NUCLEOLAB

"Mere living things will always find their finish, but life's endless variety will never diminish"

From: Prof. Mactilburgh, head researcher
To: President Lindberg
Re: Analysis of tissue found at the Mondoshawan crash site
Case: #6 Start code: CLONE

Whatever we've got here, it's definitely not human. Usually, DNA is double-stranded and contains four different bases: adenine, cytosine, guanine, and thymine. A always pairs with T, and C always pairs with G, so any base pair along the double helix consists of either A and T, or C and G. Now, this being's DNA also has four bases, but it's a *nine-stranded helix*, so there are nine bases at every position! Recognizing the need to distinguish these bases from our own, we've named them aerine, hydrine, ignine, and terrine. They're chemically quite different from our own bases, and they work differently, too.

As you know, in human DNA, groups of three base pairs are translated into amino acids, the building blocks of proteins. This being's DNA works differently; the nine bases at a single position are sufficient to designate one amino acid. One would expect there to be many possible combinations, but, remarkably, there seem to be three simple rules that govern which nine bases can come together. (Any other apparent rules are just extensions of these three.) Under these rules, only 25 combinations – and therefore 25 amino acids – are possible.

Part of the subject's DNA – exactly one protein's worth, we think – is intact, and it has the amino acid sequence BATHTUB. Everywhere else, a base is missing from one strand or another. Again, we're in luck, because the same rules that govern which nine bases can come together also allow these gaps to be filled in unambiguously. Just as any one base uniquely determines the identity of its partner in human DNA, any eight bases at a given position of this being's DNA uniquely determine the ninth. We haven't finished figuring out what all of the missing bases are, but we're hard at work as I write this.

What could this extra complexity be for? I suspect that the additional strands might store the being's memories themselves, but my colleagues scoff at this notion. In any case, once we have reconstituted the DNA and converted it into proteins, our cloning team should have little trouble doing its job. In fact, they're calling me over right now, and *oh no, she's getting awa...*