Easy to Read as Multimode Accessibility Service

La lectura fácil como servicio multimodal de accesibilidad

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Abstract: Media accessibility is becoming mainstream. While it cannot compete for popularity with the two original fields –architecture and design accessibility– it is slowly gaining acknowledgment. Subtitling was and still is the most popular media access service. In recent years, more services have been joining the alternative possibilities to access information. New technologies have also increased the number of services, and Easy to Read is proposed in this article as a new candidate to join the list of services. This article will start by describing Easy to Read, and understand its approach as: a translation modality, a linguistic variation or as a service. The second part of the article presents many accessibility services and Easy to Read features. In the third part, new hybrid services are proposed. These are the result of adding to existing access services a layer of Easy to Read creating a higher degree of accessibility. Any accessibility service aiming to facilitate comprehension will improve and optimize its function by leaning on Easy to Read. The article finishes offering many examples to secure a rapid uptake of the service across the different accessibility fields, from design to web accessibility or transport.
Keywords: Easy to read, media accessibility; media accessibility services, media accessibility modalities, subtitling, audio description, Sign Language interpreting.
Resumen: La accesibilidad a los medios audiovisuales está alcanzado el mercado de masas. Su reconocimiento es cada vez mayor, aunque dista aún de ser tan notoria como en las disciplinas clásicas en este ámbito: la arquitectura y el diseño accesible. El servicio de accesibilidad más conocido ha sido y continúa siendo el subtitulado. En los últimos años, el número de servicios destinados a ofrecer vías alternativas de acceso a la información ha aumentado considerablemente. Con las nuevas tecnologías, la lista de servicios seguirá creciendo. El presente artículo persigue proponer a la Lectura Fácil como un nuevo candidato a dicha lista.

Primero se describe la lectura fácil y se observa como modalidad de traducción, variedad lingüística y servicio. A continuación, se presentan diferentes servicios de accesibilidad y se describe la lectura fácil. Seguidamente se proponen servicios híbridos resultantes de añadir una capa de lectura fácil para aumentar la accesibilidad. Cualquier servicio de accesibilidad enfocado a mejorar la comprensión puede aumentar su eficacia a través de la lectura fácil. Por último, se ofrecen numerosos ejemplos para facilitar la introducción de este nuevo servicio en los diferentes ámbitos de la accesibilidad, ya sea el diseño, la accesibilidad web o el transporte.
Palabras clave: Lectura fácil, accesibilidad audiovisual, servicios de accesibilidad audiovisual, modalidades de accesibilidad audiovisual, subtitulado; audiodescripción, interpretación en lenguaje de signos.

1. ACCESSIBILITY: MODES, MODALITIES, AND SERVICES

As with any academic field, the first task should be to define, agree and fix the terminology. This has not been achieved in the adjacent field of Audiovisual Translation (AVT). For example, there is no agreement in English for the term which implies a transfer of spoken words into written text, as a translation or transcription: subtitle or caption. As with any term outside the realm of sciences, the phenomenon is more complex, hence defying definition and taxonomy. In the case of subtitles, we find for example that in the UK the English into English transcription is called subtitle. This in most EU countries will be considered a poor subtitle for the deaf and hard of hearing (SDH), since same language transcription was originally created for the deaf and hard of hearing community. Much water has gone under the bridge since that medical and exclusive approach to media accessibility. Nowadays, Media Accessibility is an issue of political will and of moral obligation, now enshrined in the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) Article 9. Working within the Universal Design concept we move from Disability Studies to Usability and when that fails Accessibility. The aim is designing products and services usable

to the greatest extent possible by everyone, regardless of their age, ability, or status in life. What is considered in AVT as SDH, is hardly consumed by the intended end user. SDH, usually with little if any sound annotations, are enjoyed by the large majority of the population watching a screen in either a noisy surrounding as a bar or an airport, or where a screen/s is/are shared by many people as in trains, or buses. It could be argued that caption / subtitle is a caveat, but when we find other services such as audio description or video description as synonyms, or spoken caption or audio subtitles, it becomes evident that in AVT, even in standardization agencies such as ITU or ISO, terminology is a long-standing issue. It is also interesting to observe the lack of universal iconography for these services.

