

Task Specification for Distillation Training Data: GALE Phase 1

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Linguistic Data Consortium

<http://projects ldc.upenn.edu/gale/Distillation/>

1 Introduction

The distillation annotation task involves responding to a series of user queries. Junior annotators first issue a query to LDC's search engine¹ and retrieve a set of candidate documents in Arabic, Chinese or English. They read each document to determine which are relevant to the query, then they identify snippets of relevant text within each document. They then create a nugget for each fact expressed in the snippet. Nuggets for a single document that are semantically equivalent are grouped into nugs by senior annotators.

After all the nugs for a given query have been established, regardless of language or source document, lead annotators build "supernugs"; that is, the cluster of nugs that are semantically equivalent across languages and documents. Each supernug is then translated into English. The resulting list of supernugs for each query should represent a complete list of "facts" in English, drawn from all of the (multilingual, multi-source) documents that were considered to contain responses to this query.

2 Queries

English queries and contexts were developed by BAE Systems and by LDC staff. Each English query was translated into Chinese and Arabic to facilitate querying in those languages. Queries follow specific template types that were specified by BAE Systems and GALE sites at the outset of the Distillation Phase 1 Evaluation cycle.

3 Annotation Process

3.1 Stage One: Find Relevant Documents

In this stage, the annotator submits their assigned query and context (translated into Chinese or Arabic where necessary) into the search engine component of the annotation tool. The tool returns a relevance-ranked list of documents. Each document is given a relevance label, defined as follows:

RELEVANT (YES): This article discusses the topic in a substantial way. Articles that annotators label YES should answer the topic query without a doubt. Even if the article contains only a single sentence with on-topic, relevant information, it should be considered a YES.

DUPLICATE-RELEVANT (DUP): This article is relevant to the topic but does not warrant further annotation because its content is substantially similar to previously annotated (snippetted, nuggetized) documents for this query.

¹ EZQuery, developed by Mike Schultz.

OFF-TOPIC (NO): This article does not discuss the topic at all, mentions the topic in passing without giving any information about it, or fails to address the specific query regarding the topic. If an article simply names a topic or makes reference to it but does not provide any relevant information about it, that article should be labeled NO.

3.1.1 Refining the search

Annotators may issue up to two additional queries to find additional relevant documents.

Additional queries should add information to the original search, using one of two techniques:

1. annotator refines initial query, adding terms based on information they have learned about the topic
2. annotator submits one or more existing **YES** document(s) as a query, to find more documents like it

3.2 Stage Two: Extract Snippets

As soon as a document is labeled YES, the annotator then extracts relevant snippets that are subject to further annotation.

A snippet is defined as a continuous string of text that contains an answer to the query.

For example,

Query: WHERE HAS [Tariq Aziz] BEEN AND WHEN?
Context: I'M INTERESTED IN [which countries has Aziz visited to sway opinions on Iraq]

Snippet:
Iraq's Deputy Prime Minister Tariq Aziz begins a four-day visit to Italy and the Vatican, during which he will have an audience with Pope John Paul II.

Snippets are not required to contain *new* information about the query, but they must be relevant to the query.

Annotators create snippets for a document by selecting a relevant string of text and logging it into the annotation tool. The annotation tool will automatically track where in the document the snippet came from².

3.2.1 Snippet length and format

There are no restrictions on snippet size, granularity or potential overlap between snippets. However, each snippet must satisfy two requirements:

² The annotation tool records character offsets for each snippet in a document.

1. only relevant information is selected for inclusion in the snippet
2. all information which provides a valid answer to the query is included in the snippet

The following are examples of common syntactic constructions that can serve as a snippet:

- An appositive construction

Abdel Basset Ali al-Megrahi, a defendant

- A noun phrase

230 prosecution witnesses

Three-judge jury

- A sub-sentence clause

But as Iraqi Deputy Prime Minister Tariq Aziz prepared to visit Moscow

- A full sentence

Iraq's Deputy Prime Minister Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev here on Wednesday ahead of a UN meeting on Baghdad's compliance with UN sanctions, the foreign ministry said.

- Two or more sentences

The U.N. Security Council imposed economic sanctions on Iraq after its invasion of Kuwait in 1990, banning export of oil, its main hard currency earner. But the oil-for-food deal, launched in December 1996, allows Baghdad to sell more than billions dollars worth of oil in every six months for buying food and medicine.

Note that single words or verb phrases in isolation without their subjects) cannot be snippets.

3.2.2 Resolving antecedents

Because snippets are extracted directly from a document, they may contain pronouns or other words whose reference is ambiguous within the selected string. In such cases, annotators must disambiguate the pronoun based on information provided elsewhere in the document. The fullest, most specific form of the name available in the document should be provided. However, a title and other attributes should not be included. The annotation tool will have specific functionality for antecedent resolution. Examples within the current document provide this clarification within square brackets directly after the pronoun. For instance,

He [James Kelly] insisted Suu Kyi had fallen victim of "a premeditated attack" that was launched on her by "government-affiliated thugs"

Similarly, the selected snippet may contain temporal or locative information that is not stated explicitly but can be inferred from information elsewhere in the document. If the query specifically targets this temporal or locative information, the annotator must disambiguate these expressions within the snippet using the same approach.

For instance:

Query: WHERE HAS [Tariq Aziz] BEEN AND WHEN?

Iraq's Deputy Prime Minister Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev here [Moscow] on Wednesday.

A temporal expression is disambiguated if annotators can confidently determine the **calendar date** that is intended. They should use the context of the document to make that determination. In all cases, values should be specified as fully as possible, but only within the bounds of what can be confidently inferred.

The format should comply to ISO, which advises numeric representation of dates and times on an internationally agreed basis. It represents elements from the largest to the smallest element: year-month-day:

Calendar date is the most common date representation. It is:

YYYY-MM-DD

where YYYY is the year in the Gregorian calendar, MM is the month of the year between 01 (January) and 12 (December), and DD is the day of the month between 01 and 31.

Example: 2003-04-01 represents the first day of April in 2003.

