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ABSTRACT

Pedagogical implications of transfer of training theory and of an assumed universal grammar, as related to second language learning processes, are reviewed in this article. In recent years, the concept of a universal grammar has lost its credibility. The author urges, however, that grammar be conceived as a process or method of generating or transferring, rather than as a classification of items. He proposes that the relationship between knowledge of native grammar and success in foreign language learning will then become clear and that the fundamental unity of all the language arts will be reestablished. (PL)

SOME REFLECTIONS ON TRANSFER OF TRAINING IN FOREIGN LANGUAGE LEARNING

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On a beaucoup étudié la question du transfert des connaissances d'une langue étrangère à une deuxième, sans parvenir à des conclusions définitives. Il ne faut pas oublier que les processus de transfert fonctionnent également à l'intérieur d'une seule langue, maternelle ou étrangère, dans la création de nouvelles phrases *(secondary matter)* sur la base d'éléments et de phrases connues *(primary matter)*. Pour l'apprentissage d'une langue il est moins important de connaître la façon dont les éléments de base sont appris que la méthode qu'utilise l'étudiant pour "générer" de nouvelles phrases en transformant ces éléments de base. Il est probable que les bons étudiants de langues ont tendance à rester dans la langue à apprendre pour créer de nouvelles phrases et à éviter l'appel à la langue maternelle pour faciliter ce passage des "matières premières" aux "secondaires". Cette hypothèse trouve une confirmation dans la nature des tests d'aptitude réunis par Carroll et Sapon. L'ancienne idée d'une grammaire universelle est aujourd'hui discréditée sous sa forme originelle. Mais si on conçoit la grammaire non plus comme une sorte de taxonomie d'éléments mais comme une méthode dynamique de génération, autrement dit, un algorithme, elle conserve sa valeur de principe unificateur et de source féconde d'applications pédagogiques. Il est impossible, au stade scolaire, de prévoir quelle langue ou langues seront nécessaires à la carrière ultérieure de l'étudiant. Il importe donc d'utiliser la période d'étude scolaire des langues maternelle et étrangères pour doter l'étudiant d'une méthode générale pour apprendre les langues, en premier lieu pour créer de nouvelles phrases à partir d'éléments connus. Vérifier la possibilité d'un tel enseignement, c'est une des tâches les plus urgentes de la recherche actuelle.

Das Problem der Übertragung von Kenntnissen aus einer Sprache in eine andere ist häufig untersucht worden, definitive Ergebnisse wurden dabei nicht erzielt.

Man sollte nicht vergessen, daß der Prozeß des „Übertragens" innerhalb einer Sprache – gleich ob Muttersprache oder Fremdsprache – darin besteht, daß auf der Basis bekannter Ausdrücke und Redewendungen *(primary matter)* neue Sätze gebildet werden *(secondary matter)*. Um eine Sprache zu unterrichten, ist es weniger wichtig, die Methode zu kennen, nach der die Grundelemente gelernt werden. Vielmehr sollte man wissen, welcher Methoden der Schüler sich bedient, um die schon vorhandenen Grundelemente in neue Sätze umzuformen. Der Verfasser glaubt auf Grund seiner Erfahrungen, daß Schüler, die Fremdsprachen leicht lernen, beim „Übertragen" dazu neigen, den Prozeß der Substitution und Umformung *innerhalb* der zu erlernenden Fremdsprache zu vollziehen, d.h. dabei nicht den Umweg über die Muttersprache zu nehmen. Diese Hypothese findet eine Bestätigung in den Eignungstests von Carroll-Sapon. Substitution und Umformung im Sprachunterricht sollten demzufolge nicht dazu dienen, den Schüler zum Produzieren vieler Sätze zu bringen, sondern ihn dazu anregen, daß er neue Sätze aus schon bekannten Elementen bildet.

