Estimative Language

Table of Contents

Estimative Language

Estimative Language

57

**057 I want to talk next about estimative language.

Estimative Language

- Made up of two fundamental parts
  1. Assessed likelihood of an event – using probabilistic terms
  2. Confidence in a judgment or assessment

What We Mean When We Say: An Explanation of Estimative Language

We use phrases such as *we judge, we assess,* and *we estimate*—and probabilistic terms such as *probably* and *likely*—to convey analytical assessments and judgments. Such statements are not facts, proof, or knowledge. These assessments and judgments generally are based on collected information, which often is incomplete or fragmentary. Some assessments are built on previous judgments. In all cases, assessments and judgments are not intended to imply that we have "proof" that shows something to be a fact or that definitively links two items or issues.

In addition to conveying judgments rather than certainty, our estimative language also often conveys 1) our assessed likelihood or probability of an event; and 2) the level of confidence we ascribe to the judgment.

http://graphics8.nytimes.com/packages/pdf/international/20071203_release.pdf

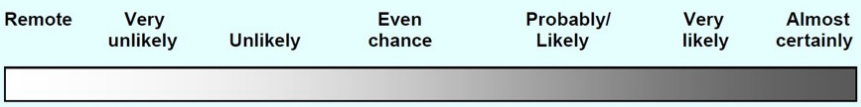
58

**058 So, estimative language typically has two fundamental components to it. First is the assessed likelihood of an event using probabilistic terms. A degree of likelihood refers to the probability an event or a development will happen. Second, it is the confidence in the judgment or assessment. So it is the level of confidence ascribed to a judgment.

So this graphic and the graphic on the following slide were taken from the November 2007 National Intelligence Estimate on Iran's Nuclear Intentions and Capabilities. NIEs, or National Intelligence Estimates, are the intelligence community's most authoritative statements on a particular issue, and it talks about what they mean when they use estimative language, both likelihood and a confidence level.

Estimates of Likelihood

Estimates of Likelihood. Because analytical judgments are not certain, we use probabilistic language to reflect the Community's estimates of the likelihood of developments or events. Terms such as *probably*, *likely, very likely,* or *almost certainly* indicate a greater than even chance. The terms *unlikely* and *remote* indicate a less then even chance that an event will occur; they do not imply that an event will not occur. Terms such as *might* or *may* reflect situations in which we are unable to assess the likelihood, generally because relevant information is unavailable, sketchy, or fragmented. Terms such as *we cannot dismiss, we cannot rule out,* or *we cannot discount* reflect an unlikely, improbable, or remote event whose consequences are such that it warrants mentioning. The chart provides a rough idea of the relationship of some of these terms to each other.



National Intelligence Estiamte: Iran Nuclear Capabilities 2007.
http://graphics8.nytimes.com/packages/pdf/international/20071203_release.pdf

59

**059 So the graphic goes into additional detail about their estimates of likelihood and what they mean. It also says that terms like "might" reflect situations where the IC, or the intelligence community, is unable to assess the likelihood for whatever reason. Maybe there was not enough information. And that kind of reminds me of all those intelligence judgments I'd read that say "even chance" or "may happen", and that might be because sometimes analysts just don't want to go or be on record of actually making a call on something, so they may play it safe and say there's a 50/50 chance or an even chance that something may happen.

Figuring Out the Odds

(a) For expressions of likelihood or probability, an analytic product must use one of the following sets of terms:

almost no chance	very unlikely	unlikely	roughly even chance	likely	very likely	almost certain(ly)
remote	highly improbable	improbable (improbably)	roughly even odds	probable (probably)	highly probable	nearly certain
01-05%	05-20%	20-45%	45-55%	55-80%	80-95%	95-99%

Intelligence Community Directive 203. 15 JAN 2015

60

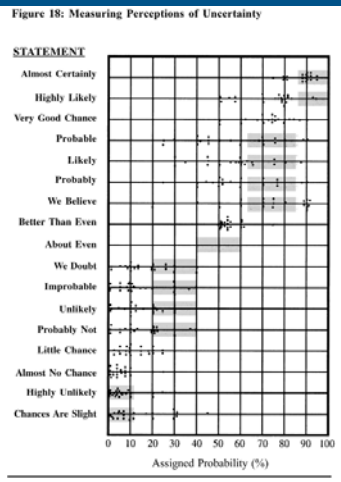
**060 This is from Intelligence Community Directive 203, or ICD 203. It was updated in 2015, so it's more recent than that NIE. So in addition to expressions of probability for analysts to use, ICD 203 establishes the IC's analytical standards that govern the production and evaluation of analytical products. It also talks about developing training and education skills for analysts. It talks about how analysts need to be objective, timely, independent of political considerations.

