Dealing with Variation in Audio Description Scripts

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Dealing with Variation in Audio Description Scripts

Abstract (150-200 words)

Audio description scripts represent a text type structured into several parts helping the speaker produce their recording. The heterogeneous composition and formatting of these sections makes it difficult to describe the linguistic features of audio description (AD) scripts in one go. Hence, it seems useful to implement them into a corpus tool enabling the analysis of the specificities of each section. In this paper, the AD scripts of 69 episodes from a German television show serve as a sample for exploring a method to deal with variation when preparing AD scripts for corpus processing. Sections presenting the state of the art on AD script corpora research, variation issues, and our dataset are followed by the description of the main tools we used and by the analysis of AD script features. Then comes a section dedicated to the treatments applied to our dataset followed by a section in which the results are discussed. It is concluded that modifying original data for the sake of corpus implementation (e.g. changing formatting features) is a weighty step which may have unforeseen consequences: formal variation in AD scripts conveys more meaning than expected.

Key words: audio description, TV show, German, variation, corpus.

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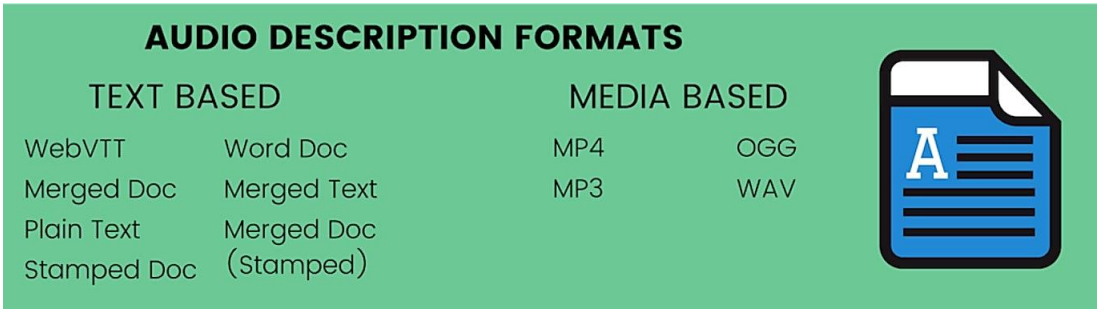
1. Introduction

Audio descriptions (AD) are additional audio files which make visual aspects of films available to blind or visually impaired people. AD scripts contain, besides the text to be read aloud, a range of text elements helping the speaker produce their recording, mainly composed of time indications and speed instructions, elements that must not be overlapped (dialogue prompts and sound events), and indications of scenery changes. This "truly interdisciplinary text type" (Mazur, 2020a, p. 234), described in Mazur (2020b), offers interesting challenges to researchers specializing in linguistics, literature, or translation studies. Ideally, AD creation is right from the beginning part of the film production process (Mazur, 2020a, p. 242) and assisted by a tool which automatically provides them with XML-friendly structures like time stamps and gaps for audio description. However, if ADs are created for already existing films, such structures must be added manually in the case of text-based ADs or, in the case of media-based ADs, with the help of an audio description tool leading to a media-based output. The distinction between text-based and media-based ADs is mentioned on the website of the company 3Play Media (*Everything You Need to Know About Audio Description*, n.d.), which is also the source of Figure 1.

Figure 1.

Audio description formats.



The text-based AD creation method (visioning the film and writing the AD text in a separate text file) is still used in Germany, even if digital tools like Frazier (Pajonczek & David, 2019) "make it faster and easier to create ADs", as mentioned on the web page *Audio Description of Visual Information* (Henry, 2019). In contrast to Matamala (2019) who concentrates on the multimodal aspects of the creation of an audio description corpus, our paper focuses on text-based ADs, subsequently referred to as AD scripts, which are less subject to copyright issues than media-based ADs. This choice is also motivated by our intention to understand the consequences of the use of technology on the formal features of AD scripts during the AD creation process.