Lange Zeit basierte jeder Sprachunterricht auf der verhältnismäßig vagen Voraussetzung einer universellen Grammatik. Wenn wir heute Grammatik nicht mehr als Systematisierung sprachlicher Elemente auffassen, sondern als dynamisches System für Neubildungen, so wird sie ihren Wert als vereinheitlichendes Prinzip und ergiebige Quelle in der praktischen Pädagogik behalten. Von der Schule her gesehen ist es unmöglich, im voraus zu wissen, welche Sprache für die spätere Laufbahn eines Schülers wichtig sein wird. Daher ist es notwendig, den Schüler während seiner Schulzeit damit vertraut zu machen, wie überhaupt eine Sprache gelernt werden kann, so daß er im Fall einer späteren Notwendigkeit seine Kenntnisse von einer auf die andere Sprache übertragen kann. Die Möglichkeiten eines solchen Unterrichts zu untersuchen ist eine der wichtigsten Aufgaben der gegenwärtigen Forschung.

"Transfer of training" is central to the problem of foreign language learning in at least two essential respects: (1) traditionally the transfer-of-training controversy has concerned itself with whether learning one foreign language facilitates learning another. While the arguments and experimentation dealing with the problem have both been voluminous, the evidence for such transfer of training seems, at present at least, rather inconclusive [1]). (2) Perhaps even more important, transfer of training is also inevitably part of the language learning process itself. Since we do not learn all possible utterances in either our native language or the foreign one, speaking any language involves quite naturally some sort of transfer process—a methodology which allows us to "transfer" known elements of language from familiar situations to new situations or to create new utterances from familiar ones in new situations [2]). Whether we assume that this transfer is the result of certain elements common to the old and new situation (essentially the assumption made by Thorndyke and the behaviorists) or the result of insight into an essential principle which can be reapplied under different circumstances (the "transposition" assumption of Gestalt psychology) [3]) is not the essential question to be decided here. Regardless of whether we start with a behavioristic or a "Gestalt" assumption, transfer must occur.

To elucidate this proposition, we can go back to an important concept of language learning proposed by a great pioneer of modern language teaching, Harold E. Palmer, nearly fifty years ago: the distinction between "primary matter" and "secondary matter": "We may term *primary matter* all units learnt by

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[1]) This is at least the well considered judgment of John B. Carroll, "Research on Teaching Foreign Languages" in Nathaniel L. Gage, *Handbook of Research on Teaching,* Chicago, 1963.

[2]) Wilga M. Rivers, *The Psychologist and the Foreign-Language Teacher,* Chicago, 1964, pp. 48, 49, 126–129, *et passim* is to be thanked for stressing this point with great clarity.

[3]) Cf. Rivers, *op. cit.,* p. 48.

heart integrally, and *secondary matter* all units built or derived by the pupil from primary matter." [4]) Certain obvious but nevertheless vital conclusions follow from this simple distinction: (1) Since the learner of the foreign language must have certain elements of language at his disposal in order to "build" secondary matter, the question in foreign language learning is never *whether* the pupil should memorize, but only *what* and *how much*. (2) Since the amount of primary matter that can be learned is finite, and the possible amount of secondary matter is infinite, the question is never *whether* the pupil should acquire a method for creating his own utterances, but only *which method* he should acquire. (3) The distinction between primary matter and secondary matter seems to hold true in our native language as well as in a second language. The only differences between the two learning situations are (a) that the amount of "primary matter" learned in the native language is overwhelmingly larger than it is likely to be in the foreign language; and (b) that when it comes to converting primary matter into secondary matter in the foreign language, certain conversion processes which have been utilized in the native language may be applied. If the processes in the native and foreign language correspond, no harm is done. If they do not, then the learner makes a mistake because of "interference" coming from his native language. A native speaker of English who on the basis of his native language extrapolates *Charles est stupide* to *Charles est intelligent* is producing a correct utterance. If on the same basis he makes the statement *Charles est chaud* (namely "feeling hot"), he has made a mistake.

In foreign-language teaching methodology a great deal of attention is often paid to just how primary matter is learned or just how the meaning of primary matter is supplied to the student. Actually, these aspects of foreign language learning are comparatively unimportant. The all-important aspect is just how primary matter is converted into secondary matter—in other words, the processes utilized in the transfer from the old into the new. Here again, too much attention is being paid to the methods used in instruction and not enough to the methods used by the learner.

