and the linear accelerator?

We appreciate Masonry for what it has taught and is teaching us, thank you very much, but are we content with that? If we create a perfect ashlar let's not bother creating extended consciousness or indefinitely extended lifespans. Well we have based our humanity not on our limitations but on what we can do to overcome those limitations. (If we hadn't, most of us would probably not be here tonight -- we'd have died in our twenties. That was the life expectancy until comparatively recently!) To discuss this, and I will, let's consider one of the most important truths of mathematics, (and a vitally important hidden mystery of nature!) the difference between arithmetical or linear progression and incremental, or geometric progression.

An arithmetical progression in 30 steps starting with 1 gets us to 30.

A geometric progression starting with 1 gets us to half a billion.

If we examine the rate of technological change over the past 200 years we can see a smooth progression unaffected by the events of human history. Similarly a molecule of any gas behaves in a totally random, stochastic manner. A billion molecules together however acts in a totally predictable way in accordance with the laws of thermodynamics

So, an information-based technology will increase in a geometric fashion. And it does. It doubles every year.

Thus the price of a transistor – in the last 30 years it has become a billion-times cheaper;

The size of a computer chip;

The number of transistors you can buy for a dollar

The power/ capacity or physical size of a computer.

Where will this end?

What does this mean for the next 30 years? In that time, the size of a computer chip will be one billionth what it is today. Why? Because it is an information-based technology.

I will be talking about this later in more detail but just to give you three ideas:

1. Medicine. Is now an information-based technology. Our treatments were based on empirical observation. Something worked, so we refined it and used it. Now that we know the genome, we can tailor-make drugs to benefit an individual without fear of side effects. Using nanotechnology, we will create machines the size of a blood cell: they could seek out and destroy cancer cells anywhere in the body. More importantly they will enable us to reverse the aging process and the causes of premature death, arterial disease, obesity and diabetes.
2. Environment. Fossil fuels are not an information based technology. They produce dangerous consequences. Again nanotechnology will enable us to capture solar energy: a fraction of the amount falling on Earth is all we need to replace fossil fuels.
3. Poverty. Dissemination of information, education, the use of cell phones, will lead to improvement in the economic lot of people all over the world

Where does Masonry fit?

Well, just as our ancient and not so ancient brethren moralized on the meaning of the square, the ruler, the chisel and the common gavel, we must think about the computer, the nanoparticle and the microchip.

Where does that lead us if we are not operative but rather free and accepted or speculative Masons? I leave that with you!