AMERICAN SCIENTISTS AND
ENGINEERS AND TECHNICAL
ASSISTANCE PROGRAMS

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the definition of project personnel and native counterparts, or the receptivity of the host government. Those with a more theoretical bent may call particular attention to the economic, political, or socio-psychological development of the host society.

Our own concern, in the research herein reported, has been quite narrowly limited. We have addressed ourselves almost exclusively to the question of how adequately American personnel operating overseas have been prepared for their experience. (Since, however, that experience is most complex, involving new professional, organizational, political and sociocultural environments, the question is not so simple as it might first appear.) Moreover, our work has been frankly exploratory, designed not to propose "answers" to the problems we raise so much as to propose, refine, and recast a number of hypotheses which appear to offer useful starting points for more elaborate investigations yet to be undertaken.

The basic data input in our work has been a series of interviews with a relatively modest number of veterans of technical assistance programs. Because the number of interviewees was small, and because, in reconstructing the experiences of such people through interviews with them, we were necessarily limited by their own biases and perceptions, neither the results we report nor the conclusions we imply can be taken, in any sense, as definitive. To these limitations must be added the fact that our interviewees do not, in any way, constitute a representative sample of

the relevant universe. Drawn exclusively from the Cambridge area, they are largely members of what might be termed an "assistance elite". The projects in which they were involved were quite probably both more meaningful and better managed than is usual in the world of technical assistance.

Nevertheless, our explorations have served their primary purpose. That purpose was to clarify the distinction between the formal training relevant to overseas work and the more general personality orientations which, according to much informed opinion, constitute the most critical factor in overseas performance. That neither of these is the only variable which accounts for success or failure abroad is perfectly clear. Yet it is equally clear that both are necessary conditions for success. Moreover, the substantial outpouring of criticism that has been directed at the overseas American suggests that they may be particularly vulnerable conditions. While our data cast light on other aspects of the general problem, as well, it is to these that they are primarily relevant.

As indicated somewhat later in this report, the single most interesting, and presumably most important, observation that is suggested by our data is that there are great differences, both in background and in perception of overseas performance, between non-engineers and engineers. The data are, however, silent as to the genesis of these differences or as to the impact of background upon performance. Especially

as such distinctions between professional groups in general, and between engineers and others in particular, are the subjects of numerous stereotypes, whose relatioship to the real world is open to serious question, it would be both unfair and unwise to read more into the data than is explicitly found there. Indeed, although much of our effort has been devoted to reasoning through several alternative theoretical explanations of the data, some of which may be intellectually more plausible than others, the data themselves do not offer sufficient grounds for prefering one to another.

What follows, then, is a statement of some theoretical problems involved in conceptualizing the problem; a description of our approach to the research, both intellectual and methodological; a summary of some of the more interesting data collected; a discussion of the possible interpretations of the data; and, finally, some brief suggestions regarding future research.

The Problem

We have already noted that our conception of the problem to be investigated was rather sharply delimited. It was, nevertheless, attended by substantial definitional complexity and conceptual ambiguity. Thus, for example, the very phrasing of the question "How, if at all, can the training and recruitment

of personnel for technical assistance programs be improved?"
rests on the misleading assumption that these matters can be
fruitfully considered separately from the substantive projects
for which they are required. The implication is that there
exists a static relationship, in which more or less well-quali-
fied participants become involved in more or less well-run
projects. The more likely case, however, is that there is no
such thing as a well-qualified participant in the abstract,
but only with respect to a given project.

If we do attempt to assess competence with respect to
given projects rather than in abstract terms, we are forced
to ask whether the success or failure of a project may not
be a function of "fit" rather than of "pure" competence.
The problem which we face, in other words, is not necessarily
that personnel are inadequately trained, professionally or
personally, but that they are poorly allocated. In one set-
ting, it may be crucial to have people with positive orien-
tations towards public relations, with high sensitivity to
the nuances of the host culture; in another, strict adherence
to professional standards and a disregard for the job of
"winning friends" may be more appropriate. Which combina-
tions of technical skill and personality predispositions are
most functional in any given setting depends, of course, on
how the specific project is defined.

Yet the definition of a project is still more complex than the definition of competence. In our own early thinking on these issues, we assumed a relatively fixed set of competencies, ranging from the narrowly professional to broader, personality oriented variables, such as adaptiveness, change orientation, cosmopolitanism, and the like, all these engaged in a determinable organizational environment and a determinate set of tasks. In elaborating this simple model, adding variables of hypothesized importance, we were troubled by the apparent fact that we lacked a dependent variable. We seemed instead to be dealing with a highly expandable list of independent and intervening variables leading everywhere and nowhere.

The obvious answer was to use the quality of overseas performance as the dependent variable. But how do we measure that quality? The problem is not only that "objective" appraisals are expensive and difficult to obtain, requiring, as it were, on-site inspection. More troublesome is the fact that for most projects, either a precise statement of goals or precise measures of achievement (or both) are lacking. But without them, the notion of successful performances is virtually useless. There are, of course, some reasonably straightforward programs (e.g., building a bridge or inoculating a population), but these are somewhat less interesting as objects of study, and even they include secondary goals frequently

unstated in the official prospectus and unmeasurable by conventional criteria. In the case of "institution-building" programs, typically involving the teaching of new skills (not necessarily technical), or in examining long-term research programs, the problem is still more difficult.