It matters little how the student is "taught" the foreign language; when it comes to the creation of new sentences, only two avenues are open to him: (1) he can "transfer" from the primary into the secondary realm through the medium of his native language or (2) he can choose a construction in the foreign language as his "base of operation". He can then make a new sentence either by substituting in the "primary" sentence, or he can "transform" the sentence and—in the parlance of the new transformational grammar [5])—"generate" a new

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[4]) Harold E. Palmer, *The Scientific Study and Teaching of Languages,* New York, 1917, p. 103.

[5]) See Emmon Bach, *An Introduction to Transformational Grammar,* New York, 1964, for a good presentation of transformational grammar, and especially p. 13 ff. for the notion of "generative" grammar.

construction. In any case he produces new "secondary" matter through some process of substitution, transformation, or their combination. The first approach, namely transfer through the native language, not only seems to take longer and is apt to break fluency but also offers a maximum opportunity of error through "negative" transfer whenever the transformation and substitution processes of the native language and the second language do not correspond. The second approach must somehow be identical with or at least related to the process by which we "generate" new secondary matter in our native language.

The hypothesis which I should like tentatively to advance, subject to further research and investigation, is that good language learners, regardless of how they are taught, tend to use the substitution and transformation processes—in other words, stay within the structure of the foreign language—whenever they produce secondary matter. At least that is my conclusion after asking many language students how they form sentences in the foreign language. It must be emphasized that this conclusion needs to be confirmed by precise research since statements of individuals about how they form sentences are often misleading. Thus, many successful language students stated they were "translating", but closer questioning showed that what they meant was that the lexical equivalent of their "base" sentence was suggested or supplied through their native language.

The apparent effectiveness of some of the new techniques of teaching which emphasize pattern practice—in other words, transformation and substitution types of exercises—is probably the result of the simple fact that with these techniques the pupil learns both "primary matter" (he memorizes "base" sentences) and at the same time a method for converting this primary matter into secondary matter, i.e. into sentences which he creates himself. Transformation and substitution are not primarily important as devices by which the student can be led to produce or learn additional primary matter. Some methods which emphasize these aspects of pattern practice having to do with "continued repetition" and "immediate confirmation of correct response" appear to make that mistake. The true importance of substitution and transformation is that they constitute the means for creating new sentences. As such, they presuppose an understanding of grammatical structure and an awareness by the student that they are two basic tools for creation in the foreign language (just as they are in his native language).

Confirmation of the hypothesis that successful language students operate with substitution and transformation procedures comes from what we know of foreign language aptitude. Thus at least one section of the Carrol-Sapon Modern Language Aptitude Test measures "sensitivity to grammatical structure"[6]) and consists almost entirely of items which test the student's ability to recognize which words in either a similar or "transformed" grammatical frame have the

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[6]) John B. Carroll and Stanley M. Sapon, *Modern Language Aptitude Test Manual,* New York, 1959, p. 3.

same grammatical function[7]). This test battery seems generally to reflect the assumptions made here about the nature of language learning. Tests I and V —on number learning and on remembering paired associates—stress aptitudes required for the acquisition of "primary matter", while the test of grammatical sensitivity corresponds, of course, to the "conversion" or "transfer ability" which underlies the creation of "secondary matter".

Carroll and Sapon state that it is not known to what extent scores on the "Word Sensitivity Test" reflect formal training in grammar [8]). The question is critical because it is another way of saying it is uncertain whether formal training in grammar increases the student s language aptitude.

We must therefore return to the other aspect of transfer of training alluded to in our initial statement—the facilitated learning of a second foreign language by prior learning of a first. In terms of this discussion, the problem can be paraphrased as that of learning for one language and then generalizing to others a method of creating secondary matter out of primary. In a sense we can understand why attempts to show that learning the grammar of one language facilitated learning another met with only qualified success. In these cases, grammar was taught in terms of assumed grammatical universals and of a nomenclature that the student was trained to pin to specific features of the linguistic structure. In addition, the teaching of grammar often went hand-in-hand with the so-called grammar and translation method, an approach which somehow trained even the able student to transfer through the medium of his native tongue.

