

Gained in Translation

Science at the multilingual crossroads

Section Editor:

Gabriele Berghammer
gabi@the-text-clinic.com



Medical translation: Pondering equivalence at word level

The concept of equivalence in translation has long been hotly debated. Thus, it has been argued that 'equivalent' means 'virtually the same thing' and that equivalence in translation is therefore an 'illusion'.¹ Alternatively, equivalence has been described as being 'the conceptual basis of translation'² or as something 'artificial, fictive, something that has to be produced on the level of translation itself'.³

Every source-text author is deeply rooted in his or her cultural and linguistic environment with its rules of usage, readership expectations, and aesthetic and formal determinants. At least equally important, every author is shaped by his or her world knowledge, outlook on life, experiences, and attitudes. The same is true for the translator. Every translation assignment, therefore, brings together a unique pair of distinct personalities pursuing a specific purpose in their respective environments – resulting in myriad possible ways of achieving 'equivalence' in translation. This makes equivalence a rather elusive phenomenon. Yet, as Mona Baker put it, we have used it 'for the sake of convenience – because most translators are used to it rather than because it has any theoretical status'.⁴

In her textbook on translation, *In Other Words*,⁴ Baker explores equivalence in translation at several levels, differentiating between equivalence at word level, grammatical equivalence, textual equivalence, and pragmatic equivalence.

Equivalence at word level may seem to be the easiest to produce. However, true equivalence – or invariance – is rare even at this most fundamental level.

Standardised speech

Invariance is often achievable in areas where standardised nomenclatures are available. The purpose of such classifications, such as the *Terminologia Anatomica*,⁵ the international standard of anatomical terminology, is to increase the precision of medical language and facilitate communication.

The need for the harmonisation of anatomical terms became prominent in the late nineteenth century, at a time when one and the same anatomical structure was referred to by different names, depending on vernacular and medical traditions. The *Terminologia Anatomica*, the first edition of which was published in 1998, contains about 8000 anatomic terms composed of about 600 basic terms – 400 of Latin and 200 of Greek origin. Regardless of their origin, the terms are treated as if they were Latin words. Translations into other languages are therefore not necessary – ensuring invariance.

Some standardised terminologies, however, are themselves translations from one source-language version into several target languages, such as the International Classification of Diseases (ICD) or the Medical Dictionary for Regulatory Affairs (MedDRA). ICD-10 is available in 6 official and 36 other languages.⁶ MedDRA has also become available in a number of translations of the original English version, including French, German, Hungarian, Italian, and Spanish.⁷

Translation always carries the risk of introducing non-equivalence. Indeed, looking at the German translation of MedDRA, the medically adept translator will notice a number of rather unusual renderings.

For example, the MedDRA system organ class (SOC)⁸ '025 – Pregnancy, puerperium and perinatal conditions' is translated into German as *Schwangerschaft, Wochenbett und perinatale Erkrankungen*, making it sound as if 'pregnancy' and the 'puerperium' were themselves medical disorders. This is because 'pregnancy' and 'puerperium' in the English original are used as adjectives, whereas the German translators treated them as nouns. Also, translating 'puerperium' as *Wochenbett* ('childbed') introduces an unnecessary change in register.

The SOC '026 – Reproductive system and breast disorders' is translated into German as *Erkrankungen der Geschlechtsorgane und der Brustdrüse*. Here, 'reproductive system' is translated using the subordinate term *Geschlechtsorgane* (genitals), although truly equivalent German terms are available, i.e. *Fortpflanzungssystem* or *Reproduktionssystem*, which, unlike *Geschlechtsorgane*, do not only cover the anatomic but also the functional aspect of this SOC. 'Breast' is likewise translated using a

Table 1: Selected MedDRA preferred terms (PTs) and their official versus suggested German translations

MedDRA PTs English source	Official German translation	Comment	Suggested German translation
Swelling face	<u>Schwellendes Gesicht</u>	<i>Schwellendes Gesicht</i> is unidiomatic and sounds as if the face were in the process of swelling; not a standard medical term.	<i>Gesichtsschwellung</i>
Feeling abnormal	<u>Gefühl anomal</u>	<i>Gefühl anomal</i> is an unidiomatic phrase that does not exist as a medical term.	<i>Fehlgefühl</i> <i>Gefühlsstörung</i>
Gravitational oedema	<u>Ödem der Gravitation folgend</u>	The German <i>Ödem der Gravitation folgend</i> sounds as unusual as would the English phrase 'oedema following the gravitation'. This translation is all the more disconcerting as a perfectly adequate German term is available.	<i>Gravitationsödem</i>
White blood cell count decreased	<u>Leukozytenzahl erniedrigt</u>	This is an inadequate collocation, with the primary meaning of the German <i>erniedrigt</i> being 'debased' or 'humiliated'. The proper adjective to use in this collocation is <i>vermindert</i> .	<i>Verminderte Leukozytenzahl</i>

subordinate term, namely *Brustdrüse* (mammary gland), leaving the breast's stromal components unaccounted for.