One response is to ask the participants. But which of the participants should be asked, and how much credence given their reports? American personnel may confuse good public relations with meaningful contribution, or demonstrable short-term results with fundamental change. The hosts may be enthusiastic over relatively superficial innovations, or reject as failures threatening recommendations. It is not simply that the self-interest of the participant makes his own definition of success or failure suspect, although that in itself poses a serious problem; more important still is that we simply do not have a ready set of evaluative criteria. And this problem touches the "objective" observer as much as it does the participant.

This does not mean, of course, that projects cannot be evaluated. It does mean that their evaluation is quite a complex task, and far beyond the scope of the present research. Indeed, the discovery of some efficient means of evaluation is quite probably sufficiently difficult to warrant a substantially separate research program devoted exclusively to that task.

It means also that a simplistic model of linear relation-
ships, set of competencies flowing directly into project
settings, will not do. While we do not yet know what makes
a man able to do a given job well--presumably, some appropriate
mix of personality, general background, specific competence,
and motivation--whatever the actual components that prove re-
levant, we ought not to assume that any one mix will prove
universally relevant, or, for that matter, that it will even
consist always and everywhere of the same components. Thus
knowledge of the host language, or innovativeness, or exper-
tise may be useful in some settings, irrelevant in others,
dysfunctional in still others.

These general conceptual problems set the outer limits
on what we have been able to do. More constricting limits
still were provided by the purpose of our research endeavor,
which was, as noted earlier, exclusively exploratory, and by
the strategies best suited to that purpose. No pretense is
made here that the problem of personnel competence has been
comprehensively investigated, let alone "solved." Our inten-
tion was simply to probe here and there, in an attempt to
define what might be fruitful areas, both substantive and
methodological, for more substantial investigations in the
future, and to derive a number of hypotheses which seemed to
offer reasonably promising starting points for more ambitious
endeavors. No statistical tests of significance have been

applied to our findings, nor would it have been appropriate
to do so.   Indeed, we should prefer to think in terms of
"suggestions" rather than "findings".   Yet, lest this caveat
be taken too seriously,it is also worth noting that the results
do point in fairly clear directions, and are offered without
apology.   Less than conclusive, they are more than intuitive.

The Method

The tactical assumption which guided our work was that
one could learn something of the problems of personnel in
technical assistance programs from people who had participated
in those programs.   A retrieval study of this kind automati-
cally limits the reliability of the information obtained,
because memories are faulty, egos are weak, and perspectives
are narrow.   At the same time, it is an exceedingly efficient
place from which to begin one's serach, since it is so much
less costly than field work at project sites.   Nor is the in-
formation obtained, as we shall see, without value.

It was, therefore, to a group of scientists and engineers
in the Greater Boston area, all of whom had had some appro-
priate overseas involvement, that our questionnaire was
administered.[1] That questionnaire was developed in terms of
our own early conceptualization of the problem.[2] Simply stated,
we were interested in determining what factors might be rele-
vant to the perception of success or failure in his task by

[1.] For a list of respondents, by place of employment, nature and
site of overseas assignment, see Appendix I.

[2.] The questionnaire is reproduced in Appendix II.

the overseas worker. Because of the limits of the scope of
our research, we were not able to go beyond individual per-
ceptions, or to match perceptions against some independent
assessment of success. Instead, we took as our starting point
an individual with three relevant characteristics--per-
sonality, cultural background, and professional ability and
experience.

With respect to personality, we were interested in such
(overlapping) variables as adaptiveness and rigidity, cosmo-
politanism and localism, neophilia and neophobia. (These some-
times fuzzy concepts were later to be replaced by a dichotemy
whose components we have called "structophilia" and "structo-
phobia", of which more later.)

Cultural background refers to a more diffuse set of varia-
bles, including mass media consumption habits, social science
background, and knowledge of various aspects of the host
culture.

Professional ability and experience, largely self-explana-
tory, includes also prior experience, either in this country
or abroad, in a consulting capacity.

A second class of information had to do with the project
itself. What were its goals, how was it organized, by whom
was it sponsored, where was it located? This class was then
broadened to include information on the respondent's interac-
tion with the project: How was he recruited? What were his

specific assignments? How specific were they, and how use-
ful did he think they were? What non-professional demands
were made of him, explicitly or implicitly? What was his re-
lationship to the sponsoring agency, to native project per-
sonnel, and to the host culture generally? How does he him-
self evaluate the success of the project, and according
to what criteria? How does he evaluate his own perfor-
mance?

The assumption, of course, is that there is some correla-
tion between responses to the first class of data, dealing with
the respondent himself, and the second, dealing with the respon-
dent in the context of his overseas assignment. (We have al-
ready pointed out some of the difficulties involved here, not
the least of which is the lack of an independent measure of
the accuracy of responses regarding the respondent in the pro-
ject. A brief example will illustrate this point: Suppose
that we are interested in the variable "job ambiguity", on
the grounds that certain kinds of people will be unable to
operate efficiently in poorly structured situation. We
hypothesize that there is a correlation between the personality
variable "structophobia vs. structophilia" and ability to
operate in ambigious settings. /It does not matter, in this
illustration, whether the hypothesis is reasonable or not.7

Now we are confronted with the problem that a person who cannot operate efficiently in an unstructured situation may well proceed to reduce its threatening character by imposing on it a structure of his own. His structuring may be highly "inaccurate" if measured against the goals of the project planners, but that does not matter to him, since these goals are, by definition, unclear. Further, given his structuring of the situation, he may perceive himself, and even the project, as having been successful, when it was in fact a massive failure. At the same time, the structophile, who is most comfortable in relatively unstructured situations, will be more apt to report ambiguities, presumably somewhat more successful in adapting his own behavior to project require- ments, and therefore more frequently successful in such settings. Yet, because of his own perception of ambiguity, he may also be somewhat more hesitant about calling his own work, or the project as a whole, successful.

