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PROGRAMME

The Sixth Annual Conference of the Linguistic Circle of Manitoba and North Dakota was held in the Faculty Club of the University of Manitoba on Friday and Saturday, April 13 and 14, 1962. Immediately after registration, the members were welcomed to the University by President Hugh H. Saunderson, President of the University of Manitoba, who officially opened the Conference.

The Afternoon Session was chaired by Professor W. Morgan of the Department of German, University of North Dakota and Treasurer of the Circle. Three papers were presented: "The Stoics and Elements of Speech" by Professor B. L. Hijmans, Department of Classics, University of Manitoba; "Similes in Dante" by Professor L. Palanca, Department of Modern Languages, University of North Dakota; and "On Translating and Translations" by Professor K. W. Maurer, Department of German, University of Manitoba. Coffee and refreshments were served in the mid-afternoon and members had the opportunity to discuss the papers informally at this time.

Friday evening a dinner was held at the Cactus Room of the Pembina Hotel followed by appropriately brief and witty remarks by Professor George Brodersen, Assistant Dean of Arts and Science at the University of Manitoba. Immediately thereafter the members returned to the University for the Second Session, a Public Meeting chaired by Professor Charles N. Clark of the French Department of the University of Manitoba and at which the key-note address was delivered by Professor F. Y. St. Clair, of the Department of English of the University of North Dakota. The subject, "A transcendental view of language", transported the members into the world of Ralph Waldo Emerson. After the evening Meeting, Professor Robert Walters entertained the members at his home in the best tradition of the Circle.

The third and final Session Saturday morning under the chairmanship of Professor C. Meredith Jones of the Department of French of the University of Manitoba began with a paper on "Recent Developments in Machine Translation" by Professor L. Summers of the Department of Chemistry of the University of North Dakota. Then a slight innovation in programming was introduced in the form of a panel discussion on the topic "The Language Laboratory, Lure or Liability". The panel, chaired by Professor A. Hull of St. John's College was composed of Mr. R. Roy, Winnipeg City Schools, Professor J. Bosace, United College and

Miss G. H. McNeill, Brandon College and their spontaneous interchange as they recounted their own experience with Language "Labs" was of great interest to the meeting.

After refreshments the Annual Business Meeting was called to order and several matters of vital significance were discussed, namely the name and nature of the Circle, the frequency of meetings and annual dues. It was decided to broaden the Circle's activities and to include literary as well as linguistic studies and a committee, comprising Professors Jones, Rudnyckyj and St. Clair, was appointed by the President to devise a new name in keeping with the present aims of the Circle. It was decided that the Circle meet once a year, in the Spring, alternately in Grand Forks and in Winnipeg and that the annual dues be reduced correspondingly from Three Dollars ($3.00) to Two Dollars ($2.00). Professor Jones, reporting for the nominating committee, presented the following slate of candidates for office in the Circle: president, F. Y. St. Clair; vice president, Edmund G. Berry; secretary-treasurer, W. I. Morgan; editor of the Proceedings, Enid G. Marantz. This brought to an end a series of most successful and well-attended meetings.

THE STOICS AND THE ELEMENTS OF SPEECH

B. L. Hijmans Jr., Department of Classics, University of Manitoba

". . . ferit aurea sidera clamor" Vergil says (Aeneid II 488) and Servius comments: ferit clamor: secundum philosophos physicos, qui dicunt vocem corpus esse. This comment may not explain the poetry of the line, but it contains an interesting reference to linguistic studies. The philosophi physici are the Stoics. Vox is a translation of the Greek phone, which is defined by the Stoics (perhaps even Zeno) as follows: esti pneuma diateinon apo tou hegemonikou mechri pharuggos kai glottes kai ton oikeion organon. ('Phone' is breath reaching from the principal element of the soul to the pharynx and the tongue and the appropriate organs; SVF I p. 41, 6.) This definition appears in a context in which all the senses are called pneuma diateinon apo tou hegemonikou, a description which vouches for the Stoic character of the definition. In the definition the word phone means more than 'word' or 'speech', it means 'voice'. Calen, in fact made a sharp distinction between phone (voice), dialektos (articulated voice) and aude (speech): SVF II 44, 14 ff. This particular distinction may not be entirely Stoic, but that the latter School distinguished between articulate and inarticulate and again between meaningless and meaningful articulate is well attested, in particular in the important passage in Diogenes Laertius VII 55-60. In this passage Diog. L. gives an excerpt from Diocles of Magnesia's Epidrome ton philosophon (Compendium of the philosophers) which was written in the time of Cicero. Since our passage is in many respects a primary source for Stoic grammar we may say that our knowledge of Stoic grammatical terminology is largely third-hand. The passage contains the introduction to grammar: a more or less mixed bag of notions in a moderately rational order. Some of the terms derive from Aristotle, but, as Pohlenz has shown decisively, not the orderly treatment.