Week date is an alternative date representation used in many commercial and industrial applications. It is:

YYYY-Www-D

where YYYY is the Year in the Gregorian calendar, ww is the week of the year between 01 (the first week) and 52 or 53 (the last week), and D is the day in the week between 1 (Monday) and 7 (Sunday).

Example: 2003-W14-2 represents the second day of the fourteenth week of 2003.

Time of the day is the time representation, using the 24-hour timekeeping system. It is:

hh:mm:ss

where hh is the number of complete hours that have passed since midnight, mm is the number of complete minutes since the start of the hour, and ss is the number of complete seconds since the start of the minute.

Example: 23:59:59 represents the time one second before midnight.

Date and time represents a specified time of a specified day. When use is made of the calendar date the representation is:

YYYY-MM-DDT hh:mm:ss

where the capital letter T is used to separate the date and time components. Thus, for a very precise date and time, look at this:

Example: 2003-04-01T13:01:02 represents one minute and two seconds after one o'clock in the afternoon of 2003-04-01.

Below we illustrate different kinds of temporal expressions:

```
After an emergency meeting in November [1998-11], relations began
to improve.
I was sick yesterday [1999-07-14]
The bombing took place on the second of December [1998-12-02]
The prime minister's visit is to run August 6-8 [1999-08]
The sponsor arrived at ten minutes to 3 [1999-07-15T14:50]
I returned to work at twelve o'clock January 3, 1984 [1984-01-
03T12:00]
```

Annotators should keep in mind that not all temporal expressions are being annotated. If temporal information is stated explicitly in the snippet, then no annotation is needed:

```
She served as Canada's ambassador to the U.N. from 1992 through
1995.
```

Also, do not annotate temporal adverbials which are vague or underspecified, such as recently, the past few weeks, one Friday night in October, and so on.

3.3 Stage Three: Create nuggets

A nugget is a fact or a statement extracted from a snippet. Nuggets describe any piece of information that an annotator considers a valid answer to the query. If a snippet contains a fact that is unrelated to the query by any standard of

relevance, no nugget should be created for that fact. Any piece of information that might have some relevance to the query should be nuggetized. When in doubt, annotators should include the fact as a nugget.

Examples³:

Query: WHERE HAS [Tariq Aziz] BEEN AND WHEN?

Context: I'M INTERESTED IN [which countries has Aziz visited to sway opinions on Iraq]

Snippet:

Iraq's Deputy Prime Minister Tariq Aziz begins a four-day visit to Italy and the Vatican, during which he will have an audience with Pope John Paul II.

Nuggets:⁴

- Tariq Aziz is Iraq's Deputy Prime Minister
- Tariq Aziz will travel to Italy
- Tariq Aziz will travel to the Vatican
- Tariq Aziz will travel for four days
- Tariq Aziz will meet with Pope John Paul II
- Tariq Aziz will meet with Pope John Paul II during the four-day visit

Sept 9: Visit to Tehran by Iraqi foreign minister Tariq Aziz, who calls for "a speedy normalisation of relations."

- Tariq Aziz is Iraqi foreign minister
- Tariq Aziz visited Tehran
- Tariq Aziz visited Tehran on Sept 9.
- Tariq Aziz calls for "a speedy normalisation of relations."

Nuggets should be constructed in such a way that each one encodes an "atomic" piece of information⁵. As the examples above illustrate, nuggets might provide a description of a named entity or assert that a certain event took place. They may also provide temporal, locative, causal, or other types of information that further describe an event.

3.3.1 Nugget creation process

Nugget construction can be viewed as simply breaking down snippets into the relevant facts they express. The following rules should guide the process of nugget creation.

1. First, annotators consider all verbs and other predicates in the snippet. For each predicate (which might include adjectival phrases and noun phrases as well

³ Examples of nuggets within this document are preceded with a dash.

⁴ Although the query is stated in the present perfect tense and is asking about visits that already happened, nuggets describing future or planned visits by Tariq Aziz are also considered relevant for this query.

⁵ LDC does not take a stand on the meaning of the term "atomic" and how it relates to nugget granularity. Granularity requirements will be specified in each query.

as verbs), the annotator should construct a nugget containing the predicate and all its arguments. For instance:

Pinochet, who is 82 and who stepped down as commander in chief of the Chilean military, was arrested by the British police.

- Pinochet is 82
- Pinochet stepped down as commander in chief of the Chilean military
- Pinochet was arrested by the British police

Whenever possible, nuggets should use the same lexical material provided in the snippet; paraphrasing should be avoided. For example, consider the following:

A man of Libyan nationality, Abdel Basset Ali Mohamed al-Megrahi

- Abdel Basset Ali Mohamed al-Megrahi is a man
- Abdel Basset Ali Mohamed al-Megrahi is of Libyan nationality

NOT:

- *Abdel Basset Ali Mohamed al-Megrahi is Libyan
- *Abdel Basset Ali Mohamed al-Megrahi is from Libya

Note too that because pronouns and partial names have already been disambiguated within the snippet, nuggets should not contain pronouns or partial nouns when the full name is available within the document.

2. If a snippet contains temporal, locative, manner, causative or other modification that tells us when, where, how or why a certain event occurred, a separate nugget should be constructed (in addition to the nugget that simply asserts that the event took place). A separate nugget should be constructed for each modifier. For modified nuggets of this type, annotators should also indicate which portion of the nugget contains the modifying information⁶. In the examples below, double brackets are used to indicate this:

Pinochet stepped down as commander in chief of the Chilean military five months ago

- Pinochet stepped down as commander in chief of the Chilean military
- Pinochet stepped down as commander in chief of the Chilean military [[five months ago]]

Currently, under the UN oil-for-food program, Iraq can import goods needed for the country's shattered infrastructure.

- Iraq can import goods needed for the country's shattered infrastructure.
- [[Under the UN oil-for-food program]], Iraq can import goods needed for the country's shattered infrastructure.

⁶ The annotation toolkit has specific functionality for doing this.

- [[Currently]], Iraq can import goods needed for the country's shattered infrastructure.

Iraq's Deputy Prime Minister Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev here [Moscow] on Wednesday ahead of a UN meeting on Baghdad's compliance with UN sanctions, the foreign ministry said.