The original instrument included an adaptation of Milton Rokeach's rigidity test[3], but it soon became apparent that the informality of the interview setting, in which respon- dents were drawn out and frequently treated as informants rather than interviewees, made it uncomfortable to administer so formal a set of questions. What we have learned of per- sonality correlates of overseas performance, therefore, comes

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[3] See Milton Rokeach, The Open & Closed Mind (New York: Basic Books, 1961).

out of other, less structured questions, and is based as much on inference as on firm evidence.

Data

The 65 respondents to whom the interview schedule was administered are marked by their diversity. They include 29 from various departments at M.I.T., 17 from Harvard (primarily the School of Public Health), 10 from the Arthur D. Little Company, whose major overseas involvement is in management consulting, and nine from Stone and Webster, Inc., engaged in large-scale engineering projects abroad. The primary principle employed in the selection of these people was the availability and their diversity, rather than an attempt at a statistically representative group. The extent of the diversity among them may be seen in the following summary:

AGE:
      Thirty-two per cent were under 35.
      Twenty-five per cent were between 35 and 49.
      Thrity-one per cent were over 50.*

RANK:
      Fourteen per cent were low-ranked in their profession.
      Twenty per cent were middle-ranked.
      Thirty per cent were high-ranked.

PRIOR FOREIGN TRAVEL:

      Fifty-nine per cent had travelled abroad before, and 33
        per cent has travelled in a professional capacity.
      Thirty-two per cent had never travelled abroad before.

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* Where totals add to less than one hundred per cent, the remainder consists of residual categories and/or N.A.'s

SOCIAL SCIENCE BACKGROUND:
>Forty-four per cent had some background in the social sciences.
>Forty per cent had no social science background.

CONSULTING EXPERIENCE:
>Forty-eight per cent had some consulting experience.
>Forty-two per cent had no consulting experience.

PRIOR CONTACT WITH THE HOST COUNTRY:
>Forty-eight per cent had some prior contact with the host country, either through earlier visits, acquaintance with natives, research, etc.
>Forty per cent had no prior contact with the host country.

OVERSEAS ASSIGNMENT**
>Twenty per cent worked as top managers.
>Thirty-four per cent worked at middle managements levels.
>Thirty-four per cent worked as technicians, with no policy responsibilities at all.
>Eight per cent were consultants to foreign governments or companies.

Similarly, there was great variance in both the nature of the overseas projects in which respondents were involved, as well as in their reactions to the overseas experience. The projects were located in twenty-seven different countries, ranging from Yugoslavia to Uganda, from Trinidad to Turkey, and they included, among others, a study on obesity for the World Health Organization, an evaluation of an edible oil industry to determine whether it was a reasonable prospect for foreign investment, organizing a crystallography section in a local physics laboratory, supervising the construction of a transmission line across the Bosporus, research on epidemic typhus, and establishing field accounting procedures on a construction job.

** Where respondents had had several overseas assignments, it was the most recent which formed the basis for the interview.

Only twelve per cent of the respondents knew the language
of the host country, but only an equal number were bothered by
their lack of language skill. The rest found that English,
and possibly a smattering of the native tongue, were sufficient.
Twenty-eight per cent had very little contact with Americans
while abroad; twenty-nine per cent spent most of their time
with their compatriots. Thirty-five per cent spent most of
their free time in essentially private activities--photography,
sight-seeing, reading, and the like, thirteen per cent spent
most of it with other Americans, and twenty-one per cent mostly
with host country natives. Over a third had virtually no
contact with the indigenous population except through the
project itself.

Prior to their departure, over a third of the respondents
had a clear conception of what their assignment was to entail,
but twenty-one per cent were uncertain. (For most of the
rest, the question was irrelevant, usually because the assign-
ment was inherently unclear.) Slightly over half felt no
sense of discomfort during the initial period abroad, but forty
per cent did have adjustment problems.

At the same time, certain questions elicited a substantial
consensus. Thus three-fourths of all respondents enjoy foreign
travel, and the rest do not object to it; eighty-three per cent

enjoyed the non-professional aspects of their tour of duty;
sixty-five per cent felt that their work had been successful
and only eighteen per cent were unsure of its success or felt
that it had failed. On two questions dealing with non-pro-
fessional requirements for successful work overseas, the
one answer most frequently given was some version of empathy--
knowing how to get along with other people, understanding
foreign cultures, and such.

In general, the marginal results point to a picture of high
self-satisfaction, few problems of adjustment, either to the
host culture or to the new job, few perceived difficulties or
tensions. It is almost as if we were dealing with a different
world from that which has constituted the basis for much of
the concern with technical assistance programs in the past.
Gone were the frustrations, the self-doubts, the antagonisms,
the general malaise. In their stead was a series of almost
shockingly sanguine judgments--no need to learn the language,
English is enough--no trouble with the hosts, they understood
and cooperated--no problem with housing, health, living condi-
tions generally--no problems in understanding what the job
was about, or why it was needed-- no difficulties in getting
the job done. Here and there, this near euphoric portrait
was pocked by mild disclaimer, but even the disclaimers dis-
played none of the real aggravation we had expected to find.