Looking at some of MedDRA's preferred terms (PTs), 'hypersensitivity reaction' in the German MedDRA translation becomes *Übersensibilitätsreaktion*. *Sensibel* in German is generally used in psychological contexts to describe a person who is empathetic and perceptive, and the German *hypersensibel* describes persons who are thin-skinned, vulnerable, or easily hurt. *Sensibel* does not generally refer to being 'abnormally susceptible physiologically to a specific agent (as a drug or antigen)',⁹ as implied by 'hypersensitivity reaction', which should have been translated into German as *Überempfindlichkeitsreaktion*. Additional examples are provided in Table 1.

Fortunately, each MedDRA term is assigned a unique non-expressive code. Therefore, even if a particular translation is in fact non-equivalent with its original, the code will allow disorders, diseases, or conditions to be unequivocally matched and coded across languages. For language purists, however, the bad news is that such non-equivalent translations as are part of MedDRA are increasingly finding their way into medical texts translated into German, most importantly into summaries of product characteristics (SPCs), which use the MedDRA terminology.

General speech

If equivalence is difficult to obtain in standardised technical language, it is even harder to produce in non-standardised general speech. Languages, rather than capturing the outside world in an objective manner, emphasise certain aspects that appear to be particularly relevant to the people who speak them. What follows are some situations in which producing equivalence at word level may be a challenge and selected strategies to resolve them, as initially outlined by Baker.⁴

Culture-specific words

One group of concepts that can be difficult to translate are those that are culture-specific. A text that provides a plethora of examples in this respect is 'Alice's Adventures in Wonderland.' For example, in Chapter 1, Alice, while falling down the rabbit hole, asks herself:

'I wonder how many miles I've fallen by this time?' she said aloud. 'I must be getting somewhere near the centre of the earth. Let me see: that would be four thousand miles down, I think –'

The translation by Franz Magnus Enzensberger, one of the most popular translations of 'Alice's Adventures in Wonderland' into German, uses a cultural substitution for the second occurrence of 'miles' and converts the actual distance into kilometres:

'Wie viele Meilen ich wohl schon gefallen bin?' sagte sie laut. 'Weit kann es nicht mehr sein bis zum Erdmittelpunkt. Das wären dann, ja: sechstausend Kilometer wären das, ungefähr wenigstens –'

Thus, one way of producing equivalence is to bring a text closer to the reader by using a cultural substitution. The substitution may not have the same meaning, but it should have the same effect in the target culture or convey a similar image in the reader's mind.

The terminology of political, legal, administrative, health care, or educational systems is also replete with culture-specific terms. For example, the German or Austrian *Assistenzarzt*, literally an 'assistant physician', could also be translated using a cultural substitution, e.g. 'resident' for an American audience, 'specialty registrar' for a UK readership, or 'senior house officer' in many Commonwealth countries. In certain contexts, however, using *Assistenzarzt* as a loanword in translation and describing *Assistenzarzt* as a person with a medical degree receiving in-depth training in a medical

speciality and practicing medicine under the supervision of a licensed physician may be more appropriate.

Even the term ‘summary of product characteristics’ (SPC, SmPC) – a ubiquitous term in the medical writer’s world – may pose a challenge in translation. It may be translated into German either literally as *Zusammenfassung der Produktmerkmale* or by another term used in both the German and Austrian Medicines Acts, i.e. *Fachinformation*. With both terms referring to the same document, which is more appropriate? Again, this depends on the context. Thus, whereas *Zusammenfassung der Produktmerkmale* is generally used in the context of applications for marketing authorisation, *Fachinformation* generally refers to already marketed medicinal products.

This distinction is supported by the translation of the German Medicines Act (Arzneimittelgesetz, AMG) into English provided by the Language Service of the German Ministry of Health.¹⁰ It translates the German *Fachinformation* into English using the loan translation ‘expert information’, and reserves ‘summary of product characteristics’ to instances where the AMG specifically refers to *Zusammenfassung der Produktmerkmale*, i.e. only in the context of dossiers submitted to obtain marketing authorisation.