While there is terminological and iconographical indetermination in AVT, perhaps for Media Accessibility we can try to understand some basic concepts: what are modes, modalities and services. This very first classification is needed in order to study Easy to Read (E2R), and all other forms of alternative communication to facilitate access to audiovisual content. In AVT subtitling, dubbing and voice-over are the three main modalities or transfer modes (Gambier and Gottlieb, 2001). To confuse the terminology more, we find Gambier (2008) who refers to "modality" as the text type translated in AVT, moving from monomodal which would be the written form into an audio and visual multimodal text. Taylor (2003 and 2004) applies the term multimodal beyond text type embracing subtitling but as late as 2015 Pérego and Bruti open up the definition for subtitling as a "form."

Taking advantage of the two existing handbooks of translation studies, published by the prestigious John Benjamins and Oxford University Press, we find Schwarz (2011: 402) who mentions dubbing as a "technique" and three pages later (*ibid*: 406) changes it into "method." Remael (2010), Díaz-Cintas (2010) and Díaz-Cintas and Orero (2010) agree on "mode" to define subtitling and revoicing, depending on whether the translated or transcribed text is inserted as a written text or as a new soundtrack. Given the relevance of the latter authors in the AVT literature, we shall agree here that in the field of AVT "mode" defines these two macro-modes of audiovisual content. Can "mode" be borrowed by Media Accessibility terminology to group the services currently used in Media Accessibility (MA) like subtitling, audio description, Sign Language interpreting, etc.?

The term "service" has been used since the focus of MA is to offer an alternative mode of communication to users. So, in this sense they are services, though if the object of study is related to the communication channels then "modality" will be the term. In the report of the International Federation of Library Association and Institutions (IFLA) entitled *Guidelines for Easy-to-Read Materials* (IFLA, 2010: online) the term Easy to Read (E2R) has two definitions: "One means a linguistic adaptation of a text that makes it easier to read than the average text but which does not make it easier to comprehend; the other definition means an adaptation that makes both reading and comprehension easier" (IFLA, 2010: 3). Following this E2R can be described for Media Accessibility as a service to improve reading and foster comprehension.

2. ACCESSIBILITY SERVICES

Alternative ways to provide access to audio visual content are the objective of these services which go from audio description to translation. All the services offer many possibilities when being created and delivered, as the technical requirements for each situation. The two sides of media accessibility –technology and content– are indispensable for any service to exist. We may have all the technological infrastructure to deliver subtitles, still we need the actual subtitles files to offer the service. For this reason, the two areas are described below.

2. 1. Content creation

Content to some accessibility services is almost always created by a professional, *i.e.* the subtitler between languages. Other services are created automatically, *i.e*. audio subtitles. A reality is that sooner or later all services will have the possibility of being created in an automated way –with a direct implication to its quality. Right now, it is possible to generate automatic subtitles, as for example those in YouTube. Audio subtitles are almost always fully automated, with no post edition. And services such as audio introduction or Easy to Read may take longer to automate, but at the rate technology is developing it should not be long. Automation fits well with the responsibility adopted by countries when signing the UNCRPD. If media accessibility moves to become an obligation, services need to be mainstreamed, as any other industrial service (Orero and Tor-Carroggio, 2018).

Content creation also varies when it has to be generated in real time. In that case, different production solutions are available, again from automatic to manual or semi-automatic or semi-manual. Services can also be offered live by relay, when the person who produces the content is physically in a different location. Finally, content can also be produced by crowdsourcing either for commercial or philanthopic interests.

Content creation depends on the situation (live or recorded), the working practice (amateur, voluntary, crowdsourcing, professional, relay, delocalised, in-house, freelance, etc.), and the technology used for its creation (automated, semi-automated, manual).

2. 2. Content management

Once the content is created, either by a machine, a person, or in a shared economy fashion, it needs to be tagged and stored. Each accessibility service has its own digital formats. Some are text files (subtitle), others are text files that can be converted to speech (audio subtitle or audio description), some are spoken (audio description), and some are visual (Sign Language). Also to be taken into consideration is the technical requirements for each service outlet. These days almost all accessibility services can be consumed by multiscreen devices. And finally, these services have to be also packed (coded) for its transport and decoded at the other end, and synchronized.

In management, there is also the interaction between the person / company who creates the accessibility service content and the client. To upload the content, for example, to a FTP (File Transfer Protocol) server, to be downloaded by the subtitler. Then the subtitler will create a subtitle file which in turn will also be uploaded again to the FTP server for further coding before being stored and distributed.