Our expectations seemed so well-founded that we were reluctant to discard them and to accept at face value the radically different impression our data evoked. Moreover, the number of ways in which that impression could be explained without doing violence to the prevailing consensus of experts in the field was large indeed. One obvious possibility was that we had not asked the right questions, had not probed deeply enough. Another was the possibility that the elite status of our Cambridge-based respondents made them unrepresentative of the universe of personnel or experience in technical assistance programs. Nor could we omit the possibility that there was a systematic distortion of the facts, either conscious or unconscious, in order to gloss over unpleasant realitites or unpalatable memories.

None of these possibilites, however, could be rejected on the basis of the data themselves. The one avenue open to us was to explore more carefully the material already gathered, in the hope that there might be some systematic differences among our respondents. Perhaps academicians differed from those who work for private businesses, or young people from old, or engineers from scientists. Each of these, and several other principles of differentiation, were used to organize the data. By far the most fruitful, as well as the most satisfactory from a theoretical standpoint, was the distinction

between academic non-engineers, academic engineers, and non-academicians (primarily engineers). Some of the differences among these three groups are quite substantial; others are merely suggestive. But all point in quite the same direction.

From Table 1, we see that these three groups differ with respect to their evaluation of job success, the amount of interaction with their hosts and with Americans, their assessment of their job as clear or unclear, and in their identification of major organizational differences between home and overseas environments. One further caveat must be entered here: The number of academic engineers is quite small. It includes ten respondents, but, since not all respondents answered all questions, the percentage figures are sometimes based on as few as five. Where less than five answered a particular question, the actual number, presented in brackets, replaces the percentage. The other two groups are larger: the N for academic non-engineers between 34 and 16, with most of the percentages based on an N of about 25; the N for non-academicians ranges between 12 and 24, with most percentages based on an N of about 20.

These differences may easily be explained on the basis of the different kinds of overseas environments in which each group operated. We know, for example, that most of the academic non-engineers (58%) were not part of any organized group effort, but functioned as individual experts. Hence it is

Table 1

	Academic Non-Engineers	Academic Engineers	Non-Academic
Job Clarity			
Clear	16%	50%	81%
Unclear	36	33	14
Irrelevant	48	17	5
Major Organizational Differences			
No major differences	31	13	62
More bureaucratic abroad	56	75	--
Lack of resources abroad	13	13	39
Contact with Americans			
Most free with Americans	38	71	67
Some or litte free time with Americans	62	29	33
Experience of Discomforts During Adjustment Period			
Yes	31	67	52
No	69	33	48
Competence of Local Personnel			
High	32	14	59
Medium	37	29	29
Low	32	57	12
Desired Host Response			
Wanted to be liked	60	(1)	29
Wanted to be respected	40	(3)	71
Evaluation of Job			
Successful	73	63	90
Unsuccessful, doubtful	27	38	10

not surprising that they had less contact with other Americans

than did the non-academicians, almost all of whom were involved

in team efforts. Nor, for the same reason, is it surprising

that the non-academicians claim that their jobs were more clearly

defined. It is perfectly plausible that the chief source of

the differences reported in Table 1 is a differences in the real

world, and not in perceptions or reactions to that world.

It is, however, also true that differences of other kinds

exists among the three groups, differences which suggest that

it is not only the external environment which varies from group

to group, but also the kind of preparation, both specific and

general, which each brings to its task. Data which illustrate

this point are presented in Table 2. Thus the groups read

different newspapers, have different attitudes towards the

social sciences, prepare for foreign travel in a different

manner, and have different attitudes towards foreign travel.

There are two ways in which the differences observed in

Table 2 may be related to those noted in Table 1. The first

holds that there is no distortion in reporting the overseas

experience, but rather that different "kinds" of people become

involved in different "kinds" of experiences. Without, for

the moment, labelling these "kinds", it is consistent with

the data to hold that people who tend to read only local news-

papers, who tend to have little social science background and

place a low value on the social sciences, who have not tra-

velled abroad, and so on, usually become involved in overseas

Table 2

	Academic Non-Engineers	Academic Engineers	Non-Academic
Newspapers			
Cosmopolitan (e.g., N.Y. Times, Christian Science Monitor	88%	100%	39%
Local Only	12	--	61
Attitude Towards Social Science			
Positive	63	43	22
Negative	37	57	78
Preparation for Assignment			
Culture oriented	68	50	38
Job or personal oriented	32	50	63
Prior Foreign Travel			
Yes	88	22	29
No	12	78	72
Attitude Towards Foreign Travel*			
Cosmopolitan	81	67	56
Local	19	33	45
Social Science Background			
Much	26	--	17
Little	74	100	83

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* In coding responses to the question asking why the respondent enjoyed foreign travel, those answers which stressed "breaks in routine" or other tourist-type factors were classified as "local", while those which emphasized the cultural benefits were classified as "cosmopolitan."

assignments which are clearly structured and more bureaucra-
tically organized, and which therefore have less ambigouus
criteria of success. They also experience greater discomfort
in adjusting to the new environment, and, both in order to
lessen the discomfort and because the organizational structure
allows it, their primary social contact is with other Americans.

In this view, there operates a kind of invisible hand, which
moves people with certain personal predelictions to select
careers whose requirements are consonant with those preferences.
The basic distinguishing predeliction may well be tolerance
of ambiguity, or, somewhat more generally, one's response to
the relative structure of an organizational environment.
Those who feel most comfortable in the face of a highly struc-
tured, unambiguous set of demands seek out careers which ful-
fill their personal requirements, as do those who prefer more
loosely structured, more ambigious environments. We have
called the two types "structophiles" and "structophobes."

