

Thursday, March 24, 2016

Craig Venter Lays an Easter Egg

Six Years in the Making, “Synthia” is Resurrected

Synthetic Biology, according to its proponents, is moving at five times the pace of Moore’s law – basically doubling its capabilities and halving its costs every four months. Except that brash billionaire Craig Venter, often dubbed Bioscience’s Bad Boy, is no Gordon Moore. Venter has just announced that his team has produced Synthia 3.0 – the simplest human-made and self-replicating lifeform ever. Synthia 1.0 was announced – after years of delays – in 2010 and its second coming in this new form has been awaited ever since. Synthia 2.0 slipped by without notice – apparently not much to talk about – but this new version is being hailed by at least some synthetic biology scientists as a breakthrough.

Over the six years since Synthia the first, Venter and company have pared down the size of the simple genome from 901 genes to a modest 473. While Synthia 3.0 is a step toward what Venter hopes will eventually be the most basic possible living organism, fully 149 of its genes (almost a third) are still a mystery. Apparently it’s alive but its creators still don’t quite know exactly how.

Despite the slow progress, today’s announcement does have important scientific – and eventually commercial – implications. Venter’s team claims that Synthia 3.0 will be the basic technology platform – the essential building block – upon which other apps can be attached. Synthia 1.0 took weeks to replicate while the granddaughter can replicate in three hours. A lot more research can be done a lot faster.

“It’s hard to sort out the science from the sophistry and spectacle in this latest announcement”, says ETCs program director, Jim Thomas, “Craig Venter is the Donald Trump of the biosciences, given to showy announcements and share-raising overstatements - no one can ever be quite certain what he is actually up to without the human ethics or echo systems.”.

If Craig Venter hasn’t exactly broken the speed of his own sound, he – and Synthetic Biology – are still moving faster than government regulators and ethicists. Venter first announced his intention to ‘synthesize life’ around 2003. Synthia 1.0 arrived in May 2010 just as the Intergovernmental scientific subcommittee of the UN Convention on Biological Diversity was convening in Nairobi. The news hit like a shockwave and some nations called for an

immediate moratorium on synthetic biology until its social, health and environmental implications could be studied and regulations put in place. The moratorium had overwhelming support but the consensus required was blocked by just two countries – Canada and Mexico. Also reacting to Venter’s 2010 announcement, Pres. Obama convened a commission on the ethical implications of synthetic biology which reported in 2011. Even the presidential commission’s limp recommendations have not been acted upon. Eventually, in 2015, the UN convened an ad hoc working group on synthetic biology that is now preparing recommendations for governments. Venter’s latest advance will undoubtedly be a hot topic when the Biodiversity Convention’s scientific committee meets in Montreal April 25 – 30 with Synthetic Biology already high on the agenda. That body’s views will be passed on to 195 governments for decisions when the UN body meets this December in Mexico. At the very least they need to agree to set up a mechanism for global oversight of the field.

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Note to Editors:

1. ETC’s Jim Thomas, was invited to testify before the US Presidential Commission and is a member of the UN’s Ad Hoc Technical Expert Group (AHTEG) on Synthetic Biology. ETC Group will address the implications of Synthia at the CBD’s forthcoming meeting in Montreal in April and in Cancun in December.
2. For all of ETC Group’s research and analysis on Synthetic Biology see <http://www.etcgroup.org/issues/synthetic-biology> and [Http://www.synbiowatch.org](http://www.synbiowatch.org)
3. A short animated introductory explanation of Synthetic Biology (featuring Craig Venter and Synthia) is available online at http://www.etcgroup.org/synthetic_biology_explained (available in six languages).