2. 3. Some accessibility services

The objective of this article is to add Easy to Read to the list of existing accessibility services. In order to understand the inclusion of E2R to the existing list of accessibility services, and the resulting hybrid modality with E2R, is important to understand the creation and management of access services. From previously funded research projects, we have gathered some audiovisual assets describing the

services and proposing guidelines. They can be consulted on the project URLs: ACT,[1] ADLAB PRO[2] and HBB4ALL:[3]

- Audio description / video description, according to the EU funded project ADLAB PRO is "the insertion of short verbal descriptions illustrating the essential visual elements of an audiovisual product." AD is offered with different types of arts and media content, and, accordingly, has to fulfil different requirements (Maszerowska, Matamala and Orero, 2014). Descriptions of "static" visual art, such as paintings and sculptures, are used to make a museum or exhibition accessible to the blind and visually impaired. These descriptions can be offered live, as part of a guided tour for instance, or made available as downloadable files on a museum's websites, as part of an audio guide. AD of "dynamic" arts and media services has slightly different requirements. The descriptions of essential visual elements of films, TV series, opera, theatre, musical and dance performances or sports events, have to be inserted into the "natural pauses" in the original soundtrack of the production. AD for dynamic products can be recorded and added to the original soundtrack (as is usually the case for film and TV), or it can be performed live (as is the case for live stage performances).

- Subtitles / captions / subtitles for the deaf and hard of hearing (SDH). These three terms are used indistinctively but are in fact quite different (Matamala and Orero, 2009). First of all given the proliferation of screens, subtitles / captions / SDH may be shown in TV, cinemas, PC screens, secondary screens such as tablets or mobile phones (entitles), but they can also be placed on the top of the prosceniun in an opera (surtitles). Subtitles, also called interlingual subtitling, are usually translations. Though some broadcasters such as the BBC call subtitles the more or less adapted transcription from dialogue to text, no translation is involved. SDH, or intralingual subtitles, adds information about background sounds and who is speaking along with a transcription of the script. Many combinations are possible within the terms, since it is possible to find interlingual SDH. There is a short document with video examples to be found here.

- Sign Language interpreting translates oral speech into signed speech. Sign Language (SL) is a natural language. In some countries like Spain it

[1] In http://pagines.uab.cat/act/ (consulted 13/06/2017).
[2] In https://adlabpro.wordpress.com (consulted 12/06/2017).
[3] In http://pagines.uab.cat/hbb4all/ (consulted 09/07/2017).

is considered an official language. In fact, there are two signed official languages in Spain: Catalan Sign Language and Spanish Sign Language.

- Audio subtitling / captions / SDH render captions / subtitles / SDH into speech by human or synthetic speech.

- Audio introduction (AI) is a continuous piece of prose, providing factual and visual information about an audiovisual product, such as a film or theatre performance, that serves as a framework for blind and visually impaired patrons to (better) understand and appreciate particular audiovisual material. It can be created to enhance the AD of that material, or it can be made to stand alone. The AI can be recorded and made available well before the viewing of the material (via a website, etc.) or it can be delivered live, as is often the case in the theatre. The introduction can be spoken by a single voice or it can be a combination of voices and sound bites.

- Braille transcription transforms written into tactile text.

- Touch tour, is a service provided before a stage performance. It may offer a guided tour of the space, some props, and costumes.

- Hearing Loop / induction loop is a service enhancing sound reception for persons with assistive listening aids.

- Vibrating chairs create a vibration sensation that matches the intensity of the film sound effects.

- Clean Audio offers dialogue enhancement by reducing background noise.

- Accessible materials, are any complementary information for a venue, such as accessible routes, accessible payment methods, accessible programmes, etc.

- Web accessibility, the internet is an essential way to access and provide information and services. Web accessibility allows everyone, including people with disabilities, to perceive, understand, navigate, and interact with the Internet and its contents. The same vision of accessibility should apply to mobile apps, considering the developments in technology and

trends in the last years. This is the most developed accessible service regarding accessibility with the W3 organization.[4]

3. EASY TO READ

The increased production of Easy to Read (E2R) texts has derived from the new legal framework, but also from social needs and has attracted the attention of both professionals and scholars. In some countries such as Sweden, Spain or Italy, the development of E2R has also been triggered by the growing displaced population that needs to fulfil some official requisites and fill in documents. The Spanish Ministry of Social Affairs (CEAPAT, 2015) has issued a document with the main traits of E2R. It is interesting to read the many institutions that took part drafting this document: from persons with disability organizations, to a university, and the police. This highlights the interest from the different constituencies in developing a way to allow all type of personal profiles to access written content in a more efficient fashion.