The data contain several indications, apart from those
already in evidence, that this conceptualization in terms of
response to structure may, indeed, be a useful way to dis-
tinguish between kinds of people and between kinds of tasks.
Thus, for example, in answers to the several questions dealing
with initial reactions to the host country, two different
styles were apparent. Where some people stressed highly per-
sonal reactions (bad food, poor housing, good weather), others

typically chose more sociologically-oriented categories of description (the state of the economy, the rate of illiteracy). The "personalizers" tend to be those who viewed there assignments as most clear, the "generalizers" those who perceived a great deal of ambiguity in assignment. In other words, structophiles are also personalizers, while structophobes are generalizers.

The distinction between structophobe and structophile, at first glance, seems to follow the same lines as that between academicians and non-academicians.Yet it is in this context that the small group of academic engineers is richly suggestive. For the patterns of this group are quite different from those of either the academic non-engineers or the non-academicians. In some respects, they resemble the one, while in other respects, they look more like the other. While we fully recognize the dangers of extrapolating from such a small number of people, it is possible that because their own position is somewhere between tne academic world and the world of the engineer that those who straddle both experience the greatest discomfort in adjusting to the foreign environment and report the lowest rate of success in their overseas mission.

The implications of this type of analysis are rather peculiar, since what we have said suggests that all's well with the world, with each personality type operating in an environment congenial to itself. What value then, has further training, the

widening of intellectual and cultural horizons, the sensitizing
to foreign cultures? The world outside and the world inside
are in happy consonance, and well enough is best left alone.

Yet we are once more confronted by the mass of expert evi-
dence which contends that the world of technical assistance is
one of radical disorder, of missed opportunities, mounting
frustrations, and a low sense by those who participate in it,
that their efforts are efficacious. Moreover, the "invisible
hand" theory does not in itself explain why the two basic
groups should differ with respect to job success. If we pro-
pose to accept the data at face value, does this mean that
the structophobe is really less successful than the structophile?
Perhaps the answer lies in the clarity with which success may
be evaluated, thereby placing the structophobe in an environment
in which it is less certain just what success means. But it
is also possible that a very different kind of explanation can
be proferred, one which preserved the interesting distinction
between structophobe and structophile while, at the same time,
maintaining some contact with the expert judgments in the field.

That explanation would return to our earlier observation
that those for whom low ambiguity is important might be likely
to perceive less ambiguity, in order to reduce the threat to
their own stability. In this view, the difference is not so
much in the real world as in the manner in which the real
world is perceived. There is little question that our two

basic groups differ substantially in what they bring to the foreign setting, as expressed in Table 2. It is most certainly plausible that these differences themselves lead to the differences in Table 1, not because the actual situations were so different but because of the responses to those situations. Such a style of explanation is, further, consistent with what we know about dissonance reduction, selective perception, and perceptual distortion.

Our evidence is insufficient to choose between these two explanations, each of which points in a very different direction with respect to policy. But follow-up discussions with a number of our respondents, as well as lengthy discussion of the two theories with several people who have substantial experience in technical assistance programs, weigh heavily in in favor of the second. On the basis of these discussions, there is little doubt that the reason that perceptions of the foreign experience differ so greatly is that those with relatively narrow backgrounds and with a low tolerance of ambiguity were limited in the sensitivity with which they responded to the overseas environment. But is is quite clear that further research is indicated, in order that the choice between these two competing explanations may be based on something more than the agreement of wise men.

Since this entire discussion has bearing on policy in the training and recruitment of personnel for overseas assignments, it may be well to note that there is one dimension which has played no part at all in our work in this area, but which is highly relevant to policy-making. Quite apart from the skill with which the job itself gets done, we might wish that those who go abroad to work in technical assistance programs are as sensitized as possible to their environment. Such sensitivity may not have much impact on the project itself, although there is reason to believe it would. But it assuredly affects the value of the total experience for those who participate in it, and hence also the net impact of cumulative foreign experience in the United States itself. No endeavor so comprehensive or so ambitious as the American effort in technical assistance need limit itself to the immediately observable and directly measureable achievement of its stated goals. There are always secondary payoffs, and it is here that an increased sensitivity to foreign cultures may make the greatest difference.[4]

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[4] Yet even here, if the "invisible hand" theory is correct, it may be risky or even impossible, to try to heighten sensitivity. Impossible, because the personality correlates of sensitivity are deeply rooted. Risky, because it may be that some jobs are best done by people with limited perspectives.
Again, further research is required.

Conclusion

Some directions for further research on the problems discussed here are obvious. Thus, for example, it would clearly be useful to devise a more discriminating interview schedule, and to administer it systematically to people in several different foreign settings. So, too, interviews with relevant people before, during, and after their participation in overseas work would certainly be helpful, as would obtaining an independent assessment of their work from projects supervisors, colleagues, and host nationals. Case studies of selected projects would be a meaningful adjunct to survey research.

But two cautionary observations may be made. First, whatever the research strategies employed, maximum efficiency may be achieved only by limiting the scope of the questions whose answers we seek. Whether the appropriate central question is the choice between the two explanations of our data proposed above, or some other not considered here, matters less than graduation from the loose-knit framework of exploratory research into a far more selective attack on the problem. Second, survey research is only one of the available research techniques. It should not be the only one used, since asking people questions is not necessarily, and certainly not always, the best way of getting answers to the questions we ask ourselves.