At the beginning of the passage our topic - grammar - is placed in the wider context of dialectic, which is defined by the Stoics as "the science of speaking well, speaking well being to say true and proper things" (SVF II p. 38, 12, Alex. in Arist. Top.) or as "the science dealing with truth, falsehood, and that which is neither true nor false" (Posidonius), or again as the science dealing with "signs and the things signified" (Diog. L. VII 62). Dialectic is a virtue embracing other virtues (Diog. L. VII 46), indispensable to the Wise Man, who is the true dialectician (Diog. L. VII 83). In the background one feels the Stoic insistence on the unity and goodness of

being - which at the same time is flexible and articulate. Being is rational. In the last resort it is reason itself. Therefore the Stoics insist both on the indispensability and the interdependence of each of Logic, Ethics and Physics. (If one knew how, it might not be a bad idea to re-introduce their attitude into our universities.)

The systematic study of language, then, is a compulsory part of Stoic education and even though later Stoic moralists give it rather less emphasis, it is never dropped. That in a very particular sense language is the creation and the representative of reason appears in the position the Stoics take in the Sophists' question whether the origin of language is phusei (by nature) or thesei (manmade). Against the Epicureans, who hold that the dividing line between humans and animals is not sharp, and that the cries of animals are to be regarded as the origin of speech, the Stoics maintain that only animals endowed with logos (reason) can speak. Therefore there was a time when the first human beings (rational animals) gave names to things. Cf. Sapir's emphasis on the cultural origin of language. However these first name-givers were aided by nature (Varro, De lingua latina VI 3: ea enim dux fuit ad vocabula imponenda homini); cf. Pohlenz, Die Stoa p. 40-41 and notes). The nature of each thing suggests a certain name. Nature made us imitators and so established similarities between the names and the things (Dionysius of Halicarnassus). Thus the Stoics actually find a compromise between phusei and thesei.

This, then, is the background against which terms such as lexis, logos, and dialektos are defined in our passage. And our attention is first drawn by the distinction between meaningless and meaningful sequences of sounds. But this is not the only distinction: another one is made between combinations which may have and those which actually have a meaning. If I pronounce 'thirteenth' just like that, the Stoics refuse to call it logos, if I say "Friday the thirteenth is an unlucky day", the word 'thirteenth' is logos, because my logos, my reason, however misguided, sends it forth. This, of course, is not merely pedantic: it is a way of saying that communication takes place not through words but through statements, which may consist of one word, as in interjections and the like. So a word according to the Stoics is an element of speech, but most of the time not speech properly speaking. On this realization the Stoics build their formal logic - which falls outside the scope of this paper.

With regard to the constituent parts of words, the stoicheia (elements), I confine myself to drawing attention to the fact that the Stoics do not mix up sound and symbol and that of the three different meanings of gramma (letter): sound (a), symbol (A) and name (Alpha), strictly speaking only sound can be regarded as an element of speech.

If one compares Aristotle, Poetics, ch. 20 with our Diog. passage, some significant differences appear. In Aristotle's list of mere tes lexeos (parts of diction): "the letter, the syllable, the conjunction, the article, the noun, the verb, the case and the speech" (tr. Bywater), neither our famous list of 'parts of speech' is achieved, nor are letter, syllable, case placed on a different footing from whole words. That was done by the Stoics, who also drew up an, as yet incomplete, list of parts of speech. Chrysippus and Diogenes of Babylon thus achieved a significant contribution to traditional grammar. But there are differences in the definition of some of the elements of the Aristotelian and Stoic lists as well, in particular in the definition of rhema, verb. For Aristotle a verb is 'a composite significant sound involving the idea of time'. In the Stoic definitions ("Verb is the part of speech signifying an isolated predicate according to Diogenes of Babylon, or, according to some, an undeclined element of speech signifying something that can be combined with some one or more subjects") time is absent. Apparently the Stoics did not immediately associate verbs with past, present, and future. The primary function of verbal expressions is to indicate whether an action is complete or incomplete with regard to its end (or conclusion) and whether it is determined or indetermined with regard to its beginning. Cf. Diog. L. VII 141, Pohlenz, Die Begründung der abendländischen Sprachlehre, Göttingen 1939, and Karl Barwick, Probleme der Stoischen Sprachlehre und Rhetorik, 1957 p. 51 ff. Have the Stoics introduced something into the Greek Verb that is not there? That seems the position of Pohlenz, who puts up a case for the Semitic origin of this approach. The proofs he gives are shaky, and he forgets, perhaps, that in fact the element of aspect in the Greek verb is very strong. As for the actual definitions in our passage: the first (isolated predicate) is a syntactical definition which proceeds from a sentence like 'Socrates writes', in which 'writes' is an isolated predicate. Cf. Diog. Laertius VII 63 where the theory of complete and incomplete lekta (statements) is expounded as an introduction to formal logic. The explanation of the second definition follows in 64: Apollodorus' definition of kategorema (predicate) "a thing associated with one or more subjects", shows that he is defining verb in a logical, rather than grammatical context. The word 'undeclined'

