

# How Much Information Is Enough?

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# Four major points

- There's a baseline of information you know you need
- There is information you don't know you need, but which may prove significant – need a defined program to regularly scan for this type of often marginal, sometimes critical information
- 'Enough' depends upon the reliability and coverage, not just the volume of information
- There are many distractions that can keep you from satisfying these conditions

Even with good tools you can't look at everything –  
Ultimately “enough” is based on instinct, honed by  
experience

## ■ How is it developed?

- Academic training, task specific training, doctrine
- Experience
- Explicit analysis and models
- Requirements for a specific action or operation

## ■ What is it?

- Set of specific items of information
  - Broad range of information from details of target locations and weather forecasts to state-of-mind and intentions of adversaries
- Set of sources to be polled for this information and methods for doing so
- Up-to-date knowledge of the reliability and status of those sources

## ■ How do you know when you are done?

- Theoretically: when each item required has been found and tested for reliability
- In Reality: when the decision-maker says you are done

# The often marginal, sometimes critical information

## ■ How do you know what to look for?

- There's no perfect answer, but there are ways to be better at it
- Experience, instinct, imagination, curiosity
- Openness to the potential implications of seemingly irrelevant information

## ■ How do you look for it?

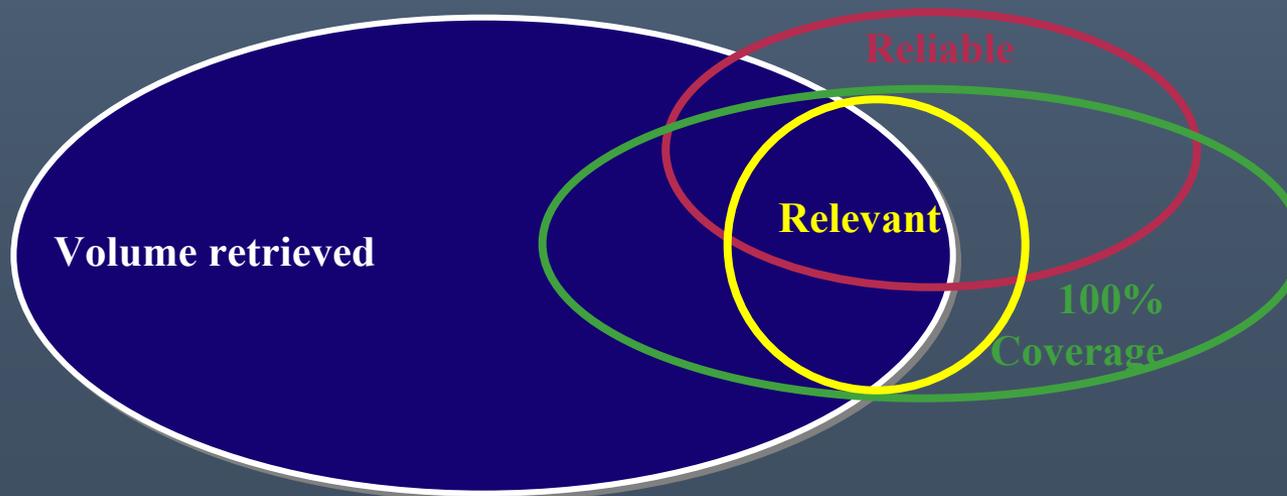
- Cast a wider net; don't restrict yourself to the baseline
- Understand the wider 'information space' ahead of time, so that when something unusual appears you recognize it
- Develop multiple sources and search strategies
- Use inputs from diverse analysts
- Develop and practice reliability testing

## ■ How do you know you are done?

- Theoretically: When you are only getting redundant information; no matter what you do, everything you find is a repeat of something you already have
- In Reality: When the time is up

# Volume, Reliability, Coverage, and Relevance

- Volume retrieved – the number of items, the size of the items, acquired
- Reliability – how likely is it that an item means what it appears to mean?
- Coverage – how fully do the sources cover the possible universe of information about a subject?
- Relevance – of the information you have how much tells you something you need to know?