This paper continues with two sections on corpus-based AD script research and on variation, the presentation of our corpus, and a basic description of the corpus tool TXM (Heiden, 2010) and the text editor ATOM (*ATOM - A Hackable Text Editor for the 21st Century*, 2020). We then describe our observations in the domain of AD script features, and we share our decisions concerning the pre-

processing changes to be applied to our dataset. We then explain how we carried out these changes, and we sum up our findings.

2. State of the art: Corpus-based AD script analysis

Several researchers report that the use of corpus tools can support the description of the language of audio descriptions (Fix, 2005; Perego, 2018; Reviers, 2018; Salway, 2007; Zago, 2019). According to Fix (2005, p. 8), in the book she edited the following aspects of German audio descriptions have been analysed: morphosyntax, lexicology, semantics, discourse features, and non-verbal elements. Reviers (Reviers, 2018) provides a general description of the language of Dutch AD scripts, and she uses the part-of-speech tagger Frog (van den Bosch et al., 2007) and XML tags to annotate her AD data. As far as we know, the language features of the different sections of German AD scripts–time indications, prompts, speaker parts, and stage directions–have not yet been thoroughly analysed, nor described with the help of corpus tools.

3. Dealing with variation

AD scripts not only vary with respect to their different sections, but also on the formatting level. Such variational characteristics make corpus creation a challenging task, as explained in the introduction to a volume of the *CORPUS* journal dedicated to variation in oral corpora (Dugua & Kanaan-Caillol, 2021). In our paper, the AD scripts of 69 episodes from the German television show *Neues aus Büttenwarder* (Eberlein, 1997) are used to develop a method to prepare AD script data in text format for corpus processing. Even if one seeks to let the original data as intact as possible, a posture which Pincemin (2011) calls “faithfulness to the text”, the intention to implement them into a given corpus tool–in our case TXM–implies the transformation the word files into plain text files and a certain number of pre-processing treatments (check, normalise, and sometimes even modify the data), failing which the query results will not be reliable enough, especially in the case of “less homogenous language varieties” (Schneider, 2020). Schneider explains why and how he made such changes when creating *Songkorpus.de* (Schneider, n.d.), a corpus containing German song lyrics. Some of the challenges he had to master also concern AD script data, e.g. the presence of non-standard language features.

4. Buettenwarder Corpus

The first edition of the Buettenwarder corpus was created during a one month's bachelor internship linked to the French and German research project xxx. Implemented into TXM, this corpus contains 227,070 tokens, including word forms and punctuation marks. Its creation served as a test of our corpus pre-processing procedures before applying them to a larger body of AD scripts. The content was provided by the German broadcast company Polyphon Film-und Fernsehgesellschaft, Norddeutscher Rundfunk (NDR). We were granted the right to use the AD scripts of 69 episodes (out of 73 in total) of the TV show *Neues aus Büttenwarder* (Eberlein, 1997) for research and teaching purposes and to deposit the annotated dataset in an open corpus repository. In the Internet Movie

Data base (IMDb), this TV show is described as follows (*Neues aus Büttenwarder (TV Series 1997–) - IMDb*, 2001):

> Translating as “News from Büttenwarder”, the series recounts the modern-day trials and tribulations of a small, out-of-the way north German village. It generally focuses on the hair-brained schemes of farmer Kurt Brakelmann and his best friend Adsche Tönnsen to improve their lot. The action usually revolves around the village pub "Unter den Linden" and its cast of regular drinkers. Events are often precipitated by the arrival of outsiders with modern ideas which are sometimes met with suspicion but more often with overenthusiastic interest, especially if it might mean some revenue for the impoverished residents.

Our metadata file contains the episode numbers and titles of episodes 1-73 as well as the names of the AD script authors, the publication date (if available) of each text file and their size (in words). Table 1 lists the metadata of episodes 70-72.

Table 1.

