TTR : traduction, terminologie, rédaction

Translating the ideology of science: the example of the work of Alfred Tomatis

Candace Séguinot

Volume 1, numéro 1, 1er semestre 1988

Traduction et culture(s)

URI : https://id.erudit.org/iderudit/037007ar
DOI : https://doi.org/10.7202/037007ar

Aller au sommaire du numéro

Éditeur(s)

Université du Québec à Trois-Rivières

ISSN

0835-8443 (imprimé)
1708-2188 (numérique)

Découvrir la revue

Citer cet article

Séguinot, C. (1988). Translating the ideology of science: the example of the work of Alfred Tomatis. *TTR : traduction, terminologie, rédaction*, *1*(1), 103–112. https://doi.org/10.7202/037007ar

Translating the ideology of science: the example of the work of Alfred Tomatis

Candace Séguinot

At the start of my translation classes, I ask students if they want to translate for love or money. They answer money. Then I tell them that that is why we don't do literary translation. This is misleading, because it implies that people do not translate science for love, and this paper is, if not exactly about love, about attachment to particular views and the translating of science.

To support my arguments, I am going to refer to the translations of some very famous scientists, and I realize that it may seem peculiar to mix examples from the work of scientists who are household names with examples from the work of Alfred Tomatis, who is not. So to begin, an introduction: Alfred Tomatis, a medical doctor working and living in France, is known on at least three continents as the father of the Tomatis method. This approach to the clinical treatment of learning and psychological disorders is based on the belief that listening is central to human growth, and that the therapeutic protocol is built around training the individual to listen. Some of Dr. Tomatis' work has been translated, but interest in this method has grown in recent years as a result of general interest in learning disabilities and the efforts of practitioners of the method, rather than through the translations. The reason, then, the translations are being used to illustrate this paper is that one of the ways in which they have proved to be inadequate is in recognizing and dealing with the ideological content of the original text.

The fact that the rhetoric of scientific texts is determined by and interpreted as ideology is not always obvious.Translators working with

shared ideological systems unconsciously apply the conventions of the discourse dictated by that ideology to deal with epistemological differences. Discourse differences between languages are viewed as emanating from the expression rather than the content system of language. Thus the ideological system which can be reflected by features such as the degree of animism, dynamism, agency, intensity, and subjectivity is obscured as differences are interpreted as a function of different stylistic systems.

When faced with non-congruent ideologies, the translator must choose and the choice of ideology determines and is determined by the role of the translator as conduit or missionary. Sometimes the change is blatant, as Paul V. Axton (1986) charges of the purportedly scientific *The Japanese Brain-Uniqueness and Universality* by Tadanobu Tsunoda. According to Axton the translation is much less strident in its ethnocentricity than the Japanese, cloaked in «objective-sounding experimental data», in short, not at all the same book. Bruno Bettelheim's (1983) by now famous publication on the translations of Freud is another example: Bettelheim's thesis is that the translator disguised Freud's attachments to the philosophical school of enquiry of which he was a product in an attempt to make his theories more palatable to an anti-mentalist America. In Bettelheim's words (pp. 4-5), the essential humanism of Freud's original was transformed in an attempt to make the English «abstract, depersonalized... mechanized — in short, 'scientific'...» . The editors of James and Alix Strachey's letters (Meisel and Kendrick, 1986, pp. 319-321) have responded to these and other criticisms of the standard translation by justifying specific choices of word. When they argue that these words were formed using regular processes for lexicalization in English, they are side-stepping Bettelheim's criticism and trying to re-formulate questions of ideology in terms of the expression level of language. When Meisel and Kendrick (1986, p. 321) say that the job of Freud's translators was to «make him English» and that that «required the establishment of an equivalence rather than a correspondence», they are recognizing the ascendancy of the experimental/observational ideology of science in the Anglo-Saxon world. The goal of the translation is therefore to produce an *acceptance* of Freud's work, and not necessarily an equivalence.

