

## On the Non-Algorithmic Nature of Translation Theory

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The paper examines the nature of the translation process and shows that – given the elements of that process and modes of their interaction – the theory that purports to explain it cannot be an algorithmic theory. It will be shown that equivalence, the goal of translation and the central concept of translation theory, is not given in advance, to be ‘discovered’ by the translator, or to be arrived at following a definite set of rules, a given sequence of operations, or a prescribed programme or routine; rather it evolves in a communicative situation in which all the elements involved in the translation process mutually interact and affect one another. The following elements need to be considered: subject matter to be communicated, source language system, original sender, translator as receiver, target language system, translator as sender, channels of communication, sender-receiver feedback, ultimate receiver. Since any change in any of these elements changes both the process and the result of translation, and since the number of possible changes is infinite, it is clear that whatever else translation theory may be, it is not an algorithm. Certain implications of this for translation theory will be discussed.

0. The human effort to understand and explain particular phenomena in nature, including patterns of human behaviour and forms of human activity, has resulted in a body of what passes for scientific knowledge. That knowledge is grouped under particular headings recognized as different disciplines (and sub-disciplines). Scientific disciplines develop in different areas of research in accordance with the principle of the common object of study and common methodology. Of course, the disciplinary boundaries are neither impermeable nor unchangeable: since individual phenomena studied by a given discipline interact with other (ultimately all) phenomena, explorations within one discipline necessarily widen in scope to reach into the domains of other, more or less close and more or less related, disciplines. Similarly, a new definition of the object of study and/or a new methodological orientation leads to the emergence of new disciplines or the splitting of the existing ones into subdisciplines (which may then seek independence through an autonomous definition of their object of study and their methodology).

This situation has two implications for science: first, because of the mutual links and interactions among scientific disciplines, there is an undefined but tacitly accepted

understanding of what is and is not legitimate science, how it is *lege artis* practised, and what should be its ideal; second, owing to the presence of genetic and operational links with the well-established disciplines, the newly autonomous disciplines accept the scientific paradigm and ideals of the disciplines from which they grew or on which they try to model themselves.

The ideal goal of science is to provide explanations for the phenomena under study. Such explanations are arrived at through observation, experimentation, testing, measurement, etc. and are formulated as (testable) hypotheses, which – when verified – are promoted to theories.

A theory can be a set of interlinked hypotheses which explain and correctly predict particular phenomena. Such a theory is complete, self-contained, rigorously formulated, and therefore falsifiable. Falsifiability is the crucial precondition of the scientific status of a theory: it must be formulated in such a way that each of its applications, under identical conditions, produces identical results. If the results are not identical, the theory is thereby falsified and replaced by a new theory (or hypothesis) which correctly explains the facts that the previous theory could not explain. The new theory remains valid until it is itself falsified in the same way. Science thus progresses by formulating ever new theories that provide explanations for facts left unexplained by earlier theories, as well as for some new facts unnoticed by these earlier theories.

The second important characteristic of a scientific theory is its applicability, seen as the repeatability of its results. In other words, a scientific theory is formulated as an algorithm – a logical arithmetical or computational procedure that, if correctly applied, ensures the solution of a problem – which secures for the theory precisely those attributes which are regarded as desirable in science: objectivity, verifiability, falsifiability, and repeatability, ruling out subjectivity, *ad hoc* explanations, coincidence, impressionistic interpretations of results, and – generally – objective inapplicability of the theory owing to its (deliberately) imprecise formulation.

Algorithmic theories are characteristic of the natural sciences, and are viewed with respect, as an ideal scientific paradigm, by other disciplines which aspire to “scientific rigour”. Among the social sciences and the humanities, such aspirations are to be found, for instance, in psychology, sociology, economics, and – particularly important for translation – linguistics. Linguistics was the first among the humanities to approach its object of study, i.e., language, with mathematically formalized theories, descriptive models and explanatory generalizations which satisfied the criteria of scientific rigour similar to those valid in the natural sciences. Since translation is undoubtedly a linguistic operation, in the sense that it involves (pairs of) languages, it comes as no surprise that the science of translation should have sought inspiration in linguistics as it embarked upon the elaboration of its own theory.

