Reason I don’t like most Digital Evidence

Posted by tyrstag - 23 Sep 2011 21:53

First off, let me explain that I am not a skeptic. I have seen too much unexplainable stuff in my life to not be a believer. I just have a big problem with some things that are claimed to be evidence, but have perfectly reasonable scientific explanations.

I’m also not saying that NONE of it is evidence, I’m just saying, “Be extremely careful of calling something evidence”.

You should be skeptical of ANY digital evidence. The reason is that we live in an analog world. All digital devices convert analog images and sounds into digital formats that are not perfect representations of the original. They can introduce digital artifacts.

A digital artifact is any undesired alteration in data introduced in a digital process by an involved technique and/or technology.

Hardware malfunction: In computer graphics, visual artifacts may be generated whenever a hardware component (eg. processor, memory chip, cabling) malfunctions, causing data corruption. Malfunction may be caused by physical damage, overheating (sometimes due to GPU overclocking), etc. Common types of hardware artifacts are texture corruption and T-vertices in 3D graphics, and pixelization in MPEG compressed video.

Software malfunction: Similarly to hardware malfunction, artifacts may be caused by software issues such as bugs in the algorithms, such as decoding/encoding introducing artifacts into audio or video, or a poor pseudo-random number generator would introduce artifacts into statistical research models.

Compression: Controlled amounts of unwanted information may be generated as a result of the use of lossy compression techniques. One such case is the artifacts seen in JPEG and MPEG compression algorithms.

Aliasing: Digital imprecision generated in the process of converting analog information into digital space due to the limited granularity of digital numbering space. In computer graphics, aliasing is seen as pixelation.

The first thing that bothers me is “Orbs”.

Cameras work because light reflects off an object and back into the lens of the camera, where it hits either film or a CCD panel that records the light. That’s not so bad if you’re not using a flash (Ever notice there’s no orbs in daylight?) But when you use a flash, you’re focusing a high intensity beam of light directly in front of the camera. Anything, and I mean anything, in front of the camera is going to reflect that light back to the lens. A very small particle that is highly reflective is going to look huge and transparent, because the amount of light reflected back is higher than the size of the particle.

When using an IR video camera people will often say, “It’s not a bug or dust because it doesn’t move like dust or a bug, look it changed direction!” Any kid that has ever played with the dust in a bean of sunlight coming in a window will tell you that just moving slightly will change the direction the dust is moving. Moving your hand or blowing air through the beam makes the dust move in all directions and swirls around your hand.

Unless an orb flies up to my face and says “Hi!” it’s probably dust or a bug.

EVPs

Again, this is something that drives me crazy. There are all kinds of things that can be captured on a digital audio recorder that you may not hear real time. Most digital recorders are VERY sensitive, far more sensitive than your own ears. It can pick up things that are outside the area that you may be in, people talking in another room, a car, or truck going by.

The second thing you may not know is that the Flash Memory that is in a digital recorder has a limited lifespan. The average is about 300,000 Read/Write cycles. That means, every time you record, listen, delete, re-record, listen . . . you are slowly killing the memory. But the memory doesn’t fail all at once, it fails in blocks, at different times, you may even have failed blocks on a brand new device. If you happen to have a failed block in the middle of a recording, you may hear part of a previous recording, a loud pop, or just some weird noise.

Another thing that digital recorders may have trouble with is “Noise” from other digital devices, like cell phones, cordless phones, wireless network devices and even microwave ovens. They can actually pickup sounds from those devices. Ever been near a speaker when you receive a cell phone call and hear the speaker make a “ch ch ch ch ch ch” sound? It was especially bad with Nextel phones, but all cell phones do it.

And last but not least is the “If you believe it, you will hear it” syndrome. I have had people bring me an EVP and say, “It very clearly is Abe Lincoln reciting the Gettysburg Address!” I listen and it sounds like the noise my dogs stomachs make when they get into my frozen Burrito stash. I’ll look at the person and

see they are very proud of their find. I almost hate to tell them that I can't make out a single coherent word.

