

Automatic Translation and Wordplay: An Amateur's (Playful) Thoughts

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Abstract

While translating/adapting wordplay is certainly not, for the time being, within the reach of machine translation (be it knowledge-based, statistical or neural), the same may hold true for quite a few human translators as well. In my contribution, I invite readers to take part in a sort of homemade Turing test, by asking them to uncover the translations of three open access MT systems (DeepL, Google Translate, and Yandex), mixed with renderings of the same passages made by human translators. Our corpus consists of English to French translations of some excerpts taken from Lewis Carroll's *Alice's Adventures in Wonderland*.

Keywords 1

Automatic Translation, Wordplay and Pun Translation, Machine Translation

1. Introduction

A good – albeit unscientific – starting point for dealing with the problem that interests me could be the following:

(1) Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works. (2) Anything that's invented between when you're fifteen and thirty-five is new and exciting and revolutionary and you can probably get a career in it. (3) Anything invented after you're thirty-five is against the natural order of things. [1]

Unfortunately for me, and for my ability to rely on it, machine translation really showed its full potential just after I turned thirty-five. I belong to a generation that has had many good laughs while trying to make sense of the gibberish of the first Babelfish automatic translations (decidedly, Douglas Adams is everywhere!) and who had lots of fun reading the description of Umberto Eco's retranslation experiments [2] carried out using that same service. I guess that this is the reason why, even if I try my best to get rid of my deepest convictions, I find it very difficult to fully accept AT – and that I like to see it having trouble. What could be better then, than to put it to the test in one of the areas which oppose it the fiercest resistance? By now, those who have not already stopped reading (thank you!) will have understood at least one thing: these pages do not claim to be exhaustive or even scientific – they are just a sort of personal reflection by someone who knows quite little of the broad field of AT.

2. Automatic translation is *definitely* interesting!

To show that I am really doing all that I can to get rid of my preconceived ideas – and that I am trying my best to raise awareness about the usefulness of machine translation to the ones who want to hear me – I am going to ask my readers to bear an anecdote.

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I teach French into Italian translation in a master's degree at the University of Udine, in northeast Italy. In order to be admitted to the program, all future students have to pass a short translation test. For the last three years, at my first meeting with a new class, I have proposed the following activity. I take the same text that the students translated during the exam, and I ask them to evaluate a series of versions: mine, those of two students, those of three free machine translation services (DeepL, Google Translation and Yandex²). I then ask two things to the class: first, to tell me if in their opinion some of the texts are the result of machine translation (and, if so, which ones); and, second, to rank them from best to worst. For the past three years, the resulting little poll has systematically placed my version in the first position (a fact which, I must admit, is quite gratifying); however, the second place has almost always gone to the text produced by DeepL (which is only seldom recognized as a machine translation, by the way). Usually, the two human translations by my students come in third and fourth place, followed by the versions offered by Google Translate and Yandex. Admittedly, the situation in which the human translations are produced is far from ideal for my future students. The test is a very old-fashioned one: it is done in a short time (1h30 for two short translations, from and into French), written by hand, and without access to any electronic resource whatsoever. I am quite certain that the results would be very different (although much less fun!) if I gave the same texts to translate at home. That said, I still find that this ranking forces every translator and every translation teacher to consider machine translation as a reality which we cannot do without. At least, this is what I tell my students.

For certain textual typologies at least, we can indeed consider that the machine output is not too far away from human quality.

3. Reasons for hope: we, humans, still have something to say

That said, I think that humans will not disappear from the horizon of translation. Not immediately, at least: as Nicolas Froeliger points out, “It is human translations that feed the memories used in statistical machine translation and in CAT tools. If human translations stop, then these two techniques can no longer work”³ [3].

It is possible to add two other touches of hope (for us, human translators, of course!) to Froeliger's words. First: the risk for AT to turn its virtuous circle of learning into a vicious one. The impression of correctness that texts produced by neural MT can give, despite objective translation errors – a problem that has been named “fluent inadequacy” by Silvia Bernardini and Federico Garcea [4] – can deceive human readers in many different and dangerous ways. In a paper which opened a discussion on *Academia* in 2019, and which seems to have been removed afterwards, Anthony Pym mentioned the same problem, in these terms: “The output can sound so good that it tends to be convincing to a fast reading monolingual reader, who will not know how many errors have been concealed along the way” [5]. This is a very serious flaw, since users can then validate faulty translations which will be re-entered into the system. As Pym again pointed out,

The problem [...] is not that the algorithms are faulty; it is that many of the people who use them are often stupid. Once the machine gives a rendition that looks fluent and convincing, users accept the translation as valid and then put it on a website, where it can be picked up by a web crawler and fed back into a database. Rubbish out, rubbish in, then more rubbish out – the ideally virtuous circle turns into vicious circle and the promises of perpetual improvement come to naught [5].

