The "output" or results of foreign language study should provide the individual with the ability to communicate in another language and to gain cultural, aesthetic, and philosophical insight into the civilization of the language being studied. In order to achieve successful "output" the actual "input" into language instruction must be all inclusive. This means that language instruction must aim at total comparisons of the sound systems (including the stress, juncture, and intonation patterns), the writing systems, the grammars, the lexicons, and the cultures of both the native and target languages. Successful output also depends on our ability to produce adequately prepared teachers, well-motivated students, good program articulation, proper audiovisual aids, and clearly defined program goals. (SS)
The Mysterious Black Box
or A Case for Reexamination of Input

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Although it may not be readily apparent, these remarks center around the problem of communication. Let me try to communicate with you by quoting three sentences:

(1) "Take the first crossing which is paved and go north."
(2) "The sons raise meat."; and
(3) "He has a feebly growing down on his throat."

Perhaps the first, or the second, or even all three of these sentences did not communicate to you what I intended them to say. For example, with the first sentence: did you pass several crossings before you found one that was paved, at which point you went north? Or, perhaps the very first crossing was a paved crossing and it was at that point you went north. In the second sentence: did you feel that the male offspring of someone were in the meat business? Or did you get the idea that I was making an observation about the nature of the rays of the sun? And in the third sentence: did you perhaps ask yourself what a "feebly" was? Maybe this sentence would have made more sense—that is, communicated more adequately—if I had used the word "mole" or "wart"? Or, was I perhaps talking about an adolescent male whose whiskers are not only in the "down stage," but also growing in a very feeble manner?

Obviously English has devices to resolve these ambiguities. For example, in reference to the matter of which road to take, I could say the following:
"Take the first crossing which is paved—→ and go north." or "Take the first crossing # which is paved # and go north."

The meaning of each should now be quite clear and unambiguous. Or, in the case of the second sentence, I could say:

(2a) "The sons—→ raise meat."; or
(2b) "The sun's rays—→ meet."

And in the case of the third sentence perhaps I should have said

(3a) "He has a feebly growing down—→ on his throat." instead of
(3b) "He has a feebly \ down on his throat."

These sentences serve only to stress the importance of not only the linear segmentals, but also of the suprasegmentals (stress, juncture and intonation patterns) in the matter of communication. That is to say, to communicate effectively we need the total system.

Not too many years ago, a well-known American linguist, William G. Moulton of Princeton University, presented to a lay audience a lecture for the purpose of trying to clarify the nature of linguistics and to describe a few features of language and communication. (I believe these remarks in somewhat different form are contained in a brochure put out under the sponsorship of the MLA.) The desire for lucidness induced Moulton to propose the existence of the little black box; at one end of this box was a particular input and at the opposite end a particular output. From our examples given above, Person A wished to convey to Person B how the latter was to get to a certain place. If A utilized the little black box properly, B received the correct information. If A bungled the utilization of the box, B naturally went astray. Thus, the input is related to the output by the little black box and its "mysterious mechanism."
In another essay entitled "Linguistics" (NEA Journal, January, 1967), Moulton describes schematically the basic steps or events in communication which are essentially equivalent to the totality of input, black box, and output. Semantic encoding, the first step, is more or less equivalent to input; the next nine events or steps—grammatical encoding, phonological encoding, transmission from the brain to the speech organs into sound waves to the ear to the brain of the hearer for phonological decoding and grammatical decoding—describe the purpose and function of the black box; and semantic decoding, the eleventh step, is essentially comparable to output.

It is not my purpose to elaborate on the specific steps involved in communicating a message from A to B. Rather my intention today, during this tenth anniversary celebration of the national calamity caused by the non-linguistic orbiting of sputnik, is to place our black box in the limelight. I urge you to take note that I use Moulton's concept of the black box not only as a mechanical device, but also in part in a symbolic manner—namely, to express the idea: "as a means to an end." Now, what does sputnik have to do with the black box? Among other things, sputnik acted as a "super lubricant," as a catalyst, as a grand "sugar daddy," causing our black box and all that it stands for to assume enormous proportions and vast importance.