This kind of re-interpretation may also stem from simple error on the part of the translator who reads the ideology of his or her scientific culture into a text. In the opinion of historian Alexandre Koyré (1966, pp. 251-252), there has been a general misconception about the place of Galileo in the history of science based on a mistranslation of his work into English. The words «I have discovered by *experiment*», he argues, do not correspond to the meaning of the source text. This reference to methodology,

> (...) a été purement et simplement ajouté(e) par le traducteur qui, visiblement acquis à l'épistémologie empiriciste, ne pouvait pas s'imaginer que l'on puisse démontrer ou découvrir quelque chose autrement que *par expérience*. Aussi, là où Galilée dit: *Comperio*, écrit-il «discovered *by experiment*», en annexant ainsi Galilée à la tradition empiriste et en faussant, par là même, irrémédiablement, sa pensée.

Science, in other words, has conceptual and moral underpinnings, and the translator of science must become aware of the aspects of text which reflect these systems of knowledge structure and belief. In general these systems can be described in terms of three levels of ideology. The first level is scientism as defined by Pierre Thuillier: science as cult, science as good in and of itself, science as power. Science has replaced religion as the ultimate source of knowledge in western society, and since the Renaissance (Reedy, 1983, p. 581) it has been possible to achieve social status by pursuing or associating with certain scientific endeavours. The translator of scientific material works largely unconsciously to promote this ideology, because he or she is not able to take on the role of social critic and step outside of the text. A translator has the option of refusing to provide a translation; accepting the work therefore implies complicity. On the other hand, the fate of the translation itself is very much a function of the status of the field, the status of the author, and the novelty of the ideas expressed; science tends to be conservative, and a new idea introduced in a vacuum is more likely to find acceptance than a new idea in an area of received knowledge. An example of the power of established theory is the fact that a Latin translation of a French physics text was still being used in British universities forty-three years after Newton's *Principia* had appeared.

The British mathematician William Whiston, a confirmed Newtonian (1749, p. 36), in fact defended this practice (up to a point) in his biography of Samuel Clarke (1730, pp. 5-6). Whiston had met Clarke in a coffee house, and when Clarke said that his tutor at Cambridge had him working on a retranslation of Rohault's physics and asked Whiston his opinion about the undertaking, Whiston replied:

> «Since the Youth of the University must have, at present, some System of Natural Philosophy for their Studies and Exercises; and since the true System of Sir Issac [sic] Newton was not yet made easy enough for that Purpose; it was not improper, for their Sakes, yet to translate and use the System of Rohault... but that as soon as Sir Issac Newton's Philosophy came to be better known, that only ought to be taught, and the other dropp'd». Which last

> part of my Advice, by the way, has not been follow'd, as it ought to have been, in that University: But... Dr. Clarke's Rohault is still the principal Book for the young students there.

To return to the translators of Freud, there was a certain personal interest in the fate of the translations; the Stracheys were interested in becoming practitioners. They, like the practitioners of the Tomatis method, had a certain interest in enhancing the image of the method. What determines the degree of acceptance of a scientific text leads to the second level of ideology, which consists of defining what constitutes science. Along with other Greco-Roman traditions, the western world inherited two different perceptions of what the proper goal of scientific enquiry should be. Through their inheritance of philosophical traditions, humanistic studies focus on questions of essence, of nature, of ultimate knowledge. Experimental and observational studies, on the other hand, define science as the search for models which are plausible explanations for observable phenomena. At different places, at different points in time, and in different disciplines, the willingness of a scientific community to accept one or the other, or a mix of these conflicting ideologies, will determine the hidden agenda to which scholars are expected to conform.

The question of what constitutes science in the field of medicine is complicated by the fact that there is a research component and a clinical component. The style of enunciation of the research component, as Michel Foucault (1969, p. 47) has pointed out, has been relatively constant since the 1800's, meaning that there has been a commonality of knowledge base, general agreement on the perception of pathology, and a common method of conveying perceptions through vocabulary and metaphor. Clinical practice, on the other hand, implies therapeutic choice which in turn implies questions of ethics and institutional authority. And these are not necessarily common, or even constant.

