

Neural machine translation

Should translators be nervous?



Jost Zetsche

jost@internationalwriters.com

@jeromobot



Benjamin Netanyahu ✓

@netanyahu

נטע, את כפרה אמיתית. הבאת הרבה כבוד
למדינת ישראל! לשנה הבאה בירושלים! 🇮🇱
🇮🇱

Translated from Hebrew by  Microsoft

Neta, you're a real cow. You have
brought much respect for the state of
Israel! Next year in Jerusalem! 🇮🇱 🇮🇱 🇮🇱



Benjamin Netanyahu ✓

@netanyahu

נטע, את כפרה אמיתית. הבאת הרבה כבוד
למדינת ישראל! לשנה הבאה בירושלים! 🇮🇱
🇮🇱

Translated from Hebrew by  Microsoft

Neta, you're a real cow. You have
brought much respect for the state of
Israel! Next year in Jerusalem! 🇮🇱🇮🇱🇮🇱



Benjamin Netanyahu ✓ @netanyahu · May 12

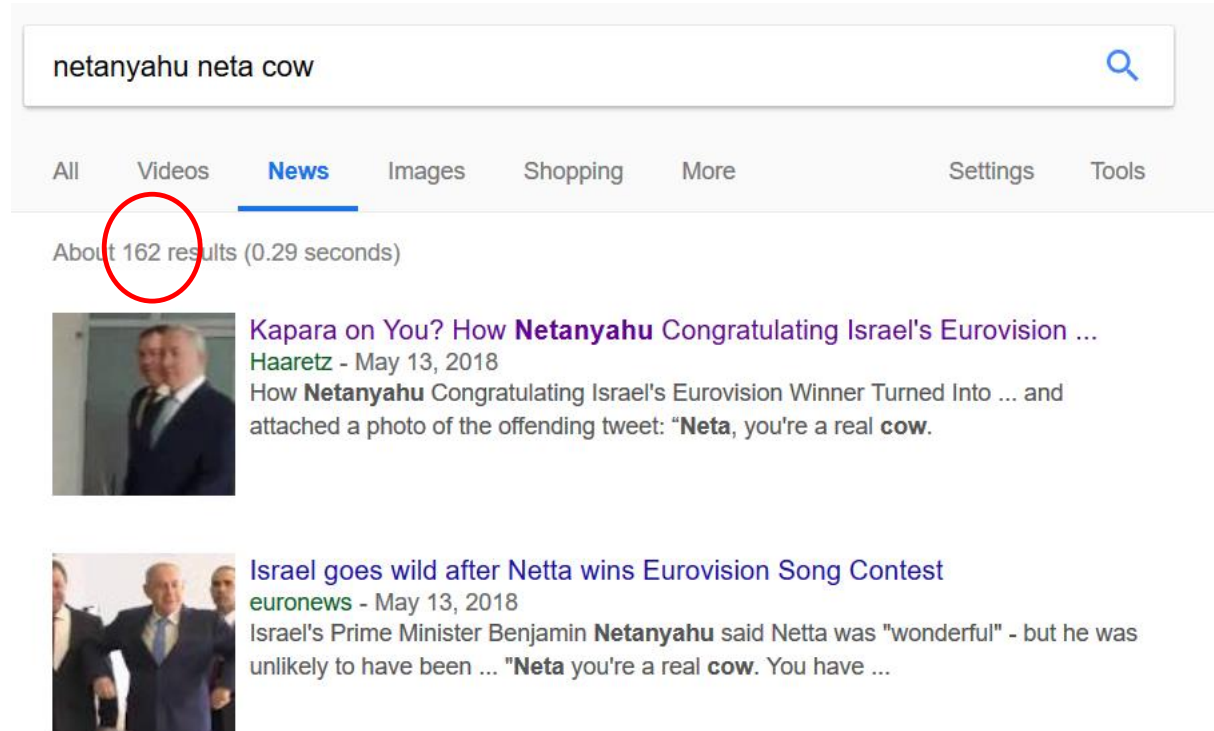
נטע, את כפרה אמיתית. הבאת הרבה כבוד למדינת ישראל! לשנה הבאה בירושלים! 🇮🇱🇮🇱🇮🇱