Prior to sputnik the professional language teacher—you—had been trying for countless years to generate wide-spread acceptance of foreign language learning. You, the language teacher, had acted in a sense as a partial poltergeist: truly banging around, but unfortunately unheard, and in part, unseen. You claimed that there were reasons, many reasons, for human beings to study and to learn and to teach others that particular
manifestation of human activity known as language. The linguistic ravages of two world wars pushed you and your kind into a remote nook. Why learn a foreign language when everybody else learns English? (Although—in passing it should be noted—many Americans are accused of not having done so.) In the pre-sputnik era the idea that language study could lead to an understanding of behavior, of a culture—which is indeed a reality in a non-sanforized globe—was hogwash. But sputnik put you and your goals, in a manner of speaking, on the hydraulic lift and up you soared.

As sputnik roared through space, congressmen and educators buzzed through Washington. With considerable commotion and a sense of American catch-up-itis the National Defense Education Act came into being, co-birthing the delightful phrase: critical language. Language instruction suddenly became vital to national survival, a notion which, with some optimism, we may extend to mean preservation of culture. The day of the New Key dawned bright and with vigor. Old techniques of language instruction were refined, new ones created, modern materials were produced, etc. We were feeding the little black box as never before.

Thus, the little black box, a mechanical device, stood and stands in the service of communication, dependent on such things as sounds, grammar, systems, etc. In the pre-sputnik era the little black box was the unsung means of human interaction. In contrast, in the post-sputnik era it became the new hero of the day!

As we have said, at the one end of the black box is input. What is input? Input is, from one point of view, whatever there is to talk about, that is, the cultural totality. In this connection the following quotations may be of interest (from a document entitled "Guiding Principles for the Foreign Language Curriculum").
"Foreign language study, classical or modern, has a unique contribution to make to a student's understanding of the world, past and present, and to a greater appreciation of his own language. It alone provides the opportunity for him to experience directly a different culture through the system of spoken and written symbols which that civilization has adopted. Through a foreign language the student becomes aware of another people's way of thinking and feeling and of a different approach to dealing with the every-day realities of life."

"The purposes for foreign language study include cultural, aesthetic, philosophical, and vocational objectives, all of which derive from the basic fact of human existence that, because of language diversity, direct communication is impossible between a majority of the world's nations. Since no country has demonstrated a willingness to abandon the mother tongue, surely the responsibility for bridging this gap in communications falls equally upon each nation!"

Here, then, are arguments for output. If accepted, we must cast a long, careful look at both input and black box operation in order to effect maximally perfect output, literally and figuratively. Robert Lado pointed out some time ago in his book Linguistics Across Cultures that for best results in language instruction one needs to proceed on the basis of a total comparison: a comparison of two sound systems, two grammars, two lexicons, two writing systems, and two cultures. Such comparisons are a reasonable point of departure in understanding the problems of input, in developing materials, etc.

In the area of phonology, students may have great difficulty in distinguishing certain sounds, or given intonations may offer obstacles. For example, in the Hawaii Curriculum Center Professor Gerald Dykstra has
developed techniques to teach pupils to distinguish between certain sounds, such as between /o/ and /ɔ/, as in the words **sewing** and **sawing**. A pupil who does not or cannot make this distinction in English is very apt to have some difficulty in making it in a foreign language. One must, however, know why the pupil is unable to make the distinction in order to correct the problem. The volumes dealing with phonology in the University of Chicago Press contrastive structure series recognize in a general way the difficulties. To a certain extent adaptation to local problems is left up to the reader.

The following is in effect a case history of grammatical collision. The scene takes place in a school room in New York City. It is morning. The teacher, standing before the class, notices that Blossom's brother is not present. She asks Blossom: "Where is your brother?" Blossom responds: "He sick." "No, no," says the teacher, "you mean, he is sick." "No, ma'am," says Blossom, "he sick." And around and around they go. Why? Blossom does not understand the teacher's correction because in Blossom's dialect—or version of English—the present tense of the verb to be is not expressed. If a form of the verb to be, mostly be itself is used, the meaning is future. Thus, when the teacher says: "He is sick," Blossom interprets this as a variation of "He be sick," which means that maybe tonight her brother will eat something that disagrees with him and by tomorrow he will be sick. Blossom had intended to get across the idea that her brother is home sick at the moment. Again the contrastive grammar volumes are useful, but need to be extended to take local or regional variants into consideration.

