

Science, The Search for Evidence and the analogue to digital to analogue controversy

Abstract

The entire Universe, AND its existence from the Bing Bang (if ever there was one) to its demise, is one giant exhibition of an unstoppable and continuous trajectory of analogue events. It is no small wonder that everything we see, hear, smell, touch and even sense is also based on analogue entities. This begs the question: 'Why do we distort our world deliberately with stop-start-stop-start digital technology that perhaps never can match the speed of 'non-stop' events in the Real world'? At present, digital technology is getting faster, having reached Giga Hz (10^8 Hz) speeds. In some comparison, to even match the making and breaking of hydrogen bonds in water at time frames of between 10^{-15} to 10^{-18} seconds, it has to go 10^7 to 10^{10} times faster than it can now. (Ref. wat. 1.) Considering relativistic time frames that go much faster again, it may never do. Perhaps quantum entangled digital processing (if it even exists in the future) may get closer. Nonetheless, Science, and the search for evidence for the time being, should hang-on to analogue sensing and measuring and overseen by an equally analogue Common Sense by not allowing compromising digital technology to think for us. At this point in time I do not know of any commercially available digital multimeter that can match the high input resistance input of Field Effect Transistor circuitry (FETs) or even the mid-1900s vacuum Tube Voltmeters (VTVMs) used by TV technicians. In most cases these instruments boast a Full Scale Deflection (FSD) of 1,000 million Ohm and to my knowledge no commercial- digital equipment can presently match such a specification nor be able to measure nano and pico ampere/h levels to match the above. I wish they could!

INTRODUCTION

In this short essay we will present a number of examples of how simple the Retro-Transition from digital to analogue can be. The following happening, illustrates that digital and analogue systems are not always compatible. This occurred when we went eating out somewhere. Someone was singing via an amplification systems not far from our table. I looked at it and at some point the singer walked over to our table and asked if everything was alright. I explained to him that something did not sound right. He was perplexed at my answer, but nevertheless asked me if I knew what it was. It must have been a worry to him as well. I then asked him to come around with his system and himself, which he did some days later. I had soon figured it out: all of his input devices from microphone, pre-drivers and pre-amplification devices were out-fitted with very high dynamic range digital systems. Unfortunately all of that high dynamic range sound was feeding into an old-fashioned mixing desk with a very low dynamic range. It was like trying to push a fully grown orange through a one inch pipe and expecting the orange not to change in any way. He even admitted the whole problem was effecting his health. Once the mixer was removed from its location in the chain the problem was solved.

Ref. wat. 1. Properties of ordinary Water-Substance N. Ernest Dorsey, Reinhold USA 1940 page 162.

Personal experiences like that are constantly providing reasons to stick with analogue appliances. How would a digital robot play cricket, tennis or even basketball? Likewise a digital multimeter does

not measure but samples what needs to be measured at a specific rate. I have designed an economical direct current analogue based water purity tester with an input resistance so high (10,000 million Ohm) and operating a voltage so low that the water cannot even register the probe being in the water. I also possess a digital multimeter that incorporates an unusually high input resistance of 200 million ohm, other digital multimeters are restricted to just 10 to 30 million Ohm. Accordingly, none of these digital meters can match analogue-based equipment on their own merits, even if these analogue instruments were designed and used 60 to 80 years ago. The main reason for analogue's superiority is UNINTERRUPTED CONTINUANCE! When I place the probe connected to my water purity tester in the water, the same moment it provides consistent answers time and time again.

In my science I avoid belief systems, practicing common sense and rationality and check out everything I read or hear, without being too critical. There are still too many things we do not fully understand, water in particular.

The most difficult areas at the moment in science are convincing claims made by some scientists and their supporters, may no longer be correct. For instance, take nano technology. One scientist I know, is producing so-called silver nano particles consisting of just two silver atoms, measuring just 0.66nm in relative diameter. That equates to 660 pico metre and thus falls in the area of pico sized technology. Even my PC is objecting to this and considers the joining of pico and technology as picotechnology as incorrect but not so to nanotechnology. I have had to teach this to my PC by placing it in its dictionary. Now it knows better, but will some scientists? In particular chemists may not as easily convinced, and if that is not the only matter, but what about the electrons inside a 660 pico metre atomic silver dimer, containing relativistic quantum confined electrons that could actually blue-shift by longer incoming wavelengths of light? Times are a-changing, just like entropy in the entire Universe. However back to our time and place.

One absolute advantage of analogue multimeters in particular is the fact they do not require to be switched on or off. When not in use, no current is used and on whilst on that subject, some instrumentation will require a resistor with a precise voltage on it to measure current flow. A problem arises when the input resistance or impedance (alternating current resistance) is too low for a very low current at highly elevated direct current resistances, causing reading errors due to the parallel resistance factors. Again, this is difficult or near impossible for digital equipment to deal with but not a hassle for precisely designed analogue circuitry. Both RCA (Radio Corporation of America) and National Semiconductors in the 1960/1970 era produced economical 8 pin DIL operational amplifiers with input resistances of 1.5 and 1 Tera Ohm respectively. Such Tera Ohm values equate to 1.5 million, million and 1 million, million Ohm (10^{12}). That is high enough for most uses, provided 10KMOhm feedback resistors needing to go with it can be obtained.

CONCLUSION

The aim is to design and construct prototype instrumentation that can discover properties of water and the properties of water containing pico and nano silver as precisely and accurately as possible. Then perhaps we can set standards and for once and for all prove the legitimacy of pico and nano silver, as an alternative biocide or reject it outright as something dangerous to us. If this strategy is not used, we will be only tinkering in alchemy for ever and a day.

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