Intelligent Design and Evolution Awareness Center

Intelligent Design Jargon Explained

As found on the IDEA Center website at http://www.ideacenter.org
Taken from *The Light Bulb* (1:1), Spring 2002.

By Casey Luskin

Delving into the writings of intelligent design theorists, one will encounter a large number of terms reminiscent of things out of a nightmare about a failed college math midterm. This intellectually intimidating nomenclature can come in the form of what appears to be esoteric jargon, cryptic acronyms, or to the scholastically slothful, "babel." Two questions we sometimes receive at IDEA are, 1) "Why does intelligent design theory have so much jargon?" and 2) "Can the jargon be explained?"

Skeptics of design sometimes claim that the terms and concepts of intelligent design are meaningless, and merely provide a pseudo-intellectual cover for a baseless theory. Proponents of design respond that a healthy understanding of the theory makes the concepts coherent and logical. Who is right? Do these skeptics simply misunderstand or misconstrue design theorists such as Michael Behe and William Dembski? Or is design just a tower of psuedo-scientific babble? Well, we at IDEA try to take all objections seriously because we feel good scientists listen to their critics--and try to answer them.

> The great myth of modern evolutionary biology is that information can be gotten on the cheap without recourse to intelligence … No one disputes that there is such a thing as information. As Keith Devlin remarks, "Our very lives depend upon it, upon its gathering, storage, manipulation, transmission, security, and so on. Huge amounts of money change hands in exchange for information. People talk about it all the time. Lives are lost in its pursuit. Vast commercial empires are created in order to manufacture equipment to handle it. "
>
> **William Dembski**

First off, intelligent design is often referred through an acronym, "**ID**." Thus, the "**ID** movement" often refers to itself as, well, the "**ID** movement." With that out of the way, there are other acronyms used in ID-speak. **SC**, **CSI** and **IC** refer to "**specified complexity**," "**complex specified information**," and "**irreducible complexity**," respectively. While these terms are sometimes tossed around casually, they have important meanings and are crucial to detecting **ID** through *information*.

Acronyms and Intelligent Design	
ID	Intelligent Design
IC	Irreducible Complexity
SC	Specified Complexity
CSI	Complex Specified Information
NFL	No Free Lunch Theorems

"But what exactly is information?" we are commonly asked. Is it simply a category into which **ID** theorists shove non - existent evidence? In fact, information is a very real entity, well recognized by physicists, statisticians, and, unsurprisingly, by information theorists. William Dembski notes:

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Dembski borrows accepted definitions from information theory to define information as the occurrence of one event, or scenario, while excluding other events, or scenarios. In other words, information is what you get when you narrow down what you're talking about:

> Information theory identifies the amount of information associated with, or generated by, the occurrence of an event (or the realization of a state of affairs) with the reduction in uncertainty, the elimination of possibilities, represented by that event or state of affairs.

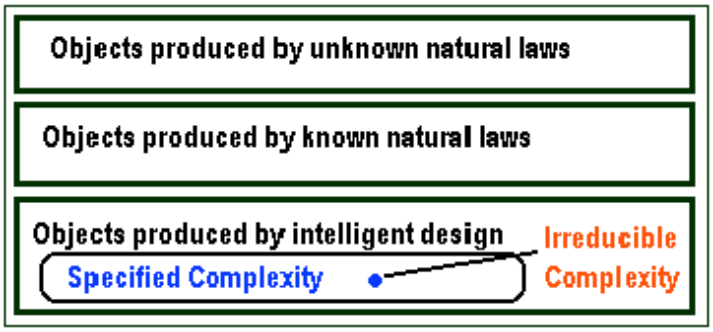
The amount of information can be quantified by converting probabilities into units of information--bits. These are the same "bits" and "bytes" from the computer world. Essentially, a complex, unlikely state of affairs contains much information. This relates to design because design theory is founded upon recognizing the types of information produced by intelligent action. And it just so happens that when intelligent agents operate, they produce much information.

But having a highly improbable scenario containing high amounts of information, or high complexity, is not the only criterion for inferring design. For example, when awakening each morning, the exact configuration of the thousands of hairs on your head is very unlikely. Though you did not necessarily intend for your hair to look *exactly* how it does through design, it is nonetheless highly improbable. Much information is necessary to describe the orientation of each hair, messy or not. Only after combing it to match a desired pattern of neatness could one recognize that it has been shaped by a purposeful intelligence.

