Paraphrasing Error Types Extended Definition

In this document, we offer a more detailed exposition of the 15 error taxonomy that was constrained by page limitations during the paper submission process. This extended discussion provides comprehensive insights into each error type, elucidating their nuances and implications in a manner that enriches the understanding of readers beyond what was feasible within the confines of the main paper.

#	Utterance	Paraphrase	Error Label
1	Is it chillier here	Is it Colder Here ?	Spelling
2	book a party of 4 for a cafe rated best	booking a 4 party for a best rated cafe	Spelling
3	What is the weather forecast for Manassa?	What's the weather prognosis forManassa ?	Spelling
4	is it cold in Vigus TN	if it's cold in ~~the~~ Vigus TN	Grammar
5	What's the weather in Poland?	What is the time in Poland?	Semantic
6	Book spot in Fults in Federated States Of Micronesia	Book spot at Fults in the Federated Federal States of Micronesia.	Redundant
7	Book me a lunch at Boreas for a party of 8	Book me a lunch at Boreas for a party of 8!	Duplication
8	book a table in Yachats for 3 people	Procure iservation sayrettel batou hcastuohcaeY nA selaecinimanyThgiretepotsereahtroforretaB	Incoherent
9	Will it be cold in Haiti?	Will There Be Cold in Haiti ?.	Punctuation
10	Tell me the weather forecast for France	Tell me the weather forecast for France for the weekend .	Slot addition
11	Book a spot for now in NY for 10	Book a place in NY for 10	Slot omission
12	What is the weather forecast here	What is the forecast for the weather in the future ?	Wrong Slot
13	Tell me if it will be foggy in Maxwell	Inform me, should ~~the location known as~~ 'Maxwell' suffer from ~~an impediment such as haze/mist/~~ fog ~~I'd really appreciate knowing about such trivia...~~	Wordy
14	Will there be wind in Hornitos DC?	Will there be wind in Hornito's DC?	Homonym
15	Will it be temperate in West Liberty MH?	Will it'll be temperate in West Freedom MH?	Homonym
16	Will the weather be good at breakfast in Bay Harbor Islands	Is the weather good for breakfast in the Bay Puerto Islands?	Homonym
17	is Saint Robert hotter than Turkmenistan?	Saint Robert is hotter than Turkmenistan.	Answering
18	book spot for 4 in Somalia	Book spot for 4 in Somalia is available for free .	Answering
19	Is it hot in the current location?	Is it hot in the current location? If so, why?	Questioning
20	book a table in CA for 2 people in 3 hours	booking a table in Central Asia for 2 people in 3 hours	Acronym

Table 1: Samples of erroneously generated paraphrases. The colors in the *Paraphrase* column denote the locations of errors.

Language Errors

Language Errors encompass a range of inaccuracies in paraphrased content, including spelling, grammar, syntax, and semantic inconsistencies. Seven types of *language errors* were identified.

Spelling Spelling entails the proper arrangement of letters to form words, thus ensuring adherence to accepted linguistic conventions. Misspelling, a prevalent issue in

crowdsourced paraphrasing, as noted by Yaghoub et al. [3], involves spelling errors that can significantly impact the readability and clarity of the text. In our evaluation, we extended the concept of misspelling to include additional factors such as capitalization errors, missing hyphens, and omitted spaces, all of which contribute to overall lexical inaccuracies in the paraphrases. For instance, sample 1 in Table 1 exemplifies a capitalization error, sample 2 shows a missing hyphen, and sample 3 illustrates an instance of missing spaces, all of which are considered misspelling errors within the context of our evaluation. For an outline of spelling error samples, please refer to Table 1 in the Appendix A.

Grammar These errors refer to the improper use of various grammatical elements such as verbs, prepositions, singular/plural nouns, articles, and other linguistic elements [3]. Such errors can result in grammatically incorrect or awkward linguistic sentences. For instance, in sample 4 from Table 1, the paraphrase displays a misuse of the definite article "the" preceding city names. In English, the definite article "the" is used before some geographical names but not others. Generally, "the" is omitted before the names of countries and territories, as well as other geographical features, such as streets, lakes, cities, and towns. For an outline of grammar error samples, please refer to Table 2 in the Appendix A.