(aptoton) may give some difficulties if one remembers the Aristotelian use of the word. However, the Stoics confined their use of it to nouns. Apollodorus' definition, then, is rather negative: 'a verb is a thing, which, while not being a noun, is associated with one or more subjects'. Surprising after the much more positive definition in Plato Soph. 262 (verb is a word denoting an action -praxis-). Perhaps, though, the Stoics were careful on purpose, since they were aware of verbs active, verbs passive, intransitive verbs and reflexive verbs, examples of which Apollodorus gives ap. Diog. L. VII 64.

One more remark about the verb. We hear very little about the subjunctive and optative moods of the Greek verb. Pohlenz again suggests that this is due to the Semitic background. This does not explain the silence of their Greek followers on the point. I suggest as an alternative explanation that in formal logic, which deals with statements, these moods do not normally occur, and therefore may have had little interest for the Stoics. [1)]

With regard to the noun very little can be said that is new. The definition ('a part of speech that signifies a common quality') will again prove its usefulness in formal logic. It must be noted that adjectives are absent as a separate part of speech: in Greek, of course any adjective could become a noun by the simple addition of the article - which in Latin is unnecessary. Moreover it is inflected like the noun, and in formal logic there seems to be little difference between 'Sokrates esti agathos' (S. is good) and 'Sokrates esti anthropos' (S. is a man). The Stoics' real job of definition and name-giving has been done on the cases. Space forbids me to go into this subject here.

A really full commentary on the Diogenes Laertius passage would occupy a volume, which would contain an attempt at reconstruction of what must have been a fairly full treatment of the Greek language by the Stoics. The reason for this treatment has been given at the beginning of this paper: the Stoics built a system of a rational God, coextensive with a rational world, in which reasonable people (ought to) speak a rational language.

1) May one not turn the argument the other way and say that, if in fact Greek was a foreign language to the founders of the Stoa, they could be expected to pay even more attention to these moods? Pohlenz indeed uses the argument in this form to explain why so much emphasis was put on the flexion of the nouns.

SIMILES IN DANTE

L. Palanca, Department of Modern Languages, University of North Dakota

Dante, through his similes, reveals a keen fondness for nature and it is from the animal world that he takes material for most of his similes.

Birds are the animals preferred to describe the happy conditions of the souls in Paradise. It does not seem that he preferred a particular animal to suit the scenes of the *Purgatorio*; instead he chose the more appropriate mood of a number of animals to suit a purgatorial atmosphere. Coarse animals and their coarser habits are likened to the infernal souls and to their behavior.

Dante also makes large use of a well-studied onomatopeia to give appropriate tone to his pictures.

Thus the similes of Dante present three striking characteristics:

1. they deal mainly with animals
2. they are well suited to environment or atmosphere
3. they are carefully studied as to the sound of their words and lines (*terza rima*).

Habits of frogs and dogs are preferred to picture the behavior of souls suffering in Hell. The similes likening frogs to souls occur in *Inf*. 9.76; 22,25; 32,31, while dogs are compared to souls in 17,46; 6,28. However, distressed birds can be found describint the suffering of infernal souls, as in *Inf.* 5,40 sq. where wind-blown starlings and crying cranes are likened to souls of carnal sinners; and in *Inf.* 5,82sq. where the exceptional doves' simile occurs.

The purgatorial atmosphere and Dante's keeness of observation are well felt in similes dealing with ants in *Purg*. 26,31sq. young cranes *Purg*. 25,10sq.; 24,64sq.; 26,43sq.; goats in *Purg.* 27,76sq.; doves in *Purg*. 2,124sq.

Paradisiac scenes are compared almost exclusively to the ever-present birds and to their most lovely or human-like tenderness. Thus the similes found in *Par*. 18,73sq.; 20,73sq.; 23,1sq.; 25,19sq., all deal

with birds.