Of course, human translators are far from perfect; as any practitioner knows, the risk of translation errors is always present. However, human translators can pay more attention exactly to those passages that, for some reason, deserve it. I will need to quote one last time, on this point, Pym's paper:

There is some evidence that a human translator expends greater effort on the more high-risk passages of a text, reducing the risk of error in them [...]. Machine translation processes, on the other hand, invest effort uniformly over the whole text, which means that their probability of error per sentence

² Accessed at the following addresses: <https://www.deepl.com/fr/translator>; <https://translate.google.com>; <https://translate.yandex.com>.

³ “Ce sont les traductions humaines qui viennent nourrir les mémoires employées en traduction automatique statistique et en TAO. Si les traductions humaines cessent, alors ces deux techniques ne peuvent plus fonctionner.” All translations for the quotations are mine.

remains theoretically constant. That is, if a page of human translation and a page of machine-translation output both have three errors in them, the human translation will probably not have the errors in the high-risk passages but the machine translation might. So when the end-user receives the translations, they can assume all the parity they like, but they will not know exactly where those three errors lie [5].

In its English page, DeepL claims to deliver “Fast, accurate, and secure translations”. As we saw, the service is certainly fast and probably secure; on the other hand, it only *seems to be* quite accurate, but it could give results that deviate from the source text in particularly sensitive places – those same places where the human translator would have been particularly attentive.⁴ Of course, wordplay poses a significant challenge to all these issues.

4. Wordplay and wordplay translation

Before we delve into the texts, we will need one last digression. It will concern the very definition of the term “wordplay”, which is far from unanimous among those who have tackled the problem in different languages. I have proposed elsewhere [7][8] a classification of this phenomenon – and of its translation – that I will quickly summarize here. I stated (and I will refer to the cited works for the details) that the only element which seems to unite interlinguistically the different manifestations of this object of study is indeed the couple of terms “play”/“game”, which are usually translated into a single word (*gioco, jeu, juego, Spiel...*) in most European languages. One just has to think about expressions such as *gioco di parole, jeu de mots, juego de palabras, Wortspiel...* And, I added, it is possible to distinguish at least three different semantic cores relating to those terms: a gratuitous and free activity; a set of well-defined rules; and, finally, the activity that takes place within this set of rules. According to Umberto Eco – who examines the question in his introduction to the Italian version of *Homo ludens*, by Johan Huizinga [9] – we are not dealing here with a case of polysemy, but of homonymy: a homonymy which is only partially unveiled by the two terms used in English. I will argue, then, that if we want to fully understand wordplay we will first have to borrow the one and only term that so many European languages share: the term *gioco, jeu*, and so on.⁵ In its extended meaning, covering the meaning of the term “game”, too, “play” is both free, gratuitous, and regulated, it is at the same time a system of rules and an activity carried out in accordance with this system; it cannot do without one of these aspects, with an exclusive concentration on some others. And (that was my proposition at the time, and I would tend to confirm it today) wordplay behaves the same way. It would therefore also be three things at once:

1. “A linguistic expression containing one or more elements of identical form whose semantic bi- or plurivalence has been consciously exploited by the user”⁶ [10]. Here we have a first form of play – the gratuitous, free one, depending on the hazard of the linguistic form;
2. “A text of small dimensions whose construction obeys an explicit rule, preferably concerning the signifier. This definition comprises three elements of unequal importance: the explicit rule, the small dimensions, the level of the signifier”⁷ [11]. This is the other form of play, the one we refer to when we use the expression “playing a game”;
3. We must finally add to these two meanings the system of rules. A football match is a *jeu* (this is meaning number 2, above), but football is a *jeu*, too: it is a game. If we relate this third meaning to wordplay, we could think of the Oulipian creation of new constraints.

⁴ A recent article by Perrine Schumacher [6] points out some other problems relating to neural MT for the English-French language pair (non-idiomaticity, lack of coherence, abusive corrections...). We refer directly to Schumacher’s contribution for more details.

⁵ From now on, I will refer to the French, German, Italian, and Spanish terms using only one of them – the French *jeu* (plural: *jeux*).

⁶ “Une expression linguistique contenant un élément ou plusieurs éléments de forme identique dont la bi- ou plurivalence sémantique a été exploitée consciemment par l’usager.”