Semantic This error, further characterized as a "*semantic deviation*", arises when a paraphrase diverges from the intended meaning of a seed utterance. In other words, the generated text fails to accurately convey the essence or intent of the initial utterance. For example, in sample 5, the paraphrase mistakenly requested information about time instead of weather conditions, indicating a semantic deviation from the utterance. For an outline of semantic error samples, please refer to Table 3 in the Appendix A.

Redundant Redundancy occurs when there is unnecessary repetition of words or phrases within a paraphrase, resulting in excessive use of language that does not add any additional meaning or value to the text. This redundancy can manifest in two main forms: (i) exact repetition, in which the same word or phrase is repeated verbatim, and (ii) redundant expression, by expressing the same idea with different words, where different words or phrases convey the same meaning or context. In sample 6, the term "Federal" redundantly duplicates the meaning conveyed by the term "Federated", resulting in unnecessary repetition and verbosity in the paraphrase. For an outline of redundant error samples, please refer to Table 4 in the Appendix A.

Duplication Duplication arises when the generated paraphrase either mirrors or closely resembles the utterance. We employ the term "*near-copy*" to describe instances where the paraphrase closely mirrors the utterance. "*Near-copy*" occurs when a paraphrase differs from the utterance solely in terms of punctuation (e.g., commas, periods,

question marks, and colons) and capitalization. However, the "*near-copy*" condition is violated if the paraphrase contains at least one token that differs from the utterance. This is illustrated in sample 7. For an outline of duplication error samples, please refer to Table 5 in the Appendix A.

Incoherent We designate a paraphrase as incoherent when the generated text lacks clarity, coherence, or logical structure, which makes it difficult for the reader to comprehend or understand its intended meaning. This can manifest as confusing, perplexing, or nonsensical language that fails to effectively convey the original message. Sample 8 is a clear illustration of this phenomenon, where the paraphrase lacks coherence and is challenging to interpret. For an outline of incoherent error samples, please refer to Table 6 in the Appendix A.

Punctuation A punctuation error occurs due to the overuse or inappropriate placement of punctuation marks in the paraphrase. This includes inserting question marks or exclamation marks in sentences without corresponding questions or interjection(i.e., exclamations). It also encompasses the misuse of currency symbols (, _, #, &, etc) and other non-alphabetic or numeric symbols (, _, #, &, etc). For instance, in Table 1, sample 9 displays a punctuation error where a period follows a question mark incorrectly. Similarly, in sample 5 of Figure **??**, the model mistakenly inserted a quotation mark after the question mark, highlighting another case of punctuation misplacement. For an outline of punctuation error samples, please refer to Table 7 in the Appendix A.

Slot Errors

These errors involve incorrect actions at the slot level, such as adding, removing, or altering slots.

Slot addition Slot addition occurs when the model inserts at least one additional slot value into a paraphrase despite not being mentioned in the utterance. This introduces new information that is not a part of the user's input. This phenomenon can lead to an inaccurate representation of a user's intent. Consider Sample 10, where the token "the weekend" which represents the value of the "timeRange" slot in the paraphrase, is an additional slot. It is important to note that for slots that accept multiple values, such as the "party_size_description" slot in the "*BookRestaurant*" intent, adding multiple values is not considered an error. For instance, in the utterance "Book a table for Ali, Jo, and Max", the tokens "Ali", "Jo" and "Max" collectively form a single multi-token value, and the "party_size_description" slot treats them as a single value. In such

cases, adding multiple values to the paraphrase would not be considered an error as long as they reflect the mention of a multi-value slot. However, in situations where the addition of slot values deviates from the user's original intent or introduces ambiguity, it is classified as a slot addition error. These errors can impact the performance and reliability of natural language understanding systems, highlighting the importance of accurate slot value identification and representation in paraphrase generation. For an outline of slot addition error samples, please refer to Table 8 in the Appendix A.

Slot Omission Slot omission occurs when a slot, anticipated to be referenced, is omitted in the paraphrase. This is exemplified in Sample 11, where the paraphrase fails to provide a value for the "timeRange" slot, despite it being explicitly stated as "now" in the utterance. For an outline of slot Omission error samples, please refer to Table 9 in the Appendix A.

Wrong Slot A wrong slot error occurs when the value of a slot in the paraphrase deviates from the expected slot and is replaced with a "*non-matching*" token. A "*non-matching*" token is a word or phrase in the paraphrase that fails to accurately represent or correspond to a mention of an expected slot value in the utterance. For example, if the utterance requests the current location's weather forecast but the paraphrase mentions a specific time period instead of the location, the token representing the time period would be considered a "*non-matching*" token. Essentially, it is a term or phrase that does not align with the expected content or context of the slot it is intended to replace in the paraphrase. For instance, in sample 12, the paraphrase erroneously asks for a weather forecast for a specific time period instead of inquiring about the forecast for the current location. For an outline of wrong slot error samples, please refer to Table 10 in the Appendix A.