And you can see here on this slide there are statistical numbers for each expression of likelihood or probability. So "almost no chance" is 1 to 5 percent; and then you can see "likely" is 55 to 80 percent. And they have the same words for "likely" or "probable", those two rows. Generally speaking, if you're going to

use the word "likely", continue to use "likely" throughout the product. Don't switch to "probable". Try to be as consistent as possible.

Perception of Uncertainty

Perception of Uncertainty

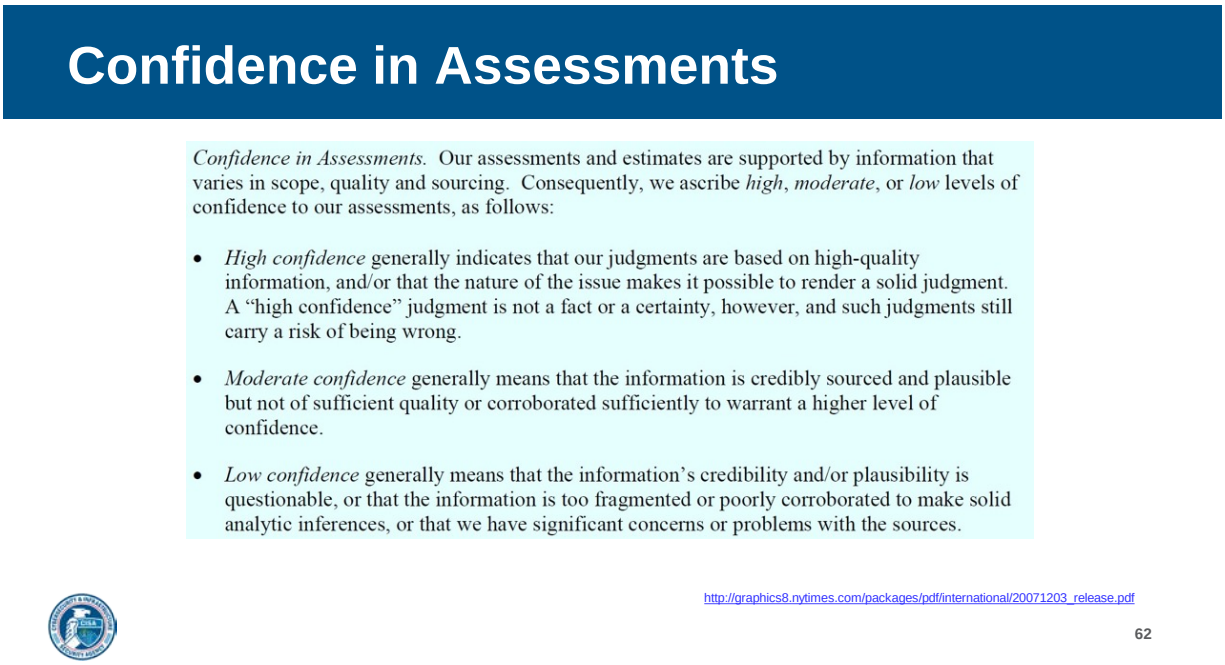


https://www.theguardian.com/news/datablog/2015/aug/14/how-probable-is-probable

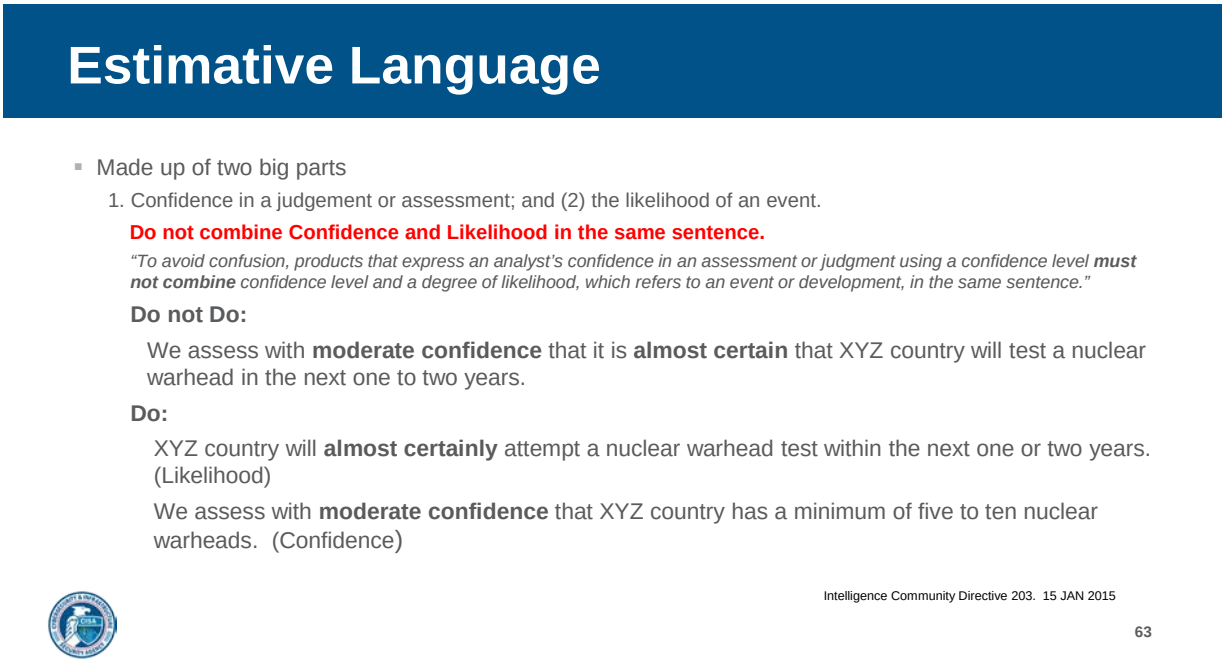
61

**061 Here is just another example of measuring probability that was posted actually at Reddit in 2015, and in this particular chart there was an experiment done with 23 NATO officers asking what they understood by different terms expressing probability, such as "almost certainly" or "we doubt" or "almost no chance". I show this graphic just to demonstrate that words do mean different things to different people. As you can see, the NATO officers corresponding their answers for the corresponding percentages mean different things to different people across organizations and other intelligence communities.

Confidence in Assessments



**062 Here is another graphic from the 2007 NIE which details that second component of estimative language, which is confidence in assessments. So confidence is based on the quality, scope and sourcing of information. Confidence categories are typically high confidence, moderate confidence, and low confidence. I will read one. Moderate confidence, for example, is information that is credibly sourced and