In the case of the work of Alfred Tomatis, the problem of scientific justification and clinical outreach has created some interesting problems. Tomatis trained as a doctor and began to publish in the field of acoustics. Early on, however, he found that psychological factors could influence people's ability to hear, and he began to relate hearing loss to a variety of disorders. The method he developed involves frequent testing with machines and special equipment — an 'electronic ear' — for treatment. However, his writing is clearly humanistic and personal and structured in the tradition of the French *dissertation*. Anglo-Saxon scientific writing, described in 1667 by Thomas Sprat, the first historian of the Royal Society, as «bringing all things as near the Mathematical plainness» as possible, has, three hundred years later, been called informative and cold (Savory, 1967, p. 133). The difference

in acceptance of scientific ideologies on the two continents is clearly stated in this excerpt from a paper made available by a centre which uses the Tomatis method (Roy, Chapter IV, p. 1):

> Dr. Tomatis developed his theory and approach on the basis of his laboratory explorations and everyday clinical experience, somewhat in the form of case studies repeated many times over. Although this clinical approach afforded him new insights and allowed him to elaborate upon a rather innovative treatment approach, these new ideas and methods now beg for more rigorous experimental validation in a manner to which researchers and practitioners in North America, Great Britain and Scandinavian countries are accustomed. For although the clinical case study approach has undeniably led to remarkable advances in the fields of education, psychology and medicine, even the most well-intentioned clinician can be misled if his ideas or practices are not verified through more demanding forms of research strategy.

The translator of Tomatis work is thus dealing with a difference in ideological set, aside from the question of the rhetoric of science. To deal with questions of ideology, the translator has to be able to read the ideological references in the text itself. Statements presented as fact, for example,

> 1. La fréquence est ce qui détermine la hauteur du son. (*L'Oreille et le langage*, p. 35)

are neutral and objective; they do not depend on particular speakers or prior events. Extracts 2 and 3, on the other hand, refer to an understanding of a particular view of science:

> 2. Le son se propage à une vitesse, dite célérité, qui est représentée, pour l'air par exemple, par 330 m/s à 0° en air sec... (L'*Oreille et le langage*, p. 35).

> 3. La première constatation, et qui fut des plus inattendues, est la découverte systématique, chez tout chanteur, de la menace de la surdité professionnelle dont l'évolution est identique à celle que nous observions chez nos sujets soumis aux bruits de moteurs à pistons, voire même de réacteurs. (*L'Oreille et le langage*, p. 93)

The «dite» of example 2 identifies the author as a scientist, establishing his attachment to an *a priori historique* (Foucault, 1969, p. 167); the «qui fut des plus inattendues» in 3 implies both an attachment to a past and a critical reader aware of this past who must be convinced that the author recognizes the difference between predic-

table and fortuitous discovery. The impersonal constructions together with the use of «nous» conform to the style of experimental discourse. This form of discourse represents the same ideology in both French and English and a translation would therefore be an enunciation of the same sets of values and references. However, Tomatis does not always conform to this style of discourse. The choices of his translators then seem to be guided by a personal or institutional interest in the translation. *Dyslexia* was translated by Agatha Sidlauskas from notes of lectures Alfred Tomatis gave in 1966-67. The English version actually appeared before the reworking of the notes was published in French as *Éducation et dyslexie* in 1972. This text was in turn translated into English as *Education and Dyslexia* in 1978. The first translation was published by the University of Ottawa where the translator was Chairperson of the Department of Child Psychology. The second translation was published by the Association internationale d'audio-psycho-phonologie, the organization of practitioners of the Tomatis method. The following are excerpts from the three versions describing one of the results that can be expected after treatment:

> 4. Les notions temporo-spatiales qui s'introduisent parallèlement à la cristallisation de la latéralité droite expliquent l'énorme progrès réalisé par l'enfant dans le domaine du calcul et des mathématiques. (*Éducation et dyslexie*, p. 154)
>
> Temporo-spatial notions which are acquired at the same time as the crystalization of laterality, explain the gains in maths and arithmetic. (*Dyslexia*, p. 94)
>
> He makes enormous progress in arithmetic and geometry, which comes as a result of his improved powers of spatio-temporal conceptualization — a product, in turn, of laterality crystallization on the right. (*Education and Dyslexia*, p. 152)

The French text is scientific in style: it is impersonal, focus is on a technical term formed from a nominal group, meaning is expressed in an adjective attached to an abstract noun, the relation of cause and effect is posited implicitly with the impersonal verb «s'introduisent» and the noncommittal «parallèlement». The value term «énorme» is an exception which introduces the author in a subjective, non-scientific role. The first translation interprets the text in terms of the need for a consistently objective voice and excises the value judgment. The second translation reinterprets the statement in terms of the ideology of clinical discourse. To persuade the reader of the efficacy of this particular form of treatment, the focus switches to the patient, in this case the dyslexic child, and the subordinate theme of the degree of progress in the original is shifted to the principal clause. The link between changes in lateralization and improvements in the ability to

conceptualize time and space, a hypothesis which is not amenable to direct verification, is overtly asserted in this translation.