Metadata of the Buettenwarder corpus.

episode number	episode title	author	publication date	size
70	Groggy	Ovelgönne	2016	1892
71	Laborette	Ovelgönne, Tietz	2016	2177
72	Oh!	Beckmann	2016	1650

5. Tools

5.1. Corpus processing tool TXM

As described on the TXM wiki website (*TXM - TEIWiki*, 2019), TXM is a “free and open-source XML & TEI compatible textual corpus analysis framework and graphical client based on the CQP search engine and the R statistical software”. This tool suite can be used for any language and is available as a desktop software for Microsoft Windows, Linux, Mac OS X. When downloading the data into TXM, part-of-speech (POS) tags are added automatically with the help of the associated TreeTagger (Schmid, 1994). In addition to well-known corpus-tool functions (frequency lists, concordances, word pattern progression graphics), TXM offers functions which help compare the specific features of subcorpora, like FCA (Factorial Correspondence Analysis) and specific word pattern analysis.

5.2. Text editor ATOM

ATOM (2020) is an open-source text editor. Different users can simultaneously work on a shared file or project, e.g. to find and replace elements. Spelling errors and missing elements are signalled, and

symbols like brackets or quotation marks are always written along with their matching symbol. We used the following functions: 1) Find all in the project, 2) Replace all, 3) Directly overwrite typos, insert missing elements, delete superfluous elements, 4) Select XML grammar.

6. AD script features

AD scripts are composed of text representing oral and written discourse and of numbers and signs. The following sample from episode 21 illustrates the original formatting of the text in the word file provided by the broadcast company NDR. It contains the numbers of the information gaps, time indications, speaker parts (written in bold in this sample), dialogue prompts surrounded by double plus signs or–if cited within a stage direction part–by double quotation marks, stage directions put between brackets, and the abbreviated speed direction (s), meaning “schnell” [quickly], also put between brackets.

44: 10:05:25:09 10:05:27:06 01:22
(s) Kloppstedt setzt sich zum Essen.
45: 10:05:27:07 10:05:49:11 22:04
++ Und Sie sind also Arzt? ...
leichte Bindehautentzündung. ++
46: 10:05:49:12 10:05:51:22 02:10
Brakelmann lacht Kuno aus.
47: 10:05:51:23 10:06:04:08 12:10
++ Und jetzt machen Sie mal Ferien?
... von unserer kleinen, aufstrebenden Gemeinde? ++
48: 10:06:04:09 10:06:05:21 01:12
("Ja" übersprechen)
Kuno reibt sich sein Auge.

[English translation:
44: 10:05:25:09 10:05:27:06 01:22
(s) Kloppstedt sits down for his meal.
45: 10:05:27:07 10:05:49:11 22:04
++ You are a physician, aren't you? ...
mild conjunctivitis. ++
46: 10:05:49:12 10:05:51:22 02:10
Brakelmann laughs at Kuno.
47: 10:05:51:23 10:06:04:08 12:10
++ And now, you are on holiday? ...
from our small, up-and-coming municipality? ++
48: 10:06:04:09 10:06:05:21 01:12
(Override "Yes")
Kuno rubs his eye.]

As illustrated in the sample above, our AD scripts are composed of heterogeneous sections and text elements formatted in various ways. What is more, the typographical conventions vary throughout the 69 Buettenwarder files. Some of the AD scripts show advanced text-based formatting options:

dialogue prompts and stage directions are put in italics, and speed indications are written in bold. It also happens that capitals (some of them even written in bold) are used in stage directions, probably to attract the attention of the recording person. In Table 2, "id" corresponds to the episode number. For space reasons, the text only appears in its English translation.

Table 2.

