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Co-translation, consultancy and joint authorship: User-centred translation and editing in collaborative audio description

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ABSTRACT

This article increases knowledge of collaborative translation and user-centred accessibility by describing the case of cooperative audio description in which blind and sighted professional audiodescribers work in teams to draft and edit audiodescription for film and television. Findings from a microethnographic analysis of authentic work processes of team AD in three countries are presented: these include the definition of different types of team AD (a translation approach and an editing approach), and various perspectives to collaboration (co-translation, joint problem-solving and decision-making, joint authorship). The data include video recordings of the teams' work processes and interviews with agents involved. The analysis focuses on the roles of blind team members as (co-)author, consultant, and user representative, and on the manifold phases and subphases of (cooperative) audiodescription. The article demonstrates with data examples how teams solve translation problems in interaction. A classification of problem-solving techniques is also presented. In conclusion, the article reflects on the user-centered and "user-as-maker" approaches to accessibility and translation and discusses how these developments align with current developments in dis/ability studies, advocating a paradigm shift from the medical and social models of dis/ability to a cultural model in which people with dis/abilities become active producers of culture and society.

KEYWORDS

Audiodescription, blindness, collaborative translation, team translation, translation problem, accessibility, user-centered translation, microethnography.

1. Introduction

Our article deals with a user-centred approach of accessibility and discusses, with evidence from authentic translation processes, the role of user as maker in the process. In particular, this article discusses a type of collaborative audiodescription (AD), also termed as 'AD team translation' (Hirvonen and Tiittula 2018) and here in short 'team AD', in which sighted and blind audiodescribers work on an audiodescription face to face. Team AD has a long history in the field of media accessibility and audiovisual translation, yet empirical studies of it remain scarce. It was developed in Germany in the 1990s as the work practice of a public broadcasting company (Dosch and Benecke 2004[1997]) and it is still prevalent in German-speaking Europe (Benecke 2014) and in Finland in the production of high-quality audiodescriptions for film and television.

With the paradigm shifts in accessibility and translation studies towards user-centeredness (Greco 2018; Suojanen et al. 2015) and the cultural turn of dis/ability studies, in which differently-abled people are considered as agents of cultural reproduction (Waldschmidt 2017), it is high time to increase scientific knowledge of collaborative translation and team AD. Access services which involve users as authors, or co-translators, as a

standard practice are still few but potentially growing: for instance, in the integrated approach of AD at theatre, AD is produced conjointly by the entire artistic team, sometimes including users as well (Fryer 2018).

This article reports findings from a microethnographic (see LeBaron 2005; Risku et al. 2022) research project on team AD between blind and sighted members. In the project (MUTABLE 2022), empirical, real-world data were collected from authentic AD production processes in three countries. The main data are video recordings of team meetings because the primary interest of the project has been to (back-)track the multimodal interaction between the team members (e.g., gaze, gestures), the cooperative writing process and the shared cognitive processing (see Hirvonen and Tiittula 2018; Hirvonen and Schmitt 2018; Korhonen and Hirvonen 2021). However, to gain knowledge of the translation process as a whole and to understand the subjects' perspectives to it, supplementary data were collected by interviewing different agents in the production process and by gathering translation documents (i.a. films or TV programs to be audiodescribed, AD drafts). In this article, we discuss how the concept of collaborative translation (O'Brien 2011; Cordingley and Frigau-Manning 2017; Zanotti 2020) manifests in team AD, with the aim of showing, with empirical evidence, how joint authorship is constructed and perceived in team AD and how *users are makers* (Chesley 2017) in the translation process, in particular in solving translation problems. Furthermore, since 'translation problem' is a core topic in translation studies (Toury 2011; Risku et al. 2013: 168; see also Vercauteren et al. (2021: 230–231) about AD-related translation problems), we wish to complement previous research by shedding light on problem solving as a collaborative and interactive phenomenon instead of analysing it on a textual level.

In what follows, we first account for previous research on collaborative and user-centered approaches in translation and accessibility studies. Then, we describe the research project on team AD, including the methodology and data. Finally, we define the types of collaboration found in the data and analyse the role of users in the translation processes, with a focus on problem solving. We conclude the article by discussing the findings with reference to user-centered accessibility and enrich this approach by a discussion of a new turn in dis/ability studies.

2. Background

Collaboration in translation is by no means a new phenomenon (O'Brien 2011: 17), but the definition of collaborative translation remains ambiguous and relational (Cordingley and Frigau Manning 2017: 3–4; Trzeciak Huss 2019: 448; Fan 2020: 340). Collaboration can occur between translators and any other agents involved in the process, such as authors, publishers, and translation agencies, or between two or more translators (O'Brien 2011: 17). In a broad sense, collaborative translation means a situation in which "two or more agents cooperate in some way to produce a translation"

but, more narrowly, it refers to the practice of two or more translators sharing a task and cooperating to produce one translated product (O'Brien 2011: 17–18). Collaborative translation also ties with concepts like community translation, social translation, volunteer translation, fan translation, fansubbing and crowdsourcing (O'Brien 2011: 17), all of which involve aspects of collaboration. In the fusion of translation and collaboration (Zwischenberger 2020: 173), the concept of translaboration (Alfer 2015, 2017) has been introduced. It can be defined as "a blended concept that goes beyond collaborative translation to encompass broader sociological dimensions" (Trzeciak Huss 2019: 460), offering a useful concept for understanding practices, such as audiovisual translation, in its historical instantiations (Zanotti 2020: 218).

The main motivator for collaborative translation is considered to be a commercial one, resulting from growing volumes and tighter deadlines in the translation industry. The two other main motivators are social and personal. The former can occur in contexts like volunteer translation during a natural disaster, whereas the latter manifests itself more as an individual's wish to gain experience or learn new skills (O'Brien: 2011: 17–18; see also O'Brien and Schäler 2010). In the production of AD, the main motivator for collaboration can be considered quality, as the primary goal of the team AD is to produce user-friendly audiodescriptions. In contrast, financial benefits, such as producing large quantities of AD, are perceived incompatible with team AD due to its high demand of (human) resources, and rather to be gained from individual translation (Benecke 2014: 14).