Strategy: Cultivate an awareness of what you are not seeing as well as what you are seeing.

- Track record of source and consistency with other sources
- Internal consistency of source, and consistency with known or probable access and capabilities
- Data pedigree
- Use of language and other indicators – possible “tip-offs”:
  - What is not said; use of passive voice; missing names and dates
  - Stylistic inconsistencies in vocabulary, grammatical constructions
  - Redundancies, misplaced emphasis

## Examples:

1. Multiple Google hits that really are all the same material
2. Stories that include information that is unaccounted for – al Iraqiya TV story: did the reporters view the video themselves? Do they know Arabic?
3. Can you trace the data back to its source? What are the likely biases (innocent or otherwise) introduced at each change of hands? – etaiwanews version: changed headline; different editing of the same wire reports

# Video Tape Confessions story

## Iraqi TV Airs Tape of Purported Confession

BAGHDAD, Iraq (AP) - Iraqi state television aired a video Wednesday showing what the U.S.-funded channel said was the confession of a captured Syrian officer who said he trained Iraqi insurgents to behead people and build car bombs to attack American and Iraqi troops.

The video also showed an Iraqi who said the insurgents practiced beheading animals to train for decapitating hostages.

Syrian officials could not immediately be reached for comment on the claims.....

In the video, the bearded al-Essa, dressed in a gray jacket and shirt, claimed to be leader of the al-Fateh Army, which has not been heard of before.

He was one of 11 men claiming in front of the camera that they were recruited by Syrian intelligence officers. The other 10 were identified as Iraqis.

Al-Essa said his need for money was the motive for accepting an offer by a Syrian intelligence colonel he identified as Fady Abdullah to carry out attacks inside Iraq.

"I was trained on explosives, killing, spying, kidnapping ... and after one year I went to Iraq with Fady Abdullah," al-Essa said.

He claimed he infiltrated into Iraq in 2001, about two years before the U.S. invasion, because Syrian intelligence was convinced that American military action loomed.

Another man, Shehab al-Sabaawi, was identified as a former lieutenant colonel in Saddam Hussein ([news - bio](#))'s army. He claimed to have received training from Syrian intelligence on how to behead hostages.

He said the group started by making car bombs targeting American troops and Iraqi National Guardsmen before beginning a campaign of kidnapping and beheading Iraqis.

Al-Essa said the group used animals for training in beheadings. He said it required "at least 10 beheadings" for a member to be promoted to a group leader.

"I had to send a report to Syria about how the operations are going," he said.

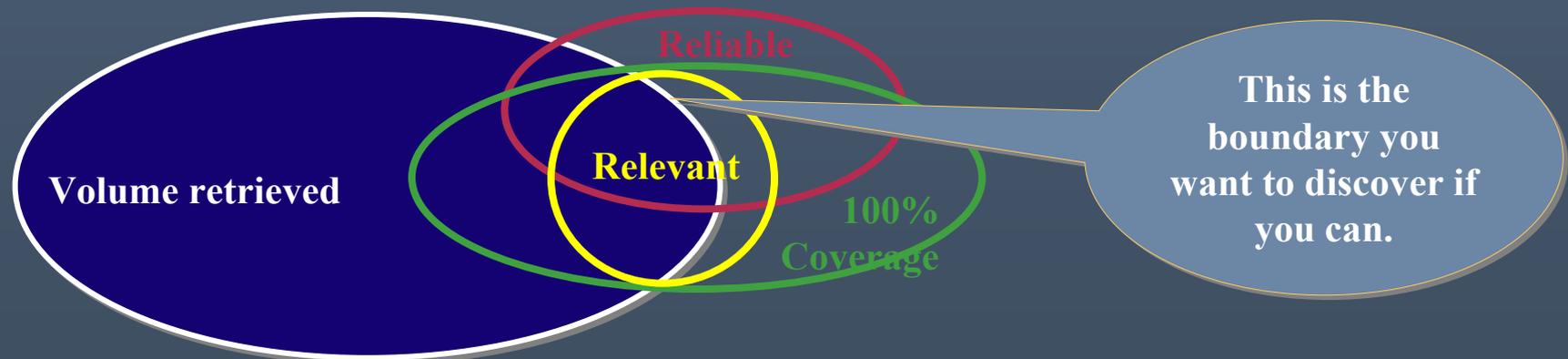
Weapons, explosives and equipment were all provided by Syrian intelligence, al-Essa claimed. He added the group members received \$1,500 a month.....