In the example which follows, the first translation has again defined the text as science by retaining the classic *thèse-antithèse* development of the original. The use of this rhetorical pattern, the display of knowledge of other work in the field, and the acknowledgment of the value of previous work are all ways of identifying the text as part of a discipline. The «we chose» of the translation for the «je préfère» of the original also seems to indicate an editing in favour of scientific style. The second translation has substituted a chronological development — «In the past» — for the form of argument of the original. This plus the diminished value accorded the previous studies actually lessens the credibility of Tomatis' work by distancing it from the mainstream of the discipline.

> 5. Certes, maintes épreuves sont classiquement utilisées pour dépister le dyslexique devant la lettre elle-même. Elles ont une valeur certaine; elles mettent l'accent sur les difficultés de lecture, permettant de différencier les lettres devant lesquelles butte la compréhension de l'enfant... Malgré l'intérêt que présentent de telles investigations il paraît impossible d'établir à partir de ces résultats une conclusion réelle de ce que dyslexie veut dire... Aussi je préfère largement à ce mode d'investigations, celui que je pratique depuis de nombreuses années et qui révèle le dyslexique dans son univers particulier, grâce à la posture fonctionnelle qu'il adopte dans sa vie de relation. (*Education et dyslexie*, pp. 110-111)
>
> There are many techniques classical which are for the detection of «Dyslexia» when associated with reading disability. Each of them has a certain value because each underlines difficulties of understanding, which the child encounters in the process of reading. A dyslexic child may systematically confuse such groups of letters as... In spite of the interest in collecting these data, it is impossible on the basis of them to derive the real diagnosis for «Dyslexia»... Therefore, instead of this type of clinical investigation, we chose the method I practised for many years. This method reveals the dyslexic in his functional attitude, which he assumes in his everyday life of human intercourse. (*Dyslexia*, pp. 69-70)
>
> In the past, many tests have been formulated for diagnosing the dyslexic in terms of his contact with the written word. These have not been without value. They have emphasized problems that have to do with reading itself, with the child's

> incomprehension and confusion and the accompanying symptoms such as... Despite the real interest presented by these investigations, they are nonetheless of virtually no use when it comes to forming a conclusion as to what dyslexia really is... That is why I prefer my own methods to the traditional ones which seem concerned mainly with identifying symptoms. For years I have been trying to show the dyslexic as he really is, inside his own private universe. I have been able to do this by analyzing his functional posture towards the relational aspect of his life. (*Education and Dyslexia*, pp. 112-113)

This example also illustrates the differences in the way of handling the third level of ideology which places the individual within the context of a given scientific environment. In functional terms, the definition of the author as scientist finds expression through the subjective elements in a text. The scientist first must address the hidden agenda to introduce the work as valid science. Then, having situated the work within the ideological framework of the discipline, he or she must establish the value of this contribution and the degree to which it should be identified with the *persona* of the author. Scientific investigation can be presented as an extension, verification, or clarification of existing research or as an innovation; as objective discovery gaining credibility from near-anonymous authorship, or as the product of a voice whose authority in itself establishes validity.

In the last example, the author introduces his innovations with a certain modesty in French. His tentative «il paraît impossible» is misrepresented by the certainty of «is impossible» in the first translation and «are of virtually no use» in the second. Where he could have chosen the more subjective «il me paraît» to introduce his role in the scientific process, he prefers anonymity. When he introduces his procedure, he does so as a statement of individual preference rather than a statement of authority. His semantically passive «je préfère» becomes the dynamic «we chose» in the first translation, the implicit idea of innovation of «que je pratique» is made explicit and emphasized in «my own methods». As Stephen Bernhardt (1985) has pointed out, the use of personal constructions in the conclusions of scientific texts underscore «the assertion of justified authority». This is clearly the message of the switch of focus to the first person subject in the *Éducation et Dyslexie* text.