While E2R is not yet established as an access service, or an academic course, its production and training is fractionated, having gained the interests of: linguists, socio-linguists, translators, persons with disability associations, social workers, and even typeface designers. There are also official E2R associations in most countries acting as a consultancy. The growing demand for this service, along the training and academic gap, has triggered different schools of thought and approaches. E2R is growing beyond a set of writing and digital accessibility guidelines.

3. 1. Easy to Read as an accessibility service

Access to information through written and electronic communications, is determinant for personal development and full participation in society as the UN Convention on the Rights of Persons with Disabilities declares. Any sort of barrier that restricts participation, limits opportunities or constraints autonomy, empowerment and self-determination is to be avoided. (United Nations, 2008)

Following the medical approach (Berghs *et al.*, 2016) to justify accessibility, we find nowadays that in high-income countries,

[4] In https://www.w3.org/WAI/intro/accessibility.php (consulted 14/06/2017).

comprehension barriers affect 1% of the population having an intellectual disability and up to 3% in those with lower-income (Special Olympics, 2016). In figures, this means as many as 200 million people. Statistics rise when we move from the medical approach to mainstream "for all" approach (Orero and Tor-Carroggio, 2018) and add other profiles, for instance: elderly, immigrants, tourists, people with learning issues, and those with low literacy. Despite the wide range of profiles affected, cognitive accessibility is still less developed (FEAPS Madrid, 2014), highly stigmatized, and shows a high complexity which requires multidisciplinary approaches (Scior *et al*., 2015). The same can be said for those who in 2017 are still illiterate, or have low reading and learning skills.

Either way, disability is nowadays understood as a state resulting from "the interaction between a person's health condition(s) and that individual's contextual factors (environmental and personal factors)" (WHO, 2001: 8,10). Within Universal Design paradigm, it is impossible to have a universal accessible context or society. It is possible though, taking a closer look at the context itself and its demands when it comes to performing tasks. Modifying or easing the context characteristics according to the needs of the audience has become a main issue. In the field of cognitive disability, the concept of so called "supports" already exist (Verdugo and Schalock, 2010). Depending on their nature, supports can be services, products, technology, organizational processes, etc. They seek to breach the gap and build bridges between a person's skills and the environmental demands, focusing on the person's skills, not on "one size fits all" approach. Amongst them, Ocampo (2015) mentions Easy to Read as one of the advances achieved in the area of cognitive accessibility. As a methodological approach to make messages accessible to all people, in their intellectual and learning diversity, E2R can hence be considered an accessibility service.

3. 2. Linguistic features of Easy to Read

From a linguistic point of view, E2R is nowadays widely considered a functional variety of a national language (Bredel and Maaß, 2016) showing a restricted functionality. As such, it shares linguistic and extra-linguistic aspects with the standard language, but differs from it when it comes to improving perceivability and comprehension of written texts for

the intended target group: for all but especially for people with reading, learning or comprehension difficulties.

When a language is approached as a historical object with a communication function bound to the coordinates of a particular speech community (rather than as a self-contained system), its use varies along a set of dimensions, also known as the architecture of a language (Flydal, 1951). When looking at E2R following the set of four dimensions proposed in Coseriu 1981 it can be said that:

- As for its diastratic dimension, related to its social dimension, E2R focuses on the demands of a specific and heterogeneous social group: people with reading, learning or comprehension difficulties. However, E2R does not foster the creation of a closed social group with an own social identity, instead it seeks bridging communication barriers and fostering inclusion. Moreover, it serves to all people and social groups since comprehension processes are universal (Dalton and Proctor, 2017).