(from ABC News – with background material edited out)

- Who made the tape?
- Did the reporter see the tape himself?
- Did the reporter do the translation?
- How seriously did the reporter try to find out the origins of the tape?
- Where did the TV station obtain it?
- Where was the tape made?
- How authentic did the tape seem to be? Were there obvious discontinuities?

# Tests for Coverage

- A checklist of sources, which is regularly revisited
- An exercise in imagination: what sources might there be that I don't have and how might I find them?
- Follow the leads of current sources as far as they can go
- Use test queries to find the limits of the sources you do have – where is the “edge” of the deep blue oval as it passes through the set of relevant information
- Use multiple search strategies – when they start turning up only redundant information you have a pretty good idea what is out there



# Coverage examples

1. Is there a Syria Times, a Damascus Gazette, a Middle East Tribune? Yes, yes and yes, although the Damascus Gazette is associated with Damascus, MD; and Middle East Tribune appears to be a fake.
2. From the al Irakiya TV video story – (“Mosul” or “Latakia”) and (“Adam Omar” or “Mohammed al-Tae” or “Anis” or “Ahmed Abdel Jabbar”) – which in this case led to discovery of only the stories from Reuters, AP, and the Manchester Guardian.
3. Search a particular source by date and broader subject area: for the Mosul video story about training in Syria – multiple Middle East and Gulf region news sites (drew a blank, in English)
4. Search on the reporter; may write for multiple outlets on the same topic.
5. Counter-culture or opposite viewpoints may highlight different facts and details; know the organizations or “troll” for them using key vocabulary - query “war on Islam” led eventually to a clearly anti-American editorial using the words “defector government in Kabul”, “S11 attacks”, and “bleeding ummah” – use of S11 instead of 9/11 proved to bring forward a lot of alternative (non-mainstream) interpretations of US policies

- **Cognitive overload hampers decision-making; information overload is a kind of cognitive overload**
  - Reviewing information, particularly if there is a lot of “chaff”, requires constant decisions; the number of the decisions per information item grows with the complexity of the information requirements
- **Confusion between volume and sufficiency**
- **Inherent vagueness of definitions of sufficiency, relevance, reliability and coverage – makes it easy to stop too soon**
  - If you include the need to learn about: the information space, the history and reliability of sources, the tools you are using, the often marginal information, then there is a lot of potentially relevant information
- **Time pressures**
- **Poor model for the information space**
  - Breadth of sources and what kinds of information available from each
  - Familiarity with the language of the sources
  - History of the reliability of specific sources

# Overload depends on complexity of the model, too

## NK Will Likely Try to Buy Some More Time

By Ryu Jin, Korea Times, 5/20/2005

Direct talks between U.S. and North Korean officials in New York last week raised hopes that it could be a catalyst to restart the six-party talks on Pyongyang's nuclear program. But officials say it might take some more time for the reclusive North to come back to the negotiation table. The White House and the State Department confirmed on Thursday that two American officials met with senior North Korean diplomats to the United Nations on May 13, in what was the first direct talks through the so-called New York channel in about half a year. The six-party talks, also involving South Korea, China, Japan and Russia, have stalled since last June as North Korea shunned the denuclearization forum citing what it calls the U.S. ``hostile'' policies toward it. In an apparent gesture to soothe North Korea's anger at her ``outpost of tyranny'' remarks earlier this year, Secretary of State Condoleezza Rice reiterated that the U.S. does not have any intention to attack the North, while describing it as a ``sovereign state.'' .....