Through his keen observation concentrated mainly on the animal world and through his onomatopoeia Dante indeed sang what is true in nature.

ON TRANSLATING AND TRANSLATIONS

K.W. Maurer, Head of German Department, University of Manitoba.

> 'Savez-vous pourquoi Jérémie
> A tant pleuré pendant sa vie?
> C'est qu'en prophète il prévoyait
> Qu'un jour Lefranc le traduirait.'
>
> - Voltaire.

The art of translation has a long and fascinating history. It has played a great part in the foundation and development of every literature. Yet it is strange how little has been said and written on the influence of translations and translators upon thought and literature. Amongst them there are achievements so wonderful and imperishable that through them bridges have been constructed which connect us with one another.

The translation of poetry can be sharply divided into two schools which are complementary to each other, the poet's and the scholar's. I do not mean that there are no poets who are not scholars and no scholars who are not poets, but that one school is governed by the demands of poetry, while the other is governed by retrospective scholarship, the demands of research. Both are necessary to each other, for the one is there to supply the lack of the other.

As regards the respective merits of the two methods I hold a biased view, being more attached to poetry than to scholarship. I do not even think that the scholar's method is the more patient or industrious one, for the approach of scholarship appears to stop at the original poet's written text, but the translator should be concerned with the whole orbit of the poet's meaning and form; the written text is the track of a secret and more elaborate movement to which he must find the key. A translator, then, seeks the migration of the mysteries of language from one country to another, and he seeks an equivalent poem which will make use of every advantage offered by the other language.

I am sure that what Shelley in his "Defence of Poetry" called "The curse of Babel" can be a blessing. Shelley wrote: "Hence the vanity of translation; it were as wise to cast a violet into a crucible that you might discover the formal principle of its colour and odour, as seek to transfuse from one language into another the creations of a poet. The plant

must spring again from its seed, or it will bear no flower -- and this is the burthen of the curse of Babel". This judgment is, I think, true only of translations in which the poetic faculty has been sacrificed.

The stubborness of language in yielding its essences must never be forgotten, though Shelley seems to have forgotten it in writing about translation. There are as many pitfalls for the original poet as for the translator, and a poet may well find obstacles in his own language which must be overcome, for a clear articulation to emerge victorious over the forces of imprecision. In Shelley's own poetry one is not conscious of the same conflict with language that one finds in Donne or Yeats, and his poetry would be stronger if it were there. In the same way a good translation is likely to be a victory of the ear over a great many possible bad translations.

In some translations of poetry the idiom of the original poet is retained. In others the idiom is transfused in such a way that the idiom of the translator dominates the text. Does one read Pope's translation of Homer to read Homer or to read Pope? If there is a strong affinity of idioms between poet and translator a masterpiece may result, and such masterpieces belong to the category of creative poetry. An example of such miraculous grafting of one poet's idiom upon another's is found in Marlowe's translation of Ovid's "Amores" where the verse, while still holding the force of the Latin, carries the full glory and music of Marlowe's English.

Translation, then, has not only a utilitarian value, that of introducing masterpieces to those who do not know their language but a creative and aesthetic value too, which would be valid if the original did not exist. It is also one of the most nourishing arts, and one of the most valuable to learn. Eustache Deschamps called Chaucer

> 'Grant translateur, noble Geffroy Chaucier',

and Villon, a century later, was able to use Chaucer's material in his own verse because both were translators, both Europeans.

A critic of our time has said that every great age of poetry is also a great age of translation. This is very likely to be true. The Elizabethan age was certainly both, and it is no coincidence that the best German translation of Shakespeare came in the great era of German poetry, at the beginning of the nineteenth century, from Tieck and Schlegel. The recent renaissance of German poetry, too, was accompanied by Rilke's and

Stefan George's fine translations from French, Italian, Spanish and English, including a masterly version of the entire sequence of Shakespeare's Sonnets.

The Victorian age in England was not rich in translators, except Rossetti, who projected Dante faithfully in his own translator's idiom, in a series of Pre-Raphaelite pictures. Browning, who had scholarship, and a fine ear for his own poems, failed completely in his attempts to translate Greek tragedy. And Tennyson never even began. Yeats, on the other hand, twenty years ago, with no knowledge, or very little, of Greek, was able to translate Sophocles into language as moving as any that has been heard on the modern stage.

A translation should be fresh and vigorous; it should be alive. Great translations have been made by poets who were not scholars, by poets who did not even know the language from which they were translating; and scholars who understood all that they were reading have left translations that are pedantic and dull. It would be absurd to suggest that scholarship is a hindrance; the more scholarly a translator is, the better.