- As for its diaphasic dimension, related to the variation according to situations, E2R has been mainly used in the written medium where solid guidelines exist for each language. For perceivability and comprehension purposes, they reach out to a reduced form of the standard language but without falling into a-grammaticality. E2R combines different sign codes and uses strategies of the spoken language. Here again, the overall intention guides the use, taking place mainly through the written channel and with a carefully selected register to serve the communicative purposes of a given situational context. Although the envisaged planned process underlines that this variety has not arisen naturally from an active oral use within a community, its growth in planned spoken situations like broadcasting, audio introduction or audiovisual translation modes cannot be excluded.

- As for the diatopic dimension, that is the geographical area, E2R is not related to a local area or region. It is subordinated to the standard language when dealing with linguistic features, but to all languages when referring to its strategies. Recommending "simplification" can be applied across languages and writings, and paratextual features are also universal since they deal with cognitive processes.

- As for the diachronic dimension, related to its development over time, Easy to Read leans on the evolution of the standard variety following the same time axis. It is also true that since there are no standardized

guidelines, E2R evolves according also to the level of awareness within each language.

Once E2R enters the field of accessibility services, strategies and scenarios, it will have to be studied and developed. From a translational perspective according to Jakobson (1959: 234), "No linguistic specimen may be interpreted by the science of language without a translation of its signs into other signs of the same system or into signs of another system." From this approach, E2R can be found in various types of translation dimensions:

- Intersemiotic, where a verbal sign system is transmuted into a nonverbal sign system.
- Intrasemiotic, within the same sign system(s) (Gottlieb, 2005: 39).
- Intralingual, where there is a transfer of verbal or nonverbal signs by the same or different channels within the same language.
- Interlingual, where there is a transfer of verbal or nonverbal signs from one language into another by the same or different channels.
- Intercultural and intracultural (Bredel and Maaß, 2016: 183).

Authors and translators will therefore use a language variety in the transfer of meaning by subordinating all equivalence, semiotic and functional decisions to comprehension. In the case of AVT, although the modes are twofold, the constrictions are significant not only because of time, space or typographic matters, but also because the number of paratextual features are more finite than in other sort of digital texts.

3. 3. Easy to Read paratextual features

Reading has many processes involved and can be studied from many angles and fields: communication, psychology, interaction, cognitive, sociology, physiology. Reading implies a text and its writing system from Cuneiform, Arabic, Japanese or Latin. There are many text types away from written, for example music, tattoos (Martin, 2013) or audiovisual. Besides the linguistics of each language, which has a direct impact in E2R, the visual appearance of each writing system is also

important. In Europe, for example three writing systems coexist: Latin, Greek and Cyrillic. When it comes to presenting a text, legibility or the ease with which letters can be differentiated is a basic feature. Much has been written on legibility from the sociological and psychological fields, and lately for screen reading and user interaction design. Legibility may determine the speed of reading and also its comprehension. Issues such as: colour, contrast, size and font are some of the components. Legibility has been one of the areas of research most developed in the field of Audiovisual Translation (Romero-Fresco, 2015) in an attempt to define subtitle quality. Many tests have been performed to define benchmarking for subtitles both from a psychological (Rayner, 1984, 1998; d'Ydewalle and De Bruycker, 2003, 2007) and audiovisual translation approaches (Kruger *et al*., 2015).

Little normalization progress regarding legibility has been achieved in the realm of subtitling. This is surprising compared with the large volume of studies, and funded research. It is also interesting given the proliferation of standards, at national level such as Spanish UNE 135010 or the ISO / IEC DIS 20071-23. More surprising is the agreed WCAG 2.0 Guidelines, not only having clear instructions to all access services but also being forward since they already include E2R as one more service. W3 takes up this topic at A, AA and AAA levels seeking to lower the visual and cognitive stress experienced by readers. They demand perceivable information by means of adaptable (1.3) and distinguishable content (1.4), as well as readable and understandable content (3.1). Ultimately, always searching for the best interoperability across technologies (4). Nevertheless, the World Wide Web Consortium (W3C) (W3C, 2015) points out that the most useful checkpoints are either AAA or advisory techniques, and hence not implemented. According to the Consortium, level AA does not significantly help reduce the cognitive load and remits to other guidelines in the field of dyslexia. Their research has shown that readers with dyslexia access text at a 25% slower rate on a computer and, amongst other things, recommend enabling readers to be able to set their own choices of font style and size.