1. The term ‘theory’ as used in the collocation ‘translation theory’ deserves some clarification. Owing to the prestige of the scientific theories of the kind discussed above, the term ‘theory’ is favoured in the names of various disciplines: in addition to translation theory, one finds also theory of literature, theory of music, theory of the film, theory of international economic relations, theory of money, theory of signs, etc., as well

as such subdisciplines as theory of versification, theory of the novel/drama, etc. In all such cases, the precise meaning of the term ‘theory’ remains deliberately undetermined: it is somehow clear that a scholarly pursuit in a particular area or subject matter is meant, but those engaging in such a pursuit would not object to ‘theory’ being understood at least as “a set of general principles and associated unambiguously defined concepts relating to that subject matter”, if not as “a coherent, complete, self-contained, strictly formulated and mathematically formalized set of statements purporting to explain the phenomenon in question”.

In the case of translation theory, it would appear to be useful to separate these two uses of the term ‘theory’ from the use of the same term to refer to the scholarly discipline (for which something like ‘translation studies’ (Snell-Hornby 1988), ‘translation science’ (Wilss 1982), or even the somewhat pretentious-sounding ‘traductology’ as suggested by some authors (Vasquez-Ayora 1977), would be preferable). Thus, the terms ‘translation theory’ or ‘theory of translation’ would be reserved for explicit explanations of the translation process. Once the terminological confusion is cleared, it becomes immediately apparent that there is no theory of translation at present (nor is there one in sight), despite the existence of university departments, books, scholarly papers, symposia, etc. sporting that name. Everything going under the name of translation theory at present is actually the science of translating (Nida 1964) – a discipline offering theoretical insights into the phenomenon of translation, piecing together elements that might eventually enable us to formulate a coherent theory of translation, but which do not yet constitute such a theory.

The distinction between translation studies/science and translation theory is not only intrinsically valuable but is also useful as a pointer to what a theory of translation can give us, what its purpose should be, and, finally, what it should look like. Even the mere theoretical consideration of translation (observation, examination, study, and speculative thinking in contradistinction to practical translation work, cf. Nida & Taber 1969), without attempting an explicit formulation of a theory, is a valuable first step. The person approaching translation in this way gets certain insights and begins to understand intuitively what it is that actually happens in the act of translation, even though he may not be able to give an explicit account of his insights (and even though his insights may be only fragmentary). A practical translator may apply such insights unconsciously in his work; a critic of translation will rely on them in assessing the quality of his own or other people’s translations; and a teacher will pass them on to his or her students.

On the other hand, an explicit and coherent theory of translation would be primarily non-utilitarian: it would simply be a scientific explanation of a phenomenon (in this case, a particular form of human activity). Its primary function is to explain the translation process, or what goes on in the mind of the translator as he moves from the source to the target text (Krings, 1986). The secondary uses of such a theory could be quite practical: anybody who mastered that theory and was able to apply it could translate well and effectively – by simply following the prescribed procedure (algorithm), he or she would arrive at the correct solution (equivalent translation); the assessment of the quality of translation would be objective, because the correct application of the theory would yield the correct result in each instance, while errors in application would be easily detected and corrected; the teaching of translation would consist in teaching the

algorithm and the procedure for its application; finally, through suitable software design (incorporating the theory in its algorithmic form), machine translation would in principle be possible.

2. It is obvious that a theory of this kind is not available. What is not obvious, however, is that a theory of translation of this kind is not possible, since an algorithm is contrary to the very nature of translation. The idea of science as something objective, quantifiable, reproducible, testable and learnable is so widespread, and so attractive, that every discipline feels obliged to aspire to such theories. (When it fails to reach them, it seeks solace in the belief that this is just a temporary weakness which will be rectified with further and more intensive research.)