Errors of human characteristics

Human characteristic errors encompass a subset of errors that exhibit characteristics similar to human behavior. These errors mimic human-like actions and often deviate from the intended paraphrasing task. For instance, instead of generating a paraphrase for a given seed utterance, the transformer may respond to the request as if it were a human interacting in conversation. Identifying these errors highlights instances where the transformer's output closely resembles human-like responses, rather than generating accurate paraphrases.

Wordy Wordy errors occur when the generated text contains excessive wording or unnecessary or excessive information, leading to verbose paraphrasing. These errors

often arise because of the inclusion of extraneous details or an overly complex language, detracting from the clarity and conciseness of the paraphrase. Sample 13 provides an example of this phenomenon. Identifying and addressing wordy errors is essential to ensure that paraphrases remain clear, concise, and informative, thereby enhancing their overall quality and readability. For an outline of `wordy` error samples, please refer to Table 11 in the Appendix A.

Homonym In linguistics, homonyms are words that share the same pronunciation regardless of their spelling [1] [1, 2]. A homonym error occurs when a token in the paraphrase shares a similar or identical pronunciation with a token in the original utterance. For example, in sample 14, both "Hornito's" and "Hornitos" have the same pronunciation, and the model incorrectly uses the *possessive apostrophe* "**'s**" in the paraphrase. This category encompasses instances where a token is replaced with a synonym or translated into another language, potentially changing the meaning of the paraphrase. Samples 15 and 16 illustrate these cases, respectively. For an outline of `homonym` error samples, please refer to Table 12 in the Appendix A.

Answering This error occurs when the paraphrased content, whether entirely or partially, is a response to the original utterance, causing the model to generate an answer instead of a paraphrase. In sample 17 from Table 1, the model responds to a question, transforming the entire paraphrase into an answer rather than maintaining its role as a paraphrased query. In some instances, the answer is added to the query, as seen in sample 18. To distinguish this case from the Wordy Error, we decided that if the additional tokens express an answer to a query or question contained in the initial utterance, the sentence is labeled as Answering Error. For an outline of `answering` error samples, please refer to Table 13 in the Appendix A.

Questioning This error arises when the paraphrased text adds an extra question or interrogation that was not present in the seed utterance. For instance, in sample 19, the inclusion of the phrase "*If so, why?*" demonstrates this error by introducing an interrogative element; thereby introducing an additional question that was not part of the utterance. For an outline of `Questioning` error samples, please refer to Table 14 in the Appendix A.

Acronym An acronym is a word or name formed from the initial letters of a longer phrase. Acronym error arises when the paraphrase improperly uses an acronym for a

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[1]https://www.dictionary.com/browse/homonym
Oxford English Dictionary. homonym, n. Oxford: Oxford University Press, 2017. https://www.oxfordlearnersdictionaries.com/definition/english/homonym?q=homonym

token in the seed utterance or includes an incorrect expansion of an acronym from the seed utterance. In sample 20, "Central Asia" is an inaccurate expansion of the acronym "**CA**" which originally represents California, a value for the "<u>state</u>" slot. For an outline of Acronym error samples, please refer to Table 15 in the Appendix A.

Appendix A

1 Error types detailed examples

1.1 Spelling

#	Utterance	Paraphrase
1	Is it chillier here	Is it Colder Here ?
2	book a party of 4 for a cafe rated best	booking a 4 party for a best rated cafe
3	What is the weather forecast for Manassa?	What's the weather prognosis forManassa ?

Table 1: Spelling error samples.

1.2 Grammar

#	Utterance	Paraphrase
1	is it cold in Vigus TN	if it's cold in ~~the~~ Vigus TN
2	Will there be wind in Hornitos DC?	Will there are winds at Hornitos DC?
3	is it freezing in Prompton	Was it frozen in Prompton?
4	I want to book a restaurant in Massachusetts for six p.m.	I wants to book one restaurant in MIT for 6 p.m.

Table 2: Grammar error samples.

