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## Linguistic, cultural and artistic challenges of 3D subtitling in Cyrillic

# GENERAL OVERVIEW

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- ▶ Any subtitles change the structure of the perception of the flow of information that an audiovisual piece in any format originates.
- ▶ Subtitles belong properly neither to the text nor to the image; they occupy a hybrid and intermittent place that is never fully their own.



# GENERAL OVERVIEW

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- ▶ Interlingual subtitles are always perceived as a supplement to film.
- ▶ Subtitling conventions and rules – including time and space constraints, the need for consistency with the image, the special use of punctuation and so on – result in a specific type of strongly edited text which departs from established linguistic norms.



# GENERAL OVERVIEW

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- ▶ In dubbing or re-voicing, the voices of dubbing actors fully replace the voice track of the film, following rules of lip synchronization. In this way, dubbing aspires to reproduce the impression of authenticity of the movie.
- ▶ On the contrary, subtitles are interposed between the viewer and the film, allowing the audio stream fully to be heard by the audience.



# GENERAL OVERVIEW

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- ▶ This important formal difference means that subtitles interrupt the effect of transparency and the concomitant perception of naturalness in film.
  - ▶ Thus the common philosophy within the subtitling industry says that "Subtitles should be read but not seen".
  - ▶ A subtitle or a caption should complement the material it is attributed to, but should never be difficult to read or overpowering.
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# GENERAL OVERVIEW

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- ▶ Within a regular 2D presentation this means that a subtitler needs to make sure that any text they put up on screen is clear, legible and conveys the message intended, while not occluding the action and remaining visible only long enough to be read.



# TURNING POINT

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- ▶ But there is something else, something more basic about 3D that overrides most of prior subtitling considerations.
- ▶ 3D movies and broadcasts in their best forms are immersive. The audiences are literally “drawn” inside the course of the action. There is a strong sensory bond between a viewer and the action.



# TURNING POINT

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- ▶ Subtitles are an element that in their 2D form are already strongly artificial in the picture. But the viewers of 2D movies and broadcasts can still live with them and incorporate them into their perceptive flows at little expense. 3D subs are different.



# TURNING POINT

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- ▶ If executed with little regard to the specific action on the screen, they can
  - ▶ disrupt the entire immersive impression,
  - ▶ break the sensory bond
  - ▶ put the viewers on the outside of the action making the show dull.
  - ▶ Waste enormous budgets of 3D movies and TV programs by making the audiences avoid 3D presentations



# TURNING POINT

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- ▶ There is evidently a new basic set of constraints that influences
  - ▶ Translation processes
  - ▶ Subtitling and placement conventions
  - ▶ The overall look and esthetic qualities of the subs
  - ▶ The timing of the subs
  - ▶ Their applicability to different kinds of content



# TURNING POINT

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- ▶ Our work and preliminary research for a number of our customers have shown that in order to make 3D subs a workable notion one has to concentrate on **redefining the entire set of working conventions related to subtitling** and in fact
- ▶ make 3D subtitling a branch of research in audiovisual translation studies that is set apart from 2D subtitling, dubbing or voiceover.



## 3D SUBS – A NO MAN’S LAND

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- ▶ It is clear that 3D subtitles need to be defined differently and the debate on their placement conventions is still ahead.
- ▶ So far professional stereographers don't like the idea of subtitles of any type being applied over the top of any 3D material, and would prefer in the first instance that they be removed and professional dubbing or voice over tracks be applied.



## 3D SUBS – A NO MAN’S LAND

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- ▶ In the instances that subtitles must be included, it is the preference of these professionals that they should appear in areas of the presentation where no depth cue information exists at all, such as in the black of a letterbox cut.
- ▶ It is clear that 3D subtitles interfere with the attempts of most stereographers to create a genuine 3D effect



## 3D SUBS – A NO MAN’S LAND

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- ▶ We all know that if a 3D video is shot, displayed, or viewed poorly depth perception of the objects in the scene may conflict with the 2D depth information that we perceive.
- ▶ These conflicts can cause the viewer to suffer similar symptoms to common motion sickness (fatigue, headache, dizziness, or in the worst case, nausea).



## 3D SUBS – A NO MAN’S LAND

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- ▶ 3D either creates a world of its own with its conventions and rules – like in 3D games and animated movies or steps in as the closest possible replica of the real world in terms of sensory perception.
- ▶ The stereographers have to invent a number of ways to shoot and to build the plots and the entire narrative to avoid negative perceptual and health effects in the audience.