An official in Seoul, involved in the nuclear issue, said South Korea had been informed by the U.S. of the New York meeting. Right afterwards, North Korea announced that it would accept the South's calls to hold cross-border dialogue that has been shut down for about 10 months. ``We now see some higher chances for the resumption of the six-party talks,'' Chief Cabinet Secretary Hiroyuki Hosoda said, adding Japan has also been informed of the meeting by the U.S. However, officials as well as experts predict North Korea would not return to the six-party talks at once and instead would try to buy some more time before the next round of negotiations, although it might not raise the stakes to the level of conducting a nuclear test.....

*Isolate  
Consolidate  
Question*

### Data

- US & NK officials meet in NY
- At UN May 13
- 6 party talks have been stalled because NK pulled out
- Scty of State conciliatory gesture
- SK and Japanese officials informed
- NK resuming dialog with SK
- Japanese officials optimistic
- Most feel this will help head off a nuclear test

*Is it new?*

*What does it support or negate?*

### Model

- NK position
  - Statements (different forums; different people)
  - Actions (meetings; tests; agreements; personnel changes)
    - Tone – conciliatory; pugnacious
- SK position
- Chinese position
- Japanese position
- US position
- Other parties position

# What is not relevant?

## Google returns #186-190 “South Korea” attitudes “North Korea” nuclear

### [The Honorable Thomas Hubbard - Challenges on the Korean Peninsula](#)

... Koreans are undermining our effort to rid **North Korea** of **nuclear** weapons. ...  
a **nuclear** test,) **South Korea** is not going to go back to Kim Young-sam's ...

[www.asiasociety.org/speeches/hubbard04.html](http://www.asiasociety.org/speeches/hubbard04.html) - 35k - May 20, 2005 - [Cached](#) - [Similar pages](#)

### [N. Korea launches harsh crackdown - \(United Press International\)](#)

... Seoul, **South Korea**, Mar. 11 (UPI) -- **North Korea** has recently tightened ...  
"Attitudes towards sex have changed dramatically in **North Korea**," said a ...

[www.washtimes.com/upi-breaking/20050311-071827-8618r.htm](http://www.washtimes.com/upi-breaking/20050311-071827-8618r.htm) - 53k - [Cached](#) - [Similar pages](#)

### [Economic Leverage and the North Korean Nuclear Crisis](#)

... Almost a decade ago, as the last **nuclear** crisis with **North Korea** was reaching a ...  
... the United States must cooperate with China, Japan, and **South Korea**. ...

[www.ciaonet.org/pbei/ie/elk02/](http://www.ciaonet.org/pbei/ie/elk02/) - [Similar pages](#)

### [Taipei Times - archives](#)

... claim that **North Korea** can now arm a missile with a **nuclear** weapon; ...  
on halting its **nuclear** program, and **South Korea** on Thursday strongly warned the ...

[www.taipeitimes.com/News/world/archives/2005/04/30/2003252561](http://www.taipeitimes.com/News/world/archives/2005/04/30/2003252561) - 25k - [Cached](#) - [Similar pages](#)

[ [More results from www.taipeitimes.com](#) ]

### [II Journal: Segyehwa: Globalization and Nationalism in Korea](#)

... showdown between **South Korea** and **North Korea** and their patron states. ...  
to the recent tensions surrounding **North Korea's** ambitious **nuclear** program and ...

