Position Paper on Automated Translations and Signing Avatars

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Avatars are animated figures in human or animal shape and constitute a technical development that is also applied in the field of visual-gestural languages. Avatars can be animated to produce a sign language. So-called 'signing avatars' are comparable to computer-generated voices and are currently advertised as milestones towards a fully accessible world for deaf people by companies and researchers.

From a social science perspective, signing avatars are highly problematic for a variety of reasons, especially in their current stage of development. In the following, the Austrian Association of Applied Linguistics (*verbal*) offers a critical account of signing avatars from a critical sociolinguistic point of view.

I. A fragile minority context

Even in the context of minority languages, the Austrian Sign Language (Österreichische Gebärdensprache, ÖGS) constitutes a fairly marginalized language with approx. 10,000 active language users/signers. ÖGS is an autochthonous and traditionally a non-written language that was recognized in Art 8 Par 3 of the Austrian Constitution in 2005 and was termed Intangible Cultural Heritage by UNESCO in 2013. Throughout the past decades, the Austrian Sign Language Community has been continuously concerned with obtaining greater *visibility;* receiving "space" for their language in the public sphere (such as on national public broadcasting, in politicians' awareness or in laws and legal documents) is a constant and continuous struggle for deaf ÖGS users. With a recent history of decades of stigmatization and even overt bans on sign language, it is of utmost importance for deaf sign language users to be visible.

In view of this historical and social context and with respect to the visibility of this minority, it is highly undesirable to 'substitute' real-life sign language users with animated, artificial characters.

Furthermore, the ÖGS community, just like many other Sign Language Communities worldwide, continuously strives to clarify misconceptions about their language, such as the popular myth that ÖGS is an artificially created language.

Animated artificial characters that seem to originate in cartoons or animated films are very likely to enhance this misconception of ÖGS as an 'artificial' language or a gimmick. The appreciation and awareness of real, everyday needs and language rights of deaf people are thus likely to be pushed into the background.

The transmission of ÖGS from one generation to the next is already highly fragile due to the fact that the Austrian Sign Language Community is very small. In addition, teachers for the hearing impaired - until this day - have to show *no proof whatsoever* of their sign language skills in order to be allowed to work with deaf pupils. In other words, adult linguistic role models for ÖGS are extremely scarce.

In a context where deaf children have next to no exposure to ÖGS in national public media, providing fully-fledged, complex and rich linguistic input by language users that children can identify with is prudent and highly desirable from a language acquisition perspective.

It is obvious that when it comes to linguistic role models for children, avatars are no substitute for real-life sign language users.

II. Quality of language use

The quality of texts produced by avatars essentially depends on translation. Avatars currently on the market rely on unfinished translations and feature severe deficiencies, mostly in the area of non-manual markers. This is partly due to the fact that knowledge on the grammar of ÖGS is at present too scarce to allow for appropriate programming. Much more research on ÖGS is needed in order for avatars to successfully emulate all aspects of natural language use. Yet, this task is not being achieved by the developers of avatars.

In April 2019, the European Union published videos on the upcoming elections in all European sign languages. The videos were translated by professional interpreters (in the

case of Austria by a deaf professional interpreter whose first language is ÖGS). The same text was then presented by a signing avatar, thus permitting a direct comparison of the quality of the two videos:

https://multimedia.europarl.europa.eu/en/choose-your-future-sign-language-versions_12001_pk?fbclid=IwAR2OonfU2Mfwo5_XeizapChB5ryPdHHMqpUzeqSR7Ixx5xPuoNgd_UVDWHk

vs.

https://www.youtube.com/watch?v=YFjA2-QEe4Q

No matter how 'fluent' or lifelike avatars are sought to be animated, they only sign as naturally as technology currently permits. At this point, avatars (for example by Simax, see video example) sign as clumsily as the first generation of computer-generated voices sounded.