## 3D SUBS – A NO MAN’S LAND

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- ▶ The clinical and marketing research shows that once acquired through negative sensory experiences the aversion to 3D presentations is very likely to stay with an individual for quite a time.
- ▶ The issue then emerges – if they are so alien and disruptive for the 3D presentation, who needs the subs in the future bright 3D world? Why can't they be replaced by dubbing and revoicing?



## 3D SUBS – A NO MAN’S LAND

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- ▶ Well, subtitling is cheap. It is and it will be cheaper than dubbing and revoicing as there are constant attempts to automate different aspect of the process that are more and more successful.
- ▶ I’d say in the case of 3D
  - ▶ there are domains where subtitles are a good and acceptable option and
  - ▶ there are cases in which stereographers aiming at producing a global release should either work with subtitlers to incorporate the subs into the texture of a movie or exclude them entirely from possible localization options.





## 3D SUBS – A NO MAN’S LAND

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- ▶ And the question of using/not using/finding new conventions for 3D subtitling goes far beyond the movie realm. Currently 3D and 3D subs are used in the gaming industry even at a broader scale. We all know that its turnover worldwide almost exceeds the entire box office and other sales of movie titles.



## 3D SUBS – A NO MAN’S LAND

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- ▶ Still the mechanistic transfer of 2D subtitling conventions into the 3D world led to a serious negative impact on the commercial potential of 3D games. This claim was confirmed by NVidia.
- ▶ Moreover, NVidia reports on its site that many of 3D games that are judged to be poor for 3D viewing have problems with subtitles/burnt-in titles that kill the stereoscopic impression.



## 3D SUBS – A NO MAN’S LAND

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- ▶ The game developers are caught between the need to provide for the need to localize the games for new markets and prohibitive costs of dubbing if they avoid subs (especially in cases of the so called sim-ship global releases).
- ▶ At the same time this avoidance of subs seriously hinders the expansion of 3D movies and games into new markets as it has been the subtitling and voiceover as cheap options that allowed for the boom of satellite TV channels in new national markets and the localization of the games.



# 3D SUBTITLES – ROLE REDEFINED

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- ▶ Before we proceed to redefining the role of 3D subtitles in the localization processes applicable to 3D audiovisual content, we'd like to have a look at the interaction of 2D subs with the cinematic and game dataflows.



## 3D SUBTITLES – ROLE REDEFINED

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- ▶ According to Dayan, naturalization of the cinematic codes, through which the effect of the real is produced in film, is carried out by a series of visual sutures.
- ▶ The cinematic code thus seems natural and eventually becomes naturalized, that is, it sustains national and cultural audiovisual data presentation traditions.



## 3D SUBTITLES – ROLE REDEFINED

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- ▶ It is this situation which subtitles challenge. They halt the process of naturalization and suture by adulterating the image and the editing of the film.
- ▶ The list of tricks used by subtitlers to ensure the unity of image, sound and text is long, and is almost always imposed from above, that is, **the subtitling companies.**



## 3D SUBTITLES – ROLE REDEFINED

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- ▶ The alienating effect of subtitles is thus played down, since they no longer bring about a rupture of the filmic flow.
- ▶ Subtitles become complicit in **the strategy of authentication of film** – a strategy which involves the conflation, of image, sound and text into a unified marketable product.



# 3D SUBTITLES – ROLE REDEFINED

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- ▶ Are film authentication strategies different for 2D and 3D subtitles?
- ▶ We think that the answer is positive. In 3D the film/game authentication strategy has to change and is to change.
- ▶ But in what way? That's the issue that most subtitling companies are currently pondering on.



## 3D SUBTITLES – ROLE REDEFINED

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- ▶ In our mind a great key to the understanding of these strategies was provided by Dionysis Kapsaskis in his article “On the Defamiliarizing Effect of Subtitles”
  - ▶ *The interest of interlingual subtitling as a cultural fact lies primarily in its bringing together, literally in the same room, two disciplines – translation and film – and at least two linguistic (and often national) traditions.*



# 3D SUBTITLES – ROLE REDEFINED

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- ▶ Subtitling therefore constitutes a privileged forum not only for the comparative linguistic examination of such traditions, but also for an assessment of the representations of these cultural traditions.
- ▶ There is a very important threshold that divides 2D and 3D subtitles in this respect.
- ▶ 3D subtitles are much stronger related to the cultural traditions of image and moving image representation and to national film authentication strategies and techniques. Why?





