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On the problem or chance of publishing in a foreign language

This article is a contradiction in itself just by being written in English. It is not a research report, but an experiment, which hopes to contribute to a discussion about cultural differences in scientific communities. These differences even occur in relation to the name of our community: Nowadays, "didactics" is understood. The corresponding adjective "didactic" is still defined as "intended to teach, especially in a way that is too determined or eager", or "intended to teach people a moral lesson" (Cambridge Dictionary), i.e. is used in a "mainly disapproving" way ("oberlehrerhaft"). "Math education" would be too narrow of a field, with insufficient emphasis on research. This is one example for the non-translatability of notions (gr. "Begriffe") or should I say "concept"? Since Kant's critical turn, "Begriff" in German includes the view of the world, the "background theories", the term has in mind "die Spontaneität der Begriffe", which means, that concepts form the apperception (in the sense of "Wahrnehmung", not "Apperzeption", the last roughly meaning consciousness of oneself). However, the normally preferred word "concept" doesn't necessarily include the "Begriffsbezeichner" ("term", also being an alternative translation of "Begriff"), which is a central part of "Begriff" not only from a semiotic point of view. This perhaps exaggerated depiction is sufficient in illustrating how difficult it is to translate technical terms and their network.

The problem

(For a detailed discussion cf. Geiger & Straesser, 2015). There exist technical terms, that 1. …have no appropriate translation and a definition is not done in passing. 2. …have a translation, but due to different frameworks the meaning is slightly different and therefore misleading. 3. …have false friends (a very similar term exists, but with a different meaning).

Language
Concepts (3 cases see text)
Common lexicon
Scientific writing style
Didactical traditions
Theories (only published/ known/ regarded as relevant in the German speaking community)
Ways of thinking/writing style

Fig. 1: Main problems

Additionally, these three problems can occur for non-technical terms of the common lexicon needed to circumscribe a missing technical term. Essentially, the problem involves the existence of different semantic fields, i.e. terms used in different contexts sometimes provoke a different depiction of concepts and theories associated with the term, which leads to the meaning of the

translation being non-identical. This problem is seriously aggravated by very common words, which have a wide variety of associations, related concepts and history. A prominent example is "Grundvorstellungen" (Griesel, Bender, v. Hofe). Literally translated, "Grundvorstellungen" means "fundamental conceptions". But this would interfere with "Fundamentale Idee". V. Hofe and Blum propose using "mental mathematical representations" (v. Hofe & Blum 2016, 225), but prefer to use the italic written *Grundvorstellungen* or even the abbreviation GV in their English text. Here a further problem appears: Even in the German texts, sometimes, "Grundvorstellung" and "Grundverständnis" are confused (no citation on purpose).

Following Vohns (2018, this volume), "Kompetenz" was originally a misunderstanding of an English concept by Chomsky. In the German tradition it gained a life on its own, and included not only ability (n.b. "ability to work", referring just to health, is very tenuous compared to "Kompetenz"), but also the volitional and motivational dispositions of an individual (following an in Germany famous definition of Weinert, often and also recently taken up by e.g. Blömeke).This reveals the continuity of regional valued theoretical backgrounds. Also grammatical aspects can alter the meaning: "to reason" is not used transitively (at least since ca. 1800), whereas "begründen" is. In interviews, three former editors of JMD saw serious problems when expressing issues of the German speaking community in English, two of them mentioned a lack of "Differenziertheit" (there is no noun of "differentiated") and preciseness of the English language (2018, priv. comm.).

Terms are not the only problem when submitting an article written in English. For stylistic problems see below. Even more prominent are **cultural differences** among different scientific communities. Two anonymized examples (priv. comm. 2018): 1. A submitted article is rejected because of a lack of reference to some special framework, known in Germany, but not considered as essential there. The review didn't even mention this framework, this reason was revealed by personal contacts. 2. An editor rejects the idea of an article comparing different German working groups, (included different definitions of concepts), but would have accepted a paper on Anglo-Saxon working groups of the same topic. In general, the cited literature should be in English, but is often only available in German or less known in the Anglo-Saxon community (e. g. F. Klein, M. Wagenschein, H. Winter).

Background (very short): Linguistics and cultural science

Here, culture is conceived as the habits of a collective ("Gewohnheiten eines Kollektivs", Hansen 2003, 194). We have to face the fact that the thoughts, feelings, actions, and communication including language are normalized

(*standardisiert*) by communities. Collective groups are formed by excluding and including individuals who observe their cultural norms or codes. Those, who are trained in these codes possess cultural capital (Bourdieu 1979) – *ein Herrschaftsinstrument*. Examples 1 and 2 above can be interpreted this way.

