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Further variations (continued)

It is difficult to overstate how ridiculous the assumptions are.

In the nineteenth century speculation about communicating with other planets centered around creating something that could be seen through a telescope: landscaping a giant diagram like the Nazca lines, or flashing signals with an enormous mirror.

After the discovery of radio, all this changed immediately; Tesla and Marconi both thought they might have received signals from Mars.

With the advent of radio astronomy, it became natural to speculate about the appropriate frequencies, which stars to look at, etc.

But already a few decades later all this is obviously obsolete. The model for communication is no longer broadcasting, but the internet. Its global backbone is a fiber-optic network, with transmission rates many orders of magnitude higher than anything possible with traditional radio or television.¹ To render the system more robust/redundant, messages are sliced into small pieces, sent from point to point by a variety of paths, and reassembled at their destination by computers. — It is very easy to see how this could be made to work on a galactic scale. We know in principle how to propel (small) packages from star to star by directing laser beams at solar sails; speeds of 20% of the speed of light might be attained; proposals have already been made to launch a miniprobe to Alpha Centauri. — Either by sending many such packages to the same destination or sending a robot that could assemble it from raw materials in situ, we could construct routers at the other end. — Even working within the limits of the speed of light, such a network could cover the galaxy in less than a million years, a blink of the eye in cosmic time. — One cannot help

¹ Currently as much as 10 gigabits/second.

but think that such a network must already exist, and that our neighbors around the Milky Way are busily employing it to send one another porn and funny cat videos. — We may already be providing content! “Gangnam Style” could have leaked into space and be on its way to its first trillion views. — But if communications take place on this model, anything we might intercept by accident — assuming it takes place via electromagnetic radiation at a frequency we can employ — would only be a fragment of a larger message (not necessarily even a coherent fragment, some algorithm like bittorrent might be employed), and almost certainly encrypted.

But am I saying that aliens aren’t talking on the radio but rather posting on galactic social media? Of course not. The real point is that what seems to us like the natural method of communication changes every time we learn something new; has changed, dramatically, two or three times since the idea first consciously² surfaced, and will doubtless change again. And if it changed only once a century it would change ten thousand times in that million year interval I just confidently allotted to the schedule for an infrastructure project.

So we have absolutely no idea what to look for. The dominant form of intelligent life, for all we know, could dwell in neutron stars and communicate with gravitational radiation or gamma ray bursts. — If not something stranger. It is a relatively recent discovery that less than five percent of the universe is visible matter. Who knows what undiscovered spectra lie beyond our ken.

² Without going all Chariots-of-the-Gods on anybody’s ass, it seems a reasonable guess that geoglyphs of the kind that have generated that sort of speculation really *are* attempts to signal the celestial powers. And judging by specimens like the Cerne Abbas Giant in Dorset, which depicts a man with an enormous boner waving a club around, the assumption that the gods will want to watch our porn is perennial. — The Uffington White Horse might count as a funny cat video. — The Atacam Giant in Chile, it is worth noting, bears a striking resemblance to the bitmapped representations of the human form on the Pioneer plaques. — And so on.