9

Knowledge translation

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1 Introduction: medical knowledge translation

‘Translation’ has emerged as a key word in disciplines such as cultural studies, anthropology and science and technology studies (STS). Moreover, from around the year 2000 it has become institutionalised in medicine, leading to the development of the field of ‘knowledge translation’. The turn to translation in the humanities can be seen as an index of the requirement to cross cultural and disciplinary boundaries in a purportedly global age. As the concept of ‘translation’ has become increasingly important in the human sciences, we could perhaps also regard knowledge translation as forming part of a new translational paradigm. The turn to translation in medicine is, however, of a different kind, aimed at preserving the identity of the scientific message, not at celebrating epistemic or cultural difference.

This chapter is about knowledge translation (hereinafter KT) in medicine and healthcare. KT refers to a variety of scientific practices and research activities bound together by the common goal of ‘bridging the gap’ between science in laboratories and clinical application, and, more generally, putting research-based knowledge into policy and practical care (Straus, Tetroe and Graham 2009; Woolf 2008). The all-important task for KT is to reduce the gap between theory and practice, by making medical practice knowledge-based. We see this clearly in WHO’s definition of KT:

Knowledge translation (KT) has emerged as a paradigm to address many of the challenges and start closing [sic] the ‘know-do’ gap. KT is defined as ‘the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health’.

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While interlingual translation crosses boundaries between languages, KT aims to cross the space between biomedical science and practical healthcare. Ideally, there should be an ‘equivalence’ of some sort between the message produced by science and its application in practice in hospitals and clinics. In other words, the aim of KT as a form of translation is to close or bridge the gap between knowing and doing.
In this chapter, we will describe different theories and practices associated with KT in medical contexts. Moreover, we will also discuss how views on translation from translation studies and human sciences more broadly can supplement current models of translation in medicine and health. We will first give a description of KT and its emergence as a theory and practice in medicine. Next, we will discuss KT more critically by contrasting it with models of translation developed in translation studies and human sciences. Our aim is thus both to give an introductory description of KT and to suggest some new ways of conceiving translation in medicine. While we argue that KT is based on a simplistic view of translation and knowledge dissemination, we also maintain that KT, as a practical form of knowledge production and knowledge transmission, might benefit from incorporating more theoretical notions of translation as a complex material, textual and cultural process, which inevitably impacts upon the ‘original scientific message’. We need such an expanded version of KT in order to cope with contemporary epistemic and cultural differences, as well as with the inevitable entanglement of the socio-cultural and biomedical aspects (cf. Engebretsen, Sandset and Ødemark 2017; Kristeva et al. 2019; Ødemark and Engebretsen 2018).

2 The history of KT

To understand KT as a theory of knowledge dissemination and a medical practice, we need to turn to the history of medicine. More precisely, we must identify the problem KT was—and still is—supposed to solve. So-called translational research first emerged in the biomedical field in the 1990s. This research was, from the very beginning, explicitly presented as a solution to the slow and insufficient uptake of research discoveries in everyday clinical practice. Translational research emerged as a possible solution to both a temporal and a quantitative problem; the flow from science to practice was too slow, and the amount of knowledge transported too small. Accordingly, translational research set out to solve these two problems relating to the social efficiency of biomedical research (e.g. Mankoff et al. 2004).

Around the year 2000, several prominent researchers drew further attention to the fact that many innovative research results never left the laboratory setting (e.g. Bero et al. 1998; Zerhouni 2005; Woolf 2008). There was now an increased concern about the ‘disconnection between the promise of basic science and the delivery of better health’ (Sung et al. 2003: 1279). It was the recognition of this ‘disconnection’ that inspired a new range of knowledge production in medicine, which became increasingly referred to as ‘translation’ (ibid.). In addition, there was also a growing concern that treatments offered to patients were too often inadequate because physicians did not base their decisions on recent research results. Patients were denied treatments with proven benefits, or they might even receive unnecessary or potentially harmful treatments (Graham et al. 2006).