1.3 Semantic

#	Utterance	Paraphrase
1	What's the weather in Poland?	What is the time in Poland?
2	is it freezing in Prompton	Was it frozen in Prompton?
3	Book a place now for 2	Buy a place now for 2
4	What's the weather in Nigeria?	What is the time in Nigeria?

Table 3: Semantic error samples.

1.4   Redundant

#	Utterance	Paraphrase
1	I need a table in Elba for ten that has a bar	I need a table in Elba for ten that has a bar. That has a bar .
2	Book spot in Fults in Federated States Of Micronesia	Book spot at Fults in the Federated Federal States of Micronesia.
3	Will it be colder in Texas?	Will it'll be cool in Texas?
4	i need a table for 7 in Kashegelok VT	I need a table for 7 in Kashegelok VT. A single table of 7 is required.

Table 4: Redundant error samples.

1.5   Duplication

#	Utterance	Paraphrase
1	Book me a lunch at Boreas for a party of 8	Book me a lunch at Boreas for a party of 8!
2	I want to book a restaurant for 3 people in Ohio.	I want to book a restaurant for 3 people in Ohio).
3	Book spot at Fried chicken restaurant in Mauritania	Book spot at Fried chicken restaurant in Mauritania.

Table 5: Duplication error samples.

1.6   Incoherent

#	Utterance	Paraphrase
1	book restaurant at ten that has internet	restaurant at ten, the internet has
2	book spot at a highly rated restaurant in Tajikistan	Why are most of the tourists here in Tajikistan eating only a book spot at a highly rated restaurant?
3	I need a table in Anderson Arkansas	I need a table in Anderson Arkansas to go with my husband and wife . I am 26 years old

Table 6: Incoherent error samples.

1.7   Punctuation

#	Utterance	Paraphrase
1	What will the weather be in Deer River?	What will be the weather in Deer River ??
2	Will it be cold in Haiti?	Will There Be Cold in Haiti ?.
3	book a table for me, heidi and cara in Saudi Arabia	Book a table for me, Heidi and Cara in Saudi Arabia !

Table 7: Punctuation error samples.

1.8   Slot addition

#	Utterance	Paraphrase
1	Tell me the weather forecast for France	Tell me the weather forecast for France for the weekend .
2	need to book a table in Ludden	need to book a table in Ludden for dinner .
3	Is the weather chilly in Pintura	Is the weather too cold in Pintura for winter ?

Table 8: Slot addition error samples. The underlined tokens are the the required slots and their respective values: (1) country="France" (2) city="Ludden" (3) city="Pintura" and condition_temperature="chilly".

1.9   Slot omission

#	Utterance	Paraphrase
1	What is the weather in Weidman will it be warm	What is the weather like in Weidman?
2	Will it be warmer near here on jan. the fifteenth?	Will it be warmer here on the fifteenth?
3	Book a spot for now in NY for 10	Book a place in NY for 10

Table 9: Slot Omission error samples. The underlined tokens are the the required slots and their respective values: (1) condition_temperature="warm" and city="Weidman" (2) spatial_relation="near", timeRange="jan. the fifteenth", current_location="here" and condition_temperature="warmer" (3) timeRange="now", state="NY" and party_size_number="10".

1.10   Wrong Slot

#	Utterance	Paraphrase
1	What is the weather forecast here	What is the forecast for the weather in the future ?
2	I want to book a restaurant in 40 weeks in Iowa.	I want to book a restaurant in Iowa for 40 weeks .
3	What's the weather in FL?	What Is the Weather in LF ?
4	Book a spot for now in NY for 10	Book a spot for now in NY for 10$

Table 10: Wrong Slot error samples. The underlined tokens are the the required slots and their respective values: (1) current_location="here" (2) timeRange="in 40 weeks" and state="Iowa" (3) state="FL" (4) timeRange="now", state="NY" and party_size_number="10".

1.11   Wordy

#	Utterance	Paraphrase
1	I need to find a table for 4 at a brasserie that has fondue	I needs to find a desk for 4 in a brasserie ~~that is fucked~~.
2	Need a table for 6 close to Big Sandy	~~You~~ need a table for 6 near Big Sandy
3	I want to eat in Wallis and Futuna and get a blizzard	I want to eat in Wallis and Futuna and get a blizzard. ~~I want to make it a picnic for my friends.~~

Table 11: Wordy error samples.