Sprachlicher Relativismus	Sprachlicher Determinismus
Sprachen sind durch besondere Wahrnehmungen, besonderes Denken geformt.	Sprachen bestimmen die Möglichkeiten der Wahrnehmung, des Denkens.
… werfen verschiedene „Netze" über die Wirklichkeit	Denken nur möglich in Kategorien, die die Sprache uns vorgibt.
… führen Menschen zu verschiedenen Beobachtungen, wodurch sie zu etwas verschiedenen Ansichten der Welt kommen müssen.	„Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt." (Wittgenstein, Tractatus logico-philosophicus 1921, Satz 5.6)

Fig. 2: Sapir-Whorf-Hypothese

Die These, dass Sprache das Denken formt (Sapir-Whorf-Hypothese), hat eine lange Tradition: Nach grundsätzlichen Analysen bei Kant (o. äußerst grob skizziert), betrachtete Humboldt Einzelsprachen. Er geht von einem dialektischem Verhältnis von Verstehen/ Wahrnehmung und Sprache aus: „Denn das Wort entsteht ja aus dieser Wahrnehmung, und ist nicht ein Abdruck des Gegenstandes an sich, sondern des von diesem in der Seele erzeugten Bildes" (W. v. Humboldt, VI, 179). Umgekehrt ist für „Humboldt […] die ‚Weltansicht' die einzelsprachlich bestimmte Sehweise oder die jeweils für eine Sprache charakteristische Art, die Wirklichkeit aufgrund ihrer sich darbietenden Merkmale zu kategorisieren." (Burkhardt 1985, 139). Bei Whorf zeigt sich kulturelle Diskontinuität, da er sich nicht explizit auf Humboldt bezieht. Seine These wird in der Linguistik in sprachlichen Relativismus und sprachlichen Determinismus aufgegliedert (Pelz 1996, 34ff., s. Fig. 2), und ist in der Linguistik umstritten (Relativisten vs. Universalisten wie Chomsky). Versuche empirischer Belege haben noch keine eindeutige Antwort erbracht: In welchem Maße Sprachverschiedenheit die (sub-)kulturellen Differenzen zwischen Arbeitsgruppen beeinflusst, bleibt z. Z. offen.

There exist popular (not linguistic!) views on the stylistic differences of scientific texts in German and in English (Fig. 3). According to Albert (2013), the proposed German scientific style is more functional from a linguistic point of view, but only the prevalence of active verb forms in English texts is proven.

Deutsch	English
Nominal phrase	Verbal phrase
Relative clauses	Extended modifiers (Partizipialattribute)
Long sentences	Short sentences
Passiv	Activ
Reader has the task to understand.	Writer has the task to write comprehensible.

Fig. 3: Stylistic differences according to guidebooks (Albert 2013)

A special way of thinking is integrated into the English style: If you have a really valuable research result, you can always say it in a simple way. If not, it has not yet been investigated clearly enough. In contrast, there is higher acceptance for differentiated statements in the German community.

Some possible ideas for a solution – just to be discussed

This whole article tries to illustrate some of the ideas. Some of them may be appealing, others may not. First, I would like to propose writing deliberately as a German "didactician" in English. This means writing in English as "Verkehrssprache", but using the theoretical background, the literature and the research methods exactly as in an article appearing in a German journal. This will generate texts, which would not be accepted by an American journal, but will widen the target group of readers to Europe and the world. Here, I appeal to the editors of e.g. JMD to publish papers, which satisfy only the first of the criteria "quality, novelty, actuality", and provide literature on issues relevant in Europe that can be cited. Supplement 1 of JMD 2016 is an extremely valuable example. The style could be "European" nominal style (see the 2nd line of this article), using citations given in German. Additionally, there are entire paragraphs formulated (also) in German if a translation risks losing too much of the intended message.

There are several ways to cope with technical terms, giving the German term and the translation (v.s. "Grundvorstellungen"). Paradoxically, a translation which is too sophisticated could prevent the reader from really engaging with the foreign theory (so "GV" is charming). Sometimes there is no problem with writing in English, e.g. with statistics, sometimes it is nearly impossible, especially regarding philosophical issues. Perhaps the following hypothesis holds: Whether language problems occur or not, depends on the historic traditions in this field. E.g. statistics of data has a strong English and American tradition. And anyway: According to Humboldt, other languages always clarify our ideas and concepts.

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Further literature and addendum: www.dms.uni-landau.de/fahse/GDM18_add.pdf