Varying dialogue prompts and speaker parts.

id	Dialogue prompts	Speaker parts	AD script authors
16	*„LIKE ALWAYS"…*	He is going.	Koop
21	++ You are a physician, aren't you? ++	**Kuno rubs his eye.**	Ovelgönne, Schruhl
18	++ Westerland. Austria. ++	**Outside.**	Tietz, Schruhl
65	*... I will do it.*	He is grinning.	Tietz
70	*„Uncle Krischan ..."*	Krischan has white hair.	Ovelgönne

Table 2 presents a selection of varying dialogue prompts and speaker parts. Time indications also vary throughout the files: they only indicate the start time of an information gap, or they also mention its end time, and some of them even include its length (this is the case in the sample above). This range of variation is partly due to the fact that the different episodes are written by varying authors or author teams over a period of six years (2011-2016). Our in-depth manual analysis of the 69 files proves this statement: the thirteen AD script authors or author teams of our dataset do not all have the same formatting habits. Table 3 presents the variations identified in the time indications and the speaker parts. The third column, called "frequency", indicates in how much episodes out of 69 a given formatting and/or presentation option was chosen.

Table 3.

Variation in time indications and speaker parts.

time indication	speaker part	frequency
beginning	**bold**	6
beginning	roman	22
beginning	**bold**	5
beginning	roman	3
beginning, end	**bold**	1
beginning, length	**bold**	1
length, beginning, end	**bold**	1
scenery number, beginning, end	roman	1
scenery number, beginning, end, length	**bold**	12

scenery number, beginning, end, length	roman	3
scenery number, beginning, end, length	**bold**	2
scenery number, beginning, length, end	roman	7
scenery number, length, beginning, end	**bold**	5

According to Table 3, these are the most frequent combinations: 22 out of 69 episodes only indicate the start time of an AD and show roman characters in time indications as well as in speaker parts. 12 episodes contain full time indications (scenery number, beginning, end, length), provided in roman characters, and all speaker parts in these episodes are written in bold.

In addition, we observed that some of the AD authors use italics for dialogue prompts and stage directions. We noted differences between the signs used to surround dialogue prompts (double plus or double quotation marks). It also happens that the conventions change within one text file or that authors change their conventions in the different episodes they write.

Another explanation for these variations could be the lack of a binding set of AD script writing conventions in German-speaking countries. In Germany, the AD creation recommendations on which several broadcast companies have agreed (Norddeutscher Rundfunk, 2019) only mention content requirements. Anke Nicolai, a German audio describer and trainer, provided us with a list specifying speech direction conventions (translated by us into English). Table 4 juxtaposes her codes to those identified in the Buettenwarder AD scripts.

Table 4.

AD script conventions for speech directions.

Speech directions	Nicolai	Buettenwarder
Speak quickly	s	s (s)
Speak very quickly	s+	ss (ss) (ss:) ss+
Change of scenery within the text	*	#
Do not cover the sound within the text.	(sound)	(sound) (*SOUND*) **(SOUND)**
Go up with the voice to link the different parts of the sentence.	...	
Keep your voice up.	:	
Information was checked.	(!)	[!]

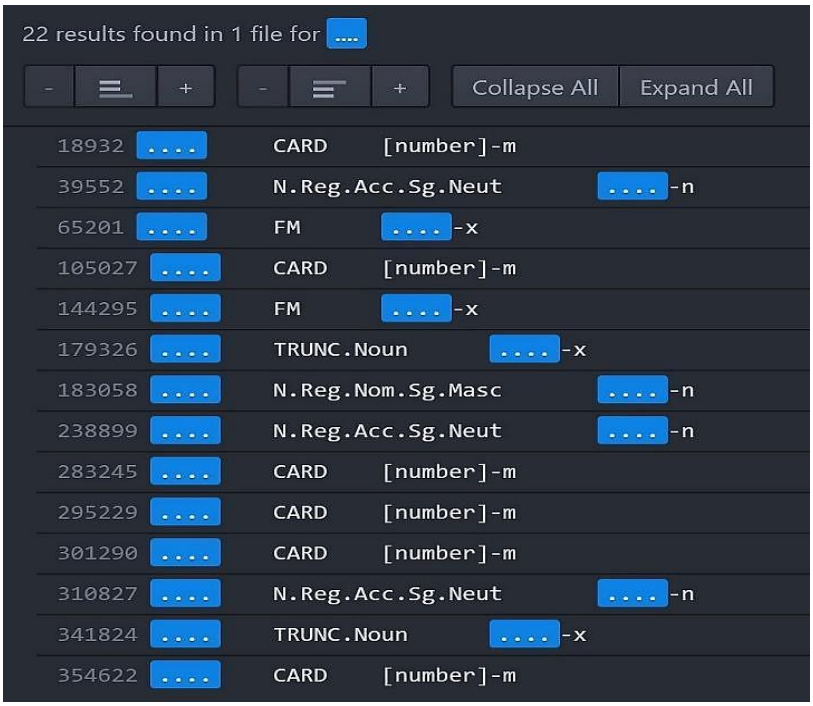
Anke Nicolai uses asterisks instead of hash signs to indicate scenery changes. Three of her conventions (<s+>, <...>, and <:>) do not appear at all in the Buettenwarder dataset; two of them concern tone directions.