Consideration might well be given the utility of gaming, which has the virtue of being appropriate both to research and to training. As a research technique, it would involve selecting groups of people who have either been abroad or who are the kinds of people who are typically sent abroad, administering to them a background questionnaire, including relevant personality items, and then observing their behavior as they take assigned parts in a game whose scenario would duplicate some typical assistance program setting. Through careful varying of poayers, roles, and settings, it may be possible to solve one of the central difficulties which impedes research progress here. That difficulty is that so many variables need to be considered that field research can never quite get around the _ceteris paribus_ problem. Other things are never equal, or even nearly equal, in comparing two different projects. But they may be manipulated into an approximation of equality in the more antiseptic atmosphere of the laboratory.

So, too, it seems clear to us that more systematic methods of information retrieval might be standardized among the various agencies and organizations which sponsor much overseas work. In AID, the problem of valid and useful debriefing has yet to be solved. In other agencies, its solution has yet to be attempted. Nor has there been any

effort to cumulate the vast range of experiences among different agencies, to make it possible to add the wisdom of returnees from AID projects in Pakistan to that of A.D. Little returnees from Egypt to that of Ford Foundation returnees from India.

We have been struck, in the course of our work, by the apparent failure of project planners to make use of presently available expert opinion regarding personnel recruitment and training. Somewhat diffidently, we would suggest that the collective widsom generated by research reports such as this, by those yet to come, and by veterans of the technical assistance program ought to be incorporated, on an experimental basis, into the project planning process. It is, after all, the best that is available, however deficient it remains. And its conscious utilization would make possible more refined and more definitive testing of some of our assumptions than would any other method. But to that end, channels of communication between scholar and planner would have to be much more energetically and systematically cultivated.

Finally, we must raise the possibility that if future research indicates that the overseas American is deficient in those personal skills which will enable him to use his professional training to best advantage, then we are forced to raise serious questions about his domestic performance as well.The structo-phobe-structo-phile dichotemy does not begin to be relevant at the water's

edge, nor is there any reason to suppose that the overseas incompetent becomes completely effective upon his return home. There are differences, of course, but we must face the possibility that the kinds of problems discussed here have serious, if more diffuse, effects on the quality of job performance in the United States itself.

We raise this issue not only because it magnifies substantially the importance of research in this area, but also because it opens up to us the possibility of using extant materials on domestic performance to further our understanding of performance abroad. In order to exploit that possibility, however, more considered attention needs to be given to the similarities and differences between the two. Does the high mobility of American professionals involve them in the same kinds of problems that overseas work generates? Is the structophobe-structophile dichotemy useful in the American context? In answering questions of this kind, we immensely broaden the substantive scope of our research, though the theoretical scope remains the same. We also open up what is surely the most exciting avenue for future research.

APPENDIX I

Respon-dent	Source*	Profession	Country	Project
01	MIT-SIM	Management	Nigeria	Work with Rockefeller Brothers Fund re feasibility of foreign investment
02	MIT-SIM	Management	Uganda	1) Work in Uganda Development Corp. 2) Teaching
03	MIT-Science	Meteorology	Mexico	Lecture in a Government ministry
04	MIT-SIM	Personnel Management	India	Ford consultant to see about feasibility of "Sloan type" middle management program
05	MIT-SIM	Businessman,	Turkey	Visit Middle East Technical University (METU)
06	MIT-SIM	Metabolic	Trinidad	Do WHO survey on obesity
07	MIT-Econ.	Economist	India	Head of CIS in Delhi
08	Harvard Bus. School MIT-SIM	International transportation	Kenya	Survey of role of African businessmen in life of country (commercial)
09	MIT-Science	Internal medicine	Pakistan	In charge of group of Pakistani medical men on joint US-Pakistan survey of health and nutrition of Pakistan army
10	MIT-Econ.	Economist	India	CIS
11	ADL	Food processing	Greece	Evaluate and appraise the edible oil industry re opportunities for foreign capital investment
12	ADL	Industrial development,project direction	Iraq	Recommend to Iraqi government the development of certain industries

*SIM-School of Industrial Management; ADL-Arthur D. Little; SPH-School of Public Health; S-W-Stone and Webster.

**CIS-M.I.T. Center for International Studies

Respondent	Source	Profession	Country	Project
13	ADL	Management, economic development	Egypt	Feasibility studies re capital investment in port industries
14	ADL	Management services	Peru	Identify potential business opportunities in fabricated metal industries re economic viability
15	MIT-Science	Crystallography	Chile	Get physics lab going on crystallography
16	ADL	Agriculturist	Phillippines	Assist in establishing agricultural credit and marketing association
17	ADL	Economist Economic development	Nigeria	In charge of team-general
18	MIT-SIM	Chemical engineer	Iraq	Set up chemical industry as part of industrial development
19	MIT-SIM	Development & manufacturing of new products (Polaroid)	Nigeria	Assistant Secretary, Minister of Economic Planning, Government Northern Nigeria; matching external aid to economic needs of the country
20	U.S. Rubber	Latex hemistry	Malaya	1) Run research lab 2) Manage factory
21	Harvard-SPH	Nutritional biochemistry	Thailand	Lab biochemist on U.S. government survey
22	S-W	Chemical Division-Project Engineer	Japan	General supervision of Japanese engineers and draftsmen on completed designs
23	S-W	Construction	Turkey	Supervision of transmission line across the Bosporus and substations
24	S-W	Electrical engineer	Jamaica	Convert consumer electrical equipment from 40 cycles to 50 cycles
25	S-W	Power plant engineer	Brazil	Appraise electrical properties (entire systems) in Rio and Sao Paulo