⁷ “Un texte de petite dimension dont la construction obéit à une règle explicite, concernant de préférence le signifiant. Cette définition comporte trois éléments d’inégale importance : la règle explicite, les petites dimensions, le niveau du signifiant.” I maintain that, talking about the “unequal importance” of these different elements, Todorov opens up to the existence of *jeux* which do not play on the signifier (they could play on the signified, as happens with some figures of thought), or of larger *jeux* (as, for instance, a book-length constrained text).

In its extended meaning, wordplay seems therefore to be, just like *jeu*, a difficult concept to pin down, and which has at least three aspects to consider: (1) free, gratuitous *jeu* (play); (2) *jeu* as the play of a game; (3) finally, *jeu* as the system of rules, i.e. as a game.

Translating wordplay is, too, a threefold operation. *Jeu-1* is the one that allows the greatest latitude of solutions: if the current trend is to translate a SL⁸ play with a TL play [7][12] (even at the cost of a significant deviation from the letter of the ST), things have not always been this way. *Jeu-2* seems to require a translation which reproduces it, following the same set of rules which originated the ST.⁹ Talking about his Italian translation of Raymond Queneau's *Exercices de Style*, Umberto Eco describes this need when he states that he had to "understand the rules of the game, respect them and then play a new game in as many moves"¹⁰ [13]. Nevertheless, sometimes this may not be possible, because of the different forms that languages (or their graphic representations) can take. Some constraints are simply not repeatable when the language changes. How could we "play the game" of the lipogram in Georges Perec's *La Disparition*, for instance, if we switched to a non-alphabetic writing system? In these cases, we will need to "translate", so to say, *jeu-3* (the game), by creating a new rule adapted to the new linguistic or graphic system.

5. Machines and wordplay translation

This last type of translation does not seem to me (for the moment?) within reach for AI; as far as the translation of *jeu-2* is concerned, it would perhaps be possible to obtain some results by superimposing explicit rules on the translation system – this could be relatively easy to do as far as the game would only be concerned with the *form* of the TL. Thus, an exercise in style like the following one, "Lipogramme" [14], written without using the letter *e*...

Au stop, l'autobus stoppa. Y monta un zazou au cou trop long, qui avait sur son caillou un galurin au ruban mou. Il s'attaqua aux panards d'un quidam dont arpions, cors, durillons sont avachis du coup ; puis il bondit sur un banc et s'assoit sur un strapontin où nul n'y figurait.

...should be relatively easy to translate for a properly educated machine. On the other hand, wordplays where a rule is mechanically applied to the source text seem to me totally out of reach for any MT system. Just think of an exercise of the "Contre-petteries" type [14], of which I will also quote only an extract:

Un mour vers jidi, sur la fate-plorme autière d'un arrobos, je his un vomme au fou lort cong et à l'entapeau chouré d'une tricelle fessée. Toudain, ce sype verpelle un intoisin qui lui parchait sur les mieds. Cuis il pourut vers une vlace pibre.

Here, the system would first need to reconstitute the source text by means of syllabic inversion, then to translate it into the TL (this would probably be the simplest part) and finally to reverse the syllables of the words which form the translated text, taking care at the same time to obtain "words" which, although non-existent, follow the morphological and phonological rules of neonymy for the TL. As for now, then, the concept of constraint linked to *jeu-2* seems a very problematic one to me, as far as machine translation is concerned. This is why I will concentrate, after this digression and these less-than-exemplary examples, on *jeu-1*, the gratuitous form of play.¹¹ As we have seen, its main characteristics are, first, ambiguity; second, the concentration on the *signifiant* side of the sign (in the Saussurean sense of the term), that is to say on the form; third – but this last trait is perhaps less central – a relatively small size (we are quite near to the prototypical definition of "pun").

⁸ From now on, I will use the acronyms *SL* and *TL* in order to refer to *source language* and *target language*; *ST* and *TT* will stand for *source text* and *target text*.

⁹ This is true at least for the cases where the rule functions as a generative principle of a text – where it is the main, if not the only, reason for its existence. If, on the other hand, the rule constitutes one element among others, the possibility of a translation that ignores it (for example, the translation into prose or free verse of a poem written according to a precise metrical form) is not to be excluded.

¹⁰ "Capire le regole del gioco, rispettarle, e poi giocare una nuova partita con lo stesso numero di mosse."

¹¹ While being aware that in this field, and for the good reason that wordplay aims above all to *break* the rules of the linguistic system, to play on its very weaknesses, "there can never be a fully automatic, one-size-fits-all approach" [15].