Recent research has described collaborative translation in the field of AVT, such as film translation (Zanotti 2020), and media or cultural accessibility, such as AD in the theatre (Fryer 2018; see also the early work by Udo and Fels 2009). Quoting Nornes (2007: 221), Zanotti (2020: 218) points out that in dubbing, "the 'translator' is in fact a collective entity rather than an individual, comprising 'the team of technicians, translators and actors' who all take part in the process". In subtitling, collaboration is also evident, even though the number of agents involved in the decision-making is significantly smaller (Zanotti 2020: 218). Integrated AD is an approach – so far applied mostly in the context of performing arts – in which AD becomes part of the artwork and is produced within or in collaboration with the artistic team; for instance, along with the planning and rehearsal processes (Fryer 2018: 181). On the whole, research of collaborative AVT translation is faced with challenges due to the paucity of textual evidence and the material traces of the translation process (Zanotti 2020: 221).

Categorising collaborative translation, Jansen (2017: 123) distinguishes between three types of peer action: co-translation (or co-production), cooperation and bonding. Co-translation relates to O'Brien's (2011) narrower definition of collaboration: the joint production of one translation product. Cooperation, on the other hand, can be regarded as "asking for or giving each other advice on translation challenges in the text they are each

working on". Bonding does not relate to translation tasks but to peer activities such as exchanging views, sharing experiences, passing on news and networking (Jansen 2017: 123). A further dimension of collaborative translation is the cooperation between translators and the recipients or users of translation. In recent years, this approach has been discussed under the concept 'user-centered translation' or UCT (Suojanen et al. 2015). A focal property of UCT is to involve users already in the making of translations, contrary to the more traditional method of considering users only after the process, in the form of reception studies or feedback. Involving users in the translation process, either as real persons (user representatives) or as mental models (*persona*), has many benefits, from "achieving an optimal match between the translation and its users" to eliminating "problems that the end users might encounter", all the time keeping "the focus on the end users and their preferences" (Suojanen et al. 2015: 128–129).

Interestingly, one professional translation practice that aligns with the UCT principles long before the concept was developed is AD made by teams of blind and sighted members in Germany. The basics of this collaborative, user-centred work process are described by Bernd Benecke in his dissertation (2014), who together with Elmar Dosch pioneered team AD in the 1990s (Dosch and Benecke 2004[1997]). This collaborative work process, still prevalent in Germany to produce high-quality audio-described films and TV as well as theatre performances, has since expanded to the entire DACH area (Germany, Austria, Switzerland) as well as to Finland. In the Finnish development, the first author of this paper introduced the German practice to a Finnish NGO which promotes and organises training in AD and which established team AD as the preferred practice in the early 2010s.

3. The study on team AD

3.1. The MUTABLE research project

The research on multimodal interaction between blind and sighted co-participants in team AD started in 2016 by the first author of this article and was carried out as a research project MUTABLE (Multimodal Translation with the Blind, see MUTABLE 2022) at the University of Helsinki and later at Tampere University. MUTABLE has studied team AD from an interactive-cognitive translation process perspective (Hirvonen and Tiittula 2018; Korhonen and Hirvonen 2021) and as multimodal interaction between blind and sighted co-participants (Hirvonen and Schmitt 2018; Hirvonen *forthcoming*). Primary data are video recordings of teamwork, but video data on live AD in guided tours have also been collected and analysed (Hirvonen and Saari 2022). The video data has been archived for future research and the data collection is ongoing (MUTABLE 2021). An illustration of the video data is provided in Figure 1: it depicts a moment from the recorded team interaction in which the blind author (on the left) is

displaying multimodally his understanding of an object that is being described by his sighted colleague (on the right).

Figure 1. A blind-sighted AD team at work (an illustration of the MUTABLE video data drawn by Eero Tiittula).

3.2. Methodology and data

MUTABLE followed a microethnographic research design (Risku et al. 2022; LeBaron 2005). As a strand of ethnography, microethnography offers a way of describing and understanding a particular practice (in a culture, at work, etc.) in detail, by tracking back large and abstract processes, such as problem solving in translation, to the micro level, to each segment or identified problem (see Jiménez-Crespo 2017: 106; Korhonen and Hirvonen 2021: 252). Instead of participant observation and interviews, which are the traditional methods of ethnographic data collection, microethnography "focuses on the study of the visible and audible behaviours of social actors embedded in a social and material environment" (Risku et al. 2022: 324, 328). Thus, the primary data of microethnography consist of audio or video recordings, as video renders these behaviors perceivable for the analyst and the analysis verifiable (LeBaron 2005: 276–278; 283).

The MUTABLE project collected data from team AD in 2016–2017 in Germany, Finland, and Austria in order to have empirical – here meaning real-world or naturalistic – evidence of the teamwork practice in its different forms. Access to the field and research subjects (teams) was gained via the first author's networks in the professional AD in the two language areas (Finnish and German). The sample that was compiled (Table 1) represents teams of different sizes and constellations and of different languages and cultures. In total, nine productions were observed (CFAD1–9, 'Collaborative Film Audio Description') and their team meetings recorded either completely or in part (only CFAD1 was not recorded in total due to lack of time; the team AD process would have lasted 4–5 working days, of which 1.5 days were recorded). Finally, one production process (CFAD6) was discarded from the data corpus due to lack of good quality data. The

recorded teams were working on different translation commissions (five in total) and on different phases of AD production (see 4.1. below). The translation commissions were all from the field of audiovisual media but of distinct genres: feature films (two drama movies, a blockbuster action film, two arthouse movies), a documentary film, a lifestyle TV program, and a children's/family TV series. Team constellations vary in the corpus from dyadic (one blind and one sighted member) to multi-party teams: three teams had two members (one blind, one sighted, marked as '1+1' in Table 1), one team had three members (two sighted and one blind, '2+1') and another one even five co-participants (three sighted audio describers, one blind consultant, and a professional speaker, 'multiparty'). The multi-party team was a deviant case in Finland where it is not typical for AD productions to involve more than two sighted authors. Furthermore, the first author of this paper was part of the multiparty team by request because the actual team was in time pressure and needed more describers. Involving the researcher in the production process, as one of the subjects, may have affected the naturalness of data, for instance if the researcher-subject steers the team's interaction toward actions that are relevant for the research project (such as to the discussion of certain translation problems). In this case, the researcher-subject was conscient of this potential impact and attempted to behave "merely" as one of the team members. On the other hand, the participation may have also had a positive effect on data collection if helping the team resulted in building more trust between the subjects and the researcher. All in all, the sample can be described as representative of the versatility of the team AD practice, but it does not entail representative samples of each subpractice (type of teamwork, country) in separate.