The third person description of the Tomatis method from the research paper quoted below presents a different picture again. The technique is described through an animism which suggests that it has a life separate from that of Dr. Tomatis, whereas the theory is clearly associated with one person. However, Dr. Tomatis' position in terms

of the discipline is defined in stative terms with the words «considering», «maintaining», «believing», and «holding» as opposed to «proposing» or «suggesting»; the focus is therefore not on his status as an originator:

> 6. As indicated earlier, the A.P.P. technique has now found one of its main applications in the treatment of dyslexia and related learning problems. Dr. Tomatis considers the reading, spelling and writing difficulties of the dyslexic as language-communication problems which are in turn rooted in auditory-listening deficiencies; he further maintains that such listening and language problems generally appear long before a child sets foot in school or starts to read; and contrary to historical belief in hereditary causation he believes that the listening and language problems are often triggered by emotional problems within the family constellation. In essence, Dr. Tomatis holds that dyslexia is basically auditory in nature, preschool and socio-affective in its origin. («An introduction to Audio-psycho-phonology», p. 10)

This essay illustrates the differences between the model of North American educational psychology, an applied, observational/experimental discipline, and the first person, humanistic, clinical approach of Tomatis' work. This kind of study is more likely to gain acceptance for the Tomatis method in North America than translations of the work itself.

The irony of this situation has been used to show the ideological problems that translators face in dealing with scientific texts: the status of the science and of science in general, the definition of the text as science, and the presence of the author as subject. The degree to which these ideologies remain transparent in translations of scientific texts depends first on whether the ideological content of the source text is congruent with views that are acceptable to the target population, second, on whether the translator recognizes this fact, and third, on an active choice on the part of the translator.

Université York

Bibliography

Axton Paul. «Warning: English may be hazardous to your health.» *The Language Teacher*, X, 11, 1986, pp. 7-10.

Bernhardt, Stephen A. «The writer, the reader, and the scientific text.» *Journal of Technical Communication*, 15(2), 1985, pp. 163-174.

Bettelheim, Bruno. *Freud and Man's Soul*. New York, A. A. Knopf, 1983, prev. pub. in part as «Reflections. Freud and the soul,» *The New Yorker*, March 1, 1982.

Cajori, Florian. «An Historical and Explanatory Appendix.» In Cajori's revised version of Andrew Motte's translation (1729) of Sir Isaac Newton's *Mathematical Principles of Natural Philosophy*, Berkeley, Calif., U. of Calif. Press, 1960.

Foucault, Michel. *L'Archéologie du savoir*. Paris, Gallimard, 1969.

Knight, David. *The Age of Science*. Oxford and New York, Basil Blackwell, 1986.

Koyré, Alexandre. *Études d'histoire de la pensée scientifique*. Paris, Presses Universitaires de France, 1966.

Reedy, W. Jay. «Language, counter-revolution and the «Two Cultures»: Bonald's traditionalist scientism.» *Journal of the History of Ideas*, 44, 1983, pp. 579-597.

Roy, Rob. «An introduction to Audio-psycho-phonology (The Tomatis Method).» Toronto, The Listening Centre.

Savory, Theodore. *The Language of Science*. Rev. ed., Tonbridge, Eng., Andre Deutsch, 1967.

Sprat, Thomas. *The History of the Royal Society of London*. London, 1667.

Strachey, James and Strachey, Alix. *Bloomsbury/Freud: the Letters of James and Alix Strachey*. Ed. by P. Meisel and W. Kendrick. New York, Basic Books, 1986.

Thuillier, Pierre. *Le Petit savant illustré*. Paris, Éditions du Seuil, 1980.

Tomatis, Alfred. *L'Oreille et le langage*. Paris, Éditions du Seuil, 1963.

Tomatis, Alfred. *Dyslexia*. Trans. by Agatha Sidlauskas, Ottawa, U. of Ottawa Press, 1969.

Tomatis, Alfred. *Éducation et Dyslexie*. Paris, les Éditions ESF, 1972. *Education and Dyslexia*. Trans. by Louise Guiney, Fribourg, Switzerland, AIAPP, dist. by les Éditions France-Québec, 1978.

Tortrat, Robert. *La Véritable révolution du 20e siècle*. Paris, Fernand Nathan, 1971.

Whiston, William. *Historical Memoirs of the Life of Dr. Samuel Clarke*. London. 1730.

Whiston, William. *Memoirs of the Life and Writings of Mr. William Whiston*, 1749.