plausible but not of sufficient quality or corroborated sufficiently to warrant a higher level of confidence. Also, some analysts get in the habit of saying "moderate confidence" and don't want to be extreme because they don't want to be wrong also. They don't want to say "high confidence" or "low confidence", so they might play it safe and say "moderate confidence".



**063 So to wrap this up, estimative language is made up of two big parts. There's confidence in judgment or assessment, and the second is likelihood of an event. One of the things that it's important to not do is combine both confidence and likelihood in the same sentence. You don't want to put them in the same sentence. I know some analysts still do this, but the Intelligence Community Directive 203 on analytical standards is trying to tell analysts to get away from that practice. So do not do this, where you say, "We assess with moderate confidence that it is almost certain that XYZ country will test a nuclear warhead in the next one to two years." Instead, just break them up into two separate sentences. You do something like, "XYZ country will almost certainly attempt a nuclear

warhead test within the next one to two years." That's your likelihood. And then the second sentence would be, "We assess with moderate confidence that XYZ country has a minimum of five to ten nuclear warheads."

Notices

Notices

This material is based upon work funded and supported by the Department of Homeland Security under Contract No. FA8702-15-D-0002 with Carnegie Mellon University for the operation of the Software Engineering Institute, a federally funded research and development center sponsored by the United States Department of Defense.

DM20-0262