Identifier	**Team**	**Language**	**Video data length**	**Other data**
CFAD1	2+1	German	09:00:00	interviews, AD scripts, ST
CFAD2	1+1	Finnish	04:08:00	interviews, AD scripts, ST
CFAD3			04:20:00	
CFAD4			05:10:00	
CFAD5			04:38:00	
CFAD7	1+1	German	02:48:00	interviews
CFAD8	1+1	German	06:50:00	interview
CFAD9	4+1	Finnish	02:36:00	(the researcher was part of the team)
		German		interview with an AD manager and a sighted author
			39:30:00 in total	

Table 1. The *mutable-team* video corpus and supplementary data (AD = audio description; ST = source text, i.e., a film or TV program)

In this article (Sec. 4.), we report on the analyses of collaborative translation and problem solving based on video and interview data. The data were first prepared for analysis by transcribing speech and other auditory information (e.g., the soundtracks of source-texts) of the teamwork (video) and interview (audio) recordings. In the second step, the video transcripts were coded in Atlas.ti software in order to identify and locate recursive items and passages in the data (e.g., where and what kind of translation problems occur); an example of coding is given in a screenshot in Figure 2. On the left, a list of transcriptions (document names) is visible, and the document currently opened for analysis is highlighted in blue. The middle part (black text in white background) shows the transcript that is being coded and analysed, and the right part shows the codes given to this particular segment. The current screenshot in Figure 2 displays a few minutes' interaction from CFAD7 (1+1 teamwork in German). The middle of the transcription (line 73, located with a red arrow) corresponds to the data illustration above (Fig. 1): at this moment, Lars (the blind author) is making the gesture to make his candidate understanding perceivable to Alex (the sighted author).

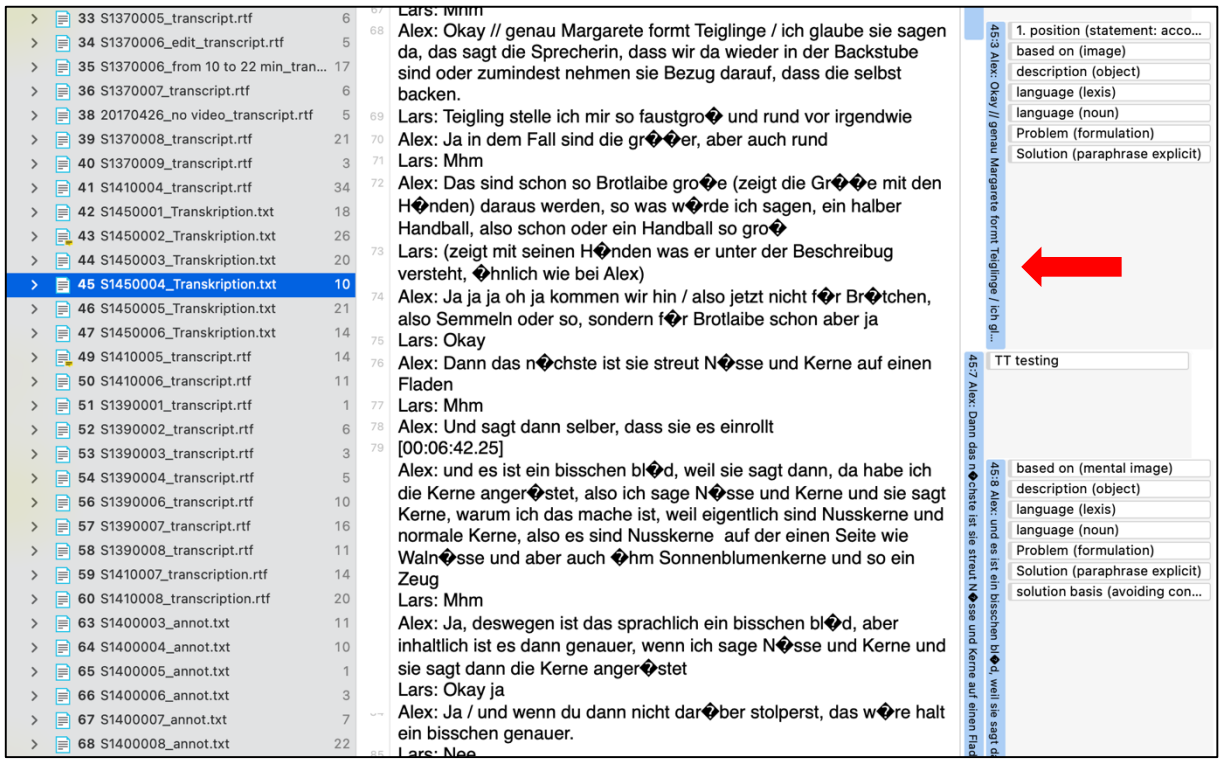

Figure 2. Coding the transcriptions of video data in Atlas.ti software (MUTABLE corpus)

The codes were created in a data-driven yet theory-informed manner. By observing the data repeatedly, we could recognise phases and subprocesses

of AD translation in the team interaction, but for categorising and naming these, previous knowledge of translation and AD processes were applied (e.g., Benecke 2014; Remael et al. 2015). To illustrate, 'problem solving' was identified as a central subprocess of team AD early in the research, based on participant observation and video analysis, but the interest in it was evoked by previous research claiming that problem solving is a central cognitive activity in translation processes (Risku 2010). The video data steered to a more nuanced categorisation of the subprocesses, and thus various codes were created to identify different types of problems and the translation process of AD overall (Sec. 4.).

To develop an understanding of the collaborative practice in AD also from the subjects' perspectives and in terms of tasks outside the team meetings, interviews were conducted and analysed. Semi-structured interviews about the participants' background and experience in AD, their regular work practices and the teamwork in AD (see Appendix for the interview questions) were conducted after the recorded teamwork so as not to steer their work processes toward the research topics. The interviews were carried out either in writing (participants filling in a text document per e-mail) or in speech (face-to-face discussions between the researcher and participants). The interviewed subjects include four blind audiodescribers (three German-speaking, one Finnish-speaking), five sighted audio-describers (four German-speaking, of which one was not part of the recorded teamwork, and one Finnish-speaking), and a manager of an AD provider company, which hosts some of the AD commissions studied in the project. A content analysis of the interview transcripts was conducted, searching for instances of the subjects' talk about collaboration in AD and the roles of different participants. These data-driven descriptions were reflected against the theoretical concepts of collaborative translation (Sec. 2). The video and interview data were triangulated to find matches and mismatches between the subjects' actions (video) and conceptions (interview).

