

From digital to analogue: where two worlds collide

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 Sunday, 23 July 2006
 Last Updated Wednesday, 23 August 2006

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Analogue, which is what this technology is called, is the way humans think: a tool to make sense of our universe. Much of our technology is about making an analogy of the signals that we encounter in the universe. For us, analogy is the "core of cognition".

Vision is a good example. Humans perceive infinitely smooth gradations of form and colour in such excruciating detail that no two people can ever see the same thing. Analogue is about attempting to mimic and replicate what we find in nature, which to us appears to possess the quality of continuous variability.

Digital technology says that we are mistaken in our interpretation. Digital physics claims that all matter, including the incorporeal bodies that make up the unseen world – quarks, muons and infinitesimally tiny wavicles, as well as the table that you knocked your knee on this morning and your knee, is made up of nothing but a series of 0s and 1s.

The universe is digital.

John Archibald Wheeler, who coined the term "black hole", claimed in the 80's that, fundamentally, atoms are made up of bits of information. As he put it in a 1989 lecture, "It's all from bits. Every it – every particle, every field of force, even the space-time continuum itself – derives its function, its meaning, its very existence entirely from binary choices, bits. What we call reality arises in the last analysis from the posing of yes/no questions."

So, where analogue says "maybe it's grey, greyer or greyest" digital says yes or no, black or white, on or off.

Although science ultimately negates our reality, our analogic interpretation of the world is all we have. It lends us our individuality but excludes us from the robotic machinations of the real real world. We are stuck with the task of making sense of what we see, hear, feel, touch and smell.

Firmly rooted in the physical world inside our physical bodies, nothing is guaranteed or certain. We feel trapped in a giant poker game complete with unexpected losses, scratched records and painful memories punctuated by the exhilaration of falling in love and the small mercy of light bulbs.

Somewhere, between our vain attempts to alleviate our endless hunger, rest enough, capture the beauty that surrounds us, illuminate a darkening sky, bring about world peace and the much larger than us reality of an awesome, yet unforgiving matrix of noughts and ones, there lies the possibility of a compromise – a medium to translate the binary language of the universe for us. Computers are just that – a portal into the previously incalculable that makes our existence a little less uncertain.

Computers can embody grace.

Some day soon, the elusive digits encoded into the microscopic workings of the Human Immunodeficiency Virus will be unravelled by the tireless calculations of a computer collective and we will have a solution to its relentless attack on humanity.

The analogue event: the light we see in a mother's eyes as she births a baby graced with the promise of a healthy future.

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