



## from the director's desk

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EXECUTIVE DIRECTOR

I have a “junk drawer.” It may be a mystery to everyone else, but I know where to find things in it, and I know their purpose. When the finial for the top of the gazebo went missing, the family knew whom to ask. My “junk” just might turn out to be a treasure.

This is a bit like the story of “junk DNA.” The phrase was coined thirty years ago to describe DNA sequences that seemingly had no biochemical function. It was picked up by the popular press, cementing the perception that junk DNA is useless.

The ENCODE project has exploded that notion. In “Epigenetics and ENCODE” (*Dignitas*, Fall 2012), Heather Zeiger explained the new findings. As it turns out, these sequences do a lot more than sit in a drawer. Surprisingly, they are responsible for functions such as turning genes on and off and giving directions for gene activity. Acting like dimmer switches for lights, these non-coding regions of DNA may affect disease manifestation more directly than the genes themselves.<sup>1</sup>

As a non-scientist, I am amazed and perplexed. Amazed at the complexity and beauty of creation that science regularly uncovers. Perplexed by the histones, Exons, and transcription factors. As Christians, we are not fundamentally opposed to science and technology, although the necessity of frequent ethical critique may make it appear that way at times. It is easier—and perhaps more gratifying—to criticize than to affirm, as any review of the ‘comments’ on a blog or news story demonstrates. But there is ample cause to affirm this significant advance in decoding DNA, and we have every reason to do so with enthusiasm and ever-increasing curiosity.

The ENCODE findings also underscore the necessity of avoiding hasty conclusions. Genuine scientific and medical research is always fluid, and today’s pronouncement is tomorrow’s passé opinion. When the first synthetic cell was announced in May 2010, the Center hesitated to either affirm or condemn. The ethical issues are more intricate than one might think at first blush. A rush to judgment would have served no one. (Although I did agree to a radio interview, I took a neutral stance, pointing out possible benefits and concerns.)

The pursuit of science in the service of human flourishing is a noble task. Whenever I have the opportunity, I encourage Christian undergrads to consider research careers in science, engineering, and technology. Medicine is also a noble vocation, but pre-med has been the pampered queen of pre-professional programs at Christian institutions of higher education for decades. (I compare that with the anemic support for pre-law students when I was an undergrad and as a pre-law advisor.)

This view of science in the service of human flourishing contrasts with *scientism*. Scientism applies the scientific method to *all* inquiries about human knowledge and regards empirical science as the only source of true knowledge about human beings and human flourishing. If “knowledge” about a phenomenon is not amenable to verification or falsification by the scientific method, it is not genuine knowledge, but idiosyncratic, subjective belief. One danger of scientism is arrogance, especially toward religion, but I believe epistemic humility should be a cardinal virtue even in scientific pursuits.

The debate between science and scientism is quite lively. Adam Frank’s recent blog on “The Power of Science and the Danger of Scientism” on NPR’s *13.7: Cosmos and Culture* generated a string of comments. Frank points out that science gets misappropriated:

Part of this misappropriation comes from thinking that, since science is so good at providing explanations, explanations are all that matter. It’s an approach that levels human experience in ways that are both dangerous and sad . . . Missing are the varieties of reasons people feel “spiritual” longing that have nothing to do with asking how the moon got there.<sup>2</sup>

The Center for Bioethics & Human Dignity (CBHD) is a Christian bioethics research center at Trinity International University.

“Exploring the nexus of biomedicine, biotechnology, and our common humanity.”

*Dignitas* is the quarterly publication of the Center and is a vehicle for the scholarly discussion of bioethical issues from a Judeo-Christian Hippocratic worldview, updates in the fields of bioethics, medicine, and technology, and information regarding the Center’s ongoing activities.

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### Submissions & Correspondence

Inquiries about permissions for use, as well as any editorial correspondence and manuscript proposals should be directed to Michael Sleasman by email ([msleasman@cbhd.org](mailto:msleasman@cbhd.org)). Manuscript proposals should be in MS Word, use endnotes for all references, and follow *The Chicago Manual of Style*.

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Science cannot prove why it is wrong to torture a person, or that my husband loves me, or even that Julius Caesar was a real person. The proper goals of science—to acquire useful knowledge about the created world for the benefit of human beings and human flourishing—are best understood when premised on a proper theological anthropology. That human beings are made in the image of God explains *why* they matter. That human beings are made to exist in relationship with God, others and the natural world explains *why* human flourishing matters. God's instructions in Genesis are the foundation of our care for the earth and all that is in it, not only because we are told to do so, but because creation is good and by protecting and preserving it, we share in the joy and beauty of that goodness.

Our theological anthropology ought to generate ethical boundaries. Within those parameters, scientific research can flourish and confidently generate dramatic discoveries and inventions for the good of all. Today's "junk DNA" may be tomorrow's treasure trove.

1 Gina Kolata, "Bits of Mystery DNA, Far From 'Junk,' Play Crucial Role," *New York Times*, September 5, 2012, <https://www.nytimes.com/2012/09/06/science/far-from-junk-dna-dark-matter-proves-crucial-to-health.html?pagewanted=all>.

2 Adam Frank, "The Power of Science and the Danger of Scientism," 13.7: *Cosmos and Culture*, August 13, 2013, <http://www.npr.org/blogs/13.7/2013/08/13/211613954/the-power-of-science-and-the-danger-of-scientism>.

*Patsy Condoal Cunningham*

## QUESTIONS?

Would you like to offer comments or responses to articles and commentaries that appear in *Dignitas*? As we strive to publish material that highlights cutting-edge bioethical reflection from a distinctly Christian perspective, we acknowledge that in many areas there are genuine disagreements about bioethical conclusions. To demonstrate that bioethics is a conversation, we invite you to send your thoughtful reflections to us at [info@cbhd.org](mailto:info@cbhd.org) with a reference to the original piece that appeared in *Dignitas*. Our hope is to inspire charitable dialogue between our readers and those who contribute material to this publication.

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