Finally, to counteract the risk of analysing outdated data (from 2016 and 2017), the first author organised a group discussion (with approximately 30 blind and sighted German-speaking audiodescribers) and two individual interviews with Finnish describers in 2022. In these discussions, the knowledge gained from the analysis of the MUTABLE data was reported to the AD professionals, and they were asked to update the researcher's understanding of the team AD practice. The information received from these sessions is added to the analysis where necessary but, overall, the general practice of team AD and the approaches to it continue to be valid in the respective regions.

4. Findings

4.1. Types of collaboration in team AD

In an AD production company hosting multiple types of agents, there are many types of communicative exchange. When a commission is assigned to an AD author, materials and tools are provided and a dialogue between agents, discussing details of the commission or clarifying open questions, might occur. This is collaboration since different agents take care of different tasks (O'Brien 2011), but it is not yet co-translation (Jansen 2017) in the sense of reciprocal interaction between agents working on a same task. However, given that the describers, the script reviser, the studio personnel (speaker, sound technician) create the final translation product (see also Benecke 2014: 14–15; sometimes even a blind "sound director" and the film director or producer may contribute), AD can be termed as co-translation. In German-speaking AD, the revision of AD scripts by a team-external person is a standard work phase, whereas is not applied in the same way in Finland. Instead, a second describer working on the same production or the speaker who will voice the AD sometimes function as reviser of the script.

In what follows, we focus on co-translation in the AD scripting phase: an AD draft is either produced from scratch or edited by a team of sighted and blind authors (henceforth 'S' and 'B'). We name these two different types of co-translation as the Translation Approach and the Editing Approach (Fig. 3). In the current state of the art of team AD, the Editing Approach is more common. It is also typical that S is recruited to the commission first and s/he coordinates the production and recruits B.

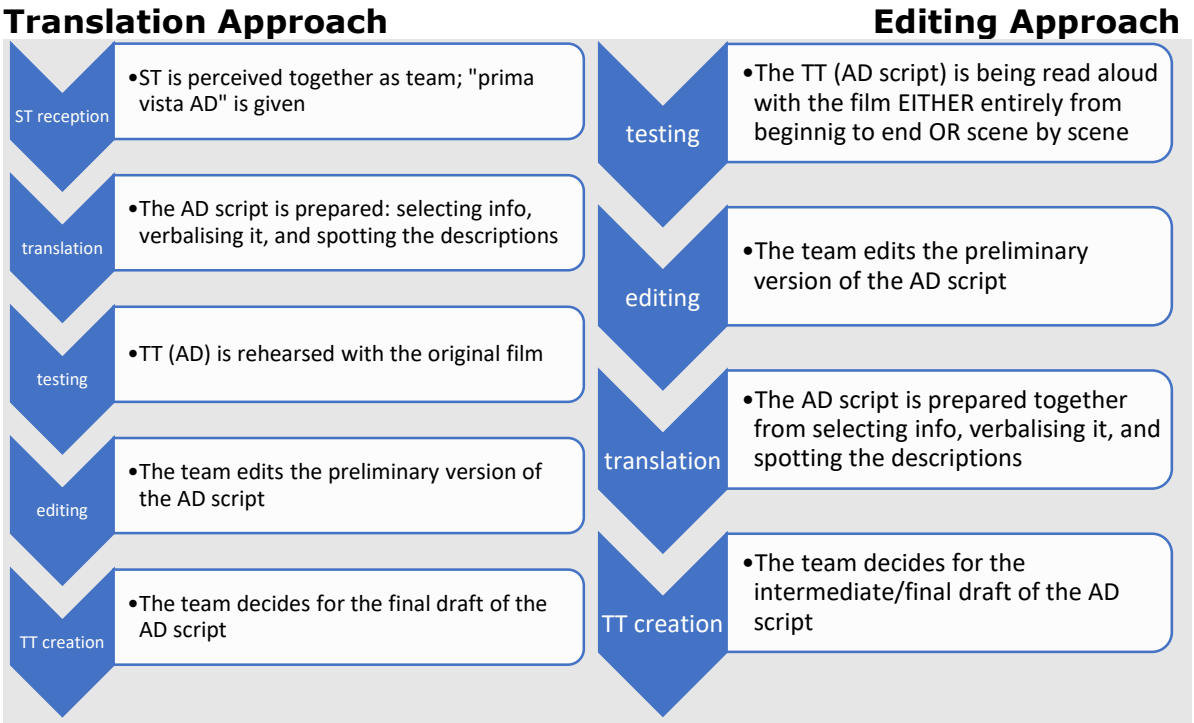

Figure 3. Two models of co-translation in team AD (ST = source text, TT = target text).

In the Translation Approach, the team drafts an AD script from scratch (the '2+1' team in Table 1). The teamwork begins with a first viewing of the source text and (one of the) S describes it prima vista. The subsequent phase, translation, involves a complex set of parallel and partly overlapping or simultaneous tasks, followed by a revision phase (see also Posadas Rodríquez (2010) and Jankowska (2021) on the AD process stages). They are visualised in Figure 4 and explained below in their typical sequential order.

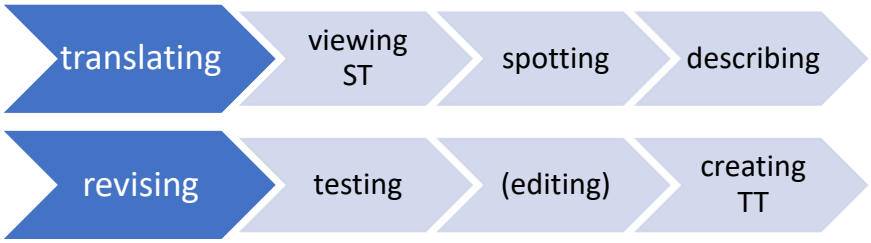

Figure 4. The translation and revision phases with their subphases in team AD (ST =source text, TT = target text).

The translation phase consists of (a) watching and listening to a film sequence (typically, a scene or coherent part of a scene), during which a simultaneous description might be given by S, (b) spotting, i.e., measuring the time available for AD and cueing it based on the soundtrack (see Jankowska 2021), and (c) describing the visual content. The describing itself involves the making and negotiating of candidate descriptions and sometimes also the understanding or interpretation of source text as well as spotting the AD anew in the film's procession. Once the translating phase is completed, resulting in jointly agreed candidate descriptions for a particular sequence, a revision phase begins. The revision includes at least the subphases of (d) testing the draft descriptions made in the translation phase by reading them out loud to the soundtrack, and (f) creating the target text (the AD script) by deciding on the final formulations, spotting of the descriptions, and typing them to the script. Between these two, the subphase of (e) editing the draft AD with a re-take of translating (a–c/d) may occur.