# 3D SUBTITLES – GOAL REDEFINED

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- ▶ 3D subs are more basic for scene and shot building and are an element of the artistic side of the movies.
- ▶ There is no other choice for the use of 3D subs in stereography – as it was shown earlier – it is either integrate or “die out”
- ▶ 3D subs interact with the film and game environment much stronger than 2D ones and become elements of the action and shots themselves.



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ Their emergence on the screen has to be contemplated from the moment of the shot inception unless producers want to disrupt the stereoscopic impression.
- ▶ **Thus we assume that 3D subtitling is a strongly artistic undertaking.**



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ The first conclusion is that 3D subtitling standards need to incorporate (in the order of importance)
  - ▶ technical (like the number of lines, characters and safe zones)
  - ▶ artistic (the appropriateness of subs in certain positions and in certain contents) considerations.
  - ▶ linguistic (like the correct and vivid language of translations),



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ If we try defining the directives for 3D subtitling based on the principles of 2D subs, we'll see that our standard operation method will contain an prohibitive intrinsic contradiction in terms. Let's have a look at it.





## 3D SUBTITLES – GOAL REDEFINED

- ▶ The need to keep near subjects away from the edge of the frame (where the picture for one eye could leave the frame) leads to **the “safe zone” becoming much narrower than for 2D subs, so the translation must be heavily elliptical.**
- ▶ The need to minimize the use of a narrow depth of field—3D subtitles (when projected in the same way as 2D ones) create an undesirable narrow layer that the viewers have to focus their attention on. **The demonstration of unadapted 3D subs thus has to be as short as possible.** But here the sensory contradiction pops up.



# 3D SUBTITLES – GOAL REDEFINED



- ▶ And at the same time both our research and the research of the British colleagues from Screen Subtitling Company show that with the viewers focus of interest during a 3D movie constantly changing along with ocular convergences necessary for this focus to be retained, **there is additional time required for the viewer to re-converge to read the subtitle at a given depth**, and subsequently converge again to focus on the action. Stereo convergence has been seen to take anything up to about 1-2 seconds each time.



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ This means that a given subtitle must be present on the screen for perhaps an additional 3 seconds depending on the difference between the depth of action and the chosen fixed position of the subtitle. This length of additional time is unacceptable for most presentations.
- ▶ This contradiction between “as short as possible” and “additional 3 seconds” can’t be resolved by linguistic or technical means.
- ▶ So there appear artistic solutions to this paradoxical issue of 3D subtitles.



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ To illustrate that I must say that Russian TV and film directors already experimented with subtitles to become parts of the movie imagery and in the near future – of the 3D scene.
- ▶ It is the Russian vampire movie "Nightwatch" by Timour Bekmambetov where subs and credits were put on roadside billboards becoming indispensable parts of the scenes.



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ **If we acknowledge that 3D subs are an artistic phenomenon, it means 3D subtitling has very deep cultural roots in its perception.**
- ▶ To elaborate country-specific standards of 3D subs placement one has to study the cultural roots of the placement of texts in artistic representations in different cultures.
- ▶ In fact different cultures over the centuries elaborated on different ways of putting texts and images and highly veritable artistic images.
- ▶ So far we may single out several distinct representation modes.





# 3D SUBTITLES – GOAL REDEFINED

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- ▶ The Western traditions (Medieval /modern, i.e. comic-book like).
- ▶ The Chinese/Japanese tradition of blending paintings and hieroglyphs
- ▶ The iconic Russian/Orthodox tradition that was developed in 1920s in the Soviet poster culture
- ▶ The Moslem pattern blending tradition



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ One could assume that these distinctions and findings are fit for some academic papers and not for practicalities of subtitling.
- ▶ But recently I came across a very interesting approach suggested by our respected colleagues from Screen Subtitling in their White paper on 3D subtitling software they developed.





## 3D SUBTITLES – GOAL REDEFINED

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- ▶ They suggested the notion of the Dynamic Positioning of 3D subs closely related to the events in the picture. Actually subs as our colleagues acknowledge start **resembling bubbles from comic strips.**
- ▶ Actually the entire functionality of their 3Ditor 3D subtitling software is built around this assumption.
- ▶ At first the approach seemed strange to us, but later we understood that for the British/American culture it was logical and natural.