7. Pre-processing treatment

During our first upload test of the Buettenwarder dataset into TXM, going along with automatic part-of-speech tagging, a certain number of annotation errors occurred. They mainly concern dots, double dashes, and other signs or symbols. These errors mischaracterise the distribution of parts of speech in our dataset. As illustrated in Figure 2, the TreeTagger analysed multiple dots as numbers, regular nouns, truncated nouns, or foreign words.

Figure 2.

Erroneous labels for multiple dots.



To enable consistent and valid TXM queries in our AD script dataset, we decided to normalise single and double quotation marks, commas, multiple dots, dashes, and hyphens. We also deleted unnecessary spaces and line spacing. All typos identified in the data (typo-like commas included) were corrected, e.g. *Parklatz* > *Parkplatz* [parking space], *enftührt* > *entführt* [kidnapped], and *vereisen* > *verreisen* [take a trip]. In addition, we normalised time indications, deleted all scenery numbers, and added missing scenery change symbols (see subsection 7.2). In the next subsections, we present in more detail some of the changes applied to the data.

7.1. Time indications

In our dataset, time indications appear in six different configurations (without considering the scenery number mentioned in Table 3):

- beginning
- beginning, end
- beginning, length
- beginning, end, length
- beginning, length, end
- length, beginning, end

Based on the assumption that the beginning of a time indication corresponds to the end point of the previous one, we decided to only keep the start times. This corresponds to the choice made by the AD authors in the last 20 episodes of our dataset (in total in 22 episodes; see Table 3). The simplification of the time indications (except of the combination "length, beginning, end") was executed with the Find and replace all function of the text editor ATOM by using the following regular expression:

:[0-9]+\t[0-9]+(:[0-9]+){3}\t[0-9]+:[0-9]+

For each line with a time indication following the order <beginning, end, length>, this expression looks for whole lines starting from the first milliseconds indication.

7.2. Scenery changes

Four out of the sixty-nine Buettenwarder episodes were missing the scenery change symbol <#>. Since audio description expert Anke Nicolai finds this information essential, we introduced the hash sign into the files in which it was missing by manually checking the corresponding audio-described videos. They can be accessed for free on the website *Büttenwarder von Anfang an* (NDR, nd) until a set date, depending on the episode. We observed that in our dataset, the scenery change symbol is never used between two subsequent audio description texts nor within a sentence, even if a scenery change takes place at that time. That is why we mostly introduced the hash sign between two subsequent sentences. With the help of the AD time indication, we checked the different audio-described parts and inserted the hash sign in the positions of the AD script concerned by a scenery change.