Along this line, typefaces –as non-verbal paratextual features added during subtitling–, become information carriers, and reading facilitators. As to the latter, Inclusion Europe (2009) recommends, amongst other things, to always use a font that is clear and easy to read and proposes sans-serif typefaces. The British Dyslexia Association (BDA) has undertaken some efforts to gather information on this specific issue. As

for the available fonts, they list as free fonts Lexia Readable, Open-Dyslexic, Dyslexie; as purchasable fonts like Sassoon and Sylexiad; and as publisher-only fonts Barrington Stoke and Read Regular. Apart from the general agreement on using sans-serif fonts, the BDA underlines their lack of knowledge about research work on reading speed, accuracy or comprehension with different typefaces, as well as for screen or print presentation, apart from that of Sassoon and Barrington Stoke. (BDA, nd) As for the information collected by the BDA from users and designers it can be said that:

- For the letters, dyslexic readers prefer:
    - Good ascenders and descenders,
    - b, d, f, h, k, l, t, and all capitals; g, j, p, q, y.
    - b and d; p and q distinguished, not mirror images.
    - Different forms for capital I, lowercase l and digit 1.
    - Rounded g as in handwriting. Most liked rounded a, although perhaps some felt that it may be confused with o.
- Letter-spacing should facilitate scanning, so that, *e.g.*, r, n together rn should not look like m, (*i.e.* 'modern' may scan as, or sound like, 'modem')
- For files on screen, readers prefer to set their own preferences regarding style, size, colour and background colour.
- Other parameters including line length, line spacing and font size seem to be as important as the font.

Bachmann (2013) starts filling the research gap by the study undertaken to assess the benefits of using the reading font, EasyReading™, specially designed for people with dyslexia. The study showed that by changing the font, reading was found easier by different reader groups. In the first phase of the study, the qualitative results obtained revealed that both groups –students with diagnosed a Specific Learning Disorder (SLD) and without SLD but certain learning difficulties– preferred the EasyReading™ texts over those presented in Times New Roman. In the second phase, the assessment of the reading performance (accuracy and fluency) of four different reader groups (normal readers, readers with

dyslexia, reading difficulties or CPM[5] below 25th percentile) showed statistically relevant results in performance, in both fluency and accuracy, with EasyReading™ as opposed to Times New Roman.

3. 4. Easy to Read guidelines

As for the writing guidelines, the range is extensive reaching from the two most used ones, IFLA and Inclusion Europe, to national ones. In Germany alone, the following coexist:

- the guidelines of Netzwerk Leichte Sprache – emerged from the practice and focused on quality assurance and Easy to Read,
- those of the Easy to Read Research Centre of the University of Hildesheim – focused on E2R translators,
- those of capito – more language learning centred, and
- those annexed to the German Regulation for creating barrier-free information technology, known as BITV 2.1.[6]

Even though the focus is slightly different in each of them, a high degree of overlap has already been identified by known authors like Ursula Bredel and Christiane Maaß in Germany, Óscar García in Spain or Klaus Candussi and Walburga Fröhlich in Austria.

At a regulatory level, we find the current ISO standard work on comprehensive text and information, and the recommendations included on Web Content Accessibility Guidelines 2.0 (WCAG 2.0) of the World Wide Web Consortium (W3C) and the extensions and support material to WCAG 2.0 that are to come in 2018, as announced by the W3C Cognitive and Learning Disabilities Accessibility Task Force (COGA TF), which will complement the first draft published in 2015 under the title Cognitive Accessibility User Research[7] in 2015 (Carreras, 2015).

Finally, as are entrenched by use, the writers can move beyond them and focus on the needs of the audience and the evaluation of the outcome effectiveness regarding literal and inferential comprehension, and

[5] Coloured progressive matrices.
[6] BITV2.1: Verordnung zur Schaffung barrierefreier Informationstechnik nach dem Behindertengleichstellungsgesetz (Barrierefreie-Informationstechnik-Verordnung BITV 2.1).
[7] For further information see: https://www.w3.org/TR/coga-user-research/

linguistic features (Fajardo *et al.*, 2014: 212), legibility, design, as well as the insertion of E2R in other fields, as pursued in this article.

4. EASY TO READ AS A MULTISERVICE ENABLER

Easy to Read in itself is a service which provides access to content by focusing on cognitive accessibility. To this end, E2R facilitates understanding by using text simplification, illustrations, layout, and paratextual or prosodic features. As such, these strategies do not depend on an input source, channels or semiotic codes and, thus, can be used in current modalities.