1.12   Homonym

#	Utterance	Paraphrase
1	What is the weather forecast for Danvers	What is the weather forecast for Danvers (Denver)?
2	Will there be wind in Hornitos DC?	Will there be wind in Hornito's DC?
3	find me a restaurant in Pembine Montana	find myself a restaurant on Pembin Montana
4	Will it be temperate in West Liberty MH?	Will it'll be temperate in West Freedom MH?
5	Will the weather be good at breakfast in Bay Harbor Islands	Is the weather good for breakfast in the Bay Puerto Islands?

Table 12: Homonym error samples.

1.13   Answering

#	Utterance	Paraphrase
1	is Saint Robert hotter than Turkmenistan?	Saint Robert is hotter than Turkmenistan.
2	Weather in Malaysia	The weather in Malaysia is weather-wise and seasonally favorable.
3	book spot for 4 in Somalia	Book spot for 4 in Somalia is available for free.

Table 13: Answering error samples.

1.14   Questioning

#	Utterance	Paraphrase
1	Is it hot in the current location?	Is it hot in the current location? If so, why?
2	Is it cold here?	Is it cold here in the US? Why or why not?
3	I want to book a restaurant for five people.	I want to book a restaurant for five people. What dates do you need? Why do you need to book?

Table 14: Questioning error samples.

1.15 Acronym

#	Utterance	Paraphrase
1	book a table in CA for 2 people in 3 hours	booking a table in Central Asia for 2 people in 3 hours
2	book a restaurant in NE for ascension day in Cle Elum that serves seafood for me and my nieces	booking a diner in north-east for the day of ascension in Cle Elum which serves seafood to me and mine nieces.

Table 15: Acronym error samples.

1.4   Redundant

#	Utterance	Paraphrase
1	I need a table in Elba for ten that has a bar	I need a table in Elba for ten that has a bar. That has a bar .
2	Book spot in Fults in Federated States Of Micronesia	Book spot at Fults in the Federated Federal States of Micronesia.
3	Will it be colder in Texas?	Will it'll be cool in Texas?
4	i need a table for 7 in Kashegelok VT	I need a table for 7 in Kashegelok VT. A single table of 7 is required.

Table 4: Redundant error samples.

1.5   Duplication

#	Utterance	Paraphrase
1	Book me a lunch at Boreas for a party of 8	Book me a lunch at Boreas for a party of 8!
2	I want to book a restaurant for 3 people in Ohio.	I want to book a restaurant for 3 people in Ohio).
3	Book spot at Fried chicken restaurant in Mauritania	Book spot at Fried chicken restaurant in Mauritania.

Table 5: Duplication error samples.

1.6   Incoherent

#	Utterance	Paraphrase
1	book restaurant at ten that has internet	restaurant at ten, the internet has
2	book spot at a highly rated restaurant in Tajikistan	Why are most of the tourists here in Tajikistan eating only a book spot at a highly rated restaurant?
3	I need a table in Anderson Arkansas	I need a table in Anderson Arkansas to go with my husband and wife . I am 26 years old

Table 6: Incoherent error samples.

1.7   Punctuation

#	Utterance	Paraphrase
1	What will the weather be in Deer River?	What will be the weather in Deer River ??
2	Will it be cold in Haiti?	Will There Be Cold in Haiti ?.
3	book a table for me, heidi and cara in Saudi Arabia	Book a table for me, Heidi and Cara in Saudi Arabia !

Table 7: Punctuation error samples.

1.8   Slot addition

#	Utterance	Paraphrase
1	Tell me the weather forecast for France	Tell me the weather forecast for France for the weekend .
2	need to book a table in Ludden	need to book a table in Ludden for dinner .
3	Is the weather chilly in Pintura	Is the weather too cold in Pintura for winter ?

Table 8: Slot addition error samples. The underlined tokens are the the required slots and their respective values: (1) country="France" (2) city="Ludden" (3) city="Pintura" and condition_temperature="chilly".

1.9   Slot omission

#	Utterance	Paraphrase
1	What is the weather in Weidman will it be warm	What is the weather like in Weidman?
2	Will it be warmer near here on jan. the fifteenth?	Will it be warmer here on the fifteenth?
3	Book a spot for now in NY for 10	Book a place in NY for 10

Table 9: Slot Omission error samples. The underlined tokens are the the required slots and their respective values: (1) condition_temperature="warm" and city="Weidman" (2) spatial_relation="near", timeRange="jan. the fifteenth", current_location="here" and condition_temperature="warmer" (3) timeRange="now", state="NY" and party_size_number="10".