EMF

Electro Magnetic Field . . . The name says it all. What gives off an Electro Magnetic Field? Damn near everything. The Earth itself has a MASSIVE EMF; it's what protects us from Solar Radiation and being burned to a crisp by the Sun's rays. The Sun also has an EMF that makes the Earth's EMF seem like a little spark. Ferrous metals (Iron, Steel) can have an EMF, any type of electric motor (like the ones in video cameras), magnets obviously and even the Human body can give off a slight EMF.

I hate when I hear someone say, "There must be a ghost here, the EMF went up 0.3". Really? 0.3? A lamp cord can give off 30-50 milligauss! Your cell phone while on a call can be in the 100 milligauss range. Radios, TVs and Walkie-Talkies can also give off pretty high EMF.

If you're on a steel ship, like an old warship, the EMF readings can have wild swings from one room to the next. Part of the ship may have been magnetized by the motion of the water slapping against its sides.

That is just some of the things that can go wrong. I will add to this list and I'm always open to discuss.

--Tyrstag

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Re: Reason I don't like most Digital Evidence

Posted by Amanda_O - 25 Sep 2011 21:14

Okay so exactly HOW does the ghost box work? I heard it was a thing that flips through various am frequencies..

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Re: Reason I don't like most Digital Evidence

Posted by Amanda_O - 25 Sep 2011 21:15

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crystalcross wrote:

Actually MPEG-1 and MPEG-2 use very little compression. They don't use the motion compression and

also do not use the shading compressions which MPEG3, MOV, and other formats use. Also MJPEG compression can be set to use very little compression. It uses streams of JPEG images strung together. And JPEG has the ability to limit compression to simple RLE (similar to zip, a loss-less compression).

JPEG compression in lower quality mode loses lots of data, but in high quality mode is very similar to TIFF which is a no-loss encoding scheme.

On the audio side PCM encoding has no loss. Even MPEG3 as long as your sampling rate is high enough the loss is at such a frequency that it does not effect the data integrity. You mainly want to ensure that 20hz to 22khz is lossless. Loss in the 22-40khz range will not effect you hearing anything unless there is clipping due to over-driving which can happen even in the analog world.

I'm probably going to need that..thanks for being willing to help me out here.

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Re: Reason I don’t like most Digital Evidence

Posted by osty - 25 Sep 2011 21:22

Amanda_O wrote:

Okay so exactly HOW does the ghost box work? I heard it was a thing that flips through various am frequencies..

Basically it is a radio that is put on constant scan...it flips through the radio stations quickly with out stopping. Like 1/4 a second on each station. A spirit is then said to be able to collect words from broadcasts or use their own words through this device to speak.

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Re: Reason I don’t like most Digital Evidence

Posted by Wes_Forsythe - 25 Sep 2011 21:29

Steven Matrix wrote:

Very well said. Do you think that a lot of the "tuning out" of people has to do with what they perceive from watching the so called professionals on TV?

Not directly. Ghost Hunters and GHI never even bother showing orbs any more. In the early episodes

they showed them but dismissed them as dust. The problem is that they never really explained to people the phenomena (orbs are not dust...they are digital artifacts, mistakes if you will, caused by out of focus dust, pollen, water droplets, etc). So when people heard them say "most" orbs are dust, it left the door open for people to say "most orbs are dust...but this one is different". The brevity required of entertainment prevents them from getting too wonky I guess. After all, their target audience is not the serious investigator or researcher any more than the target audience of major league baseball is baseball players.

Ghost Adventures? They are guilty of "most orbs are dust..." But then again they rarely bother with dust orbs but have made a lot of insects TV stars.

The point is that I really don't know who decided to proclaim that the science/technology behind the digital orb phenomena can be dismissed at will.