2.1 KT and evidence-based medicine

In order to understand KT, we need to see it as part of a new scientific model for knowledge production in medicine, and, most importantly, relate it to a radically new conception of evidence formed in ‘evidence-based medicine’ (hereinafter EBM). As noted, an increasing concern with evidence along with its social and clinical efficiency formed part of a new biomedical research paradigm that gradually became hegemonic in medical research after the Second World War. The growth of epidemiological methods, notably randomised controlled trials (see below), was instrumental to this development. The shift
towards EBM began in Canada, and it is hardly a coincidence that this was also the place where KT was first defined, with the Canadian Institute of Health Research becoming a pioneer in its conceptualisation.

The epistemological premise of EBM is that all forms of knowledge are inherently biased, and that bias and subjectivity need to be balanced by expert claims that are inter-subjectively valid. As defined by David Sackett in a seminal paper from 1997,

The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By best available external clinical evidence we mean clinically relevant research, often from the basic sciences of medicine, but especially from patient centered clinical research into the accuracy and precision of diagnostic tests [...].

Sackett 1997: 3

The term ‘external’ is important here. The inherent bias of individual decisions must be counterbalanced by evidence drawn from an origin external to the case of the individual patient, i.e. from systematic research. This necessarily implies some kind of transposition of knowledge from one domain (research) to another (clinical application). Moreover, it also ‘requires new skills of the physician, including efficient literature searching and the application of formal rules of evidence evaluating the clinical literature’ (Guyatt et al. 1992: 2420). KT, then, must be seen as the operationalisation of EBM principles, making research evidence available for clinical use through translation – or, as one paper has it in its title, it is about ‘shortening the journey from evidence to effect’ (Davis et al. 2003, our emphasis). KT is the instrument used in this ‘shortening’.

EBM and KT are also linked in a more fundamental and ideological manner, and with radical consequences for the role of the medical practitioner. Until the 1950s, the medical professional was the embodiment of knowledge, and they did not need any proof of their epistemological authority beyond their medical degree and their professional experience (Weisz et al. 2007). Characteristic of the EBM paradigm is an increasing emphasis on knowledge as something that is independent of the expert, i.e. knowledge does not dwell in the body of the ‘initiated’ doctor, but in texts available to the expert, but also to laypersons who, as consumers of health services, should be able to choose the best treatment available (Timmermans and Berg 2003). Hence, the EBM paradigm actively sought to undermine the personal and ‘traditional’ authority of medical experts, and to control bias and prejudice by constructing a new textual authority, also accessible to people outside the medical profession, the new consumers of medical services.

3 The tools of KT

The processes described above constructed new standards for the production of medical knowledge and its practical and social application. Three crucial tools of medical KT were developed:

3.1 Randomised controlled trials (RCTs)

RCTs are often referred to as the ‘gold standard’ of modern clinical medicine and they are currently the only proper way of testing knowledge produced by science. A well-known
The method is the comparison of the effects on a group of patients that are offered a specific intervention or drug with a group that is given a placebo. The first example of an RCT in medicine is the study conducted by Marshall and colleagues in 1948 on the effects of streptomycin (antibiotics) on tuberculosis. One group of patients (the treatment group) was offered antibiotics and the effects were compared with a group that was given a placebo (the control group). Results after six months showed better healing in the treatment group (Marshall et al. 1948).

With further institutionalisation of RCTs in the 1950s, knowledge became increasingly independent of the individual human subject. It was, we could say, dislocated from the individual professional, and relocated to collective institutions (e.g. expert panels), at the same time as new genres of texts were created to communicate state-of-the-art science (e.g. clinical guidelines). A further consequence of this was that the new type of medical evidence was considered translatable and so accessible to everybody, enabling patients and relatives to make their own informed decisions.

Translational research formed a supplement to two traditional fields of medical research, namely basic research and clinical research. The aim of this new type of research was to integrate methods and knowledge from basic sciences, such as genetics and molecular biology, into clinical research and interventions, which then could be further tested through RCTs. A crucial element of the new translational method was stepwise testing of findings which were developed through basic research in the laboratory setting, first on animals, and next on humans (e.g. a new drug). In order to gain clinical significance, it was claimed, results from laboratory research should be prepared for testing on large populations through RCTs (Solomon 2015). This use of RCTs is the dominant model for testing and implementing research in our current epistemological order.