In the Editing Approach, co-translation takes place when a preliminary AD script is being edited (by the 1+1 and multiparty teams in our data, though also 2+1 teams can be used in the Editing Approach). The translation phase has been carried out by S, and B might have also done some preparatory work independently, such as listen to the film or search for information regarding it. The team meets to edit and revise the first AD draft and to create a pre-final TT. In the German and Austrian cases, the TT is still subject to edits by a team-external reviser. In the Finnish data, one team met several times to work on the same AD but, according to the recent interviews, the standard practice is to have one 'testing meeting', which is sometimes followed by revision and slight editing of the script by (some of) the agents involved in the process.

The MUTABLE corpus of authentic teamwork includes two forms of editing process, here named 'online editing' and 'end editing' (cf. 'online revision' and 'end revision' in Schaeffer *et al.* 2019: 227). In online editing, the team tests and edits the AD draft scene by scene; this applies to the German-speaking teams in our data. In end editing, the team tests the draft AD with the entire ST (from beginning to end) first and only then does it comment and modify it; this was the case with the Finnish teams in our data. One Finnish team differed from the other 1+1 teams also in that it made several (2–3) rounds of editing for each AD script, but the further they got, the more 'online editing' their work converted into, which may be indicative of the fact that the team was developing its practice since it was quite novice in teamworking at the time of data collection. The mixture of online and end editing appears to be prevalent in the current Finnish team AD, based on interviews. In this mixed method, the AD is being tested from the beginning to the end with the ST but B can stop the testing wherever s/he perceives a problem or wants to make a comment.

Different editing approaches have implications not only to the cognitive processing but also to the distribution of work and roles in the teams. Online editing allows the feedback and discussion to follow immediately after the revised scene, whereas in end editing the discussion (of translation problems) and the scene are temporally detached; yet in end editing, the draft TT is experienced as a whole. In the German-speaking teams, the editing also included a subtask of *trocken lesen*, during which S reads out loud each description (sentence) and B either accepts them or makes another remark, which may lead to editing the text. Memory of individual film scenes is fresher in online editing, and in end editing, B may write down notes during the testing to scaffold memory (memory problems were occasionally voiced in the discussion of translation problems). On the other hand, end editing furnishes a more holistic experience of the TT, as the testing was usually done without interruptions. With regard to managing the work, in end editing it was B who led the work by initiating discussion points. In online editing, S primarily decided the units of work by playing and stopping the ST, but they claim to be sensitive to B's actions and reactions. In both forms of editing, however, B usually introduced the discussion points, i.e., the translation problems. In conclusion, the blind team member is a focal participant in team AD, and next we will discuss the various roles and tasks connected with this role.

4.2. (Co-)Author, consultant and user representative: Manifold roles and tasks of the blind team member

The interviews exposed manifold characterisations of the blind team member's role and tasks in the translation process. In the German-speaking data, the descriptions and names of the role foreground an equal and responsible position: B are 'colleagues', *Referenzblinde* ('reference blind' that represents the public), 'authors' or 'co-authors'. In the Finnish data, B

is *kuvailutulkkauskonsultti* 'audio description consultant'; a term that has established itself in the professional jargon. Indeed, these perceptions of B having authorship, even authority over the AD, is reflected in the video data: B actively contribute to analysing the ST as well as to proposing and deciding on solutions (see 4.3. for examples). Furthermore, their role is perceived as a representative of the audience: Since the interests of end-users are to be served, the balance of power during the decision-making process shifts to B. S may defend the original wording if criticised but generally yield to B's arguments, considering the representative role and cognitive viewpoint of blind people.[1] As one Finnish describer puts it, B have the "ultimate authority" over what is appropriate AD, and according to a German-speaking describer, it is a bit like "the law" what B opine, even though – earlier in the interview – this interviewee also said that the team members are equal in deciding for the formulations in AD. As one blind describer aptly noted in the group discussion, the distinct roles of 'author' and 'user representative' are acted out in the two different editing models: B is 'author' in the online editing model because the editing is more exact, proceeding sentence by sentence, whereas in the end editing model B takes more of a consumer or user role as their experience of the entire work (or draft TT) matters there.

It was also acknowledged that each person, whether blind or sighted, does the AD work with a particular personal background and characteristics. Though this presents a contradiction to the role of representing the entire heterogenous group(s) of people with sight loss, it was deemed as an asset to team AD that two participants are capable of producing more diverse and more rounded descriptions than a single person. All in all, team AD is interaction that surpasses the cognitive capacities of the individuals taking part in it: The blind participants benefit from it by gaining experience about the relativity of seeing, while sighted participants learn about hearing and the fine distinctions of sounds, such as the noise of different types of cars.

The interviews report on various types of influence that B may have in both the Translation and the Editing approach. Their work might begin by preparing for the team AD independently. Sometimes B participate in the end editing by checking the final AD script or by participating in the recording and voicing work in the studio. In the editing and translation work, B engages in safeguarding the plausibility and thoroughness of AD ("what I don't understand or what is missing"), so that the audience can "construct a visual impression" or "augment the acoustic information [from the film]" with AD. Furthermore, they notice possible logical and linguistic mistakes, point out unclear passages and pay attention to style and rhythm of the text. Next, we will see how these play out in the teamwork by analysing the collaborative solving of translation problems.

4.3. Joint problem solving in team AD

Problem solving is a focal activity in team AD since teams in the Editing Approach meet to test and edit AD scripts, which includes identifying and solving translation problems. Team translation, in which candidate solutions are presented to all co-participants and their acceptance sought, renders problem solving a public, i.e., multimodally and verbally communicated, and intersubjective activity (Hirvonen and Tiittula 2018). A translation problem can generally mean problems in understanding the ST or in formulating the TT (Toury 2011) but here it refers to an instance in which a *meaning negotiation* takes place (Hirvonen and Tiittula 2018; see also Warglien and Gärdenfors 2015: 80): passages of interaction in which a co-participant challenges a candidate solution or interpretation proposed by another co-participant and in which the team decides to choose one candidate.

Before presenting some of the typical problems found in the video data, it must be acknowledged that the translating and editing in team may also proceed smoothly. The teams converse almost continuously to make their actions, proposals, and decisions accountable (understandable) to each other. In the Translation Approach (2+1 team), B and S complement each other and propose solutions independently, for example B monitors the verbal cohesion of S's description and adds a clarifying element to it, which is accepted readily by others, or S recruits assistance from others to decide for a grammatical category.