Often a poet may make use of a third language when he does not know the language of his original. I am told that Powys Mathers, who did not as far as I know write poetry of his own but who is certainly a poet in his translations, made all his translations from Eastern languages by means of French versions. It is possible for the original work, after suffering two sea-changes, to emerge more wonderful than ever, as though the third language by refraction had lent it a new iridescence; and the translation Mathers made of the Fifty Stanzas of Chauras, a first century Sanskrit poem, which in his English version he called "Black Marigolds", is a masterpiece in its own right.

It is a good rule for a translator of poetry that the shape of a leaf does not change if it is transplanted; and if his object is to reproduce an equivalent poem he should allow the form of the original to work upon him in such a way that the same form is reproduced in his translation. This is often very difficult, sometimes impossible. A language like Italian, for instance, so rich in rhyming feminine endings, lends itself to terza rima, but English does not; which explains why there will probably never be an English translation of the Divine Comedy which even approaches the compelling beauty of the original. Among short poems there are lucky in-

stances of a poem falling beautifully from one language into another, but there are few instances of a closely rhymed poem of short lines being perfectly rendered. The reason is obvious: the longer the lines are, the more alternatives of juxtaposition are presented to the translator, and he will be able to pick his most natural rhyme from these without having it forced upon him. Yet rhyme is the least of the difficulties. In translating from French, especially, the hardest thing is to reproduce the texture of the original. I should say that Villon presents his greatest difficulty in the words upon which he rhymes, usually uncompromising nouns, but that Verlaine has an almost irreproducible musical texture (only Dowson seems to have come near to it in English), while Mallarmé, whose fastidious love of language, finding words as though each were a diamond, gives his poems their incomparable detachment, almost defies translation altogether. Again, I have seen no English translation which reproduces the assonances of Spanish lyric poetry satisfactorily; and it seems that of all the major European languages German is the one best adapted to translation into English.

There are, of course, instances of very good translations where the translation has taken a new form, the form being dictated by the translator's own language. In such cases it is more likely that the compatriots of the translator will be satisfied with his work than the compatriots of the original poet.

In conclusion, then, we may say: Like all worthwhile things the translation of poetry presents a great many difficulties and certain forms and certain languages present more difficulties than others. A great unrhymed poem may often turn out to be more difficult than any because, like the words in Shakespeare's tragic speeches, each word has an unalterable value, an inevitability in relation to the whole passage. Yet, just as Shakespeare and Racine were both able to make the highest use of Greek tragedy, so great poetry will always bear fruit in other languages even if it does not always find the form of satisfying translation.

There remains the question of reduction or innovation if a literal translation cannot be achieved. It was Keats who said that "poetry should surprise by a sweet excess"; but a poet turning in his grave might find this particular excess a bitter thing. He would see something in the translation which was not in his original work. Does it matter? I do not think so, if it is something essential to the fulfilment of the translated poem, something he himself would have chosen. And if something is lost? That is

most serious; but it is better to lose a detail than to lose unity. The original poet is not infallible; surely his work might sometimes have been improved upon.

I quote a poem Goethe wrote in his seventy-ninth year to show that poets are not always dissatisfied with the work of translators.

EIN GLEICHNIS

Jüngst pflückt' ich einen Wiesenstrauss,
Trug ihn gedankenvoll nach Haus;
Da hatten von der warmen Hand
Die Kronen sich alle zur Erde gewandt.
Ich setzte sie in frisches Glas,
Und welch ein Wunder war mir das!
Die Köpfchen hoben sich empor,
Die Blätterstengel im grünen Flor;
Und allzusammen so gesund,
Als stünden sie noch auf Muttergrund.

So war mir's, als ich wundersam
Mein Lied in fremder Sprache vernahm.

A LIKENESS

I picked some flowers that I saw bloom
In a field, and thoughtfully carried them home;
But soon their heads, in the warm hand bound,
Had fallen, and limply hung to the ground.
I put them in water, in a fresh glass;
Next, what a miracle came to pass!
The little heads lifted up straightway,
And the stems of the leaves in green display;
And altogether so healthy and sound
As if they still stood on their mother-ground.

So did it seem to me when miracle-sprung
I heard my song in a foreign tongue.

A TRANSCENDENTAL VIEW OF LANGUAGE

F.Y. St. Clair, Chairman of The Department of English, University of North Dakota.