3.2 Literature reviews

Following on from the development of RCTs, new manners of communicating the science emerged. Proponents of KT and translational research devised a new set of textual genres with the aim of summarising research for clinical use. Different forms of cognition and text production were set to work; both content analysis (in systematic literature reviews) and statistical analysis (meta-analysis) were introduced as methods for evaluating RCTs of a particular treatment or intervention. While a systematic review describes and categorises state-of-the-art research by collecting and summarising all empirical evidence that fits pre-specified eligibility criteria, meta-analyses use statistical methods to summarise the results of these studies. This textualising of medical knowledge formed the basis for ‘clinical guideline recommendations’. In these texts, reviews of several trials are operationalised into normative practical guidance for clinicians. Through this new methodology, based on statistical meta-analysis of clinical trials, evidence became detached from the expert (Timmermans and Berg 2003; Solomon 2015).

3.3 Clearing houses

Another tool used by KT are the newly established institutions bringing together scientists, clinicians and bureaucrats in ‘Clearing houses’ or ‘knowledge centres’ with the aim of facilitating the production of research reviews. So-called guideline development groups were also
established, either as new institutions or as departments in already established units, such as national health agencies, in order to promote and organise guidelines (Weisz et al. 2007). An example of one such institution is the Cochrane Collaboration in Oxford, established in 1992 as one of the first and certainly the most famous Clearing house. Another important epistemic practice were consensus meetings, taking place primarily in the 1980s and 1990s (Solomon 2015). Here specialists came together to discuss contested issues and offer clinical recommendations. These meetings were, on the one hand, a result of this new realisation of knowledge bias (thought to be compensated for by the presence of many experts), but on the other, were still based on the authority of collective expert opinions.

With the rise of evidence-based medicine and the concomitant idea of an evidence-based practice, medical knowledge became *translatable* in a new way. The ability to translate – from basic science to practical health care action – is now the key to the mobilisation and use of medical knowledge. Although very different, all these methodological, technical and textual practices share the common purpose of translating knowledge from ‘bench to bedside’, or from basic research into clinical practice. In this process, RCTs, literature reviews and Clearing houses are particularly important tools of translation.

### 4 Critical perspectives upon KT

KT had an enormous impact on medicine and knowledge policy. A critical examination of the conceptions of knowledge and translation that inform KT is consequently of great academic and societal significance. In the following sections, we will turn to some critical perspectives on KT. We aim to demonstrate that notions of translation developed in translation studies and in the humanities more broadly can become resources for a more critical interrogation of medical KT.

As discussed above, KT has been conceptualised as a process with distinct stages of production (basic research), testing (RCTs) and the dissemination of knowledge (guidelines). The most common model moves from the production of scientific knowledge to its practical application in three stages:

- **T1**: A transfer from basic science in laboratories to clinical research on populations (this is also known as translational research), and further onto
- **T2**: A transfer from clinical research to clinical recommendation, often in terms of the development of clinical guidelines based on systematic reviews of clinical trials, and ending in
- **T3**: A transfer from clinical recommendations to routine clinical practice (e.g. Woolf 2008)

In this model, medical translation of knowledge is construed as a process of testing and synthesising scientific results produced in the laboratory and preparing it for sound clinical application and scientifically warranted healthcare. Hence, the directionality of translation is from the places where science is produced to its application. We observe that this is viewed as a linear process of knowledge production and transmission. The process begins in a place emblematic of modern science, the laboratory, and with basic science (‘pure science’ in its most iconic form) as its foundation.

Another influential model is the *Knowledge-to-Action-Model* developed by the Canadian Institute of Health Research. This proposes a knowledge creation pyramid, divided into three stages of ‘knowledge creation’ (knowledge inquiry, knowledge synthesis
and knowledge tools), which is set to interact with what the institute calls an ‘application cycle’, which is depicted as wholly external to the production of knowledge. Hence, the application of knowledge can never have an impact upon knowledge creation – KT is neither creative nor productive (e.g. Graham et al. 2006).

