

STANFORD RESEARCH INSTITUTE (A Nonprofit California Corporation)

BALANCE SHEET, DECEMBER 28, 1968 AND DECEMBER 30, 1967

LIABILITIES AND CAPITAL	1968	1967
CURRENT LIABILITIES:		
Accounts payable	\$ 2,052,600	\$ 1,954,200
Employees' payroll deductions	413,400	286,500
Estimated liability for Federal income tax (Note 3)	684,100	754,000
Accrued expenses:		
Vacation	2,094,500	2,007,300
Property taxes	324,300	256,800
Other	225,800	66,000
Clients' advances and credits	4,044,000	3,206,100
Current portion of long-term liabilities (Note 4)	253,400	253,300
Total current liabilities	10,092,100	8,784,200
LONG-TERM LIABILITIES TO BANKS AND OTHER (less		
current portion included above—Note 4)	4,599,500	4,836,300
Total liabilities	14,691,600	13,620,500
CAPITAL:		
Capital contributions, net of appropriations of \$217,400		
(Note 2)	5,469,100	4,461,500
Net excess of revenue over costs and expenses:		
Balance, beginning of year	17,541,800	15,646,800
Net excess for year	1,361,300	1,895,000
Balance, end of year	18,903,100	17,541,800
Total capital	24,372,200	22,003,300
	\$39,063,800	\$35,623,800

STANFORD RESEARCH INSTITUTE

STATEMENT OF REVENUE, COSTS AND EXPENSES FOR THE YEARS
(52 WEEKS) ENDED DECEMBER 28, 1968 AND DECEMBER 30, 1967

	1968	1967
PROJECT REVENUE (Note 1)	\$64,210,400	\$62,204,400
PROJECT DIRECT COSTS	37,229,400	36,495,200
EXCESS OF REVENUE OVER DIRECT COSTS	26,981,000	25,709,200
OVERHEAD EXPENSES:		
Salaries and wages	13,156,300	11,497,600
Employee benefits	2,784,300	2,315,900
Travel and transportation	882,000	885,000
Communications and shipping	1,283,900	1,204,700
Materials and services	4,869,300	4,267,600
Utilities	454,300	481,300
Insurance	75,200	70,600
Rental expense	749,700	763,600
Depreciation of plant and equipment	1,676,800	1,582,000
Amortization of leasehold improvements	38,600	38,000
Uncollectible revenue and project overruns	958,700	790,000
Property taxes	632,300	501,300
	27,561,400	24,397,600
Less internal service center credits	2,198,200	1,546,200
NET OVERHEAD EXPENSES	25,363,200	22,851,400
EXCESS OF REVENUE OVER DIRECT COSTS AND OVERHEAD EXPENSES	1,617,800	2,857,800
OTHER INCOME (EXPENSE), NET:		
Interest expense, net of interest earned of \$103,800, 1968 ...	(162,000)	(225,100)
Gain on sale of assets	189,800	9,300
Other income	30,700	3,000
	58,500	(212,800)
EXCESS OF REVENUE OVER COSTS AND EXPENSES	1,676,300	2,645,000
PROVISION FOR FEDERAL INCOME TAX (Note 3)	315,000	750,000
NET EXCESS OF REVENUE OVER COSTS AND EXPENSES AFTER PROVISION FOR FEDERAL INCOME TAX	\$ 1,361,300	\$ 1,895,000

STANFORD RESEARCH INSTITUTE

STATEMENT OF SOURCE AND APPLICATION OF FUNDS FOR THE YEARS
(52 WEEKS) ENDED DECEMBER 28, 1968 AND DECEMBER 30, 1967

	1968	1967
SOURCE OF FUNDS:		
Net excess of revenue over costs and expenses after provision for Federal income tax	\$1,361,300	\$1,895,000
Depreciation and amortization	1,715,400	1,620,000
Capital contributions (Note 2)	1,007,600	648,800
	<u>\$4,084,300</u>	<u>\$4,163,800</u>
APPLICATION OF FUNDS:		
Additions to plant and equipment:		
Land (Note 2)	\$ 168,100	\$ 57,500
Buildings (including construction in progress)	1,213,200	1,806,100
Equipment	622,000	1,069,200
Leasehold improvements	53,400	15,400
Long-term note receivable	100,000	
Reduction of (increase in) long-term debt	236,800	(295,900)
	<u>2,393,500</u>	<u>2,652,300</u>
Increase in working capital	1,690,800	1,511,500
	<u>\$4,084,300</u>	<u>\$4,163,800</u>

III. THE PRESENT RELATIONSHIP

In evaluating the present relationship between Stanford University and SRI, it is necessary to draw a clear distinction between two sets of identifiable data:

The first consists of the real or perceived benefits (advantages) and costs (disadvantages) flowing from the existence of SRI.