I do wish they would spend more time explaining (cause I think they know) the weaknesses of different equipment. Flir, full spectrum, EMF, digital IR cams...all these devices have their flaws and limits and produce false positives that look really cool on TV but need to be pointed out. People just need to realize that the shows are entertainment and do the research and THINK a little about what they are seeing and hearing.

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Re: Reason I don’t like most Digital Evidence

Posted by Amanda_O - 25 Sep 2011 21:43

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osty wrote:

Amanda_O wrote:

Okay so exactly HOW does the ghost box work? I heard it was a thing that flips through various am frequencies..

Basically it is a radio that is put on constant scan...it flips through the radio stations quickly with out stopping. Like 1/4 a second on each station. A spirit is then said to be able to collect words from broadcasts or use their own words through this device to speak.

Thats interesting. I'd like to experiment with one of those things...

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Re: Reason I don’t like most Digital Evidence
Posted by Amanda_O - 25 Sep 2011 21:46

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I do wish they would spend more time explaining (cause I think they know) the weaknesses of different equipment. Flir, full spectrum, EMF, digital IR cams...all these devices have their flaws and limits and produce false positives that look really cool on TV but need to be pointed out. People just need to realize that the shows are entertainment and do the research and THINK a little about what they are seeing and hearing.[/quote]

You know..that'd make a good podcast....

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Re: Reason I don’t like most Digital Evidence
Posted by Wes_Forsythe - 25 Sep 2011 22:02

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Lest one of my detractors (they are out there) quotes me from here and then finds a post elsewhere where I talk about being a fan of the shows let me expand on my criticism.

I am a fan of the shows (to varying degrees of course). Each has good and bad points. Ghost Hunters presents an organized and methodical approach to investigations. Ghost Adventures gain points in my book because they are willing to try any and every new piece of equipment to see if it gets results. However, both are guilty of stating theory and interpretation as accepted fact. I think both have presented evidence that was questionable at best (possibly even faked I accept).

So I will NEVER tell anyone not to watch the shows. Even the biggest fan has to know (because the stars will tell you) that the process of editing hours of investigation time into a watchable entertainment format is a matter of taste, interpretation, and opinion.

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Re: Reason I don’t like most Digital Evidence
Posted by tyrstag - 25 Sep 2011 22:22

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I DO love watching all the shows! I think anything that brings attention to the field is a good thing.

But I also spend a lot of time explaining what is wrong with the shows to potential clients and what they should really expect from an investigation

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Re: Reason I don’t like most Digital Evidence

Posted by Steven Matrix - 25 Sep 2011 22:41

Wes_Forsythe wrote:

Lest one of my detractors (they are out there) quotes me from here and then finds a post elsewhere where I talk about being a fan of the shows let me expand on my criticism.

I am a fan of the shows (to varying degrees of course). Each has good and bad points. Ghost Hunters presents an organized and methodical approach to investigations. Ghost Adventures gain points in my book because they are willing to try any and every new piece of equipment to see if it gets results. However, both are guilty of stating theory and interpretation as accepted fact. I think both have presented evidence that was questionable at best (possibly even faked I accept).

So I will NEVER tell anyone not to watch the shows. Even the biggest fan has to know (because the stars will tell you) that the process of editing hours of investigation time into a watchable entertainment format is a matter of taste, interpretation, and opinion.

Well said. For me, I get most of what not to do from these shows. Yes, you can look at GH and the hundreds of investigations [not crazy about that word, but will use here] they've done compared to the rest of us. Why do I not believe that they're the best or better than many? They come across as paranormal drama queens who make money at creating drama. They are organized, but it is organized drama. From an old school, spiritual way of looking at things, they actually show their lack of understanding of the other side.

These types of shows get the young people stoked and they copy what they see by getting similar equipment and looking for "haunted places"; which in most cases, the word "haunted" isn't even the appropriate word; just adds to the drama of the chase.

Like a friend of mine said a few weeks ago; she stopped watching GH when they had on the women from that reality show; what was it? The housewives of New Jersey or something to that effect. I didn't watch it when she did; but it tells me all I need to know about what's important to them.

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