- Tariq Aziz is Iraq's Deputy Prime Minister
- Tariq Aziz was to visit Moscow
- Andrei Kozyrev is the Russian Foreign Minister
- Tariq Aziz was to meet Andrei Kozyrev
- Tariq Aziz was to meet with Andrei Kozyrev [[in Moscow]]
- Tariq Aziz was to meet with Andrei Kozyrev [[on Wednesday]]
- Tariq Aziz was to meet with Andrei Kozyrev [[ahead of a UN meeting on Baghdad's compliance with UN sanctions]]

Note that locative and temporal adverbs have already been disambiguated within the snippet, so that nuggets contain the disambiguated terms. For instance:

- Tariq Aziz was to meet with Andrei Kozyrev [[in Moscow]]

NOT: *Tariq Aziz was to meet with Andrei Kozyrev [[here]]

When decomposing a snippet into nuggets, it is critical that the meaning of each nugget is entailed from the meaning of the snippet. That is, if we assume that the snippet is true, the fact asserted by each nugget must also be true.

When decomposing sentences with modification, nuggets without modifiers should not be created if the truth of that nugget cannot be inferred from the snippet. For instance,

Last year 1.2 million people in America had a heart attack

- Last year 1.2 million people in America had a heart attack⁷

NOT: 1.2 million people in America had a heart attack.

3. If a sentence contains a coordinated phrase, it should be decomposed (assuming that the entailment test discussed above holds):

Iraq can import food, medicines and other goods needed for the country's shattered infrastructure.

- Iraq can import food
- Iraq can import medicines

⁷ Note that the modifier is not bracketed here, since there is no acceptable nugget that does not contain the modifier.

- Iraq can import goods needed for the country's shattered infrastructure.

Although under severe UN economic sanctions imposed after it invaded Kuwait in 1990, Iraq is authorized to export a certain amount of oil and to apply the proceeds -- under strict UN supervision -- to the purchase of food and humanitarian supplies.

- Iraq is authorized to export a certain amount of oil
- Iraq is authorized to apply the proceeds to the purchase of food
- Iraq is authorized to apply the proceeds to the purchase of humanitarian supplies

Again, it is important to make sure that the meaning of a nugget is entailed from the snippet. In some cases, decomposition of coordinated structures might change the meaning of the sentence.

Every year, 1.2 million people in America have a new or repeat heart attack

NOT:

*Every year 1.2 million people in America have a new heart attack

*Every year 1.2 million people in America have a repeat heart attack

In others, the coordinated phrase is interpreted collectively.

Hussein and Aziz were comrades in the Baath party from the early clandestine days

The United Nations and Iraq signed the oil-for-food deal

In all such cases the phrase should not be decomposed.

4. If a fact contained in a snippet is expressed using a nominalization, it should be paraphrased in the nugget with a verb/verb phrase instead of a nominalization⁸, for instance:

Tariq Aziz's visit to Italy

- Tariq Aziz visited Italy

During his four-day visit to Italy, Tariq Aziz...

- Tariq Aziz visited Italy [[for four days]]

Russia, a backer of the US war on terrorism, warned Washington against widening the war to Iraq

⁸ This rule is important for Chinese, where propositions or facts can be described by using either a verb or a nominal. In Chinese nuggets, all nominals should be replaced by verbs.

- Russia backs the US war on terrorism

5. If a snippet contains a numerical expression, a separate nugget is usually created:

230 prosecution witnesses

- There were 230 prosecution witnesses.

Three-judge jury

- The jury consisted of three judges

3 defense witnesses, a meteorologist and two FBI agents

- There were 3 defense witnesses.
- One defense witness was a meteorologist.
- Two defense witnesses were FBI agents

6. If a snippet contains an appositive construction, then nuggets of the form 'X is/was Y' should be constructed whenever possible. Because nuggets provide answers to specific queries, in many cases additional modification is also possible (e.g. 'at the Pan Am 103 trial 'below), which would indicate the relevance of the nugget to the query:

Query: WHAT [people] ARE RELATED TO [the Pan Am 103 trial] and HOW?

Abdel Basset Ali al-Megrahi, a defendant

- Abdel Basset Ali al-Megrahi was a defendant at the Pan Am 103 trial.

Bill Taylor, defense lawyer for Abdel Basset Ali al-Megrahi

- Bill Taylor was as a defense lawyer at the Pan Am 103 trial
- Bill Taylor was a defense lawyer [[for Abdel Basset Ali al-Megrahi]] at the Pan Am 103 trial

7. When a snippet contains a verb of saying, such as 'said', 'denied', 'confirmed', etc., annotators use the following rules.

If the information relevant to the query is part of the utterance, it should be extracted as a nugget. The nugget must also contain the following information⁹:

- (1) the speaker
- (2) the verb of saying (in the form used in the snippet, preserving modality, tense, etc)

⁹ The annotation toolkit contains specific functionality to encode this information. Within this document, the information is included in parentheses at the end of the nugget.

- (3) positive/negative/other. Where
 - positive(POS): the speaker asserts that the utterance is true (e.g. He said X)
 - negative(NEG): the speaker asserts that the utterance is not true (e.g. He denied X)
 - other(OTH): The speaker does not make any statements whether the utterance is true or false (e.g. 'He asked if X')
- (4) temporal, locative, and other types of modifiers of the verb of saying (in the form used in the snippet)

At the meeting the Chilean government said it will seek Pinochet's release.

- The Chilean government will seek Pinochet's release (1: The Chilean government, 2: said. 3: POS, 4: at the meeting)

"Basically the idea here is to lift sanctions on purely civilian goods for Iraq," Hamill told AFP.

- Basically the idea here is to lift sanctions on purely civilian goods for Iraq (1: Hamill, 2: told, 3: POS, 4: AFP)

For queries like the one below, a nugget might contain a verb of saying as the core predicate:

Query: FIND STATEMENTS MADE BY OR ATTRIBUTED TO [Mark Regev] on [the Israeli-Palestinian peace talks]

Nuggets that provide valid answers to this query should be of the form 'Mark Regev said/confirmed X', where the utterance X is not listed as a separate nugget.