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ They state(I'm sorry for a long quote, but it is important):
  - ▶ *“The solution (...) is the ability to move the subtitle in 3D space in relation to the action and point of interest occurring on the screen, dynamically positioning the subtitle in the 3D space.*
  - ▶ *Under certain schemes it is possible to describe an envelope for movement of a subtitle over a given duration, allowing for the subtitle to 'follow' the action within a scene.”*





# 3D SUBTITLES – GOAL REDEFINED

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- ▶ This “bubble” might be a great idea, but it is a cultural and artistic thing.
- ▶ It is not the issue of what’s better or worse, but the issue of the subconscious acceptability of the subs for viewers of different cultures.
- ▶ So if the content providers seeks to build a veritable 3D representation of the moving reality in films or games and sell it globally, the issue of various 3D film/game subtitle authentication strategies must be researched early in the business planning process.
- ▶ It is also important that our colleagues introduces the notion of **acceptable schemes** for 3D subtitle envelopes. We came to the same conclusion.



# 3D SUBTITLES – GOAL REDEFINED

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- ▶ The number of genres where 3D subtitling can be comfortably used is restricted by the ability of the source “reality” to be
  - ▶ constructed from a scratch – like in animations and 3D games
  - ▶ Adjusted, “bent” and changed to incorporate 3D subs – sports events, concerts, mass events



## 3D SUBTITLES – GOAL REDEFINED

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- ▶ Actually what unites them all is **a high degree of the reality manipulation and reality reconstruction on stage/on a field etc.**
- ▶ In cases of games and animated films the quasi-reality is totally reconstructed.
- ▶ Anyway, the filming/programming reality setup is designed to leave a lot of space for the 3D subtitling creative opportunities.





# 3D SUBTITLES – GOAL REDEFINED

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- ▶ For example - Channel 1 of the Russian TV also uses 3D emulations for ads during sports broadcasts.
- ▶ This approach was taken as the basic one in a few current 3D movie projects initiated by various Russian companies.
- ▶ Thus the Russian approach is more towards the artistic incorporation of 3D textual and subtitling elements into a restricted number of genres and kinds of content. Actually it is a way of recreating the cultural iconic/poster tradition and thus – very logical.





## 3D SUBTITLES – GOAL REDEFINED

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- ▶ Moreover, the exact list of shows and “realities” that accept 3D subs is country-specific and has cultural roots as well.
- ▶ A good example is the Spanish bull-fighting or the Korean mass dance performances or the Russian military parades.
- ▶ We’re currently working at establishing the most acceptable ways of placement of 3D subs in these selected genres for the Russian audience and will be glad to report the research and practical job results later.



## 3D SUBTITLES – CONCLUSION

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- ▶ According to the classical definition by Gottlieb,
  - ▶ *the 2D subtitler translates speech into writing, and subtitling is making and conveying uttered messages (speech, signs, and captions) in a different language in filmic media (cinema, television, video, laser disk and DVD) into one or more lines of writing that is or are presented on the screen, synchronised with the uttered message.*
- ▶ In the case of 3D subtitling the basic framework seems to change.
- ▶ A stereographic subtitler works with due regard to the translation of speech into writing, but he translates **one representation system of signs and images into another one.**



## 3D SUBTITLES – CONCLUSION

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- ▶ For him or her the things that matter aren't only linguistic barriers, but also **differences between representation modes in different cultural environments** (or as we put it – symbolic zones – line DVD/BD coding zones)
- ▶ It is the issue of the artistic conversion and translation of these systems and the rules of such conversions in different sign system couples need to be explored and standardized as soon as possible.



## 3D SUBTITLES – CONCLUSION

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- ▶ When viewed from the point of view of artistic conversion expertise, 3D subtitlers at large aren't any longer feeling themselves cinematographic “also-runs”, eternal outsiders to the filming and game creation processes.
- ▶ Their efforts and evaluations are needed from the very beginning to create a non-contradictory and easy to adopt 3D environment and to avoid wasting the funds on scenes and episodes that may ruin 3D impressions dramatically if subtitled for global audiences.



# 3D SUBTITLES – BUSINESS HINTS

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- ▶ 3D subtitling is different from 2D one not only in its need for more computational force, but in its accent on linguistic and artistic professionalism.
- ▶ While planning a 3D projects it seems logical now to include the localizers (subtitlers) into the planning process from the very beginning – especially in gaming.
- ▶ If a 3D movie/game project is to be localized with the help of 3D subs, it might be reasonable to apply the expert evaluations on the ways to build the subtitling framework at the planning process.