The relation of Ralph Waldo Emerson's linguistic theories to his theories of style, to his practice as a stylist, and to his essential philosophy has become manifest through studies published in the last forty years. Tonight's address, however, is the first endeavor to trace the origin and growth of his theory of language by examining the data in chronological sequence.

At school and at college Emerson studied foreign languages, ancient and modern: French, Latin, and Greek. At Harvard he also studied English grammar according to the rules formulated by the prescriptive grammarians of the eighteenth century, particularly by Robert Lowth, whose Short Introduction to English Grammar (1762) lays down the laws of grammar, pronounces judgment in cases of disputed usage, and extracts examples of "bad" English from the writings of distinguished authors.

Travel in Europe during the year 1833 compelled Emerson to recognize the difficulties of learning to use a foreign tongue in a foreign land, and his experiences with Italian in Italy and with French in France opened his eyes at last to the imperfection of all communication through language. In the later 1830's, while rebelling against the tyranny of prescriptive grammar, he became increasingly skeptical of the power of language to express reality, or even to describe external Nature. Many passages in his Journals agonize over the impossibility of conveying "the thing" through "the word." In the early 1840's, echoing Montaigne, he argued that street and farm talk, certain violations of grammatical rules, and even profanity and obscenity, may communicate feeling more effectively than does the stilted and prudish speech of the cultivated.

During those years, harsh personal experiences, especially the loss of his son Waldo, forced him to grapple more seriously than before with some basic problems: What is the nature of reality? How can we come to grips with it? How can we express it in words?

In 1843 he turned to Plato's Cratylus, the dialogue about language and reality, words and things. Socrates expresses there the belief that true language is created only upon the basis of an understanding of the

nature of reality and the nature of language. Only he who is equipped with this dual understanding can devise the proper words ("names") for things, places, and persons. Such a one Socrates calls "lawgiver," and by the lawgiver, he says, all real language is created.

The Cratylus provided the clue which finally enabled Emerson to escape his dilemma. Having rebelled against the prescriptive grammarians, he would not, of course, accept Socrates' linguistic dictator, but he found a highly suitable substitute. Working from an idea which he had expressed many years before in Nature, that language is but fossilized metaphor, he boldly asserts in his essay "The Poet" (1844) that the authentic maker of language, the finder of "true" names for things, is the Poet. Only the Poet, inspired by his study of Nature and gifted with the insight to penetrate the reality of which Nature is but "the flowing vest," can truly and effectively express that reality. Only the Poet can clothe the abstract idea in its appropriate natural symbol, and the symbol in the right word.

Since Emerson regarded himself primarily as a poet, the enthusiastic tone of "The Poet" is understandable. Not that Emerson was vain or egoistic; rather, his exalted conception of the poetic office caused him to rejoice on finding reason to deem that poetry is essentially philosophical in tendency and that it is the best medium for expressing philosophic thought. To the problem of "words and things" he had found an answer that satisfied him as a philosopher, as a Transcendentalist, as a poet -- and as Ralph Waldo Emerson. Having reached this point, he let the matter rest.

THE PRESENT STATUS OF MACHINE TRANSLATION RESEARCH

Lawrence Summers, Department of Chemistry, University of North Dakota.

An electronic digital computer is a device whose function is to convert a given sequence of symbols, called the "input", into another sequence of symbols, the "output". This conversion is done in accordance with an algorithm, which is a set of instructions for operations to be performed on the input. These instructions must be such that their implementation depends on nothing external to the algorithm itself, and they must give a unique output for a given input. Conceptually the computer consists just of the algorithm (physically it consists of electronic hardware which can be set to represent any algorithm, but this is not of present interest). The algorithms are constructed by people, for the purpose of making the output correspond to the input according to some correspondence criterion. The computer knows nothing of this criterion; presumably the people are clear as to what it is.

Translation is a process during which a given sequence of symbols is converted into another sequence of symbols. Since this is exactly what a computer does, it was suggested, about 1950, that a computer might do translation. To demonstrate that this is a possibility, it is necessary to show that the algorithms can be constructed. Research in machine translation, therefore, consists basically of linguistic studies of the possibility that algorithms can be written for converting a text in one language into a text into another.

Most of the heat which is sometimes generated in discussions of machine translation centers around the question of the correspondence criterion (above). Those who regard machine translation as a priori impossible usually mean that no algorithm can meet their criterion for translation. But machine translation has not been promoted as a means for translating literary writing, such as poetry, into another language. It has been envisioned as a possible means of making available translations, perhaps unpolished, of scientific and technological publications which would otherwise remain untranslated because of the large volume of such material which is published. That Pushkin can be translated into a satisfactory English version by means of an algorithm may well be doubted, because the criterion for "satisfactory" includes such complex literary, esthetic, cultural, and other components. But surely the criteria are somewhat different for translation of a Russian paper on "Acid-Catalyzed Hydrolysis of Carboxylic Acid

Esters", and perhaps these criteria can be met.