All this holds true also of translation theory – the more so as it had strong links with linguistics, which itself tended to believe that it would explain the phenomenon of language fully by means of algorithmic theories. (This conviction has been seriously weakened recently by the realization that much of the richness of natural human language is not amenable to algorithmic explanations, and that what remains unexplained cannot be dealt with by tinkering with existing theories, nor even by new theories of the same, algorithmic kind, but rather that different, non-algorithmic theories are needed to explain the cognitive mechanisms governing the use of language. (Cf. Rudzka-Ostyn 1988.) Besides, the science of translation was inclined to assume that linguists would supply that part of the theory of translation which had to do with language, while translation theorists would focus on the non-linguistic elements of the translation process (such as the extralinguistic content, psychological state of the translator, cultural background against which the translational communication takes place, etc.).

The algorithmic view of the nature of the translation process held by most people is seen in their readiness to accept the translation which they are offered – barring some obvious defects (logical inconsistency, ungrammaticality, etc.) – as *the* translation, unaware of the potential existence of a number of other translations of the same text which they would equally readily accept in a similar or different communicative situation. Their view is, in other words, that there is an algorithmic formula leading from the source to the target text and that this formula has been correctly applied by the translator. Similarly, the teacher of translation and the translation critic tacitly assume the existence of a model translation from which actual translation deviates at the translator's own peril. Ambitious machine translation attempts have explicitly worked with algorithms intended to convert input into output texts. Finally, translation theorists have built models of translation which presuppose that for each source-language text there exists a single and algorithmically defined equivalent and that the translator's only task is to find it.

Since equivalence is the central concern of translation theory – one might say that a theory of translation is a theory of what equivalence is and how it is achieved in the process of translation – it is obvious that an algorithmic view of equivalence will also mean an algorithmic concept of translation theory.

3. Translation is a mode of communication, and communication is a form of human activity. This activity takes place in a communicative situation which is made up of the following elements: (1) extralinguistic content to be communicated, (2) source language, (3) original sender as a speaker of the source language and member of the source culture, (4) spatio-temporal channel of communication through which the original sender's message is sent, (5) translator as a receiver of the source message and speaker of the source language, as well as a member of the source culture, (6) translator as the sender of the translated message, speaker of the target language and member of the target culture, (7) target language, (8) spatio-temporal channel of communication through which the translated message is sent, (9) receiver of the translated message as a speaker of the target language and member of the target culture, (10) feedback mechanisms between the original sender and the translator on the one hand, and between the translator and the ultimate receiver on the other hand. (There is normally no feedback between the original sender and the ultimate receiver, except when the original sender knows that his message will be translated and takes this fact into account while shaping his message.)

The process of translation taking place in the communicative situation built with the above ten elements proceeds roughly as follows (Ivir 1988): the original sender chooses the extralinguistic content that he intends to communicate (usually to members of his own linguistic and cultural community); for the expression of this content he chooses a language (usually his mother tongue) which he knows he shares with his intended or potential receivers; having chosen that language, the original sender accepts its patterns of expression (its expressive potential and its limitations) and readily expresses his intended extralinguistic content using the means that this particular language places at his disposal (had he chosen another language, he would have accepted its – different – expressive potential); as a speaker of his language, a particular linguistic person, the original sender makes use of that segment of the source language which he controls, and to the extent that he controls it at the moment of communication; a feedback mechanism links the original sender with his receivers (who may or may not, at that moment, include the translator and/or the ultimate receiver of the translated message) and he adjusts his expression to conform to his perception of the receiver's actual or imagined reaction to his message; the sender's message travels through the channel of communication and is affected by 'noise' in the channel; the translator receives the message as it managed to reach him and decodes it as his knowledge of the source language, source culture and extralinguistic content allow at the moment of communication; next, in the role of a sender, the translator establishes a new communicative relationship, choosing another, target, language for communication, which places a different expressive potential at his disposal for the expression of the received extralinguistic content; the translator is a particular linguistic person, speaker of the target language, and he uses the potential of that language in ways, and to the extent, that he controls it at that moment; he finds himself in a feedback relationship with the ultimate receivers and readily adjusts his expression in response to their actual or imagined reactions; the translated message travels to the ultimate receiver along a spatio-temporal channel of communication, in which it is exposed to the action of 'noise'; the ultimate receiver receives the message as it managed to reach him and decodes it, as a particular linguistic person of the target language, in ways that his knowledge of that language at that moment allows.