Respon-dent	Source	Profession	Country	Project
26	Harvard-SPH	Physiology of nutrition	Ghana	Advise Mr.Nkrumah on all programs of nutrition, health
27	ADL	Chemical industry-industrial economics	Peru	Analyze opportunities in chemical industry, incl. fertilizers
28	ADL	Chemical engineering	Egypt	Phase II: detailed feasibility studies of government industries judged possible in Phase I
29	S-W	Electrical engineer; power generation	Korea	Rehabilitation of Chang Pyong Dam and powerhouse
30	ADL	Investment analysis	Greece	Determine investment opportunities in food processing industry
31	S-W	Senior mechanical engineer-steam power	Pakistan	1) Appraise Pakistan construction firm re joint project 2) Size up projected power station for bid
32	MIT-SIM Harvard Center for ME Studies	Management-business Turkey	Turkey, etc.	General
33	MIT-Science	Nutrition	Central America	Establish INCAP:Institute of Nutrition for Central America & Panama
34	S-W	Senior Project Engineer, petro-chemical plants	Japan	Start up plant
35	S-W	Field accounting on construction projects	Brazil	Establish field accounting procedures on construction job
36	S-W	Engineer-power plant design	Brazil	Start up units 3 and 4 of Piratigua Power Plants, Sao Paulo Light

Respon-dent	Source	Profession	Country	Project
37	Harvard-SPH	Microbiology	Yugoslavia	Research on epidemic typhus
38	MIT-SIM	Management	Tanganyika	Assistant Secretary in Dept. of Treasury; establish agency to deal with external aid to Tanganyikan government
39	MIT-Eng.	Chemical	India	Determine feasibility of private Indian institute of technology
40				
41	Harv-MIT Joint Center Urban Studies	Urban design	Venezuela	Urban designer on physical planning staff of the Guayana Project
42	Harvard	Research Asst. (Nigeria Pr.)	Ghana	Lecturer in economics at Univ. of Ghana Lagon (Accra)
43	MIT	City planning	India	Survey and draw plan for new seaport and town for government Settlement Corp.
44	MIT-Eng.	Civil engineer -soil	Venezuela	Consultant to Creole Petroleum on dam construction
45	MIT	City planning	Turkey	Consultant to Turkish Ministry of Planning in setting up Regional Planning Agency
46	MIT-Eng.	Civil engineer -soil	Venezuela	Consultant to Creole Petroleum on dam construction
47	Harvard	Sanitary engineer	Egypt	Consultant to sanitary engineering research center--setting it up, getting lab equipment-- Alexandria University

Respondent	Source	Profession	Country	Project
48	MIT	City planning	Venezuela	Guayana Project
49	MIT	Naval Engineer	Korea	Adviser to Seoul National Univ. on setting up naval architecture labs
50	MIT	Chemical engineer	Thailand	WHO man at 2 universities; at 1, help counterpart set up department; at other, public health
51	Harvard Bus. School	Professor finance	Chile	Give 4-wk. courses to Chilean businessmen under Chile's counterpart to AMA
52	Harvard	City planning	Indonesia	One of 4 UNTAB technical advisers in the establishment of school city regional planning at Bandung Tech.
53	MIT	City planning	India	Survey and draw plan for new seaport and town for Government Settlement Corp.
54		Civil engineer -soils	Venezuela	Consultant to Creole Petroleum on soil dam construction
55	Harvard-England	Civil engineer -soils	Pakistan	Conduct highway feasibility study for NY firm
56	MIT	Mechanical engineer	India	Work with Indian government (National Council Applied Economic Res.) as consultant on training the staff to do engineering phase of economics
57	Harvard	Division engineer	Indonesia	Advise government Council of Sciences of setting up some research institutes
58				
59	Harvard	Development advisor	Pakistan	Head of group giving advice on planning and staffing to government of Pakistan

Respondent	Source	Profession	Country	Project
60	Harvard	City planning	Indonesia Venezuela	Indonesia one year for UN and Venezuela on Guayana Project.
61	MIT	Civil Engineer		Administrator of projects in Latin America
62	Harvard	Engineer	India	Several projects in India
63	Harvard BS	Social psychologist	Turkey	Several projects in Turkey
64	HBS	Business administration	India	Work at the Administrative Staff College in Hyderabad.
65	Harvard	Education		Educational work in Nigeria

QUESTIONNAIRE FOR FORD

I. FACE SHEET DATA

1. A. Name

    B. Department

    C. How long at _____?

    D. Rank

    E. Area of specialization within discipline

2. A. Age

    B. Place of residence (city/town, not specific address)

3. A. We understand you've travelled abroad. Where have
        you been? (All trips, excluding vacations in Canada
        and Mexico): When? For how long? In what connection?

    B. What was the formal description of your job?

    C. Do you enjoy foreign travel? IF YES: What about it
        appeals to you? IF NO: Why not?

4. A. What newspaper(s) do you read? How often do you
        read it (each)?

    B. IF NOT INCLUDED ABOVE: Do you read your local
        community newspaper? IF YES: How regularly?

    C. What magazines (non-professional) do you read?
        How often?

5. What are your favorite ways of spending free time? (Hobbies)

6. In the course of your own education, did you take much
    work in the social sciences?

    IF YES: Did you find this work interesting?

    IF NO: Was there any special reason for this?

7. How much long-term consulting or full-time work have
    you done in industry or government? In what capacities?
    When? For how long? Did you enjoy your work? Why(not)?