[ROME]: Iraq's Deputy Prime Minister Tariq Aziz firmly denies that ballistic missiles held by Baghdad violate UN accords, adding that far from hiding evidence, Iraq would welcome more UN weapons inspectors in the country.

Tariq Aziz is Iraq's Deputy Prime Minister
 Tariq Aziz firmly denies that ballistic missiles held by Baghdad violate UN accords,
 Tariq Aziz says that Iraq is not hiding evidence
 Tariq Aziz says that Iraq would welcome more UN weapons inspectors in the country

United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Iraq's Deputy Prime Minister Tariq Aziz said in a Swiss newspaper on Tuesday.

Tariq Aziz is Iraq's Deputy Prime Minister

United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Tariq Aziz said.

United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Tariq Aziz said [[in a Swiss newspaper]].

United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Tariq Aziz said [[on Tuesday]].

8. Some nuggets might contain information that is not explicit in the snippet, but rather is implied. As a rule, implicit or inferred information should be avoided. However, a nugget should be created if it describes a fact that is not available otherwise, and it provides a valid answer to the query. For instance,

Query: WHERE HAS [Tariq Aziz] BEEN AND WHEN?

Tariq Aziz ended his travel to Italy

- Tariq Aziz traveled to Italy

Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev here [Moscow]

- Tariq Aziz was to visit Moscow

3.4 Stage Four: Build nuggets

A nugget is a cluster of nuggets from a single document that are semantically equivalent, where by semantically equivalent nuggets we mean nuggets which mutually entail (or can be inferred from) each other. Some examples of nuggets are as follows.

Synonymous expressions or paraphrases:

Same nugget:

- Tariq Aziz traveled to Italy
- Tariq Aziz visited Italy

- Tariq Aziz is Deputy Prime Minister of Iraq
- Tariq Aziz is Iraq's Deputy Prime Minister

- Kessler's team conducted more than 60,000 face-to-face interviews with adults.
- Kessler's team interviewed more than 60,000 adults

Different syntactic constructions:

Same nugget:

- Those accounts were officially confirmed by the Uzbek government.
- The Uzbek government confirmed those accounts.

If one nugget provides more specific information than the other nugget, they should be included in the same nug:

Same nugs:

- Tariq Aziz will travel to Rome
- Tariq Aziz will travel to Italy

- Last July, a 12-year-old boy in Nagasaki was accused of killing a 4-year-old boy.
- Last year a 12-year-old boy in Nagasaki was accused of murdering a four-year-old boy.

On the other hand, if two nuggets describe the same fact but attribute it to different speakers, separate nugs should be created.

When making a decision about whether two nuggets are semantically equivalent or not, it is important to understand what information is being introduced by a nugget. Some guidelines follow.

3.4.1 Nuggets that describe entities

Nuggets that describe an entity are semantically equivalent if the NPs refer to the same entity (which might correspond to different names, or misspelled names) and the predicates describe “semantically equivalent” properties¹⁰:

Same nug

- William J. Taylor is a lawyer
- Bill Taylor is a lawyer
- William Talor is a lawyer

Same nug:

- William Taylor is a lawyer
- William Taylor is a defense lawyer

Different nugs

- Andrei Kozyrev is Russian
- Andrei Kozyrev is the Russian Foreign Minister

3.4.2 Nuggets that describe events

3.4.2.1 Nuggets that assert an event occurred

If two nuggets assert that a certain event occurred, they are considered equivalent, if the verb refers to the same event and all the arguments are semantically equivalent (i.e. refer to the same entity). In the example below, we assume that the difference between ‘sanctions’ and ‘sweeping sanctions’ is not important, since both NPs refer to the same sanctions. Likewise, in the second

¹⁰ In some cases, the decision on whether the properties are equivalent or not depends on the query in question. See some discussion below.

pair of sentences, the NPs “Russian Foreign Minister Andrei Kozyrev” and “Andrei Kozyrev” refer to the same person.

Same nug:

- The United Nations imposed sweeping sanctions on Iraq
- Sanctions were imposed on Iraq by the United Nations

- Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev
- Tariq Aziz was to meet with Andrei Kozyrev

If one of the arguments is missing, then the nuggets are considered equivalent. In the following example, one nugget is more specific than the other one, given that the agent ‘The United Nations’ is missing in the second sentence. They are still being merged in the same nug:

Same nug:

- The United Nations imposed sweeping sanctions on Iraq
- Sanctions were imposed on Iraq

3.4.2.2 Nuggets that introduce new information about an event

As established in Section 5.4.1, ‘new information’ introduced by a temporal, locative or other type of modifier is highlighted within each nugget by bracketing. In this case, nuggets are equivalent if they refer to the same event and the information introduced by modifiers (contained in the brackets) is semantically equivalent. The following nuggets, for example, are equivalent, provided that the temporal information being introduced refers to the same (or relatively close) time interval:

Same nug:

- The United Nations imposed sweeping sanctions on Iraq [[in 1990]].
- Sanctions were imposed on Iraq [[in 1990]].

- The United Nations imposed sweeping sanctions on Iraq [[in 1990]].
- The United Nations imposed sweeping sanctions on Iraq [[in August 1990]]

3.5 Stage Five: Build supernugs

In the final stage of annotation, all the nugs for a given query, regardless of language or source document, are clustered into a supernug that is then translated into English.

This process is completed by Arabic, Chinese and English lead annotators working as a committee. Lead annotators provide a gloss for each nug in their language, and discuss each nug in turn (starting with a different language for each query). Decisions are consensus-based.

The resulting list of supernugs for each query should represent a complete list of "facts" in English, drawn from all of the (multilingual, multi-source) documents that were considered to contain responses to the query.

4 Examples of snippets, nuggets, and supernugs

Q1: WHAT CONNECTIONS ARE THERE BETWEEN [UN sanctions on Iraq] AND [the UN Oil-for-Food Program]?

SNIPPETS AND NUGGETS

AFP_ENG_20021110.0228; Q1_S1: "Contracts worth two billion dollars were approved" by the UN sanctions committee over the past five months compared to four billion dollars in the previous corresponding phase of the "oil-for-food" program, which allows Iraq to sell oil under UN supervision to meet the essential needs of its people, according to the minister.

