13:38:46 From Richard van der Jagt to Everyone:

 Q: Now that computers have been developed that can self replicate, do you see this as a greater risk?

13:45:15 From Richard van der Jagt to Everyone:

 C: China has now invested many billions for self driving cars, another version of artificial intelligence (AI) in our life to come.

13:50:07 From Richard van der Jagt to Everyone:

 C: There are blinded studies in existence on whether patients prefer talking to an AI chatbot or a real doctor.

13:50:18 From Art Hunter to Everyone:

 Q: I want to ask about the threat of intellectual laziness using AI.

13:52:02 From Richard van der Jagt to Everyone:

 C: Just to confirm, patients still prefer a real live doctor.

13:53:57 From Peter MacKinnon to Everyone:

 C: AI as Paul has been describing is only one facet of AI, which includes simulating our senses with natural language processing (NLP) being the current major low hanging fruit in the market. Machine vision and robotic tactile sensing are other AI domains.

14:02:50 From Ted Manning to Everyone:

 Q: The Club of Rome and several UN agencies held a workshop in November in New York focussed on establishing the guardrails for AI. Since then, a major conference has happened in Korea on the same topic, sponsored by the UN. Can this help? How?

14:04:30 From Claude Buettner to Everyone:

 Q: Recently, in your videos on YouTube, you have given more urgency for carbon capture even though this technology has been discredited because it requires too much energy and will not bring down the CO2 in the atmosphere. What have you learned recently that we don't know about the viability of significantly bringing down CO2 from the atmosphere (currently over 425 ppm): <https://gml.noaa.gov/ccgg/trends/>

14:05:39 From Claude Buettner to Everyone:

 Replying to "Question: Recently, in your videos on YouTube, you h...":

 C: All CACOR people, please subscribe to Paul's channel: https://www.youtube.com/@PaulHBeckwith

14:13:53 From Richard van der Jagt to Everyone:

 Q: What about the possibility of AI to interfere with the Canadian election?

14:16:05 From Charles Hall to Everyone:

 Replying to "Question: Recently, in your videos on YouTube, you h...":

 C: Gold does not give money value. Spain doubled the amount of gold in the old world when they moved it from the new world in 1500s. Energy gives value to money, then as now. Your dollar bill should say "Pay to the bearer 5 MJoules (half-a-coffee-cup of oil) of energy services. No energy, money has no value. It is energy that generates the real things of value.

14:17:30 From Peter MacKinnon to Everyone:

 C: Scaling of Large Language Models (e.g., frontier LLMs) is a hot technical topic of limits or no limits to the scaling.

14:17:50 From Richard van der Jagt to Everyone:

 Replying to "Question: Recently, in your videos on YouTube, you h...":

 C: As long as it is clean energy. Fossil fuel (FF) energy is costing us billions.

14:20:27 From Charles Hall to Everyone:

 Replying to "Question: Recently, in your videos on YouTube, you h...":

 C: Spain doubled the gold and halved its value per peso. Whether your energy is dirty or clean, it is required for all economic activity.

14:21:36 From Richard van der Jagt to Everyone:

 Replying to "Question: Recently, in your videos on YouTube, you h...":

 C: In the long run, clean energy will more than pay for itself and with no ill health effects, unlike FF energy.

14:23:55 From Richard van der Jagt to Everyone:

 I am aware that postgraduate students are trying to get AI to write their theses or a good part of them--indeed intellectual laziness.

14:29:14 From Richard van der Jagt to Everyone:

 C: It is worth noting that in certain areas of medicine, AI has become a powerful adjunct.

14:31:52 From Richard van der Jagt to Everyone:

 C: Convenience.

14:35:14 From Richard van der Jagt to Everyone:

 Q: Is Moore's law obsolete?

14:37:19 From Art Hunter to Richard van der Jagt (direct message):

 C: In the 1985 time-frame, I met a physician who was working up a software program consisting of "if (this), then (that)" statements developed by knowledge engineers. His point was that the process of diagnosis, treatment, and tracking was highly dynamic with past and future scholarly works far exceeding the capacity of a human to read. I lost track of him but the problem still remains. AI can be useful in this set of information.

14:39:42 From Richard van der Jagt to Art Hunter (direct message):

 C: AI definitely has its uses, but they are confined only to certain areas at present. In some cases, it can replace Docs (i.e., imaging interpretation based on huge datasets and in other areas (i.e., oncology) it is best used as an adjunct.