The second consists of that portion of the flow of benefits and costs specifically attributable to the present relationships and existing arrangements between SRI and the University.

A. The University's Point of View

1. Benefits.

The benefits which the University enjoys from SRI's existence fall into the following categories:

- a) The satisfaction and prestige which the University derives from having sponsored the creation and growth of one of the world's leading centers for applied research.
- b) The presence in the local community of a large mass of professional and technical talent over and above that in the University itself.
- c) The availability of a broad and well-organized outlet for applied research interests of faculty and graduate students.
- d) Consulting opportunities for individual faculty members who desire to engage in such work.
- e) Internship/Fellowship opportunities for graduate students.
- f) The availability of qualified SRI people for part-time and specialized teaching in the University itself.

These benefits do not depend specifically on the present set of relationships and arrangements between the University and SRI. Rather they flow from the existence of SRI as a large and viable institution and will continue so long as SRI continues to exist in the neighborhood.

2. Costs.

Unlike the flow of benefits, the real and perceived costs to the University from its affiliation with SRI flow primarily from the existing set of arrangements between SRI and the University. In particular, the major kinds of cost, or disadvantage, which are listed below, stem from three aspects of existing relationships. These are:

First, the fact that the University "owns" SRI and, in a legal sense, is responsible for all of its operations.

Second, the fact that as owner the University makes no attempt to derive regular revenues from SRI.

Third, a widespread confusion which exists in the mind of the public, both here and abroad, regarding the distinction between the Institute and the University proper. The present relationship is an ambiguous one, and for many people, SRI and the University represent one and the same institution and what is done by one is frequently attributed to the other.

The costs and disadvantages which flow from the situation are as follows:

- a) The University's association with SRI, through SRI's origin, name and proximity, places the University in the eyes of outsiders in a position of responsibility. Although the University has chosen not to exercise much control over the Institute's scope and growth, it is held accountable by the community and the public for what SRI does. This situation at times absorbs part of the University's scarce administrative and policy-making time and talent. Increased control would clearly absorb a far larger share of the University's scarce administrative and policy-making time and energy.
- b) Some of the war-related activities in which SRI is engaged—notably those dealing with chemical-biological warfare and counterinsurgency work—have exposed the University to serious questioning regarding its sense of mission, its leadership, and its overall ethical posture. Criticism on this score ranges from outright condemnation, at one extreme, of the University's implied approval of this form of research, to a more widely ranging but milder criticism of the University's apparent involvement in research which does not appear to be appropriate to its basic function or compatible with its own announced research policies. Opposition among students to the present policies of SRI has become more manifest. While SDS has been the group most active in attacking SRI, there are various other groups also concerned about the nature of some of SRI's research contracts. Any response made by the University that accommodates these concerns will be viewed in Congress and by still others as unwarranted yielding to emotional pressure. In short, the present situation is one that has the potential of imposing substantial political costs, from a variety of directions, on the University.

- c) The confusion between the identity of SRI and the identity of the University itself can and does lead to adverse publicity in and out of scholarly circles whenever SRI does work of questionable quality. This is not to suggest that SRI's performance as a research institute is not of high quality; there is considerable evidence that some of it has been excellent, and as far as these achievements are concerned, the University derives prestige from what SRI does. However, the quality of a significant part of SRI activities has been questioned and criticized. From faculty responses to a questionnaire, this appears to be more prevalent in the case of social science and applied management science work than of work in the physical and biological sciences. But whether the result to the University of outside attribution of SRI's work and activities to it is credit or discredit, it is unearned and mistaken credit or discredit and hard to justify.
- d) Another, perhaps minor, cost is the fact that SRI must inevitably compete under the Stanford name for support from the same institutions and people who might otherwise support education and research in the University proper. Workable arrangements have been sought between the Institute and the University to minimize conflict with respect to fund-raising. In the field of obtaining research grants from the federal government, however, the Dean of the School of Engineering pointed out to the Committee that the identification of the two institutions works to the detriment of both.
- e) A more serious disadvantage on the financial front, which flows from the existing set of arrangements, is the large "opportunity" cost of the funds which the University legally and technically owns, though it is not accustomed to looking at it that way, because of its ownership and control of SRI. Whatever the value of SRI is—and estimates developed later range between \$20 million and \$45 million—the University itself derives no direct financial return on it. SRI since its formation has made total payments to the University of about \$800,000, the bulk of it in connection with the 1962-65 PACE campaign. Such contributions ceased in 1967, and have not been resumed.

Changing the arrangement could bring the University large financial benefits. For example, if SRI were to be divested or sold, the University could enjoy the annual dividend and capital appreciation it could derive by reinvesting the proceeds from such investment. Assuming a "value" of \$30 million for SRI and an annual rate of return including capital gains of around 10% on University endowment investment, the present arrangements may be viewed as costing the University annual revenues of \$3 million. The University's present endowment income was \$9¼ million in 1968.