Having already described some human wordplay translations in the past, [16] in the last part of my paper I will take some examples on which I have already worked, all drawn from Chapter IX of *Alice's Adventures in Wonderland*, and I will propose that readers do the same exercise that my students have to do at the beginning of my classes. I will reproduce three puns in English to French translation and I will – perhaps – slip some versions produced by MT systems in the middle of some human translations. All readers are invited to recognize them. Of course, this sort of little homemade Turing test is of no scientific value whatsoever: I hope it will at least be fun! That said, I am quite certain – and I write this before realizing my “experiment” – that we will be able to distinguish the good translators from the machine. At the same time, I am not so sure that the difference between a bad human translator and the machine is so great: that is why I expect a number of false positives!¹² The three puns chosen for the experiment, and which will be rapidly described below, are the following:

1. Take care of the sense, and the sounds will take care of themselves [17].
2. — Have you seen the Mock Turtle yet?
— No – said Alice – I don't even know what a Mock Turtle is.
— It's the thing Mock Turtle Soup is made from, said the Queen [17].
3. That's the reason they're called lessons, the Gryphon remarked, because they lessen from day to day [17].

Let us now move on to their translations. At first, I will just list them without revealing their author. I will then provide a short commentary, in which I will unveil the identity of the authors of each version, including those that have been proposed by one of the translation systems that I have used. Once you have read the different versions of these wordplays, then, I suggest that you do not read any further if you want to give a try to the experiment. Take your time and try to discover the automatic translations!

5.1. Take care of the sense...

The wise advice of the ST plays on a paronymy, with its allusion to the proverb “Take care of the pence, and the pounds will take care of themselves”. At the cost of a modest modification (if we read it out loud, [s] replaces [p] on two occasions), the saying is thus diverted into a kind of *ars oratoria*. Here are some French versions of the passage:

1. Prenez soin du sens, et les sons s'occuperont d'eux-mêmes.
2. Occupez-vous du sens, et les mots s'occuperont d'eux-mêmes.
3. Prenez soin du sens et les sons prendront soin d'eux-mêmes.
4. Occupons-nous du sens, et laissons les sons s'occuper d'eux-mêmes.
5. Prenez soin du sens, les sons prendront soin d'eux-mêmes.
6. Aide le sens et les sons s'aideront.

1: DeepL; 2: Papy; 3: Google Translate; 4: Parisot; 5: Merle; 6: Riot. In this first case, two versions, 4 and 6, can be attributed with sufficient certainty to humans. The effort to play is indeed more apparent there, thanks to the homophonic sequence in 4 (*laissons les sons*) and by the paremiological allusion in 6 (with its reference to *Aide-toi et le ciel t'aidera*). As for the other versions, they are all more or less interchangeable; it is certainly possible to notice a little more coherence in the human versions (in particular, in the structural parallelisms *prendre soin/prendre soin* or *s'occuper/s'occuper*) but, personally, I find that versions 3 and 5, with their protracted alliterations in s, are slightly better than version 2. That is why I would say that both Magali Merle and Google Translate score a little better than Jacques Papy.

¹² My corpus is made up of the following human translations: Jacques Papy (1961); Henri Parisot (1968); André Bay (1980); Philippe Rouard (1984); Magali Merle (1990); Elen Riot (2000). To make the game more interesting, only some of these translations will be quoted for any one wordplay, and the same holds true for the machine translations.

5.2. The Mock Turtle

Lewis Carroll refers here to *mock turtle soup*, an imitation of the real turtle soup. Usually, the recipe replaces its pricey ingredient with veal. The wordplay is based on a purposefully ill segmentation of the expression: *mock (turtle soup)* is read as if it were *mock turtle (soup)*.

1.
 - Avez-vous déjà vu la Tortue Fantaisie ?
 - Non, répondit Alice. Je ne sais même pas ce que c’est qu’une Tortue Fantaisie.
 - C’est ce avec quoi l’on fait la Soupe à la Tortue « Fantaisie », précisa la Reine.
2.
 - As-tu déjà vu la Simili-Tortue ?
 - Non, répondit Alice, je ne sais même pas ce que c’est, une Simili-Tortue.
 - C’est la chose qui sert à faire le consommé à la Simili-Tortue, repartit la Reine.
3.
 - Avez-vous déjà vu la tortue simulée ?
 - Non – dit Alice – Je ne sais même pas ce qu’est une tortue simulée.
 - C’est la chose dont la soupe de tortue fantaisie est faite, dit la Reine.
4.
 - Avez-vous déjà vu la Tortue-à-Tête-de-Veau ?
 - Non, dit Alice, je n’ai même pas idée de ce que ça peut être.
 - C’est ce qui sert à faire la fausse soupe à la tortue, dit la reine.
5.
 - Tu as déjà vu la Fausse Tortue ?
 - Non – dit Alice – Je ne sais même pas ce qu’est une Fausse Tortue.
 - C’est la soupe de tortue factice, dit la Reine.