Translated from Hebrew by  Microsoft

Neta, you're a real darling. You have brought much respect for the state of Israel!
Next year in Jerusalem! ILILIL

What does that mean


- Public is very eager to hear about translation




netanyahu neta cow

All Videos **News** Images Shopping More Settings Tools

About 162 results (0.29 seconds)

 **Kapara on You? How **Netanyahu** Congratulating Israel's Eurovision ...**
Haaretz - May 13, 2018
How **Netanyahu** Congratulating Israel's Eurovision Winner Turned Into ... and attached a photo of the offending tweet: "**Neta**, you're a real **cow**."

 **Israel goes wild after Netta wins Eurovision Song Contest**
euronews - May 13, 2018
Israel's Prime Minister Benjamin **Netanyahu** said Netta was "wonderful" - but he was unlikely to have been ... "**Neta** you're a real **cow**. You have ...

What does that mean?

- Public is very eager to hear about translation
- Translation (of this kind) can not be accomplished by professional translators

The Long and Winding Road of machine translation

The Long and Winding Road of machine translation

- 1954: “Georgetown-IBM Experiment”
- 1957: Air Force starts using Russian-to-English MT for scientific work (1970: Systran; 1975: QUINCE)
- 1966: National Academy of Sciences publishes ALPAC report, recommending discontinuation of MT research
- 1969: Logos starts working on Vietnamese MT for U.S. government
- 1970: Group at BYU works on Interactive Translation System (ITS)
- 1977: Weidner Communications Corp. at BYU produces MT system, later “Transparent Language” (taken over by ALPS in 1980; SDL in 2001)
- 1982: Liguattech at BYU develops terminology tool
- 1991: DARPA starts MT initiative (and various other MT and language-related programs through today)
- 1992: Trados Workbench; Star Transit; IBM TM/2
- 1996: Systran offers free web-based MT
- 2002: SMT system Language Weaver is founded, receives government funding (sold in 2010 to SDL)
- 2006: European open-source MOSES SMT kit
- 2007: Google introduces SMT system (Microsoft: 2009)
- 2009: Hybrid MT systems by Apptek and Systran
- 2012: Microsoft Translator Hub
- 2016: Google introduces neural MT (2017: Facebook, Amazon, Microsoft, Baidu, Yandex offer NMT)
- 2017: Several open-source NMT kits are being released

The Long and Winding Road of machine translation

- 1954: “Georgetown-IBM Experiment”
- 1957: Air Force starts using Russian-to-English MT for scientific work (1970: Systran; 1975: QUINCE)
- 1966: National Academy of Sciences publishes ALPAC report, recommending discontinuation of MT research
- 1969: Logos starts working on Vietnamese MT for U.S. government
- 1970: Group at BYU works on Interactive Translation System (ITS)
- 1977: Weidner Communications Corp. at BYU produces MT system, later “Transparent Language” (taken over by ALPS in 1980; SDL in 2001)
- 1982: Liguatex at BYU develops terminology tool
- 1991: DARPA starts MT initiative (and various other MT and language-related programs through today)
- 1992: Trados Workbench; Star Transit; IBM TM/2
- 1996: Systran offers free web-based MT
- 2002: SMT system Language Weaver is founded, receives government funding (sold in 2010 to SDL)
- 2006: European open-source MOSES SMT kit
- 2007: Google introduces SMT system (Microsoft: 2009)
- 2009: Hybrid MT systems by Apptek and Systran
- 2012: Microsoft Translator Hub
- 2016: Google introduces neural MT (2017: Facebook, Amazon, Microsoft, Baidu, Yandex offer NMT)
- 2017: Several open-source NMT kits are being released