In both models, the idea is that concrete practices should be governed by science, and that application should follow from, and be what we will call a *supplement to*, biomedical knowledge creation. As Derrida observed, the word ‘supplement’ implies both ‘adding on to the original’ and ‘compensating for a lack in the original’. The supplement is at the same time an addition from the outside to something natural and original, and a compensation for an insufficiency inscribed within the origin (Derrida 1997: 141–157). Derrida regarded translation as an integral part of all textual *production*. According to him, translation is not an accidental event that can happen to a text in the empirical cases where the text is turned into another (target) language. On the contrary, translation and textual productivity is an essential part of the text’s mode of being in the world. The struggle to create meaning in the text, to interpret it ‘correctly’, is simultaneous with the birth of the text (*ibid.*).

The idea of translation as a supplement – conceived in the double sense described above – has potentially broad implications for KT. The *translation* aspect of KT does not only duplicate and disseminate the original knowledge; it also *completes* the original ‘scientific text’ by fulfilling it with a possible interpretation in a particular context. Indeed, this supplementary logic is implicit in existing KT models. While KT models presuppose that the principal duty of adequate KT is to implement the original scientific message in new social contexts and textual forms without altering its content, the same models, paradoxically, also state that it is *through translational modifications* and adaption to new audiences, that is, through synthesis and development of guideline recommendations, that the message becomes scientifically trustworthy. However, existing KT models fail to draw the necessary consequences from this paradox.

### 5 Seeing KT from translation studies

It is a truism in translation studies that the original source text can never be fully recovered by the target text, that interlingual translation always implies semantic shifts, and that the source text is inevitably rewritten in registers and styles pertaining to the target text and target culture (e.g. Venuti 2009). With this understanding of translation in mind, we could say that KT as a translational practice resembles interlingual translation practices that aim for semantic and pragmatic equivalence between an original source text and a new target text (e.g. Nida and Taber 1969). Using another analogy from interlingual translation, we could say that the current construal of knowledge production and translation in KT resembles the now highly contested literary view of translation where the translator’s work is ‘invisible’ (Venuti 1995) and/or the where the translator is merely an ‘ancillary’ (Berman 1984) to the reproduction of meaning and knowledge. Indeed, in this view, the translator is doomed to be the proverbial traitor (traduttore, traditore!) also in KT – not of artistic genius but of the scientific logos – since all changes and translational shifts will change the original ‘message’.

Analogous to the literary model, translation in KT should – if it is to be felicitous – be a mere transfer that does not add nor detract from the evidence and findings produced by basic research and RCTs. Rather, the purpose of translation in KT is to preserve and implement the original, scientific content in new socio-cultural contexts. The act of translation
Knowledge translation

is a process of ‘copying the original’ where the translational act itself is a non-act, the translator a non-actor and the purpose of translation is to be a ‘container’ of the original message without adding, transforming or in any other ways ‘betraying’ the original.

This lack of attention to how the process of translation inevitably will affect the original message is perhaps due to an uncritical acceptance of models of translation, knowledge production and knowledge dissemination that combine elements from two of the most persistent paradigms in the Western history of ideas: romanticism and the Enlightenment. In the case of KT, we find a combination of:

• Notions from aesthetic and literary romanticism, which purport that translation is the art of preserving, of ‘carrying across’, the artistic genius behind the original masterpiece
• An unquestioned Enlightenment model of knowledge dissemination, which assumes that knowledge should trickle down from elites and theory into ‘popular’ practice, the bedside of everyday care

Thus, it is possible to identify a persistent cultural topology, a set of notions that privileges the original over the copy or translation, still having an impact upon KT as a scientific and (purportedly) non-cultural practice (Steiner 1975: 448–449). The new medical and scientific KT distributes value and translational directionality in ways that resemble ancient literary and philosophical ideologies of translation: the original is the source of value, and its admired qualities should be kept intact in every process of translation and/or transmission (cf. Ødemark and Engebretsen 2018). This, however, presupposes that it is possible to separate the production of knowledge from its transfer; the scientific content to be translated is construed as being outside the process of translation. Knowledge, moreover, is said to have reached its culmination in the secluded space of the laboratory or the more mobile ‘seclusions’ of RCTs (testing the effect, transferability, reproducibility and relevance of knowledge) – and it is the findings that should be transported to, and implemented in, situations of practical care. In line with this, so-called ‘barriers’ and ‘drivers’ of KT are essentially understood as social and cultural factors external to the production of knowledge (Davis 2003).