Differences in expressive meaning

Many verbs do not only have a propositional meaning, they also have an expressive meaning, and this should be matched in the target language. This is often difficult – as in the following example:

*Of 991 families interviewed, in 88 percent of them a parent acknowledged shouting, screaming or yelling at the kids at least once [...] in the previous year.*¹¹

Von den 991 befragten Familien gab in 88 Prozent ein Elternteil zu, die Kinder zumindest ein Mal [...] im vergangenen Jahr angeschrien oder angebrüllt zu haben.

The original English text uses three expressive words, each eliciting distinct nuances of meaning. Thus, ‘shout’ refers to a sudden loud cry, ‘scream’ implies a sharp loud cry, and ‘yell’ refers to a loud piercing sound. Finding three German words with an equivalent expressive meaning is difficult – particularly the piercing, high-pitched aspect appears to be missing from the German vocabulary available to describe such situations. Therefore, rather than adding a third verb that would sound unusual in this context, ‘does not move the text forward or

may merely distract the reader from what’s really important’,⁴ it may be more appropriate to translate by omission without loss of meaning.

Differences in form

Some word forms in the source language have no direct equivalent in the target language. For example, one characteristic of the English language is that it tends to turn nouns into verbs, such as ‘to email’, ‘to mastermind’, ‘to text-message’, or – ‘to verb’. This often does not work in other languages and may call for a paraphrase, such as *eine SMS-Nachricht senden* for ‘to text-message’ or *ein Verb bilden* for ‘to verb’.

Also, the English language makes ample use of suffixes that carry part of the word’s meaning, such as in the pairs ‘payer/payee’ or ‘trainer/trainee’. The ending ‘-ee’ derives from the French passive participle and refers to ‘a person who is/has been (verb)-ed’. In banking, for example, a ‘payee’ is someone to whom money is paid. Other languages, such as German, may have less efficient tools of word formation at their disposal and will have to explain or paraphrase the source-language word. Thus, ‘payee’ becomes *Zahlungsempfänger* (‘payment recipient’) and ‘payer’ may be rendered as *Zahlungspflichtige(r)* (‘individual liable to pay’) or *Auftraggeber(in)* (‘individual commissioning a payment’). Note that, unlike English, German differentiates between male and female payers by using a suffix.

By contrast, ‘trainer/trainee’ have entered the German language as loanwords. Whereas the German *Trainer(in)* has long been used to refer to sports coaches, *Trainer(in)* in the sense of ‘course instructor’ is a fairly new meaning of the word. The English loanword *Trainee* has entered German ‘corporately’ only recently and with a slight change in meaning. Thus, whereas the English ‘trainee’ refers to anyone being trained for a job – which in German has been referred to as *Praktikant* –, *Trainee* in German refers to university graduates hired by international corporations with a view to advancing into a managerial position. Such pseudo-loanwords – words that are borrowed from another language but having acquired a different meaning in the borrowing language – call for particular caution during translation because they may easily be overlooked as requiring translation. Other examples of English pseudo-loanwords in German are *Handy* (‘mobile phone’ or ‘cell phone’), *Smoking* (‘dinner jacket’ or ‘tuxedo’), or *Messie* (‘compulsive hoarder’).

Another instrument of word formation in the English language is the morpheme ‘-ese’ describing a type of language that is difficult for non-experts to

understand or typical of a particular profession and has a slight pejorative touch, such as in 'journalese', 'medicalese', 'legalese', or 'technicalese'. In German, this highly expressive morpheme again has to be rendered using an explanation or a paraphrase. Whereas 'journalese' could be rendered as something like *Journalistensprech*, 'medicalese', 'legalese', or 'technicalese' could all be translated as *Fachchinesisch* ('technical chinese').

Neologisms

Particularly in rapidly advancing areas such as science and technology, new word creations, or neologisms, are a common phenomenon. Once coined in one language, however, it may take some time until they have been lexicalised in other languages. Several strategies are available to transfer such neologisms into other languages, such as using a more general word, a paraphrase, a descriptive translation, a loanword, or a loan translation (calque).

Some 100 years ago, one such neologism was the German term *Dämmerschlaf* – a type of light general anaesthesia obtained by the subcutaneous administration of a combination of scopolamine and morphine introduced at the end of the nineteenth century and later refined and widely introduced into surgical medicine.