The Long and Winding Road of machine translation

- 1954: “Georgetown-IBM Experiment”
- 1957: Air Force starts using Russian-to-English MT for scientific work (1970: Systran; 1975: QUINCE)
- 1966: National Academy of Sciences publishes ALPAC report, recommending discontinuation of MT research
- 1969: Logos starts working on Vietnamese MT for U.S. government
- 1970: Group at BYU works on Interactive Translation System (ITS)
- 1977: Weidner Communications Corp. at BYU produces MT system, later “Transparent Language” (taken over by ALPS in 1980; SDL in 2001)
- 1982: Linguatex at BYU develops terminology tool
- 1991: DARPA starts MT initiative (and various other MT and language-related programs through today)
- 1992: Trados Workbench; Star Transit; IBM TM/2
- 1996: Systran offers free web-based MT
- 2002: SMT system Language Weaver is founded, receives government funding (sold in 2010 to SDL)
- 2006: European open-source MOSES SMT kit
- 2007: Google introduces SMT system (Microsoft: 2009)
- 2009: Hybrid MT systems by Apptek and Systran
- 2012: Microsoft Translator Hub
- 2016: Google introduces neural MT (2017: Facebook, Amazon, Microsoft, Baidu, Yandex offer NMT)
- 2017: Several open-source NMT kits are being released

The Long and Winding Road of machine translation

- 1954: “Georgetown-IBM Experiment”
- 1957: Air Force starts using Russian-to-English MT for scientific work (1970: Systran; 1975: QUINCE)
- 1966: National Academy of Sciences publishes ALPAC report, recommending discontinuation of MT research
- 1969: Logos starts working on Vietnamese MT for U.S. government
- 1970: Group at BYU works on Interactive Translation System (ITS)
- 1977: Weidner Communications Corp. at BYU produces MT system, later “Transparent Language” (taken over by ALPS in 1980; SDL in 2001)
- 1982: Linguatex at BYU develops terminology tool
- 1991: DARPA starts MT initiative (and various other MT and language-related programs through today)
- 1992: Trados Workbench; Star Transit; IBM TM/2
- 1996: Systran offers free web-based MT
- 2002: SMT system Language Weaver is founded, receives government funding (sold in 2010 to SDL)
- 2006: European open-source MOSES SMT kit
- 2007: Google introduces SMT system (Microsoft: 2009)
- 2009: Hybrid MT systems by Apptek and Systran
- 2012: Microsoft Translator Hub
- 2016: Google introduces neural MT (2017: Facebook, Amazon, Microsoft, Baidu, Yandex offer NMT)
- 2017: Several open-source NMT kits are being released

The Long and Winding Road of machine translation

- 1954: “Georgetown-IBM Experiment”
- 1957: Air Force starts using Russian-to-English MT for scientific work (1970: Systran; 1975: QUINCE)
- 1966: National Academy of Sciences publishes ALPAC report, recommending discontinuation of MT research
- 1969: Logos starts working on Vietnamese MT for U.S. government
- 1970: Group at BYU works on Interactive Translation System (ITS)
- 1977: Weidner Communications Corp. at BYU produces MT system, later “Transparent Language” (taken over by ALPS in 1980; SDL in 2001)
- 1982: Linguatex at BYU develops terminology tool
- 1991: DARPA starts MT initiative (and various other MT and language-related programs through today)
- 1992: Trados Workbench; Star Transit; IBM TM/2
- 1996: Systran offers free web-based MT
- 2002: SMT system Language Weaver is founded, receives government funding (sold in 2010 to SDL)
- 2006: European open-source MOSES SMT kit
- 2007: Google introduces SMT system (Microsoft: 2009)
- 2009: Hybrid MT systems by Apptek and Systran
- 2012: Microsoft Translator Hub
- 2016: Google introduces neural MT (2017: Facebook, Amazon, Microsoft, Baidu, Yandex offer NMT)
- 2017: Several open-source NMT kits are being released

Recommended reading:

"A History of Translation Technology in the United States"
in: *The Routledge Encyclopedia of Translation Technology*, 2015

. . . and the translator?