1: Parisot; 2: Merle; 3: DeepL; 4: Bay; 5: Yandex. Here, the difference between human and machine translators seems to be much clearer. The only version that replicates the original play on words is 1, where *Fantaisie* can be related to both *tortue* and *soupe à la tortue*. The cultural reference is lost, but this seems a lesser evil to me. Version 2 is consistent, sure, but there’s no wordplay, since the prefix *simili-* can only refer to turtle. In 4, the illustrations may have directed the explanation of the first line (the classic images drawn by John Tenniel indeed show a sort of calf-turtle chimera¹³); however, the play on words is lost. The two versions produced by the machine seem to me less acceptable here. DeepL performs much better than Yandex; the latter completely leaves out the idea of an ingredient (the *fausse tortue* turns into a soup in the last line), but version 3 is also quite awkward (by the choice of the word *simulée*, as well as by the lack of coherence between this *simulée* and the *fantasie* of the last line).

5.3. Lessons

The false etymology in question is entirely based on the phonological identity of *lesson* and *lessen*.

1. C’est bien pour ça qu’on les appelle des cours, fit observer le Griffon, parce qu’ils raccourcissent d’un jour sur l’autre.
2. C’est la raison pour laquelle on les appelle des leçons, a remarqué le Griffon, parce qu’ils diminuent de jour en jour.
3. C’est pour cette raison qu’on les appelle des cours, fit remarquer le Griffon : parce qu’ils deviennent chaque jour un peu plus courts.
4. C’est la raison pour quoi l’on appelle ça des cours, fit observer le Griffon : parce qu’ils deviennent de jour en jour plus courts.

¹³ Tenniel’s illustrations were designed for the first edition of the book, and have been taken over by various editions in several languages. The image I am referring to is available at https://en.wikipedia.org/wiki/Mock_Turtle#/media/File:Alice_par_John_Tenniel_34.png.

5. C'est la raison pour laquelle on les appelle des leçons, a fait remarquer le Gryphon, car elles s'atténuent de jour en jour.

1: Riot; 2: Yandex; 3: Rouard; 4: Parisot; 5: DeepL. In this case, the readers will be quite confident in their attributions: the human translators seem to perform much better than the machine. On the human side, there is convergence on a solution that makes it possible to entirely keep the play of the ST. Versions 3 and 4 are, from this point of view, almost interchangeable; version 1 seems a little bit less successful to me, since it does not directly reproduce the homophony but merely alludes to it. As for 2 and 5, they lead to nonsense (no relation between the word *leçon* and the fact of shortening) and show other problems, too: the choice of verb tense (but the absence of context did not help) for both versions; a spelling problem (*Gryphon*) and a rather absurd lexical choice (*s'atténuer*) for DeepL; the choice of the wrong personal pronoun (*des leçons, ils diminuent*) for Yandex.

6. We were just playing around, so... are there any conclusions?

At the end of this brief journey, no real conclusion seems possible to me. I realize that these lines have had above all the function of reassuring myself and, perhaps, some of my human colleagues – those who, like me, see the progress of AT, and its more and more efficient results, with some concern. Trying to defy some MT engines in the field of wordplay translation was no more than another playful exercise. That said, I believe that if machine translation wants to have a chance of success when confronted with wordplay, it will have to set itself, initially at least, a less ambitious objective than reaching a humanlike translation quality.

As we have seen, linguistic *jeu* is a multifaceted entity: it is several things at the same time. This is why AT could begin by addressing *only one* of the *jeu* types I highlighted, and, within it, only one or some of its categories. Perhaps, it would already be great if we could achieve a very good, near-human automatic recognition of linguistic *jeu*; and, from there, we could insist on machine-assisted human translation, along the lines proposed by Miller [15].

As a translator and a translator trainer, I can be quite certain about one thing: if we obtain a help that allows us to get rid of the most complicated parts of this work, arriving at a solution on our own can be not only simpler, but also very fun. And why should we, as humans, deprive ourselves of this little pleasure?

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