The following subprocesses were identified to include translation problems (in text boxes, the problem category is followed by an indication of its code in the data as well as the amount of identified segments representing this type of problem). The examples were translated from German or Finnish by the first author.

Understanding the source text, such as a dialogue or an action in the film (coded as 'Problem (understanding)', N=168).

Example 1 (CFAD3, 1+1, Finland, 39:21)

The blind describer (Päivi) asks from the sighted describer (Terhi) about an action that a character potentially produces in the film.

PÄIVI:	**and then he like be- when he goes nuts there… in the car**
TERHI:	mm,
PÄIVI:	**so does he like beat the car or or like…**
TERHI:	uhm
PÄIVI:	**it sounded like he would somehow… when he [said] something like fucking whore or something there, right before they drive it in**
TERHI:	I need to
PÄIVI:	**into the ditch**

TERHI:	look more closely, yeah, like what really happens. **I think he mainly just yells**
PÄIVI:	**it's like this** *((bangs her palm on the table a few times and says empathetically "damn it"))* **when he something**
TERHI:	yeah
PÄIVI:	**something the father [does] there**… like
TERHI:	**bangs the dashboard**
PÄIVI:	yeah maybe
TERHI:	**yes I'll check that again**
PÄIVI:	**but I do- cause he can do anything**
TERHI:	mm,
PÄIVI:	**so that it is**
TERHI:	yeah
PÄIVI:	**really quite helpful if it, does he like attack [the girl] somehow or**
TERHI:	yes
PÄIVI:	**does he beat around just like that, something**

Drafting the target text both in terms of *selecting* items to be described and *formulating* the descriptions (coded with 'Problem (selection)', N=122, 'Problem (formulation)', N=297, 'Problem (formulation)_2 rev', N=50, and 'Problem (reading)', N=16).

Example 2.a. 'problem (selection)' (CFAD1, 2+1, Germany, 11:4)

The blind describer (Sara) proposes to leave out information from the AD which she considers unnecessary, and the sighted describers (Lisa and Ines) challenge her proposal.

SARA:	**So I personally wouldn't need anything there at the moment, unless you consider it important that he nods.** Because it's all quite
LISA:	**So you mean altogether, also these small gestures in between you don't need?**
SARA:	Yeah sure, **it's not interesting that she swallows and then it's all very tight and I think one gets the atmosphere already** with
LISA:	mhm, okay
INES:	Let's go through it once more, **at least a nod or something?**
SARA:	yeah

(In continuation, the film is being played, with Lisa and Ines explaining what is happening in terms of facial expressions, and Sara agrees that a nod can remain. Then Lisa and Ines conclude that the nod is not the most relevant of the gestures and it aligns with what the character says, so finally they leave the description out.)

Example 2.b. 'Problem (formulation)' (CFAD8, 1+1, Austria, 77:10)

The blind describer (Lara) challenges the sighted describer's (Karl) term for a scenery because it seems incoherent with the previous AD.

Lara:	**Are you sure that it is jungle because you've had forest elsewhere?**
Karl:	**Yes that's quite…**
Lara:	Okay
Karl:	always forest, once a forest… yes sure, one could also jungle…
Lara:	**well I mean before you had also 'forest' where they are being slid to the forest and so**
Karl:	Yes exactly
Lara:	Right
Karl:	**that was that one time, one could also...**
Lara:	**but then comes again, I think, forest right?**
Karl:	**Yes forest comes once more, the others slide out of a forest exactly**
Lara:	Yes exactly
Karl:	**Is the question jungle is also forest, forest is jungle**
Lara:	**Exactly, I just asked because I imagine forest like, dunno, in like temperate zones**
Karl:	yeah… yes there's also… good question
Lara:	**yes there's anyway rainforest, jungle…**
Karl:	**cause they're in Nepal, I mean of course, there's also mountainous jungle, so…**

(For app. 6 minutes altogether, the team ponders about the right name for the scenery, during which S checks the film image again and describes it to B, and the team concludes that it corresponds to 'jungle'. Although B voices her problems with the wording, it being incoherent with the previous AD using 'forest' and her doubts about the realism of the description ("Are there jungles in Nepal?"), she concludes 'jungle' should remain in the AD on the basis of S' arguments in its favour.)

Spotting the target text as in defining a suitable place and length for the descriptions (coded with 'Problem (spotting)', N=87).

Example 3 (CFAD1, 2+1, Germany, 16:31)

The sighted describer (Lisa) perceives a problem in the synchronisation of AD with the film soundtrack and suggests a modification to her sighted colleague (Ines); the blind describer (Sara) participates in the decision-making even though she is not explicitly addressed by her colleagues.

LISA:	Okay, she gives him a kiss on cheek
SARA:	Mhm,
LISA:	she kisses his cheek… was it okay like that? ((to Ines)) **[it] was actually too tight or should we leave a gap? With an open mouth** ((gasps, imitating the film character)) **and then the head**
INES:	**Then it becomes tight**
LISA:	**Then it becomes tight,** right, with an open mouth he turns his head away and then that inbreath becomes a bit truncated perhaps
INES:	Mhm
SARA:	**Yes**

In addition to these problem-solving types, the teams sometimes also negotiate translation strategies and tactics as well as the organisation of work (e.g., when to take breaks or have lunch).

In the remaining section, we focus on *formulation problems* (the choice and order of words to be used in AD, see Example 2b). First of all, they form the numerically largest problem category in the video data, which indicates their relevance in the (team) AD process (see also Posadas Rodríquez 2010). Second, S and B have equal sensory and cognitive access to the spoken linguistic level. Third, the verbal formulation, or wording, is key information with which non-sighted people can assimilate the visual content, and B is typically given decisive power on the final formulation. Finally, the formulation dimension is relevant to other areas of translating from and into languages, whereas other problem types are domain-specific (making sense of the audiovisual information or spotting the script mostly concern audiovisual translation).

The video corpus (approximately 40h of interaction) allows some quantification of the data. The coding resulted in 297 speech passages displaying a formulation problem, plus 50 passages in which a previously identified problem was re-negotiated or solved.[2] A multitude of linguistic-discoursive aspects to which B attend to as problematic was found: word choice, terminology, the sequencing of information, syntax, grammar, and style. The overwhelming majority of formulation problems are concerned with lexical items (181/297): what words and expressions should be used to describe an action, an object in the scene, a film character, or a setting. Much less problems were raised for other levels of language: syntax and information structure (i.e., the ordering of information, N=29), grammar (N=10), pronouns (N=2), and prosody (N=3).