- Second-oldest profession but also a relatively modern phenomenon
- Technical translator (“Does the subject being translated require a specialized vocabulary or is the language non-specialized?”)
- Diversity in specialization, language combinations, differing technology requirements etc.
- Technical translators were early adopters of computing technology (1983: 30% use word processing, 1984: 40%, 1988: 80%, 1989: everyone)
- Quick adoption of translation technology such as electronic dictionaries or tools for accounting, file conversion, data management, unit counts, voice recognition, social media, etc.
- Computer-aided translation tools are (at first) rejected

Why?

- Practical reasons
 - Pricing
 - "Straight-jacket translations"
- Ideological reasons
 - Loss of independence
 - Pride in profession and personal skill set
 - "Free-lance" vs. "Business"

How does that "translate" to MT?

- Through 2007 and the wide-spread arrival of SMT, machine translation is not taken seriously
- After 2007 responses range from emphasizing continued mistakes to emphasis of privacy to panic
- Now: Many translators continue to be skeptical about PEMT (machine translation post-editing) but start to see other ways to use it
 - Fragment use (from 2012)
 - Several MT engines at once (from 2012)
 - Adaptive MT engines (from 2015)
 - Interactive MT (from 2015)

What happened?

- In 2010 (Denver) and 2012 (San Diego) ATA and AMTA co-locate conferences (2018 EAMT with translator track)
- We asked ourselves: What exactly is translation?

What exactly is translation?

- The ability to communicate on many levels is at the heart of who we are as human beings
- There is no profession that is not affected by Artificial Intelligence



The screenshot shows the top navigation bar of The New Yorker website. It includes a menu icon, 'SECTIONS', 'LATEST', 'POPULAR', a search icon, 'SEARCH', the title 'THE NEW YORKER', 'TNY STORE', and 'SUBSCRIBE'. Below the navigation is a large article preview for 'ANNALS OF MEDICINE APRIL 3, 2017 ISSUE' with the headline 'A.I. VERSUS M.D.' and the sub-headline 'What happens when diagnosis is automated?'. The author is listed as 'By Siddhartha Mukherjee'. There are social media icons for Facebook, Twitter, Email, and Print. The background of the article preview features a stylized human figure composed of white dots on a black background, with several rectangular boxes (green and red) overlaid on the figure, suggesting a diagnostic or scanning process.

SECTIONS LATEST POPULAR SEARCH THE NEW YORKER TNY STORE SUBSCRIBE

ANNALS OF MEDICINE APRIL 3, 2017 ISSUE

A.I. VERSUS M.D.

What happens when diagnosis is automated?

By Siddhartha Mukherjee

f t e p

What exactly is translation?

- The ability to communicate on many levels is at the heart of who we are as human beings
- There is no profession that is not affected by Artificial Intelligence
- Ours is one of the last to remain ("canary in the coal mine")
- Once translation (and communication) is done by computers/AI
 - We'll have to redefine ourselves as human beings
 - We might not have to worry about concepts like "profession"

What happened?

- In 2010 (Denver) and 2012 (San Diego) ATA and AMTA co-locate conferences (2018 EAMT with translator track)
- We asked ourselves: What exactly is translation?
- Change of privacy policy of large MT providers

Should translators be nervous?

- The wide-spread use of MT continues to assert price pressure on bottom of the market
- Use of MT needs new skill sets
 - For PEMT
 - For other uses of MT
- Commodization of translation on one hand also highlights high-quality translation on the other
- Many have used the rise of MT as an opportunity to redefine who they are

What then should we say?

- Machine translation is here to stay and it plays an important role
- Only in a very few cases should it be used without professional supervision
- Professional translators can and in many cases do use MT and benefit from it exactly because they are professionals

Thanks!

Jost Zetsche, jost@internationalwriters.com, @jeromobot