This neologism came to be translated into English as 'twilight sleep' – a calque which adequately captures not only the effect these drugs have on the patient, but also the expressiveness and vagueness of the original German term. The internationally renowned gynaecologist HJ Boldt, professor emeritus at the Post-Graduate Medical School of Columbia University and honorary member of the *Deutsche Gesellschaft für Gynäkologie und Geburtshilfe*,¹² held a different opinion. In 1915, he wrote a letter to the editor of *The New York Times* about the inaccuracy of the term, which he identified as an 'improper loan translation from the German *Dämmerschlaf*' that he suggested be translated as 'semi-narcosis' or 'semi-narcosis with hydrochloride of scopolamin and morphin' (see Box 1).¹³

Despite Boldt's suggestion that *Dämmerschlaf* be translated into English using a descriptive, and certainly less expressive, term that belongs to a different register than the loan translation, the expressions are still around in both languages – as colloquial umbrella terms covering a wide range of different types of analgesication brought about by a variety of agents other than scopolamine. Although Boldt's criticism remained unheard at the time, the fact that he stood up to raise awareness of the importance of the meaning of words is to be cherished.

Box 1: Twilight sleep

"TWILIGHT SLEEP."

An Inaccurate Translation of the German *Dämmerschlaf*,

To the Editor of *The New York Times*:

Much has been written about "Twilight Sleep," for the production of painless childbirth, both in the lay and in the medical press. I want to protest against this term, since it is a misnomer. There are a number of idioms in any language which cannot be directly translated into another language without changing their meaning. While in the German tongue "Twilight Sleep" may be accepted as a term to be used for the semi-narcosis in use by the administration of scopolamin and morphin, yet to translate the word "Dämmerschlaf" into "Twilight Sleep" is likely to cause more harm than good.

As an illustration, permit me to cite the word "Kriegsheer," which in the direct translation would mean "War-Lord." As a matter of fact, however, the idiom should be translated in its actual meaning—"Commander in Chief." Therefore, it would seem to the best interests of all hereafter, when it is desired to use the word "Dämmerschlaf," to make use of the exact meaning of the word and not translate the idiom by the actual word, but use the word "semi-narcosis," and for a fuller description of the semi-narcosis—as to how it is brought about—it ought to be "semi-narcosis with hydrochloride of scopolamin and morphin."

I may add, for the information of those who may have been under the impression that the scopolamin-morphin-narcosis is something new, that this is a misconception, as it has been used in service in Germany, where it was first made use of and published for the benefit of mankind, for more than ten years, and I personally know of one surgeon who has used it for that period of time in this city. But to say that scopolamin-morphin narcosis can be used indiscriminately, or left to one whose judgment is not to be absolutely relied upon, would be a serious mistake. It requires great discrimination and good judgment to benefit thereby.

H. J. BOLDT.
New York, Feb. 5, 1915.

An example of a modern-day calque that has really gone awry is the German translation of a term that was newly coined in the 1990s^{14,15} – evidence-based medicine. The most common, yet seriously misleading, rendering of 'evidence-based medicine' in German is *Evidenz-basierte Medizin* – a fine example of a false friend. The mistranslation derives from the misperception that 'evidence' and *Evidenz* mean the same thing – when in fact they have opposing meanings. Thus, whereas the English 'evidence' in a scientific context refers to something we rely on whenever access to the truth would otherwise be difficult,¹⁶ the German word *Evidenz* refers to absolute certainty based on irrefutable facts – to something whose truth can be

'grasped in an utterly direct, unmediated way'.¹⁶ In fact, in the presence of *Evidenz*, little or no 'evidence' is needed.

Several German-speaking authors have rightly criticised the unfortunate rendering of 'evidence-based medicine' in German¹⁷⁻²⁰ and have instead proposed *auf wissenschaftlichen Erkenntnissen begründete Medizin*, *nachweisorientierte Medizin*, or *nachweisgestützte Medizin* – all paraphrases of the English original that elegantly and, perhaps more important, correctly characterise the concept of evidence-based medicine. Whatever the strategy to overcome this instance of non-equivalence, a loan translation into German will not work here (see Box 2).

Box 2: Evidence-based medicine: False friends do not make good company

Modern methodologies to establish evidence in biomedical research were pioneered by the Canadian research group around Gordon Guyatt and David Sackett. In 1992, the term 'evidence-based medicine' was first used in the medical literature by Guyatt *et al.*,¹⁵ and in 1996, Sackett *et al.*¹⁴ explained what they thought evidence-based was and what it was not. The most common, yet seriously misleading, rendering of 'evidence-based medicine' in German is *Evidenz-basierte Medizin* – a classic example of a false friend.

An important distinction in the philosophy of science is that between proof and evidence. Proof is the availability of an argument in support of the truth of a proposition. Certain areas of research are capable of providing such irrefutable proof. For example, the Greek philosopher-mathematicians were able to provide proof for the truth of many of their theorems, particularly in algebra and geometry.