Q1_S1_N1: "Contracts worth two billion dollars were approved" by the UN sanctions committee

Q1_S1_N2: "Contracts worth two billion dollars were approved" by the UN sanctions committee [[over the past five months]] [timestamp]

Q1_S1_N3: The previous corresponding phase of the "oil-for-food" program had four billion dollars contracts

Q1_S1_N4: The "oil-for-food" program allows Iraq to sell oil

Q1_S1_N5: The "oil-for-food" program allows Iraq to sell oil [[under UN supervision]]

Q1_S1_N6: The "oil-for-food" program allows Iraq to sell oil [[to meet the essential needs of its people]]

(source: the minister [REF], anchor: according to, POS)

AFP_ENG_20020206.0400; Q1_S2: Currently, under the UN oil-for-food program, Iraq can import food, medicines and other goods needed for the country's shattered infrastructure.

Q1_S2_N1: Under the UN oil-for-food program, Iraq can import food

Q1_S2_N2: Under the UN oil-for-food program, Iraq can import medicines

Q1_S2_N3: Under the UN oil-for-food program, Iraq can import other goods [besides food and medicine] needed for the country's shattered infrastructure

Q1_S2_N4: Currently [timestamp] Iraq can import food

Q1_S2_N5: Currently [timestamp] Iraq can import medicines

Q1_S2_N6: Currently [timestamp] Iraq can import other goods [besides food and medicine] needed for the country's shattered infrastructure

Q1_S2_N7: Food is needed for the country's [Iraq] shattered infrastructure

Q1_S2_N8: Medicine is needed for the country's [Iraq] shattered infrastructure

Q1_S2_N9: Other goods [besides food and medicine] are needed for the country's [Iraq] shattered infrastructure

AFP_ENG_20020410.0276; Q1_S3: Although under severe UN economic sanctions imposed after it invaded Kuwait in 1990, Iraq is authorized to export a certain amount of oil and to apply the proceeds -- under strict UN supervision -- to the purchase of food and humanitarian supplies.

Q1_S3_N1: Iraq is authorized to export a certain amount of oil

Q1_S3_N2: Iraq is authorized to apply the proceeds to the purchase of food

Q1_S3_N3: Iraq is authorized to apply the proceeds to the purchase of humanitarian supplies

Q1_S3_N4: Iraq is authorized to apply the proceeds -- [[under strict UN supervision]] -- to the purchase of food and humanitarian supplies

Q1_S3_N5: UN imposed severe economic sanctions on Iraq

Q1_S3_N6: UN imposed severe economic sanctions on Iraq [[after it invaded Kuwait]]

Q1_S3_N7: Iraq invaded Kuwait

Q1_S3_N8: Iraq invaded Kuwait [[in 1990]]

Q1_S3_N9: [[Under severe UN economic sanctions]], Iraq is authorized to export a certain amount of oil and to apply the proceeds -- under strict UN supervision -- to the purchase of food and humanitarian supplies.

AFP_ENG_20030205.0267; Q1_S4: The WFP was concerned that about 60 percent of Iraqis now depend entirely on the UN "oil for food" program -- set up to soften the impact of international sanctions on Iraq -- which would come to a halt in any war.

Q1_S4_N1: About 60 percent of Iraqis now depend entirely on the UN "oil for food" program UN "oil for food" program was set up to soften the impact of international sanctions on Iraq (source: The WFP, anchor: concerned, POS)

XIN_ENG_20030319.0376; Q1_S5: Under the UN oil-for-food program, Iraq is allowed to import certain quantities of food and medicines badly needed for the basic healthcare of the people.

Q1_S5_N1: Under the UN oil-for-food program, Iraq is allowed to import certain quantities of food

Q1_S5_N2: Under the UN oil-for-food program, Iraq is allowed to import medicines

Q1_S5_N3: Medicines are badly needed for the basic healthcare of the people

Q1_S5_N4: Food is badly needed for the basic healthcare of the people

AFP_ENG_20030408.0420; Q1_S6: Sanctions were imposed on Iraq after its invasion of Kuwait in 1990. They were partially lifted with the setting up of the oil-for-food program, but a ban on arms imports continued.

Q1_S6_N1: Sanctions were imposed on Iraq

Q1_S6_N2: Sanctions were imposed on Iraq [[after its invasion of Kuwait]]

Q1_S6_N3: Iraq invaded Kuwait

Q1_S6_N4: Iraq invaded Kuwait [[in 1990]]

Q1_S6_N5: Sanctions were partially lifted with the setting up of the oil-for-food program

Q1_S6_N6: A ban on arms imports continued

XIN_ENG_19970321.0090; Q1_S7: The United Nations and Iraq signed the oil-for-food deal, under which Iraq was allowed to sell 2 billion U.S. dollars of oil for an initial six-month period to buy food and medicine for its people hard hit by the sanctions.

Q1_S7_N1: The United Nations and Iraq signed the oil-for-food deal

Q1_S7_N2: Under the oil-for-food deal, Iraq was allowed to sell oil

Q1_S7_N3: Under the oil-for-food deal, Iraq was allowed [[to buy food for its people hard hit by the sanctions]]

Q1_S7_N4: Under the oil-for-food deal, Iraq was allowed [[to buy medicine for its people hard hit by the sanctions]]

Q1_S7_N5: Under the oil-for-food deal, Iraq was allowed to sell oil [[for an initial six-month period]]

Q1_S7_N6: Under the oil-for-food deal, Iraq was allowed to sell 2 billion U.S. dollars of oil.

Q1_S7_N7: People of Iraq were hard hit by the sanctions

XIN_ENG_20000611.0025; Q1_S8: The U.N. Security Council imposed economic sanctions on Iraq after its invasion of Kuwait in 1990, banning export of oil, its main hard currency earner. But the oil-for-food deal, launched in December 1996, allows Baghdad to sell more than billions dollars worth of oil in every six months for buying food and medicine.