William Dembski argues that the way we detect design is by looking for an unlikely (high information) state of affairs which matches a pre-existing pattern. The pattern which must be matched is called a "**specification**." Thus, the notion

of **specified complexity** or **complex specified information** is simply lots of information which conforms to a specific pattern.

In biology, some systems have many interacting parts and are thus complex (high information). However, the arrangement of these parts must conform to a specific pattern in order for the system to work properly. Much like machines whose specifications must be "just right" to function, biological systems must have all the proper parts present in the proper places, or they don't work. If parts of these systems are changed, removed, or re-ordered, then the function ceases. Enter Michael Behe's concept of "**Irreducible Complexity**". **IC**, according to Dembski, is a special case of **SC** where many interacting parts must conform to a specific pattern: biologically advantageous functionality.



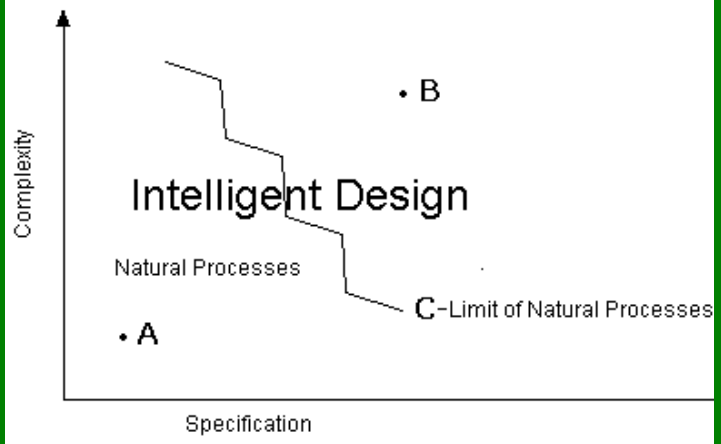
Any object with **SC** has been produced by design. **IC** is a special case of **SC**, a testable prediction of **ID**.

In biology, we know that irreducibly complex systems exist. The bacterial flagellum, the blood clotting cascade, and the processes behind vision have all been described as **IC** by Michael Behe in his book, *Darwin's Black Box*. These systems are highly complex, and must conform to a specific pattern where all the parts are present in order to function. Thus, we have safe grounds for concluding that they are designed. But what if natural processes are capable of producing **SC**?

In Dembski's recent book, *No Free Lunch*, he argues that one cannot generate novel **CSI** through purely natural processes--all **CSI** ultimately comes from **ID**. Natural processes can, however, shuffle **CSI** into a different form. Through what he calls "**No Free Lunch**" (**NFL**) theorems and a law of information, Dembski argues that ultimately, novel **CSI** cannot be generated through purely natural processes.

To illustrate, an inventor might create a machine which combs your hair. **ID** isn't directly shaping your hair, as the machine is doing all of the work. However, there is information present in the programming of the machine which came to the machine through design. The machine was "front loaded" with the information for tidying up one's messy morning hairdo. Ultimately, your hairdo was designed! The machine, through mechanistic processes, then transfers the **CSI** with which it was programmed into your hair. Presto, **ID** has created **CSI**, which has been transferred from one object to another.

Complex specified information can therefore be manipulated in the natural world in a variety of different manners, but it is always introduced through intelligent design. Evolutionary processes can transfer the **CSI** around, but they cannot generate truly novel **CSI**. This could help explain the gap between microevolution and macroevolution.



Natural processes cannot generate large amounts of **SC** (point A). A hallmark of **ID** is large amounts of **SC** (point B). Since there is a limit to what natural processes can do (curve C), any system exceeding curve C can justifiably be called designed.

From a design perspective, macroevolution is often seen as the "origin of biological novelty," while microevolution is simply variation on a previously existing archetype. Thus, in a designed world, the origin of biological novelty--of true specified complexity--cannot take place through purely natural processes, like Darwinian evolution. When biologists try to explain the origin of irreducibly complex biological structures, the Darwinian mechanism will mathematically fall short. Given that these structures bear the hallmark information of design, we can say they are designed.

Intelligent design thus proves to be a competing theory to explain the origin of biological information which can be tested against natural evolutionary mechanisms. It has an empirical basis, rooted in observations about information, design, and biology. In essence, design is testable.

But what about all that jargon? Well, unless you're a hard core ID buff, it seems you don't have to sift through hundreds of pages of technical discussions of design and information theory to comprehend fundamental concepts behind design.

Dembski and Behe have laid the groundwork, and now it time for other biologists to apply **NFL** theorems to biology and look for **IC**, **CSI**, and **SC** in order to detect **ID**. Happy jargoning!

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