In other areas of human enquiry, such as in biomedical research, there is less certainty. This is where evidence comes in. We generally rely on evidence whenever access to the truth would otherwise be problematic.¹⁶ Evidence may be described as allowing one's views 'about what is the case or what ought to be done to be guided by evidence, as opposed to (say) the typically distorting influences of ideological dogma'.¹⁶ As (groups of) individuals collect evidence (i.e. the results of their observations), their views will 'increasingly converge over time: as shared evidence

accumulates, consensus tends to emerge with respect to formerly disputed questions'.¹⁶

Evidence had formerly been taken to precede theory. For example, for Hume science relied on observations and inductive ('bottom-up') reasoning. This view is now generally rejected, because it is appreciated that theories – or plausible hypotheses – play an essential role in determining what type of evidence should be collected. This view is exemplified in Popper's falsification model of science (although other models of science, in addition to disconfirming evidence, also allow for confirming evidence). In Popper's model, science is a deductive ('top-down') process. Scientists formulate hypotheses that cannot be verified and confirmed, but they can be falsified and rejected – or tentatively accepted if corroborated in the absence of falsification.

To make his point, Popper used Hume's example whereby all swans are white simply because all of the swans we have seen so far are white. There is no proof, however, that all swans are white. We can merely hypothesise that they are – and a single black swan would be enough to refute this hypothesis. In other words, if our null hypothesis is that all swans are white and we cannot reject the null hypothesis, this does not necessarily mean that the null hypothesis is true – we simply do not have enough evidence to reject it.

The basic principle of evidence-based medicine is that treatment be based on 'the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients'.¹⁴ This evidence is provisional only. The more evidence we gather in support of a given practice, the more confidence we can have that this practice actually makes sense – but we cannot prove that it does.

The German *Evidenz* has a fundamentally different meaning. It signifies *unmittelbare und vollständige Einsichtigkeit* ('immediate and complete insight'), *Gewissheit* ('certainty'), *unumstößliche Tatsache* ('irrefutable fact'),²¹ *das dem Augenschein nach unbezweifelbar Erkennbare* ('that which is undoubtedly discernible based on what we see and perceive').²² Several German-speaking authors have rightly criticised the unfortunate rendition in German for the reasons outlined above¹⁷⁻²⁰ and have

proposed that 'evidence-based medicine' be referred to as *auf wissenschaftlichen Erkenntnissen begründete Medizin, auf empirisch erbrachten Nachweisen basierende Medizin, nachweisorientierte Medizin, or nachweisgestützte Medizin* - all elegant paraphrases of the English original. In fact, in the presence of *Evidenz*, little or no 'evidence' is needed.

In 2000, the German term *evidenzbasiert* even found its way into German legislation,²³ and the centre branches of the Cochrane Collaboration in German-speaking countries likewise use the translation which actually misrepresents the very mission of The Cochrance Collaboration, which is to 'promote evidence-informed health decision-making by producing [...] synthesised research evidence'.²⁴

Could the cause against diluting the meaning of *Evidenz* have been lost already? If we agree with Werner Koller, as quoted by Anthony Pym,³ that 'translators are ultimately the people who say what should or should not be proposed to the receiver as an equivalent', let us take to heart Hans-Martin Gauger's plea in *Forum Sprachkritik* of the *Deutsche Akademie für Sprache und Dichtung*: '*Trennen also, bitte, zwischen Evidenz einerseits und Beweis andererseits. Oder retten wir unsere, sagen wir, kontinentale Evidenz. Sie ist ein semantischer Reichtum!*'¹⁷

Summary

This article provides some examples of situations in which producing equivalence in translation may be a challenge, e.g. when faced with culture-specific words, differences in expressive meaning between languages, differences in form, or words not (yet) lexicalised in the target language.

Some of the strategies of overcoming non-equivalence - or producing what the translator considers equivalence - include using a cultural substitution, a loanword, a loan translation, a less expressive word, a paraphrase, or an explanation. The translator may even choose to omit an aspect of meaning which, if transposed into the target language, would merely distract the reader from the key message.

In some situations, then, equivalence in translation may be easily achieved. In others, the translator will have to make a choice as to which aspects of meaning to convey in translation to offer to the target-language reader a text which the translator

thinks represents the most effective trade-off between readability and precision.

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Medical Writing Jumble # 10

1. Re-arrange the jumbled letters to get a meaningful word related to medical writing.
2. Next, take the circled letters from each word and make two new words that will answer the riddle in the cartoon. Hint: The answer is probably a pun.
3. Use British English.

by Anuradha Alahari

Illustration: Anders Holmqvist

TRIPN 

NATIR 

FAYEST 

UORNEN 



Workers at the glass factory protested that the procedures of the management were not enough.

Answer: 

See page 170 for the answers.