1.10   Wrong Slot

#	Utterance	Paraphrase
1	What is the weather forecast here	What is the forecast for the weather in the future ?
2	I want to book a restaurant in 40 weeks in Iowa.	I want to book a restaurant in Iowa for 40 weeks .
3	What's the weather in FL?	What Is the Weather in LF ?
4	Book a spot for now in NY for 10	Book a spot for now in NY for 10$

Table 10: Wrong Slot error samples. The underlined tokens are the the required slots and their respective values: (1) current_location="here" (2) timeRange="in 40 weeks" and state="Iowa" (3) state="FL" (4) timeRange="now", state="NY" and party_size_number="10".

1.11 Wordy

#	Utterance	Paraphrase
1	I need to find a table for 4 at a brasserie that has fondue	I needs to find a desk for 4 in a brasserie ~~that is fucked~~ .
2	Need a table for 6 close to Big Sandy	~~You~~ need a table for 6 near Big Sandy
3	I want to eat in Wallis and Futuna and get a blizzard	I want to eat in Wallis and Futuna and get a blizzard. ~~I want to make it a picnic for my friends.~~

Table 11: Wordy error samples.

1.12 Homonym

#	Utterance	Paraphrase
1	What is the weather forecast for Danvers	What is the weather forecast for Danvers (Denver)?
2	Will there be wind in Hornitos DC?	Will there be wind in Hornito's DC?
3	find me a restaurant in Pembine Montana	find myself a restaurant on Pembin Montana
4	Will it be temperate in West Liberty MH?	Will it'll be temperate in West Freedom MH?
5	Will the weather be good at breakfast in Bay Harbor Islands	Is the weather good for breakfast in the Bay Puerto Islands?

Table 12: Homonym error samples.

1.13 Answering

#	Utterance	Paraphrase
1	is Saint Robert hotter than Turkmenistan?	Saint Robert is hotter than Turkmenistan.
2	Weather in Malaysia	The weather in Malaysia is weather-wise and seasonally favorable.
3	book spot for 4 in Somalia	Book spot for 4 in Somalia is available for free .

Table 13: Answering error samples.

1.14 Questioning

#	Utterance	Paraphrase
1	Is it hot in the current location?	Is it hot in the current location? If so, why?
2	Is it cold here?	Is it cold here in the US? Why or why not?
3	I want to book a restaurant for five people.	I want to book a restaurant for five people. What dates do you need? Why do you need to book?

Table 14: Questioning error samples.

1.15   Acronym

#	Utterance	Paraphrase
1	book a table in CA for 2 people in 3 hours	booking a table in Central Asia for 2 people in 3 hours
2	book a restaurant in NE for ascension day in Cle Elum that serves seafood for me and my nieces	booking a diner in north-east for the day of ascension in Cle Elum which serves seafood to me and mine nieces.

Table 15: Acronym error samples.

2 Samples of paraphrases labeled with different errors

Example 1. The paraphrase in Fig. 1 has three errors: Slot Addition , Wordy and Answering .

The Slot Addition error is caused by the presence of an extra value for the party_size_number slot, in all we will have two values (2 participants) and (7 people) for the slot.

The Answering error is triggered by the following sentence in the paraphrase (No previous bookings), indeed, the sentence is actually an answer to the utterance.

Finally, the paraphrase contains unnecessary tokens that caused a Wordy error, where we should remove the following sentence (~~Refreshment/lunch ... previous bookings~~) from the paraphrase.

Fig. 1: Paraphrase labeled with Slot Addition, Wordy and Answering errors.

Example 2. The paraphrase in Fig. 2 has two errors: Wrong Slot and Slot omission . U.S is not an appropriate value for the current_location slot, but rather it is a value for another slot the Country slot, hence the Wrong Slot error is reported. The paraphrase does not contain a value for the timeRange slot, hence the presence of a Slot Omission error.

Fig. 2: Paraphrase labeled with Wrong Slot and Slot Omission errors.

Fig. 3: Paraphrase labeled with Slot Addition and Semantic errors.

Example 3. The paraphrase in Fig. 3 has two errors: Semantic and Slot Addition . There is a Semantic error in the paraphrase, as it asks why it is cold in Sweden (the cause), instead of asking about the weather in Sweden, if it is cold. The Slot Addition error arises from the presence of a Country with the value Sweden .