In the future, avatars might be technologically advanced enough to serve as near-substitutes for real interpreters – for certain genres or text types and in limited fields. At present, we are a long way from this future. The avatars currently available in the public domain are, with regard to the quality of their language use, *work in progress*.

In consequence, the question arises as to why these avatars are advertised as a giant leap towards accessibility. Their obvious lack of linguistic sophistication is inacceptable and they are an extremely poor substitute for real-life sign-language interpreters – at the expense of deaf viewers. In light of current legislation concerning accessibility it seems unjust that deaf/hearing impaired Austrians should be appeased with offers of such inferior quality.

The Federal State of Austria urgently needs to invest into ÖGS research and needs to allocate substantial and appropriate funds for this purpose.

III. Cost argument

Leading commercial enterprises in the field of signing avatars insinuate that videos produced by avatars are cheaper than those created by real-life interpreters in a studio. Sign Language Communities have historically been and still are confronted with the argument that their insistence on using sign language is 'cost-intensive'. (Example of this are: A Viennese surgeon calculates that children attending a special school are a *Millionengrab*, so a kind of financial black hole. Deaf people who apply for funding for

interpreters are always haggled with. Civil servants habitually seek to get representatives of the sign interpreter association to lower interpreters' hourly fees.)

We would like to state explicitly that the issue of access to ÖGS and to information via ÖGS is a human rights issue, which clearly cannot be measured or judged in terms of monetary expenses. It is ethnically improper and inadmissible to use a cost argument to decline full access to information.

At the beginning of May 2019, the Viennese company Simax released the news that their development of signing avatars would be funded with 1,1 million Euros by the European Union. Simax is a commercial and profit-oriented company that neither contributes to ÖGS research nor takes an active role in improving access to language for deaf children. The promotion of ÖGS as a family language is something that is barely supported in Austria: Parents who wish to learn ÖGS in order to communicate with their own child born with hearing impairments receive no state support whatsoever; they will have to pay for all ÖGS language courses and other resources with their own personal funds. It is with great concern that we observe this severe imbalance between investment in the development of a technology on the one side and a lack of financial support for people who wish to establish ÖGS as their family language. **Investments in commercial technology should have a reasonable relation to funds allocated to non-commercial areas that contribute to the promotion and development of Austrian Sign Language.**

IV. Endangered Vitality

A project on the vitality of sign languages that is conducted in cooperation with the *Foundation for Endangered Languages* and based on criteria by UNESCO states that ÖGS is stage 4, namely "vulnerable", see

https://www.uclan.ac.uk/research/explore/projects/
sign_languages_in_unesco_atlas_of_world_languages_in_danger.php

ÖGS is especially fragile due to a number of reasons:

- ÖGS has a very small number users.
- The transmission of ÖGS to the next generation is difficult. (Only 5–10% of all deaf people have parents who are competent sign language users; thus, only few children acquire ÖGS as a first language.)

- ÖGS only has an informal place in schools and education.
- ÖGS is underrepresented in public media. (Only TV is appropriate for a visual-gestural language and only very few programmes of ORF are offered with an ÖGS interpretation.)
- There is a predominant medical-deficit view that seeks to resolve the 'problem' of deaf people through physical modification (Cochlea Implant) and thus calls into question the existence of ÖGS and marginalizes the need for an appreciative understanding of the value of ÖGS as a language.

It is highly questionable whether signing avatars will contribute anything to the vitality of ÖGS. In fact, as long as avatars deliver artificial and severely 'flawed' language while sign language users (as the programmers of these tools) stay invisible, signing avatars are very likely to be counter-productive.

Signing avatars are not a specifically Austrian issue. In 2018, the *World Federation of the Deaf* and the *World Association of Sign Language Interpreters* issued a joint statement on avatars:

http://wfdeaf.org/news/resources/wfd-wasli-statement-use-signing-avatars/

For the board of verb*al*
Alexandra Wojnesitz (chair), Jürgen Spitzmüller (executive chair)