1. A. With respect to your work abroad, had you had any
        special contact with the country involved prior to
        your involvement with the particular project? IF YES:
        What sort? (Personal contacts, books, etc.) How
        extensive? (Language, travel, etc.) How come?

    B. Once you learned that you would be going abroad, did
        you make any special effort to inform yourself about
        the country? (Not specifically the project itself.)
        IF YES: What kinds of efforts? What information
        were you most interested in acquiring? How did you
        go about acquiring it? IF NO: Why not?

    C. With respect to the country itself--forgetting the
        project for the time being--did you find that things
        conformed pretty generally to your expectations? In
        what way(s) did they differ?

    D. Did you have trouble with the language barrier?

    E. Did you feel uncomfortable when you first arrived?
        Did it take long to get adjusted to your new environ-
        ment? What things bothered you the most?

    F. Where did you live? Were there other Americans in
        your vicinity? Did you have much contact with them?

    G. How did you spend your free time?

    H. Did you get an opportunity to spend much time with
        natives of the country, other than those associated with
        the project? In what connections? Did you actively
        seek such contracts? Were they generally with people
        of backgrounds comparable to yours? (IF NO: What
        were the most important differences?)

    I. Was your family with you? IF YES: What school did
        your children attend? Do you think it was a good
        experience for your children? Why (not)? Did your
        wife find it more difficult to adjust than you? Why (not)?

    J. In general, did you enjoy the non-professional part of
        your experience? Did you feel that it was valuable?
        If you had the chance, would you like to return? (Probe
        for reasons on all these).

    K. Did you feel any hostility or resentment towards you--
        again people with whom you were not professionally asso-
        ciated--because you were an American?

L. In general, what do you regard as the most striking differences between the way of life in (   ) and the way of life in America?

III.
1. A. How did you happen to become involved in this work? Were you approached, or did you apply?

B. Why did you become interested? Professional reasons? (What?) Money? Travel? Duty?

2. A. When the job was first described to you, how clearly were your own responsibilities defined? By whom? How was it defined? What were you supposed to do?

B. Were things more clear at the time you actually began working? Had they changed? How come? Were there subsequent changes in your understanding of your own responsibilities? Were these the result of formal redefinition by the sponsors, or of your own interaction with the problem? What was the nature of the redefinition?

C. Did you, at the beginning of your work, regard the goals of the job as worthwhile? If you had had the power, would you have redefined them in any way? In what way? Did you make any attempts at effecting such redefinition? What kinds attempts? Were these successful? Why (not)?

3. A. Once on the scene, did you feel there were things other than professional competence required for success at the job? What things? Did these bother you?

B. In your general relationship with your hosts, did you find it more important for them to like you, or to respect you? How important were the public relations aspects of your work? Were these important to the success of the project? Did you view them as important on any other grounds?

IV.
1. A. What was the organizational set-up of the project? To whom were you immediately responsible? Who headed up the whole operation? What other personnel were involved? How much tie-up was there with local agencies? With local personnel?

B. What were the most important differences between the operation of the organization and your own organizational experiences back in the States? (Why were these important?)

C. In general, were your hosts cooperative? Did they understand the goals of the project? Did they approve? Did they provide you with necessary information? Did they obstruct your work in any way? (Both consciously and unconsciously.) How easy was it to talk to people important to the project?

D. Aside from the local personnel with whom you had direct contact, what was the attitude of the local bureaucracy to your work? What factors went into determining their attitude?

E. What about the professional competence of the local people? Of the other American personnel? Did this constitute a problem?

2. A. Did you find that you had to spend more time on administrative matters than you would have liked? (Or, if job was largely administrative, did you find that more "dirty work" was demanded of you than you would have liked?)

B. Did you feel that you had to spend much time and/or energy being an ambassador of good will? (Probes for role conflict)

C. Did you, in general, find it difficult to adjust to the new organizational environment? Did you feel uncomfortable at first? How long did it take you to feel "in"? Were the adjustment problems more serious than they would have been in America?

D. What advice would you/or did you give to your successor?

E. What recommendations would you make to agency officials interested in making the transition into the new organization an easier one?

V. 1. A. Looking back now, do you feel that you successfully accomplished the job? IF YES: On what do you base this assessment? Would other people involved in the project agree with you? The sponsors? The hosts? IF NO: Why not? Do you feel it was primarily because the job simply couldn't be done, or was there some reason that you yourself couldn't do it? Why? What?

B. In general, did you enjoy your work? Did you find it rewarding in any way? In what way?

C. If a colleague were offered a similar position, would you advise him to accept? How would you advise him to prepare for his mission? Are there any other steps one might take to increase the efficiency of your personnel in these kinds of matters?

D. How important to selecting personnel for such tasks ought each of the following to be deemed? Professional competence; personal adaptability; organizational experience; innovativeness; motivation; familiarity with host country. Anything else? How important was each of these to your own (lack of) success?

VI. 1. A. In general, would you say that projects such as the one in which you were involved would stand a greater chance of success if they were free of political strings, and professional personnel were provided substantially greater autonomy? Should the professionals be allowed to set the goals for projects, as well as being involved in their implementation?

2. Walt Rostow has suggested that technical and economic development does not occur in a vacuum, but requires parallel development in the political, social and even psychological spheres. Would you agree? What kinds of developments in each of these three areas would you regard as being important to the problems of technical and economic development?

3. Do you feel that it would be useful in any way to have more social science research done in the developing countries? Why (not)? What kinds of questions ought such research be addressed to?