Q1_S8_N1: The U.N. Security Council imposed economic sanctions on Iraq

Q1_S8_N2: Iraq invaded Kuwait

Q1_S8_N3: Iraq invaded Kuwait [[in 1990]]
Q1_S8_N4: The U.N. Security Council imposed economic sanctions on Iraq [[after its invasion of Kuwait]]
Q1_S8_N5: The U.N. Security Council banned export of oil
Q1_S8_N6: Export of oil is Iraq's main hard currency earner
Q1_S8_N7: The oil-for-food deal was launched in December 1996
Q1_S8_N8: The oil-for-food deal allows Baghdad to sell oil
Q1_S8_N9: The oil-for-food deal allows Baghdad to sell [[more than billions dollars worth of oil in every six months]]
Q1_S8_N10: The oil-for-food deal allows Baghdad to sell oil [[for buying food]]
Q1_S8_N11: The oil-for-food deal allows Baghdad to sell oil [[for buying medicine]]

XIN_ENG_20020314.0266; Q1_S9: Amadan has said that Iraq wants to promote trade with Vietnam through the United Nations oil-for-food program, which has been in place since 1996 and allows sanctions-hit Iraq to sell oil and buy food, medicine and other essentials for its 22 million people.

Q1_S9_N1: Iraq wants to promote trade with Vietnam
Q1_S9_N2: Iraq wants to promote trade with Vietnam [[through the United Nations oil-for-food program]]
Q1_S9_N3: The United Nations oil-for-food program has been in place since 1996
Q1_S9_N4: Iraq was hit by UN sanctions
Q1_S9_N5: The United Nations oil-for-food program allows Iraq to sell oil
Q1_S9_N6: The United Nations oil-for-food program allows Iraq to sell oil and [[buy food]]
Q1_S9_N7: The United Nations oil-for-food program allows Iraq to sell oil and [[buy medicine]]
Q1_S9_N8: The United Nations oil-for-food program allows Iraq to sell oil and buy other essentials [besides food and medicine]
Q1_S9_N9: Iraq has 22 million people
(source: amadan, anchor: said, POS)

XIN_ENG_20000216.0120; Q1_S10: The humanitarian deal introduced by the U.N. in 1996 allows Iraq to sell limited amount of oil in every six months to buy humanitarian goods under U.N. supervision for its 22 million people.

Q1_S10_N1: The humanitarian deal was introduced by the U.N. in 1996
Q1_S10_N2: The humanitarian deal allows Iraq to sell limited amount of oil
Q1_S10_N3: The humanitarian deal allows Iraq to sell limited amount of oil [[in every six months]]
Q1_S10_N4: The humanitarian deal allows Iraq to sell limited amount of oil [[to buy humanitarian goods]]
Q1_S10_N5: The humanitarian deal allows Iraq to sell limited amount of oil [[under U.N. supervision]]
Q1_S10_N6: Iraq has 22 million people

NUGS

(Note that for this query (as for most queries), there are no nuggets with multiple nuggets, so each nugget maps to a unique nug. For instance:

Q1_NU1: S1_N1
Q1_NU2: S1_N2
Q1_NU3: S1_N3
Q1_NU4: S1_N4
Q1_NU5: S1_N5
Q1_NU6: S1_N6
Q1_NU7: S2_N1

and so on.

SUPERNUGS

Q1_SN1:

- Q1_S1_N4:** The "oil-for-food" program allows Iraq to sell oil
- Q1_S3_N1:** Iraq is authorized to export a certain amount of oil
- Q1_S7_N2:** Under the oil-for-food deal, Iraq was allowed to sell oil
- Q1_S8_N8:** The oil-for-food deal allows Baghdad to sell oil
- Q1_S9_N5:** The United Nations oil-for-food program allows Iraq to sell oil
- Q1_S10_N2:** The humanitarian deal allows Iraq to sell limited amount of oil

Q1_SN2:

- Q1_S1_N5:** The "oil-for-food" program allows Iraq to sell oil [[under UN supervision]]
- Q1_S10_N5:** The humanitarian deal allows Iraq to sell limited amount of oil [[under U.N. supervision]]

Q1_SN3:

- Q1_S2_N1:** Under the UN oil-for-food program, Iraq can import food
- Q1_S3_N2:** Iraq is authorized to apply the proceeds to the purchase of food
- Q1_S5_N1:** Under the UN oil-for-food program, Iraq is allowed to import certain quantities of food
- Q1_S7_N3:** Under the oil-for-food deal, Iraq was allowed [[to buy food for its people hard hit by the sanctions]]
- Q1_S8_N10:** The oil-for-food deal allows Baghdad to sell oil [[for buying food]]
- Q1_S9_N6:** The United Nations oil-for-food program allows Iraq to sell oil and [[buy food]]

Q1_SN4:

- Q1_S2_N2:** Under the UN oil-for-food program, Iraq can import medicines
- Q1_S5_N2:** Under the UN oil-for-food program, Iraq is allowed to import medicines
- Q1_S7_N4:** Under the oil-for-food deal, Iraq was allowed [[to buy medicine for its people hard hit by the sanctions]]
- Q1_S8_N11:** The oil-for-food deal allows Baghdad to sell oil [[for buying medicine]]
- Q1_S9_N7:** The United Nations oil-for-food program allows Iraq to sell oil and [[buy medicine]]

Q1_SN5:

- Q1_S7_N6:** Under the oil-for-food deal, Iraq was allowed to sell 2 billion U.S. dollars of oil.
- Q1_S1_N1:** "Contracts worth two billion dollars were approved" by the UN sanctions committee

Q1_SN6:

- Q1_S2_N3:** Under the UN oil-for-food program, Iraq can import other goods [besides food and medicine] needed for the country's shattered infrastructure
- Q1_S9_N8:** The United Nations oil-for-food program allows Iraq to sell oil and buy other essentials [besides food and medicine]

Q1_SN7:

- Q1_S3_N3:** Iraq is authorized to apply the proceeds to the purchase of humanitarian supplies
- Q1_S10_N4:** The humanitarian deal allows Iraq to sell limited amount of oil [[to buy humanitarian goods]]

Q1_SN8:

Q1_S3_N7: Iraq invaded Kuwait
Q1_S6_N3: Iraq invaded Kuwait
Q1_S8_N2: Iraq invaded Kuwait

Q1_SN9:

Q1_S3_N8: Iraq invaded Kuwait [[in 1990]]
Q1_S6_N4: Iraq invaded Kuwait [[in 1990]]
Q1_S8_N3: Iraq invaded Kuwait [[in 1990]]

Q1_SN10:

Q1_S3_N5: UN imposed severe economic sanctions on Iraq
Q1_S6_N1: Sanctions were imposed on Iraq
Q1_S8_N1: The U.N. Security Council imposed economic sanctions on Iraq

Q1_SN11:

Q1_S3_N6: UN imposed severe economic sanctions on Iraq [[after it invaded Kuwait]]
Q1_S6_N2: Sanctions were imposed on Iraq [[after its invasion of Kuwait]]
Q1_S8_N4: The U.N. Security Council imposed economic sanctions on Iraq [[after its invasion of Kuwait]]

Q1_SN12:

Q1_S9_N3: The United Nations oil-for-food program has been in place since 1996
Q1_S10_N1: The humanitarian deal was introduced by the U.N. in 1996
(?) **Q1_S8_N7:** The oil-for-food deal was launched in December 1996

Query 2.

WHERE HAS [Tariq Aziz] BEEN AND WHEN?

Snippets and nuggets

AFP_ENG_20030213.0029; Q2_S1: Iraq's Deputy Prime Minister Tariq Aziz begins a four-day visit to Italy and the Vatican, during which he will have an audience with Pope John Paul II.

Q2_S1_N1: Tariq Aziz is Iraq's Deputy Prime Minister

Q2_S1_N2: Tariq Aziz begins a visit to Italy

Q2_S1_N3: Tariq Aziz begins a visit to the Vatican

Q2_S1_N4: Tariq Aziz begins a [[four-day]] visit to Italy and the Vatican

Q2_S1_N5: During the visit to Italy and the Vatican Tariq Aziz will have an audience with Pope John Paul II.

AFP_ENG_20030213.0703; Q2_S2: : [ROME]: Tens of thousands are expected to rally against a war in Iraq while Baghdad's roving ambassador Tariq Aziz will make pledges of peace at the tomb of Saint Francis of Assisi. AFP_ENG_20030213.0703

Q2_S2_N1: Tariq Aziz will be in ROME

Q2_S2_N2: Tariq Aziz is Baghdad's roving ambassador

Q2_S2_N3: Tariq Aziz will make pledges of peace at the tomb of Saint Francis of Assisi

AFP_ENG_20050517.0452; Q2_S3: [Sept 9]: Visit to Tehran by Iraqi foreign minister Tariq Aziz, who calls for "a speedy normalisation of relations." AFP_ENG_20050517.0452

Q2_S3_N1: Tariq Aziz is Iraqi foreign minister

Q2_S3_N2: Tariq Aziz visited Tehran

Q2_S3_N3: Tariq Aziz visited Tehran [[on Sept 9]].
Q2_S3_N4: Tariq Aziz calls for "a speedy normalisation of relations."

AFP_ENG_19941207.0067; Q2_S4: Iraq's Deputy Prime Minister Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev here [Moscow] on Wednesday [timestamp] ahead of a UN meeting on Baghdad's compliance with UN sanctions, the foreign ministry said.

Q2_S4_N1: Tariq Aziz is Iraq's Deputy Prime Minister
Q2_S4_N2: Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev
Q2_S4_N3: Tariq Aziz was to visit Moscow
Q2_S4_N4: Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev [[in Moscow]]
Q2_S4_N5: Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev [[on Wednesday]][[timestamp]]
Q2_S4_N6: Tariq Aziz was to meet with Russian Foreign Minister Andrei Kozyrev [[ahead of a UN meeting on Baghdad's compliance with UN sanctions]]

(source: the foreign ministry, anchor: said, POS)

AFP_ENG_20020122.0660; Q2_S5: But as Iraqi Deputy Prime Minister Tariq Aziz prepared to visit Moscow, Russia warned the United States about taking its war on terrorism to Baghdad.

Q2_S5_N1: Tariq Aziz is Iraqi Deputy Prime Minister
Q2_S5_N2: Tariq Aziz prepared to visit Moscow
Q2_S5_N3: Russia warned the United States about taking the United States' war on terrorism to Baghdad
Q2_S5_N4: Russia warned the United States about taking the United States' war on terrorism to Baghdad [[as Tariq Aziz prepared to visit Moscow]]

AFP_ENG_20020122.0780; Q2_S6: Meanwhile Russia, a backer of the US war on terrorism, warned Washington against widening the war to Iraq, ahead of a visit to Moscow by Iraqi Deputy Prime Minister Tariq Aziz.

Q2_S6_N1: Russia backs the US war on terrorism
Q2_S6_N2: Russia warned Washington against widening the war to Iraq
Q2_S6_N3: Russia warned Washington against widening the war to Iraq, [[ahead of a visit to Moscow by Tariq Aziz]].
Q2_S6_N4: Tariq Aziz is Deputy Prime Minister of Iraq
Q2_S6_N5: Tariq Aziz is planning to visit Russia

AFP_ENG_19950110.0303; Q2_S7: Iraqi Vice-Prime Minister Tariq Aziz, who is in New York to plead his country's cause, arrived Sunday in a slightly stronger position since France decided to open an interest section in the Romanian embassy in Baghdad.

Q2_S7_N1: Tariq Aziz is Vice-Prime Minister of Iraq
Q2_S7_N2: Tariq Aziz is in New York
Q2_S7_N3: Tariq Aziz is in New York [[to plead his country's [Iraq] cause]]
Q2_S7_N4: Tariq Aziz arrived in New York [[Sunday]] [timestamp]
Q2_S7_N5: France decided to open an interest section in the Romanian embassy in Baghdad.
Q2_S7_N6: Tariq Aziz arrived in New York [[in a slightly stronger position since France decided to open an interest section in the Romanian embassy in Baghdad]]

AFP_ENG_19970510.0178; Q2_S8: Jordanian Prime Minister Abdel Salam Majali held talks here [LOC] on Saturday with Iraqi Deputy Prime Minister Tariq Aziz, who was returning from a trip to Russia and China, officials said.