The AVT landscape is a natural interdisciplinary and multidisciplinary habitat which mirrors and multiplies the AV translation macro-modes: subtitling and revoicing. Nowadays they merge to form a complex scenario of media formats and their distribution possibilities. The ever-changing world of technology is leading to new directions where people have an interaction with electronic devices hence changing context awareness, natural interfaces, immersiveness and ubiquitous availability of information in many and hybrid forms. In the many available platforms (television, DVD, web, mobile, cinema, opera, theatre) we find several translation modalities sharing and making available the information within. Traditional services such as dubbing, voice-over or subtitling are found next to newer media accessibility modalities such as audio description, Sign Language interpreting, and subtitling for the deaf and hard of hearing, which entail inter-semiotic transfer processes that go well beyond traditional linguistic or even cultural definitions (Matamala and Orero, 2013). It is within this context we find E2R and the endless possibilities to merge and heighten access to information through hybrid modalities.

Following the list of services presented in the previous section we shall describe how the services can be merged. The proposal is to generate the hybrid family of "easy" accessible services.

- Easy listening, easy to listen, or easy audio description. It is true that audio description is an oral modality. Still the process of creating an AD is usually to prepare a written script, and as with any written texts, this may be produced following E2R guidelines. Through applying E2R to audio description, or audio introduction, it will be easier to understand. Still given the fact that audio description has a complex production:

written and spoken, it is also possible to have an Easy to Listen, or Easy Listening text. This concept has not been researched, and, in a way, it is complementary to Clean Audio. The latter takes care of the physical sound channel while the former secures a text where special attention has been paid to the choice of vocabulary, syntax, rhythm and intonation. The possibility of improving audio description or audio introduction through E2R and Clean Audio offers new accessibility hybrid modalities.

- Easy subtitles / captions / SDH – one of results from the DTV4ALL project was the needs for reading comprehension and speed from a new group "slow and fast" readers. This new group came about to challenge previous classification of users to test SDH. To date most studies to check quality in SDH are performed with persons with hearing difficulties (Romero Fresco, 2015). The results from many studies point to the heterogeneity of this classification and user needs. A simpler classification will be to separate people by the reading and comprehension speed: slow and fast. This will embrace an inclusive approach in Accessibility Studies on the one hand, and simplify testing and testing results offering a more robust data. Subtitles / captions / SDH produced with E2R guidelines will be a great help to "slow" readers, and all readers.

- Easy audio subtitles / captions / SDH – If subtitles/captions/SDH are written in Easy to Read, as mentioned in the previous paragraph, the audio version will also be more accessible.

- Easy to Read audio introduction, which again follows the argument for Easy to Read audio description.

- Easy to Read Braille, is also a possibility since the text will be drafted following Easy to Read guidelines, mostly relevant to textual elements.

- Hearing loop and clean audio can also improve listening and comprehension of an Easy to Read text.

- Easy to Read web is the area most developed regarding guidelines, and there are many publications gathered round the 2012 W3 organized Easy to Read symposium.[8]

[8] In https://www.w3.org/WAI/RD/2012/easy-to-read/ (consulted 14/06/2017).

The capacity of E2R to facilitate comprehension makes it unique and able to support any other service or even delivering input itself.

CONCLUSIONS

This article has considered Easy to Read or E2R in its own right as an accessible service, which aims to facilitate comprehension for all, but especially for persons with reading and learning difficulties. As a language variety and method, which ground on text simplification, E2R can be researched and developed on its own but also in conjunction with text-based accessibility services, such as subtitles or audio descriptions. The fact that E2R recommendations and guidelines go beyond language-dependent rules and encompass non-language dependent elements such as non-verbal codes (e.g., illustrations) and paralinguistic features (e.g., layout, typography, prosody, grammatical conventions), may also enable accessibility beyond a screen, as it would be the case in point of web pages or e-documents.

As with most accessible services, Easy to Read can also be combined with existing technology or other access services to improve and heighten accessibility. If for example, subtitles are drafted following E2R, the resulting audio subtitles will also be more accessible. To presume, as in this article, that a new series of easy-to-understand services can join the current AVT landscape has made it possible to start considering it as a research object. However, only with the support of the necessary empirical data, its usability and performance can be understood.

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