6 Future directions of KT – or KT with other kinds of translation

The lack of attention to the textual and socio-cultural aspect of translation in KT has led medical researchers to argue that the time has come to ‘drop the knowledge translation metaphor’ (Greenhalgh and Wieringa 2011). Contrary to this, it has also been claimed that an expanded notion of the ‘translation metaphor’ might help devise forms of KT more attuned to biological, epistemological and cultural complexities (Engebretsen, Sandset and Ødemark 2017). In this final section of the contribution, we will sketch a version of KT more able to tackle the cultural and textual complexities of the translation process.

KT is a scientific and purportedly non-cultural practice that regards the social and cultural as a ‘barrier’ to the transmission of knowledge already formulated in the laboratory and confirmed by randomised controlled trials. In the humanities, however, ‘translation’ has emerged as a key theoretical concept to deal with epistemic and cultural difference – well beyond discussions on interlingual translation. In this situation, attention to concepts and practices of translation have an unexploited potential for bridging the gap between
medicine and social/human sciences. Such interdisciplinary exchange can in turn contribute to an increased understanding of the interplay between scientific and cultural factors of KT and thereby ultimately enhance the flow of knowledge within healthcare.

As we have seen, KT aims to cross the space between scientific knowledge and social practice; the know-do gap. Etymologically speaking, translation has always been about crossing spaces. The Latin derived term ‘translation’ simply implies that an agent carrying some (undefined) thing crosses a spatial boundary, and that the transferred object does not have to be of a linguistic nature (Cheyfitz 1997: 35; Evans 1998; Wintroub 2015). Questions concerning the transfer of knowledge in the spaces between different disciplines, sciences and paradigms have long been associated with ‘translation’ in the history and philosophy of science (Severi and Hanks 2015). Moreover, the concept of ‘cultural translation’ has been deployed in both anthropology and cultural history to study interactions in the spaces between cultures (Burke 2007: 8).

In the humanities, ‘translation’ has thus emerged as a key theoretical concept to deal with epistemic and cultural difference – and to thematise problems of interpretation and understanding well beyond discussions on ‘mere’ interlingual translation (cf. also Buden et al. 2009). Even in the discipline of translation studies ‘proper’, Lefevere maintained that problems in translation are not primarily of a linguistic nature. Lefevere describes a situation in translation studies where a concern about the pragmatic situation of a given translation has supplanted a prior, more formal approach focusing on the linguistic rules governing the target and the source text. ‘In other words’, he writes, ‘the rules to be observed during the process of decoding and reformulation depend upon the actual situation, on the function of translation, and on who wants it made and for whom’ (Lefevere 1999: 75). If the concern with the pragmatics of translation now has become part of the current state of the art, some additional factors should be brought into consideration, Lefevere maintains:

I would like to challenge […] the supposedly primary or fundamental role played by linguistic codes in the operation known as translating. […]. It is my contention that people who translate texts do not, first and foremost, think on the linguistic level, the level of individual words and phrases. Rather, they think in terms of what I would like to call two grids. I do not want to speculate on the primacy of one grid over the other; rather, I would suggest that we think of them as intertwined. One is what I would like to call a ‘conceptual grid’, the other a ‘textual grid’.

Lefevere 1999: 75 and 76–77

The grids are the results of socialisation, and are therefore in the last instance culture specific:

An educated member of any culture in the West, for instance […], will know that certain texts are supposed to contain certain markers designed to elicit reactions on the reader’s part, and that the success of communication depends on both the writer and reader of the text agreeing to play their assigned parts in connection with these markers. The writer is supposed to put them in, the reader is supposed to recognise them. Texts that start with ‘Once upon a time’, for instance, will elicit quite different expectations in the reader than texts that start with ‘Leave Barcelona 8:15 a.m.; Arrive Amsterdam 11.30 a.m.’