7.3. Speaker modes

Speaker modes are used to specify the recording speed of an audio description. The voice talent must read the AD aloud either at normal speed, quickly, or very quickly, so as not to override dialogues nor important sounds. The abbreviations used in our German dataset are respectively <s> (*schnell sprechen*) [speak quickly], <ss> (*sehr schnell sprechen*) [speak very quickly], and <n> (*wieder in normalem Tempo sprechen*) [speak again at normal speed]. The code <n> only appears in the header of episodes 72 and 73. We identified two more codes: the first one, <ss:>, is the only speaker mode

used in episodes 40 and 41. The second one, <ss+>, alternates with the codes <s> and <ss> in episodes 69, 70, and 71. In some of the files, all speaker modes are surrounded by round brackets; we decided to delete them with help of ATOM's Find and replace all function.

7.4. Citing text in AD scripts

It happens that dialogue prompts or speaker parts (i.e. to be recorded AD texts) contain texts surrounded by double or single quotation marks to mention texts displayed on the screen, e.g. the street sign information “Kundenparkplatz” [customer car park] in episode 1. They are also used to cite text pronounced by other speakers like in the following dialogue prompt (also in episode 24):

> "Modischer Chic, ... liebe Gäste einladen und sagen können: "Dies ist mein Zuhause.""
> ["Modern elegance, ... invite smart guests and be able to say: "This is my home.""]

We also found a sample with single quotation marks surrounding text displayed on the screen (more precisely, on a garment mentioned in episode 30):

> Adsche trägt eine ‘Erster FC Köln‘-Trainingsjacke.
> [Adsche is wearing a 'First FC Köln' training jacket].

Even if we did not change the double quotation marks of cited text elements in the Buettenwarder dataset into single ones, we think that single quotation marks would help better distinguish cited text parts from dialogue prompts or speaker parts.

7.5. Multifunctional symbols

In the original Buettenwarder AD scripts, stage directions (including sound events) normally are surrounded by brackets, but it happens that they are surrounded by the same symbols as dialogue prompts, e.g. <++ ... ++> or <"...">. The first example in Table 5 is a dialogue prompt, the second one represents a stage direction (both are from episode 26). As can be seen in the third line, we also identified triple coding procedures: this stage direction from episode 44 is written in italics and surrounded by double plus signs as well as by round brackets.

Table 5.

The multifunctional symbol <++>.

Section	id	German original	English translation
dialogue prompt	26	++ Tschüss! Gute Reise! ++	++ Bye! Have a nice trip! ++
stage direction	26	++ Türumfallen ++	++ Falling door ++
stage direction	44	++ *(Abspann-Musik frei)* ++	++(*Do not override closing music)*++]

As explained in section 7.4, quotation marks are not only used to mark dialogue prompts but also to read aloud texts displayed on the screen. We found it necessary to visually distinguish the text parts that must be recorded from the other AD script parts. Consequently, within speaker parts, we surrounded with round brackets all stage directions and dialogue prompts–if necessary: as a matter of fact, dialogue prompts appearing within speaker texts generally are already surrounded by round brackets and double quotation marks, like in this example from episode 71:

> Die Frau ist Mitte 20 ... („Ich bin total fertig.“) ... und hat rot-braunes Haar.
> [This woman is in her mid-twenties ... (“I am totally worn out.”) ... and has red-brown hair.]

Replacing double quotation marks by round brackets to mark stage directions in AD scripts–a formatting choice corresponding to the conventions identified in the AD scripts of another the television show called (*Dahoam is Dahoam*, 2007)–must be done manually. Automatic replacement may lead to errors because the meaning must be considered to decide if the text to be modified concerns a sound event or a dialogue prompt. In the following example from episode 69, the context confirms that the indication “Stolpern” [Stumbling] is a sound event that must not be overridden:

> Peter stolpert. (STOLPERN) Heinzi rennt weiter.
> [Peter is stumbling (STUMBLING) Heinzi keeps running.]

In any case, this sort of procedure is a strong intervention, which needs discussing before applying it to a larger dataset.

8. First annotation steps

After pre-processing our Buettenwarder data, we surrounded four of the AD sections (time, speaker mode, stage directions, and dialogue prompts) with XML-TEI (P5) tags (TEI Consortium, 2020) and implemented the dataset into TXM. This will enable us to do various text analysis on the data, e.g. explore the specific vocabulary of the stage directions subcorpus (see Figure 3).