14:40:08 From Peter MacKinnon, uOttawa, Engineering to Everyone:

 C: In 2024, I wrote and co-authored some 10 op-eds for policy shops on the nefarious uses of AI including topics like, integrity versus ethics in AI, AI agents and agent swarms, scaling issues, energy consumption, and dumbing us down through insidious dependency.

14:41:38 From Richard van der Jagt to Everyone:

 C: I agree Peter, but AI definitely has its uses, though they are confined only to certain areas at present. In some cases, it can replace Docs (i.e., imaging interpretation based on huge datasets and in other areas (i.e., oncology) it is best used as an adjunct.

14:42:35 From Enayat Ranjbar to Everyone:

 C: Thanks Paul, I had the same question. Now I am satisfied with your answer. I have to leave. Thanks again.

14:43:19 From Richard van der Jagt to Everyone:

 C: It is time to build our alliances with other countries.

14:45:00 From Art Hunter to Richard van der Jagt (direct message):

 C: Yes, the industry states to use AI as a colleague. Do not connect the AI output to the red button to end the Earth.

14:45:24 From Charles Hall to Everyone:

 C: Yes, I have a paper, by June Sekera, reviewing 200 studies/projects showing there is no net taking out of CO2; the energy cost is too high.

 [I would offer that the amount of greenhouse gas we have emitted already is so large that it could never be removed from the air by us in an economic way. Natural processes MAY remove it over millennia. See this article: <https://climate.mit.edu/ask-mit/how-much-carbon-dioxide-would-we-have-remove-air-counteract-climate-change> Ed.]

14:46:44 From Richard van der Jagt to Everyone:

 C: Direct air capture (DAC) is an excuse to allow the FF industry to continuing emissions of toxic fumes.

14:49:21 From Charles Hall to Everyone:

 C: Yes, solar and wind are increasing rapidly, but there is still more fossil fuel use (i.e., CO2 released) each year, so the solar is adding to, not displacing, the fossil fuels. Also, wouldn't reducing sunlight with sulfur reduce photosynthesis and all those benefits?

 [The unknowns with geoengineering are indeed legion. Here’s a sample article <https://www.scientificamerican.com/article/the-hidden-dangers-of-geoengineering/> Ed.]

14:51:40 From Richard van der Jagt to Everyone:

 C: Charlie, look at the use of clean energy in Norway, where clean energy is well over 90%. They have lots of oil, but are smarter than North Americans.

14:52:57 From Richard van der Jagt to Everyone:

 C: Concrete is combustible as per " Fire Weather."

14:56:37 From Art Hunter to Everyone:

 C: Moore's Law, which observed that the number of transistors on a microchip doubles approximately every two years, has been a driving force behind the exponential growth of computing power for over half a century. However, maintaining this pace has become increasingly challenging due to physical and economic limitations.

While advancements in technology, such as 3D chip stacking and new materials, have continued to push the boundaries, the physical limitations of miniaturization are becoming more prominent. Transistors are now approaching atomic scales, and further reductions are becoming prohibitively expensive and complex.

In essence, while Moore's Law has slowed down, the industry is exploring alternative computing paradigms like quantum computing and neuromorphic computing to continue technological progress.

14:56:42 From Claude Buettner to Everyone:

 C: ChatGPT v4o's answer on Moore's Law (only the first paragraph): Moore’s Law, originally formulated by Gordon Moore in 1965, states that the number of transistors on a microchip doubles approximately every two years, leading to exponential growth in computing power. While this held true for decades, it has slowed down significantly in recent years due to [sic] physical and economic limitations.

14:56:45 From Peter MacKinnon to Everyone:

 C: Moore's Law is still in play with new materials and architectures such as 3D chips.

15:00:21 From Richard van der Jagt to Everyone:

 C: CO2 lasts in the atmosphere much longer than methane.

15:02:18 From Claude Buettner, MN to Everyone:

 C: Rhetorical question--isn't it obvious that we have passed at least one tipping point which is all that is needed for a catastrophe of some kind?

15:06:58 From Claude Buettner, MN to Everyone:

 C: Paul Beckwith's and Peter Carter's conversations on a YouTube channel called Climate Emergency Forum: [https://www.youtube.com/@ClimateEmergencyForum](https://www.youtube.com/%40ClimateEmergencyForum)