Typical formulation problems in the data relate to *deciding* on the conceptual category with which a verbal representation is assigned to a visual element. In addition to Example 2b, Examples 4–5 below serve to illustrate this cooperative decision-making built on joint authorship between B and S.

Example 4 (CFAD1, 2+1, Germany, 3:23)

The sighted describer (Lisa) identifies a problem and requests confirmation from the blind describer (Sara) to her candidate descriptions. The other sighted describer (Ines) acts on this and plays the film briefly anew, after which the blind describer proposes a solution. It is confirmed/accepted by all members.

LISA:	**Okay they come out running, what would you prefer? I mean run** [de. *rennen*] **or troop** [de. *strömen*]**.** They come so to say towards us. I don't know actually, **how do we see it? From the car**

	outwards? From the viewing angle?
INES:	((plays the film))
FILM:	((children laughing and running))
INES:	((stops the film)) Yes.
SARA:	**I think run is quite nice cause troop only means that many come out and run is also a bit bolder**
LISA:	**Okay the small children run out from the flat-roofed building** [de. *Flachbau*]?
SARA:	Yes
LISA:	**What do you say Ines?**
INES:	**I would have said only small children because I can't recognise whether they are those from the group** but we'll see about that

Example 5 (CFAD7, 1+1, Austria, 47:2)

The blind describer (Lars) identifies a problem, first with the style of AD (unnecessary repetition), then with a lexical item denoting a particular colour. He proposes a candidate solution (an alternative expression), and the team investigates its appropriateness in the present context.

Lars:	**We have there twice dark green and dark blue**
Alex:	That's correct.
Lars:	**Is there something else, perhaps royal blue** [de. *königsblau*]**?**
Alex:	Hm?
Lars:	There's also royal blue
Alex:	**Royal blue I'll check whether that…** ((types in a search engine in the internet)) **I've never heard about that colour but… we can take it** ((types in the script)) **a royal blue uniform**... curious, the cows stare at the dyad
Lars:	**but is that the colour, you must know of course**

(The team finally decides to opt for a blue uniform because the exact tone of the colour is not well perceivable from the image.)

Both examples concern some perceived problem – either on S's or B's side – in the wording of the description but the sources of problem are distinct: (4) is concerned with the denotation(s) and association(s) evoked by the word in B's mind, whereas in (5) B seeks to safeguard that the verbalisation matches with what is visually perceivable.

Furthermore, we analysed the formulation problem sequences in terms of the *solutions* that the teams developed (Table 2; the terminology we use derives from our data-driven analysis and diverges to some extend from the standard terminology of translation strategies). The joint authorship of B and S is reflected in the data in terms of bidirectional loyalty of translation, according to which translation serves both the ST and the target audience (Nord 1991). We identified two orientations to problem solving: translation solutions are "based on image" (approximately 2/3 of the formulation problems) or "based on mental image" (1/3). This result indicates a more pronounced preference to "serve" the image, which indeed is a widely

accepted strategy in AD (e.g., Benecke 2014; Snyder 2014). However, the analysis of the teams' conversations revealed that multiple sources of information and cognitive dimensions were applied simultaneously or in parallel: participants regularly used both the film image and soundtrack and their own and each other's' mental images and linguistic proficiency and sensibility to solve a formulation problem. Therefore, this simplistic classification of solution orientations should be taken with caution.

Solution	**n**	**Definition**
paraphrase (explicit)	109	The wording is made more explicit; often, the description becomes more detailed.
alternative expression	78	The wording is changed so that the meaning and the grade of explicitness/implicitness are conserved. E.g., to reduce repetition in character description/identification, the change of pronoun to a proper name, or vice versa.
no change	57	The wording and its potential problem(s) are discussed but no change to the script is made (sometimes due to difficulties in fitting the description in the time frame).
addition	22	The draft wording is complemented with new information and words.
omission	19	Part of the draft wording is deleted, typically to omit over-interpretation or repetition or to condense the description to fit the time frame.
grammatical correction	11	The grammar of the wording is corrected.
paraphrase (implicit)	9	The wording is made more implicit, often due to lack of time or avoiding over-interpretation but also due to faithfulness to the image.
word-order change	8	The order of words in the description is changed, e.g., to avoid repetition.
superordinate concept	7	A concept with a higher level of abstraction is chosen to replace a more concrete concept, e.g., to avoid misunderstanding of specified concepts and words.
synchronisation with image	5	The order of the wording is changed to match the visual narration in ST.
adding comment/postponing solution	1	The problem cannot be solved on site due to lack of information, and a comment is added to the script and the solution is postponed.

Table 2. Translation solution types in team AD.

Even if we do not have space to discuss these findings at length here, a tendency must be noted: solutions that explicate the visual element being described seem to be favoured. 'Alternative expressions' – the second highest category of translation solutions – are places where personal taste of team members is more emphasised but also where the adherence to the style of AD becomes visible (avoiding excessive text repetition, while also keeping up with coherence). Finally, the problem solution type 'no change' draws attention, as it seems to be a rather typical solution but does not produce a change in the script. This category is interesting from the viewpoint of the motivating factors of collaborative translation (see O'Brien 2011): On one hand, problem solving without a productive outcome (an improved AD script) demands "unnecessary" time consumption and financial resources. On the other hand, the fact that meanings are negotiated without a concrete result seems to prove of the joint authorship in a particular way: it is relevant to negotiate descriptions even if the outcome does not change the original formulation because the team AD also serves to safeguard the B's understanding and seeks their approval of the translation.

5. Discussion

In studying translation processes of team AD and focusing on the role of 'user as maker' in identifying and solving translation problems, we have sought to contribute to current knowledge of collaborative translation, in general, and of user-centred accessibility, in particular. We have analysed the type of collaboration that occurs in team AD and described it as co-translation, joint problem-solving and decision-making, and joint authorship. Our findings here, and elsewhere (Hirvonen and Tiittula 2018; Hirvonen and Schmitt 2018; Korhonen and Hirvonen 2021; Hirvonen *forthcoming*), demonstrate how the users – or their representatives – are not merely commenting or giving feedback but actively participate in solving problems and making decisions regarding the translation, which in our case is the audiodescription of films and television programs. This role of responsibility and, indeed, authorship is reflected in the term 'author', used to refer to the blind team members in the German-speaking AD practice, whereas the term 'consultant' used in Finland denotes a more detached or an expert role. In any case of team AD, users are actively involved in the design and production of access services (see Greco 2018: 212).