Figure 3.

Specific word list.

Propriété word

Unités	Fréquence T 227070	BUETTENWARDER23/stage t=12913	indice
)	2489	2414	1 000,0
(	2488	2413	1 000,0
übersprechen	586	583	1 000,0
frei	531	524	1 000,0
Musik	169	162	190,5
bisschen	182	145	143,0
Sek	114	114	142,2
runterregeln	89	89	110,9
Rest	83	75	83,1
"	13696	1332	82,9
Lachen	67	64	75,1
Türöffnen	48	48	59,8

The first lines of the list displayed in Figure 3 contain quotation marks and words like “übersprechen” [override], “frei” [free], and “runterregeln” [turn down], which are part of the core vocabulary of German stage directions.

9. Discussion

After having described the tool-supported treatments applied to the German Buettenwarder dataset, we now present the limits of our interventions, and we share our recommendations which can be applied to comparable datasets.

9.1. Limits of automatic replacement

The text editor ATOM supported most of our pre-processing steps in a satisfying way. However, automatic replacement has its limits: typos or sound event marking errors were better identified when directly scrolling the text files. In addition, the success of using ATOM for automatic replacement depends on prior normalisation of text structuring signs like commas, dots, exclamation marks, and question marks. Automatic replacement is also conditioned by the quality of the original text: because of missing closing double quotation marks in the original files, our automatic replacement of all ++ symbols surrounding dialogue prompts by double quotation marks led to errors which then had to be manually corrected.

9.2. Limits of disambiguation steps

We found out that the formatting options of our AD script dataset do not always help distinguish stage directions from dialogue prompts. From a linguistic point of view, stage directions are quite heterogeneous: some of them are represented by a single noun like **(KNALL)** [**(BANG)**] or by truncated clauses: *(kurz Motor)* [(*Motor short)*], which makes it difficult to interpret their status (are

they stage directions or dialogue prompts?) when they appear within speaker parts. Other stage directions provide more explicit instructions thanks to the use of action verbs, e.g. in the sample <("Ja" übersprechen)> [(Override "Yes")].

Finally, we wonder if we were right when we deleted the round brackets surrounding the letters <s>, <ss>, and <n> indicating speed instructions; thanks to the presence of round brackets, they would be more clearly associated to stage directions. In addition, during the automatic annotation process, surrounding such short speed instructions with round brackets would lower the risk to confuse them with hyphenated pronouns, like in episode 1: <Mach's gut> [Take care]) or with determiners (see episode 18: <um 10 ist's Licht aus.> [at 10, the light is switched off]).

9.3. Recommendations

When normalising AD scripts, it can be helpful to use the following safe symbol or sign replacements:

- (ss) > ss
- (s) > s
-)" >)
- "(> (
- ? " > ?"
- ! " > !"

In addition, we advise closing all word or text files before opening a new dataset with ATOM and saving all changes before reopening the files with the help of another tool. As a matter of fact, some of our requests provided better results with other text editors: ATOM did not provide any result when we searched our files for double quotation marks at the beginning of all lines, but our search for <\n> elements was successful when using the text editor Notepad++ (Don Ho, 2010). In the case of the treatment of multiple files, the text editor Geany (Brush & Tröger, 2020) helped us, better than Notepad++ and ATOM, understand which files were currently open and which changes were applied to the data through automatic replacement.

10. Conclusion

Preparing text-based AD scripts to implement them into the corpus tool TXM helped us analyse the making of this complex text type. We understood that applying the corpus perspective to such data greatly reduces formal variance. This has advantages and disadvantages: one must carefully evaluate which of the pre-processing steps are necessary and helpful. The risk exists that some of them lead

to simplified, poorly formatted texts, which do not offer enough recording instructions. What would happen if a voice talent tried to record the speaker parts with the help of our modified AD scripts?

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