Is ID scientific – an example to the affirmative:

In the history of science, the design paradigm has brought utility in many ways.

One such example is the discovery of the function of the genetic code.

Discovering the function of the genetic code is one of the most important events to transpire in the biological sciences. For understanding the importance of heuristics and teleology, the use of coding analogies in genetics is one of the most noteworthy events in the history of science, not only biology.

The process of uncovering the function of the genetic code is instructive for a researcher in three ways, by showing that:
> 1) ID-heuristics were helpful for this great scientific discovery,
> 2) analogies that collapse into actuality might be revealing reality, and
> 3) defining science as 'methodological naturalism' can be a science-stopper.

1) ID-heuristics are helpful:
John Maynard Smith explains the how the genetic code was investigated:
> "The scientists who discovered the nature of the genetic code had coding analogy constantly in mind, as the vocabulary they used to describe their discoveries makes clear….
> If, instead, the problem had been treated as one of the chemistry of protein-RNA interactions, we might still be waiting for an answer."[1]

So, as the inner workings of the genetic code were elucidated in the 1950's and 1960's by researchers like Francis Crick, Har Gobind Khorana, Robert W. Holley, and Marshall Warren Nirenberg, each one of them were fixed on a strangely teleological idea: an informational code. They used the computational code-program function of human technology as a teleological heuristic for understanding genetic function.

Hubert Yockey explains why this heuristic usage in discovering the code and semantic context is significant. He also acknowledges the non-material properties of the genetic code that make it so much like a human language, and that make it so apparently teleological:
> "the meaning, if any, of words, that is, a sequence of letters, is arbitrary. It is determined by the natural language and is not a property of the letters or their arrangement ... For example, "O singe fort!" has no meaning as a sentence in English, although each is an English word, yet in German it means, "O sing on!" and in French it means "O strong monkey". Like all messages, the life message is non-material but has an information content measurable in bits and bytes"[2]

2) Analogy and reality
Yockey even goes so far as to say that this way of looking at the genetic code is not an analogy, but that the genetic code is a symbolic and semantic unity in the same ways that a human language is:
> "It is important to understand that we are not reasoning by analogy. The sequence hypothesis [that the exact order of symbols records the information] applies directly to the protein and the genetic text as well as to written language and therefore the treatment is mathematically identical."[3]

It is a fact that genetics being mathematically identical to teleological realities like human language has allowed bioinformatics to become a full-fledged scientific field. Could the empirical and mathematical discoveries that show language and genetics to be so similar lead to the proposal that it could be helpful to view life as teleological? To some, the collapse of this analogy into such

an explicit actuality may make ID's connection between teleology and biology more plausible. Certainly, it lends support to the idea that ID is helpful in science.

3) Methodological naturalism and science-stopping

What can be historically gleaned from cracking the genetic code is not only interesting for its instructive value on the usage of teleological heuristics; it is also very relevant to the issue of a philosophical concept called 'methodological naturalism.' The teleological study of genetics is useful for looking at different ways of approaching the question, "What is science?" Methodological naturalism is the idea that when providing a scientific explanation, a scientist can only have recourse to natural causes; 'natural' meaning chance, necessity, and their cooperation.

Many today conflate methodological naturalism with science itself, using methodological naturalism as a demarcation between science and non-science.

What does methodological naturalism mean for the heuristics involved in cracking the genetic code? Since functional codes were, and still are, only known to originate from the artificial effects of intelligence, utilizing the analogy of a coding pattern to understand nucleic acids becomes suspect under a demarcation like methodological naturalism. If following the constraints of methodological naturalism, would this analogy between human technology and biological genetics present itself as plausible? Would the idea even be permissible as "science"?

No, according to methodological naturalism, the cracking of the genetic code is pseudoscience.

Hubert Yockey explains why a view beyond chance and necessity was required to understand genetic function:

> "The existence of the genome and the genetic code divides living organisms from non-living matter. There is nothing in the non-living physico-chemical world that remotely resembles the reactions that are determined by a sequence and codes between sequences that occur in living matter."[4]

The researchers were using a teleology-of-the-gaps proposal. They were faced with a gap: the complete absence of a "natural" explanation based on chance and necessity. Researchers filled the gap by heuristically viewing the genetic code as a phenomenon that is synonymous with other phenomena that are only known to be caused by intelligence.

Despite the obvious transgression of methodological naturalism, the effectiveness of coding analogies persisted throughout the exploration of genetic function, and the successes continue today. Thankfully, the researchers that elucidated the function of the genetic code did not abide by methodological naturalism.

One of the greatest discoveries in the history of science was made by ignoring methodological naturalism, and was successful because of the direct usage of teleological heuristics, through an analogy to processes known to be caused by intelligence.

Molecular biology was born through the use of an ID-heuristic. This certainly lends support to the idea that ID can be helpful in science when studying particular phenomena, whether the researcher actually thinks the thing under study was designed or not.

1. John Maynard Smith, "The Concept of Information in Biology," *Philosophy of Science* 67 (June 2000): 183–184.
2. Hubert P. Yockey, (1995) "Information in Bits and Bytes." *BioEssays* 17:85
3. Hubert P. Yockey (1981) "Self Organization Origin of Life Scenarios and Information Theory," J. Theoret. Biol. 91, 13. p. 16.
4. Hubert P. Yockey, "Information Theory, Evolution and the Origin of Life." Cambridge University Press, 2005, ISBN 0521802938

Edited text from http://www.researchintelligentdesign.org/wiki/The_Intelligent_Design_Paradigmatic_and_Heuristics#ID-detection_heuristic