Lefevere 1999: 76
Lacking the concept of a ‘fairy tale’, it is surely difficult to translate ‘once upon a time’ and its connotation to a particular cultural genre. Thus, the formula assigns and elicits a particular commitment from the audience that has acquired the adequate cultural competence. It is crucial to understand that what comes after such a formulaic opening line is not actually ‘coded’ in the formulaic phrase itself; the knowledge and expectation that what follows is fiction and belongs to the genre of fairy tales are acquired through habitual encounters with tales that start this way and the rituals that accompany them. Such cultural and textual framings cannot be read out of the sentence as ‘mere linguistic data’; i.e. ‘once upon a time’ would not, on its own, signify ‘this is a fairy tale/fiction’, if there were no cultural conventions to categorise texts beginning with this phrase as pertaining to a particular genre. Linguistic translation, then, also has to account for cultural factors and metadiscursive practices for producing and classifying genres (Briggs 1993).

New work in the history of science, like Wintroub’s work on early modern colonialism, navigation and science (2017) has also been concerned with translation taken in a cultural and material sense. By following ‘science in action’, empirically orientated scholars have come to focus their attention on the construction of science, and they have focused upon the productive role of translation in the construction of science and knowledge. Influenced by science and technology studies (STS) and Actor Network Theory (ANT) such work has underscored that translation is never simply a discursive process, but a material and cultural practice conducted in complex contexts (Wintroub 2015). ANT and STS have actually asserted that translation is the very condition for all knowledge and scientific effects (Latour 1993). Latour even maintains that his understanding of translation has done away with the ‘old beast of relativism’ (Latour 1993: 113) by presenting a pragmatic solution to the problem of cultural (as well as other forms of) translatability. He simply points to the fact that cultures and natures have always been related or translated, and that the activity of relating/translation is undertaken with reference to criteria and yardsticks that do not belong to the ‘nature’ of the things compared but to the instruments of translation bringing them together:

Worlds appear commensurable or incommensurable only to those who cling to measured measures. Yet all measures, in hard and soft science alike, are also measuring measures, and they construct a commensurability that did not exist before their own calibration. Nothing is, by itself, either reducible or irreducible to anything else. Never by itself, but always through the mediation of another. How can one claim that worlds are untranslatable, when translation is the very soul of the process of relating? Latour 1993: 113

In practice, the problems of commensurability/incommensurability are solved. The task is therefore defined as identifying what instruments of translation are at work in particular, empirical acts of relating; how the instruments are calibrated and what social and intellectual structures they produce and/or forms a part of (Latour 1993: 113).

If we use this notion of instruments of translation to examine KT, we find a particularly important instrument of translation, namely texts. Various textual genres function as instruments of translation in KT. The translation process in KT begins in literary reviews and ends in so-called clinical guidelines, which prescribe manners of intervention in concrete cases (e.g. particular diagnoses) based upon the systematic reviews of the scientific state-of-the-art as expressed in the literature. Hence, the translation process
hinges upon systematic reviews and guidelines, and on the fact that such texts, in increasingly condensed and vernacular forms, are able to transmit the science necessary to implement state-of-the-art care. Generally, this text production is conceived as supplementing a lack of knowledge among clinical practitioners. Thus, a textual and cultural supplement, namely a concern about target audiences (practitioners and patients), is inevitable even in an ‘autonomous’ biomedical science restricted to the body as a biomedical phenomenon, because communicating with individual patients in particular socio-cultural contexts is the practical end of medicine (Engebretsen, Sandset and Ødemark 2017).