[www.umich.edu/~iinet/journal/vol4no1/segveh.html](http://www.umich.edu/~iinet/journal/vol4no1/segveh.html) - 26k - [Cached](#) - [Similar pages](#)

## Note - This is a (deliberately) difficult query

186 - Probably on topic even though no “attitude” words

187 – Wrong “attitude”; shows that washtimes may have some off-beat material on SK and NK; gives a sense of how “far down” the Google relevancy list we are

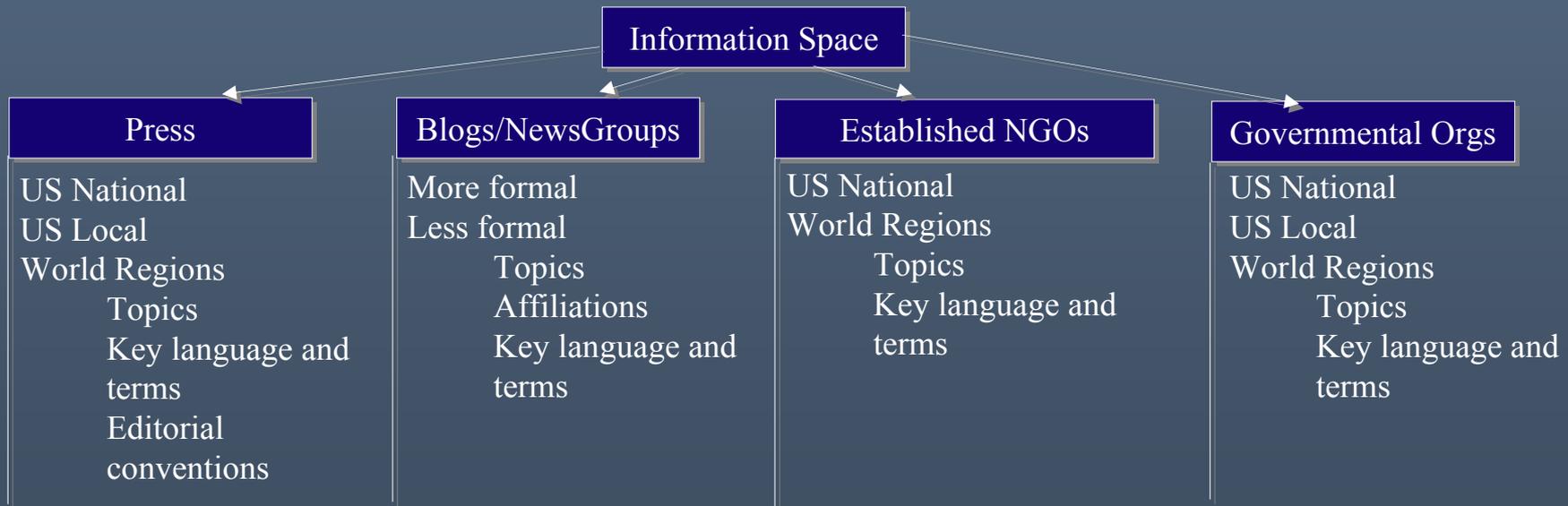
188 – Likely typical material, but might want to know what caionet is and why commenting on this  
189 – Looks fairly typical but might have a different slant given the source

190 – Might be an interesting source, although excerpt not particularly promising

# An information space model

## “Who’s saying what to whom and when...”

- Source types
- Attitudes
- Changes in attitudes possibly tied to specific historical occurrences
- Typical source of the source
- Typical source of the source
- Typical timeliness of the source
- Audience of the source
- Sponsor of the source
- Segment of the topic for which the source is relevant



- **The fact that volume is a problem is not a new point**
- **Our response to the volume is the key point –**
  - What are self-defeating strategies?
    - Limiting searches based on faulty models of the problem and of the information space
  - What are useful strategies?
    - Cast a wide net
    - Learn the information space
    - Learn the tools/methods
    - Explicit models for the “known” part of the problem
    - Imagine what might be there and try to find it
- **There is a clear relationship between RPD (Recognition Primed Decision-making) and strategies chosen to deal with information volume and information overload –**
  - Potential major weakness is the same: the mental model of the decision-maker can be out of date or incorrectly recognized