4. The foregoing description clearly reveals the deeply human relativity, in contrast to algorithmic absoluteness, of all communication – non-translational and (even more so) translational. Different languages are differently equipped for the expression of particular extralinguistic contents. The extralinguistic contents themselves differ between cultures. Different speakers of the same language are different linguistic persons, who control the same language in different ways; one and the same speaker is a different linguistic person at different points in time and in different communicative situations (depending on his changing linguistic and cultural experience and his psycho-physiological state at a given moment – whether he is relaxed, tense, tired, sober, inspired, etc.). This is true equally of the original sender, translator as receiver and sender, and ultimate receiver. The feedback mechanism is a constant feature of communication, regardless of whether it links the original sender and his receivers, including the translator as a receiver, or the translator as a sender and the ultimate receiver. ‘Noises’ in the channel are unavoidable and must be taken into account as an element of the communicative situation.

In view of the nature of the process of communication, including communication involving translation, it is obvious that just as there is no algorithm to convert the extralinguistic content uniquely into a particular linguistic expression within a single language, so there is no algorithm either that would uniquely translate a given linguistic expression of the extralinguistic content into a different linguistic expression in another language. Instead, in the true spirit of communion, the linguistic expression is shaped anew in each act of communication, depending on the workings of each of the ten elements of the communicative situation and all of them together. The same original sender will not express the same extralinguistic content identically in two languages, nor even in one language in two different communicative situations. Two translators will not understand the same message in the same way, nor will one and the same translator understand it identically at two different times. Different translators will translate the same message differently, and one and the same translator will translate it differently in different communicative situations.

It is precisely this organic link between the communicative situation and translation equivalence that makes translation possible. If the relation between the extralinguistic content and its linguistic expression were algorithmic, one-to-one, translation would be impossible. The necessary assumption is that what is translationally transmitted is the extralinguistic content, and that translation is not the replacement of the linguistic units of one language by corresponding linguistic units of another language (as claimed by Catford 1965:20) – in which case the translation algorithm would work well, but communication would not. Therefore, translation equivalence does not *exist* as something given in advance, outside the time and place of communication, just to be grasped with a proper algorithmic procedure; rather, equivalence is something that *evolves* again and again, in the (inter)action of all the factors of communication in each communicative act. That is why the task of translation theory is not to explain how the equivalence of two linguistic expressions can be established, but rather to describe and explain what people do (how they act, how they behave) in communicative situations which involve translation. Such a theory, a theory of human behaviour and activity, cannot be an algorithmic theory.

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## O NEALGORITAMSKOJ NARAVI TEORIJE PREVOĐENJA

Ovaj se članak bavi pitanjem prirode prijevodnoga procesa i nastoji dokazati da – s obzirom na elemente toga procesa i načine njihova uzajamnog djelovanja – teorija koja ga želi objasniti ne može biti algoritamska teorija. Ekvivalencija, kao cilj prevođenja i središnji pojam prijevodne teorije, nije zadana unaprijed, da bi je prevodilac 'otkrio' ili dosegao slijedeći određeni skup pravila, zadani slijed operacija ili propisani program, već ona nastaje u komunikacijskoj situaciji u kojoj svi elementi prijevodnoga procesa djeluju zajedno i pri tome utječu jedni na druge. U analizi prijevodnoga procesa valja uzeti u obzir sljedeće elemente: izvanjezični sadržaj koji se želi saopćiti, sustav izvornoga jezika, izvornoga govornika, prevodioca kao primaoca, sustav ciljnoga jezika, prevodioca kao odašiljaoca, komunikacijske kanale, mehanizam povratne sprege između odašiljaoca i primaoca, krajnjeg primaoca.

Budući da svaka promjena u bilo kojem od tih elemenata mijenja i proces i rezultat prevođenja, te budući da je broj mogućih promjena beskonačan, jasno je da teorija prevođenja, ma što ona bila, ne može biti algoritam. U članku se razmatraju neke implikacije te činjenice za teoriju prevođenja.