As we have observed above, most current versions of KT are actually closer to the now highly contested literary view of translation as a practice that aims at creating a semantic or pragmatic equivalence between an original ST and a new TT. Arguably then, KT in its current forms is based on an inadequate understanding of the various textual and cultural supplements that affect the construction, dissemination and application of knowledge. Moreover, we have also seen that Derrida sees translation as an integral part of all textual production. The translation or target text relates to the source text in what Derrida has referred to as a double supplement: it both adds on to the original and compensates for a lack in the original (Derrida 1997). The translation does not only duplicate the original message; it also completes the original message by filling in one of the source texts’ possible interpretations. This also implies that the necessity of interpreting and translating texts – the fact that texts do not speak for themselves, but are constantly the objects of interpretation and scrutinised for their true meaning – ‘always already’ characterises the source text.

If shifts of meaning are an inevitable outcome of the transport of signs between texts, KT could become more effective if such shifts were defined as a creative potential rather than as a mere ‘barrier’. There is an inherent paradox in existing KT models. While these models presuppose that the principal duty of KT is to implement the original scientific message in new social contexts and textual forms without altering its content, the same models, paradoxically, also state that it is through translational modifications and adaption to new audiences, i.e. through synthesis and development of guideline recommendations, that the message becomes scientifically trustworthy. Hence, translation both threatens and fulfils the original scientific message. However, existing KT models fail to draw the consequences from this paradox: translation is inherent in science and the division between science and its translation is both impossible and unproductive to maintain.

7 Conclusion

In this chapter, we have asserted that the practice of KT might benefit from incorporating more theoretical notions of translation as an entangled cultural process that inevitably affects the ‘original scientific message’. Moreover, we have shown that the current dominant model of KT presupposes that it is possible to separate the production of knowledge from its transfer; the scientific content to be translated is construed as being outside the process of translation. Knowledge is said to have reached its culmination in the controlled trials (RCTs), and it is the results from these trials that should be transported to, and implemented in, practical care situations. To accomplish this, various textual genres are mobilised in the different stages of the translation process, culminating in so-called clinical guidelines, which prescribe means of intervention in concrete cases (e.g. particular diagnoses, prognoses or treatments) based on systematic reviews of the scientific state of
Knowledge translation

the art. Hence, the translation process hinges upon textualisation in such genres as systematic reviews and guidelines, and that such texts, in increasingly condensed and vernacular forms, are able to transmit the science necessary to implement state-of-the-art care.

Understanding KT as a cultural and textual supplement, as we suggest, is to acknowledge that altering the scientific message is a necessary and integral part of KT. Modifications and changes that occur through the translational process should therefore not be viewed as ‘barriers’ to accurate translation; rather, such changes are prerequisites for evidence-based healthcare. Inspired by recent theories of translation in the human sciences, we claim that KT can be more adequately understood in terms of a ‘double supplement’. On the one hand, KT offers new approaches to the communication of scientific knowledge to different groups in the healthcare system with the aim of supplementing a lack of knowledge among clinicians (and patients); on the other, it demonstrates that a textual and cultural supplement, namely a concern with target audiences (clinicians and patients), is inevitable in the creation of an ‘autonomous’ science. Hence, the division between science and its translation is unproductive and impossible to maintain.

Notes

1 The article was finished during a stay at the Centre for Advanced Study in Oslo (CAS). Thanks are due to CAS for their funding and to our colleagues in the project group THE BODY IN TRANSLATION.

2 More precisely, this took place at McMaster University with the Evidence Based Medicine Working Group in 1992 (Solomon 2015).

Further reading


A seminal and illuminating criticism of KT coming from biomedicine and the health sciences concluding that the time has come to drop the metaphor of translation in medicine.


A position paper in the medical humanities calling for a critical use of translation and translation studies to explore the boundaries between biomedicine and the humanities.


A short introduction to the history of translational research with an illuminating discussion of the philosophical assumptions of this major paradigm in modern medicine.


Provides a historical overview of the growth of evidence-based medicine, especially the development and use of clinical guidelines.


A conceptual history of ‘translation’ as well as an application of the sociology of translation to historical material.
Related topics
Medical Humanities and Translation, Inter- and Intralingual Translation of Medical Information, Dissemination of Academic Medical Research Through Translation

References
Knowledge translation