Machine translation research is being conducted in about fifteen countries. Most of the effort has been devoted to translation between Russian or English and the language of the country in question. In some of the larger countries a much broader spectrum of languages is being considered. The present status of the work is, essentially, that existing linguistic knowledge has been "programmed" for computers, and the research has reached the frontier at which the pre-existing results of structural linguistics have been exhausted. Structural linguistics has been very successful in dealing with phonology (which is not directly concerned in translation, since "translation" refers to written texts) and morphology, and has had considerable success in the description of syntax. The early years of machine translation research were devoted to programming for computers the morphology and syntax of major languages. This has largely been done -- in different ways by different linguists, as was inevitable. In addition, as the research expanded, lexicographical problems increased so greatly that active machine translation research centers found it necessary to devote much of their effort and personnel to problems of building machine dictionaries. The linguist or language student tends to begin thinking about translation at the point where all such work has been done, since he has already been "programmed", over many years, on the morphology and syntax of his languages, and has printed dictionaries already available. But all this had to be done in a form usable by computers.

The area of language into which structural linguistics has made almost no advance is semantics or "semology". At present, correspondingly, machine translation research seems to have paused here. Further advance in machine translation will depend on further advance by linguists, since the computer can do only what a linguist can tell it how to do. That is, research in machine translation is research in language, not in electronics. Machine translation is still in a research state, and many problems remain unsolved, particularly semantic problems. But these appear to be fascinating problems. And the fact that problems are incompletely solved, and may not prove to be completely soluble, has not ordinarily been regarded by scholars as a valid reason to stop trying.

RESUME OF PANEL DISCUSSION:
"THE LANGUAGE LABORATORY: LURE OR LIABILITY?"

Participants: Dr. Alexander Hull, St. John's College, Chairman. Prof. G. H. MacNeill, Brandon College. Prof. John Bosace, United College. Mr. Robert R. Roy, Winnipeg Schools.

Professor MacNeill reported on the success of the laboratory installed during the year 1960-61, and used on a full scale for the first time during 1961-62 at Brandon College. It is located in the library building, and students at all levels were encouraged to use its facilities, although not required to do so. Tapes were made specially for the first and second year courses, to accompany the text materials; many plays and poetry readings were available for advanced students; a conversation course, prepared by Dr. Hull, was used to supplement these tapes.

The high-fidelity Ampex machines, which allow the student to record his voice also if he wishes to do so, have proven very satisfactory. Professor MacNeill pointed out the necessity of having good, sturdy equipment with great fidelity if the students are to hear sound distinctions properly. Student assistants were used to run the machinery, and to help the students using the laboratory, and one of these proved to be a great help in motivating students, since she was full of enthusiasm. The problem of motivating the students is the hardest one, and the personal touch of someone interested in the students' particular problems is much superior to a situation in which the student is working entirely on his own. Professor MacNeill felt that the laboratory did a great deal for those students who worked in it regularly -- mainly the better ones -- and was particularly useful in improving their ability to hear and understand the spoken language. Many students who would be greatly helped by the use of the laboratory, however, did not attend it regularly, either from lack of general motivation or unawareness of the help it could offer. The laboratory was also used, with greater success, in teacher-training courses.

Professor Bosace and Dr. Hull both agreed that at the level of the university it would be difficult to require students to attend a language laboratory. Many do not need this type of work as much, and it is useful primarily as a means to make up deficiencies either in hearing ability or in basic grammatical patterns, which can be most efficiently mastered from the oral point of view. It would be desirable, however, if a language laboratory course coordinated with the regular course could be

worked out -- and, most important of all, the students' marks must reflect to a greater extent than at present the work done in the laboratory. Failing this, motivation among most students will remain weak, and they will not take advantage of the facilities of the laboratories available to them to the degree that would be desirable.

Professor Bosace then reported on the laboratory installed at United College in the fall of 1961 as a pilot project. There the students were taught how to use the equipment by themselves. No permanent laboratory attendant was on duty. An instructor showed the students for the first few days how to operate the machinery, and how to respond to the tapes, which consisted mainly of pattern practices for mastery of basic sentence structures, including transformations, substitutions, and translations. After the first few days, the students (who had their library card stamped) used the laboratory on their own, picking up tapes from the library.