We should start teaching grammar not with the labelling of linguistic units, but with the clear recognition that "grammar" is essentially the sum of those substitution and transformation procedures which (if I may wed old and new terms) "generate" "secondary matter" from "primary matter". The universality of grammar on which the unity of linguistic science and with it of language learning is based, is not one of categories but of method. Grammar is a universal method of "generating" speech, and this method of "generation" can be taught purposely and overtly, and can be transferred, one hopes, from one language to another.

What I am suggesting, then, is simply that the foreign-language student be taught substitution and transformation not as a way of getting him to produce more sentences, but as a method for him to generate new sentences from familiar ones. This shift of emphasis could be achieved not only by teaching substitution and transformation as devices for structual analysis, but by showing how they constitute a method of generating speech in situations which in some respect resemble the ones with which familiar speech patterns have already been associated. Thus a grammatical substitution exercise may take the form of changing a short conversation between, let us say, an officer and a

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[7]) Carroll and Sapon, *op. cit.*, Test Form A, Part IV.

[8]) Carroll and Sapon, *op. cit.*, p. 3.

soldier to one between a professor and his assistant or a teacher and his student. Or a series of statements expressing a strongly affirmative stand on a subject could be transformed into another series reflecting a doubtful or questioning attitude. To use Thorndyke's derivation of transfer from the partial identity of certain elements in the new and old situation, such exercises would make clear that partial similarity in the semantic realm is accompanied by partial similarity in the realm of structure, and that transformation and substitution are the devices by which the old and familiar is retained at the same time that the new and different is being created.

An interesting question arising from these suggestions is whether this methodology of transfer should necessarily constitute the initial phase of second-language learning. Certainly a good case can be made for teaching the *methodology* of transfer separately from the acquisition of primary matter and even from the learning of new grammatical structures. After all, it is generally easier to learn one thing at a time than several things simultaneously. In other words, transfer and substitution processes could be taught first in terms of the student's native language[9]), in the hope that the concepts once established could be transferred to the foreign-language learning.

For many centuries language teaching operated on the frequently vague assumption of a universal grammar. This assumption was the source of the assertion that one had to know the grammar of one's native language in order to learn the grammar of a foreign one. With the breakdown of the notion of universal grammar and with the rise of a concept of linguistic structure as a self-contained system, this assertion lost its axiomatic quality. Nonetheless, language teachers still feel there is some sort of truth to this assertion, and the inclusion of a "word sensitivity" test in a sophisticated Language Aptitude battery suggests that this feeling is more than just sentimental prejudice. If we conceive of grammar not as a classification of items but as a process or method of generating or transferring, then the relationship between knowledge of native grammar and success in foreign-language learning becomes clear, and the fundamental unity of all the language arts is re-established.

Millions are studying foreign languages in secondary schools and universities in the United States and throughout the world. The acquisition of skill in a foreign language no doubt opens up new points of view by giving direct insight into a foreign culture. Yet the vexing problem remains that for thousands and thousands, the language learned at school may well turn out not to be the language or languages required in later life. This is not a situation unique to language teaching. Mathematics, to pick one example, is developing so rapidly and with so many varied applications in different professions that it is becoming

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[9]) For English, Paul Roberts, *English Sentences,* New York, 1962, is a good example of a book which does teach substitution and transformation as a method of grammatical analysis within the native language.

increasingly impossible to predict the particular skills which the student may need in his future career. As a result, mathematics teaching more and more has recourse to an approach that emphasizes not particular skills but general concepts—those concepts that will facilitate the learning of skills as they become essential in future, unpredictable situations. Like the mathematicians, the linguist and language teacher must ask whether it is possible to teach languages (native or foreign) in such a way as to create concepts which can be transferred from one language-learning task to the next, and which, in situations of future need, will facilitate the acquisition of skills in new languages. This short paper suggests an affirmative answer. To confirm or disprove this answer experimentally is an imperative task of linguistic and pedagogical research.

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