Q2_S8_N1: Tariq Aziz is Deputy Prime Minister of Iraq

Q2_S8_N2: Abdel Salam Majali is Prime Minister of Jordan
Q2_S8_N3: Abdel Salam Majali held talks with Tariq Aziz
Q2_S8_N4: Abdel Salam Majali held talks here [LOC] with Tariq Aziz
Q2_S8_N5: Abdel Salam Majali held talks on Saturday [timestamp] with Tariq Aziz
Q2_S8_N6: Tariq Aziz was returning from a trip to Russia
Q2_S8_N7: Tariq Aziz was returning from a trip to China
Q2_S8_N8: Abdel Salam Majali held talks with Tariq Aziz [[when he was returning from a trip to Russia and China]]

Nugs

Same as above

Supernugs

Supernug_1:

Q2_S1_N1: Tariq Aziz is Iraq's Deputy Prime Minister
Q2_S4_N1: Tariq Aziz is Iraq's Deputy Prime Minister
Q2_S5_N1: Tariq Aziz is Iraqi Deputy Prime Minister
Q2_S7_N1: Tariq Aziz is Vice-Prime Minister of Iraq
Q2_S8_N1: Tariq Aziz is Deputy Prime Minister of Iraq

Supernug_2:

Q2_S1_N2: Tariq Aziz begins a visit to Italy
Q2_S2_N1: Tariq Aziz will be in ROME

Supernug_3:

Q2_S4_N3: Tariq Aziz was to visit Moscow
Q2_S5_N2: Tariq Aziz prepared to visit Moscow
Q2_S6_N5: Tariq Aziz is planning to visit Russia

Supernug_4:

Q2_S5_N3: Russia warned the United States about taking the United States' war on terrorism to Baghdad
Q2_S6_N2: Russia warned Washington against widening the war to Iraq

Supernug_5:

Q2_S5_N4: Russia warned the United States about taking the United States' war on terrorism to Baghdad [[as Tariq Aziz prepared to visit Moscow]]
Q2_S6_N3: Russia warned Washington against widening the war to Iraq, [[ahead of a visit to Moscow by Tariq Aziz]].

Query 3.

FIND STATEMENTS MADE BY OR ATTRIBUTED TO [Tariq Aziz] ON [UN Weapons Inspections].

AFP_ENG_20030314.0057; Q3_S1: Iraqi Foreign Minister Tariq Aziz charges that Butler's "ill-intentioned report was drawn up on purpose to justify a US and British military aggression

Q3_S1_N1: Tariq Aziz is Foreign Minister of Iraq

Q3_S1_N2: Tariq Aziz charges that Butler's "ill-intentioned report was drawn up on purpose to justify a US and British military aggression

AFP_ENG_20030213.0734; Q3_S2: [ROME]: Iraq's Deputy Prime Minister Tariq Aziz firmly denies that ballistic missiles held by Baghdad violate UN accords, adding that far from hiding evidence, Iraq would welcome more UN weapons inspectors in the country.

Q3_S2_N1: Tariq Aziz is Iraq's Deputy Prime Minister

Q3_S2_N2: Tariq Aziz firmly denies that ballistic missiles held by Baghdad violate UN accords,

Q3_S2_N3: Tariq Aziz says that Iraq is not hiding evidence

Q3_S2_N4: Tariq Aziz says that Iraq would welcome more UN weapons inspectors in the country

AFP_ENG_20020730.0408; Q3_S3: . United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Iraq's Deputy Prime Minister Tariq Aziz said in a Swiss newspaper on Tuesday.

Q3_S3_N1: Tariq Aziz is Iraq's Deputy Prime Minister

Q3_S3_N2: United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Tariq Aziz said.

Q3_S3_N3: United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Tariq Aziz said [[in a Swiss newspaper]].

Q3_S3_N4: United Nations weapons inspectors can only return to Iraq under an overall plan for the settlement of the Iraqi conflict, Tariq Aziz said [[on Tuesday]].

AFP_ENG_20020730.0408; Q3_S4: . Aziz said in an interview with the Neue Zurcher Zeitung it was unacceptable that all Iraqi concerns were being ignored.

Q3_S5_N1: Aziz said it was unacceptable that all Iraqi concerns were being ignored

Q3_S5_N2: Aziz said [[in an interview with the Neue Zurcher Zeitung]] it was unacceptable that all Iraqi concerns were being ignored

AFP_ENG_20020730.0408; Q3_S5: "The return of UN weapons inspectors must be part of a plan that would embrace the settlement of the conflict over Iraq, as laid out under United Nations resolution 687," Aziz told the daily.

Q3_S5_N1: "The return of UN weapons inspectors must be part of a plan that would embrace the settlement of the conflict over Iraq," Aziz said.

Q3_S5_N2: "The return of UN weapons inspectors must be part of a plan that would embrace the settlement of the conflict over Iraq, [[as laid out under United Nations resolution 687]]," Aziz said.

Q3_S5_N3: The return of UN weapons inspectors must be part of a plan that would embrace the settlement of the conflict over Iraq, as laid out under United Nations resolution 687," Aziz told [[the daily]]

AFP_ENG_20020730.0408; Q3_S6: . Repeating criticism of what Iraq sees as US pressure on UN Secretary-General Kofi Annan, Aziz noted that the issue of weapons inspections appeared to be the top priority for the world body.

Q3_S6_N1: Aziz noted that the issue of weapons inspections appeared to be the top priority for the world body.

Q3_S6_N2: [[Repeating criticism of what Iraq sees as US pressure on UN Secretary-General Kofi Annan]], Aziz noted that the issue of weapons inspections appeared to be the top priority for the world body.

Nugs

Same as above

Supernugs

Supernug_1:

Q3_S2_N1: Tariq Aziz is Iraq's Deputy Prime Minister

Q3_S3_N1: Tariq Aziz is Iraq's Deputy Prime Minister