It was found that students learned rapidly how to operate the machinery. However, only a minority of students did well in the taped exercises. The majority were either very poor or nearly hopeless, since they had not yet mastered the essential sound distinctions of the language, and were unable to understand the most basic grammatical patterns unless they had the written word before them. Each tape, lasting 10 minutes, presented a structure treated in the textbook lesson for the week. However, it was found nearly impossible to make adequate tapes following a textbook in which the order of the lessons was not adapted to the structural approach.

In spite of these difficulties, the laboratory proved to be invaluable for those students who used it regularly for several times a week. Evidence of students' marks, especially on the April dictation, backs this statement up. The laboratory did not, however, succeed in motivating poor students. Special classes, with the instructor present, are far better for this. Again the need for human communication was emphasized, when the essential problem is one of motivation. Professor Bosace also stressed again that if the laboratory is to be really successful, its use must be made mandatory for the students, preferably by including on final examinations an oral part which will constitute an important percentage of the final mark. The language laboratory at United College will continue its operation. It has also been used by the English department, with many English plays recorded from disks to tape.

Mr. Roy discussed the laboratory installed in the fall of 1961 at Churchill High School in Winnipeg. He is most enthusiastic about the results obtained at this level, and is confident that the language laboratory program will be expanded in the future in Winnipeg schools. He read excerpts from compositions written by students at Churchill in April, 1962, in which a great many reasons for liking the laboratory work were brought out -- freedom from embarrassment, the possibility of every student working at the same time, individual guidance, opportunity to apply rules of grammar with correct answers supplied immediately, thus reinforcing their comprehension, and so on.

The laboratory at Churchill High School has 40 positions, all audio-active (students hear own voices through earphones), and four audio-active-comparative (students record own voices, listen back and compare their pronunciation with the correct one). The teacher console has seven program sources, which may be fed to any position. All students may be monitored or recorded without interfering with the others.

Most tapes used in the Churchill laboratory are prepared by the staff. Mr. Roy emphasized particularly the desirability of the teachers preparing their own materials, rather than using only ready-made tapes. In the first place, this is necessary if the taped course is to be coordinated with the regular course, and the needs of the students at the particular school are to be met. But equally important is the sense of participation that the teacher feels. Laboratory work cannot succeed unless the teachers as well as the students are enthusiastic about it.

At Churchill, there are 1450 students in grades 7 to 12. Twelve hundred and sixty of these take French. They are scheduled for a 45-minute period in the lab. with their teacher of French once every six class days. This represents half-time for grade 7 students, or about one-sixth of the class time for grade XII students. Some provision is made for extra drill. Each lesson on tape (which does not exceed 20 minutes) includes the following exercises: a) A one-minute comprehension exercise based on the class work being done and repeated three times at varying rates; b) The same exercise spaced for practice in intonation, rhythm, liaison, linking, pronunciation, etc.; c) A phonological exercise based on one sound production problem; d) Pattern drills covering the main difficulties of the current lesson; 3) A dictation. There is time for two such tapes in a class period and time for a break with a few songs.

Mr. Roy emphasized the following points:

There must be variety in a taped lesson.

Language labs. demand much preparation time from the teacher and constant effort from the student. The work can be exhausting for both.

Home-made tapes tend to be more satisfactory.

Language labs. are of doubtful value for poor teachers.

Language labs. provide drill that only a private tutor could give otherwise.

The laboratory at Churchill has been deemed sufficiently successful to warrant the setting-up of others in the system at the rate of at least one a year. A five-year programme of evaluation has been organized.

All members of the panel seemed in general agreement about certain points. First, the need for a great deal of time and effort on the part of the teacher in charge of lab. work, and indeed all teachers involved in the course. The laboratory, far from easing the teacher's job, not to say "replacing" him, makes his work much more demanding -- and more satisfying in the long run.

Second, the earlier laboratory work is started the better. The problems encountered at the university level can be traced mainly to the fact that the student there has already acquired a fixed pattern of study, which does not include the laboratory approach, and he often is unable to start laboratory work at university at a level sufficiently high to be useful to him in connection with the university course.

Third, the need for some kind of direct connection between the work done by the student in the laboratory and his marks. If it is agreed that it is desirable for the student to learn to speak and understand the language he is studying as well as to read and write it, he should be marked for this. Ideally, the students' marks should reflect a considerable percentage for oral work at the earlier stages, this diminishing as his work proceeds. Only in this way can his initial enthusiasm be maintained over the many years he will study the language. It was generally agreed that before long any school which wishes to teach language will find itself obliged to include some type of laboratory in which the students can practice their oral work and their basic grammatical patterns.