To learn a vocabulary item is one thing, to know its meaning is something else again. During the reign of Khruschev, one of our
illustrious statesmen, whose name I now forget, traveled to Moscow for a conference. Upon his return home he disclosed through the medium of the press that he had made a startling discovery. The Russian word for freedom does not mean the same as the English word.

Obviously a word such as freedom can only be properly interpreted by having reference to historical, political, cultural background. Such a word is open to a large variety of interpretations within a single culture, to say nothing of different cultures. Freedom to the pilgrim meant one thing, yet something quite different to the then King of England. Nowadays it is often tantamount to rioting or taking the law into one's own hands.

I shall bypass writing problems and turn now to culture, more specifically as a background and influence on language. By this I mean I wish to range beyond matters of social status or prestige, which, for example, in certain areas of Germany can be measured in terms of the size of the manure pile outside the kitchen window.

Why is it, for example, that an Arab and an American, both speaking English, may still be quite wary, even suspicious of one another in spite of their ability to speak the same language? The answer lies in a particular behavior pattern. You, the American, decide to speak to this Arab, in spite of the recent war. Thus, you come up to him and take a stance. You commence your conversation with him, only to discover shortly that you cannot keep your mind on what you are saying. You have suddenly gotten a very uncomfortable feeling. It runs through your mind that you may be dealing with some sort of a nut or a very dangerous criminal. Why this reaction? There you stood, seventeen (or more) inches from the Arab, the prescribed distance for friendly discourse in your culture. The Arab,
however, feels that such a distance is wrong inasmuch as his culture
demands a distance of only eleven inches. Thus he keeps coming closer
to you. The closer he comes the more you want to back away from him.
Observe the net result of your conversation about peace and prosperity,
mutual trust and understanding. You think he may be dangerous. What is
he thinking? He is saying to himself: I know what this American is saying,
but I neither believe nor trust him. He stands too far from me, therefore
he is a suspicious character. An old adage immediately springs to mind:
actions speak louder than words.

The conclusion to this is obvious. Our input must be total input.
It is not enough to teach vowels and consonants, grammar, etc. For
example, as we feed the components of friend into our box, we must feed
all pertinent information, because a friend in English can range anywhere
from a bosom-buddy to a mere acquaintance; this is impossible in German.

The post-sputnik literature in the various journals, such as the
Modern Language Journal, has dwelt to varying degrees of length with the
problems and obstacles involved in the New Key and related methods. I
can recommend reading the issues of the past few years as often enlightening
and even thought provoking. But theory and experiments elsewhere need to
be related to the professional person's local situation. If one lifts the
corner of one's own rug, among the sweepings one might find, among other
things: 1) lack of internal and externally imposed student motivation,
2) a fading of the earlier sense of urgency, 3) possibly a bi- or tri-level
system of public education in which each level is suspicious or jealous of
the other, owing perhaps in part to a lack of inter- and/or intra-communica-
tion, coupled with externally imposed barriers, 4) poorly equipped adjuncts
such as visual and audio teaching aids, 5) perhaps some insufficiently
trained teachers or teachers who are forced to teach out of their field, 6) perhaps a lack of a clearly defined sense of direction and weak goal emphasis, 7) late-start-itis: the university level instead of high school, or high school instead of the elementary schools, etc.

The State of Hawaii is linguistically and culturally a "natural" for a strong language program at all levels. Obstacles to a full-fledged, effective, vital language program may be met not only in the lack of high level supervision and direction, but also in aspiring for the most perfect of all possible programs.

I hope 1) that ways will be found to use teachers solely in the area for which they were prepared, 2) that in cooperation with the University we might work out means to improve the teachers' confidence and competence, 3) that, given a level-approach rather than a grade-approach, we can design means to evaluate progress and level assignment, 4) that some genius can work out satisfactorily the economics of the level-approach, 5) that all teachers will attempt to adjust, and adapt, if necessary, mainland materials to the peculiar or particular island situation, 6) that we might consider pooling our resources for the benefit of all, and 7) that all teachers of language will join this Association so that the latter can become a representative and meaningful voice in exerting pressure for the improvement of language programs.

Notes:

Example 1 was taken from A. A. Hill, "The Promises and Limitations of the Newest Type of Grammatical Analysis," Lectures in Memory of Louise Taft Semple, Cincinnati, 1966, p. 21.

Example 3 was taken from Charles F. Hockett, A Course in Modern Linguistics, New York, 1958, p. 40.