We encourage to continue studying team AD in future. The analysis and compilation of the MUTABLE corpus are ongoing, and the corpus is available for other research as well. More data can be collected to enrich and widen the understanding of team AD and team translation. The current corpus is limited with regard to the Translation Approach (the 2+1 teamwork) and to 1+1 teams from Finland since only one team per category was studied. Different teams may show different working practices, and overall, the practice of AD is evolving. For example, the Finnish audiodescribers interviewed in 2022 talked about new methods being tested in the AD

production (e.g., deploying the teamwork model to AD of art). In addition, they reported having shifted to online meetings due to the COVID pandemic and perceive this change as successful: online meetings save (travelling) time and expenses, scheduling them is more flexible than on-site meetings, and the blind team member can hear the program sound better via headphones. This shift to online working was recognised also by the group of German-speaking audiodescribers but they perceived more risks; online team meetings potentially diminish the role of the blind team member and constrain the communicative resources used in multimodal interaction (e.g., the use of gestures). As ethnographic studies do not seek generalisable results but the production of rich knowledge of the practice it studies, an interesting next setting to analyse consists of such online working practices and their effect to co-translation as a multimodal interactive phenomenon.

With research emerging on AD from the translation process perspective (Jankowska 2021) and assuming that such profound collaboration as the team AD in German-speaking countries and in Finland is a curiosity in the global AD business, the individual and cooperative types of process could be compared. The study of team AD allows observing not only the materially realised activities related to translating (e.g., the typing of the script, the search for information on the internet) but, furthermore, the cognitive (thinking) processes related to decision-making, which remain in the 'black box' of individual translators (cf. Jankowska 2021; Englund-Dimitrova 2010). Comparing our findings with Jankowska's (2021) results of an experiment with individual describers, it is notable that the subprocesses or -phases of the AD script production correspond to each other, even if some terms are different (e.g., Jankowska uses 'cueing' for the same subphase than our 'spotting'). Also Jankowska found that the (sub)processes overlap and intertwine (e.g., the drafting stage involves understanding, planning, text generation, revising, reviewing and cueing), indicating that this is not a property of team AD only.

All in all, the study of collaborative translation allows to move beyond individualistic notions of translation and to track and acknowledge the complexity of the process (Cordingley and Frigau Manning 2017; Zanotti 2020: 218). Even if there are important financial and work-efficiency motives for not applying team AD or UCT in the industry, as individually produced translations are generally made faster and have lower costs (Benecke 2014; Suojanen *et al.* 2015), we aim at increasing understanding of the benefits of team AD, so that it can be considered as a work practice with many other merits, including the heightened usability of the product and the empowerment of users.

The 'user-as-maker' and the user-centred accessibility approach align strongly with recent developments in dis/ability studies which advocate a paradigm shift in approaches to dis/ability (see Waldschmidt 2017).[3] According to this view, the traditional discourses of disability, which are the

medical and the social model, must be surpassed to approach impairments from a cultural perspective, acknowledging that "impairment is a common experience of human life and that we all are differently able-bodied" (Waldschmidt 2017: 19). In fact, this new paradigm is critical even towards accessibility, arguing that it risks a general opinion and policies of solving the problem of disability "through accessibility and participation, mainstreaming and human rights policies" (Waldschmidt 2017: 21). The 'cultural turn' of dis/ability studies criticises the mainstream cultural understanding of people, whether "normally" or differently abled, and intends to perceive the latter as agents, not objects, of cultural re-production (Waldschmidt 2017: 24–26). In this respect, the discussion with German-speaking audiodescribers revealed an exciting new model of work now emerging in the field of team AD: in the 'assistant model' it is the blind team member who recruits a sighted colleague to an AD assignment. This development is certainly worth following, not the least for its emphasis on the agentivity of disabled people.

Finally, the question emerges whether the collaborative, 'blind first' approach to AD and the user-centred accessibility described in this article work in favour of this cultural turn or not. A full-fledged discussion must be left for other venues but some remarks can be made: Is the work process, in which blind team members are given (and taking!) certain priority due to their role as user and, thus, beneficiary of the work, more than "continuing to only 'stare' at persons with disabilities, asking what kind of problems they are confronted with and how society should support them", as criticised by Waldschmidt (2017: 25)? Or rather, is the reciprocal, inter-active and co-operative process, in which both the sighted and the blind participant share experiences and learn to view the world from a different perspective, a setting in which "identities and new forms of subjectivity are created and shaped" (Waldschmidt 2017: 25), thus reinforcing the cultural re-production? Together with the proactive approach to accessibility (Romero-Fresco 2013; Greco 2018), these developments seem to align current accessibility studies with the cultural turn in dis/ability studies.

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Data availability statement

Due to privacy issues, the data cannot be openly accessed (for metadata, see MUTABLE 2021). The data are stored in the Language Bank of Finland and can be licensed for research projects upon application.

Appendix

The interview themes and questions (translated from German to English by MH):

1. Background information
a) What is your age range, education and the current occupation?
b) Are you visually disabled? If yes, could you describe in what way?
c) How have you become employed in AD? Which conditions, occurrences, etc., have led you to that?

d) How are your education and experience as a professional in AD? Do you work as freelancer or employee, which genres do you describe, etc.?
f) Do you work in team or also alone?

2. Work process of the AD production
a) How does a work process in AD run from beginning to end: Where and how does it begin, which phases does it constitute from, when is the process closed?
b) How long does a process last in average (in work hours or days)? How long do the parts last in which you take part?
c) About your work equipment: Which devices or equipment do you need at work? E.g. a computer, internet.
d) With whom do you work during the process and who participates in the AD production (e.g., a technician, a speaker)?

3. Work and role division in team
a) What are your tasks in the process or in teamwork? How is the work divided between the participants and why in that way?
b) Do you also work alone? Why and how much?
c) What are your competences in the AD production and how do you and the team complement each other?
d) How is the teamwork different from working alone?
e) What are your personal guidelines or principles in AD? What do you consider as (the most) important?
f) How would you develop the teamwork and the entire AD production?

Biographies

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Notes

[1] That 'blind viewing' is the reference point for AD is reflected also in the sighted interviewees' accounts about their working methods: they also usually begin a new AD by watching the ST 'as blind'.

[2] These numbers should be interpreted as indicative rather than absolute. Some problem-solving passages may involve several problem types being discussed in parallel (e.g., the word choice for a verb and a character description). Certain problems were discussed by one team twice or more because they did several rounds of revision.