B. SRI'S Point of View

1. Benefits.

From SRI's point of view, University affiliation has clearly been of tremendous value. It is necessary to analyze the source and scope of benefits and in doing so to distinguish between past and present as well as between the legal and environmental ties from which these benefits, in fact, flow.

- a) The University name and tie were both clearly important during SRI's formative years; the Institute's ability to attract staff, customers, directors, grants and loans were all enhanced. However, today SRI generally stands in the eyes of clients on the quality of its own staff and what they produce and the University affiliation is now of only limited value.
- b) In spite of the Institute's growth—and it is now a large and mature organization—its association with the University is still cited as an important factor in attracting high quality staff. In this context, three separate elements are frequently mentioned:
 - i) The fact that SRI carries the Stanford name gives the Institute at least the appearance of being a semi-academic institution, and this appearance is presumably attractive as a working environment for some people.
 - ii) The fact that SRI is a not-for-profit institution is presumably a key factor for others, primarily because it is viewed as implying a considerable degree of freedom for staff members to pursue their own goals and to be objective.
 - iii) A third element is simple proximity to the University and the set of informal relationships to which proximity leads.

There is no easy way to measure the relative importance of these three subfactors. Of them, only the first depends on the existing legal relationship between the University and SRI. The second and third factors, which are probably of greater importance to potential staff members than is the first factor, are now both independent of whatever legal ties might exist between Stanford and the Institute.

2. Costs.

The present relationship with the University also imposes some costs or disadvantages on SRI.

- a) The Institute has been restricted in its efforts to obtain endowment income and thereby to support self-initiated research.
- b) The second disadvantage of the present relationship is that SRI attracts greater criticism for its activities because it is sometimes regarded as part of the University community proper.
- c) A third disadvantage is that the University and the University Board of Trustees are de jure owners of the Institute. While de facto control has been minimal, the existence of latent veto and control powers is a potentially inhibiting one.

C. The Original Expectations

Another way of assessing the Stanford-SRI relationship is to examine, in the light of two decades of operating history, the original pro-and-con arguments that led the University to sponsor a research institute. These were set forth in Part II in the quotation on pages 4-5 from the Swim-Swain-Leighton memorandum.

1. The contribution of a research institute to the University's educational functions.

In 1968, 53 (of the approximately 1,000) members of the Stanford faculty acted to some extent as consultants to SRI, and 14 SRI staff members taught part-time at the University. Some 67 Stanford students worked at SRI in the Honors Co-op Program.

2. The financial contribution that a successful institute could make to the University, by supporting basic research or as a source of income.

As noted, financial contributions by SRI to the University over a period of 22 years amount to a little over \$800,000. This includes payments to specific departments and programs.

So far as the indirect consequences for University fund raising are concerned, Vice President for Finance Kenneth Cuthbertson commented on this in a communication to the Committee as follows:

SRI on balance has been neither a positive nor negative factor in connection with significant specific gifts from others.

Whether or not SRI activities have enhanced or detracted from the climate for University fund raising must remain a matter of undocumented judgment. My own belief is that SRI has, on balance, detracted slightly. My main reason for this belief is that SRI has functioned in activities not usual to a university like Stanford and essentially not controlled by Stanford. When SRI functioned well, any positive reflection on the University was likely to be misplaced because the credit really belonged to the Institute. When SRI functioned poorly (or was believed to have functioned poorly), any negative reflection on the University could be sustained at least to the extent that the critic believed the University negligent in not doing one of two things: controlling the Institute or getting rid of it.

3. Improved contacts between the University and industry.

It seems reasonable to conclude that these have resulted. The benefits to the University would presumably fall mainly in either category 2 above or 4 below.

4. The Institute would provide a means for the University to attract and perform large scale research contracts from government and industry.

This has happened on occasion, the most notable example being the Center for Radar Astronomy. But the great bulk of research activity at both the University and the Institute is unrelated. The major factor which was unanticipated at the time has been the development of large support by the federal government for basic research activities at universities. In 1968 Stanford itself received about \$76 million for the conduct of sponsored projects.

5. The University would be given a leading part in the industrial development of the Pacific Coast.

The theme of regional economic development that was often stressed at the time of SRI's formation is of little relevance to the Institute as it has evolved today. To the extent project revenues can serve as a measure, they show that less than 5% of SRI's 1968 business was done with firms headquartered in California.

6. The divergence in primary interest between a university and a research institute serving its clients.

This problem was noted at the time, and it has continued to give difficulty in the relations between the two. It is commented on further at a number of places in this report.

7. The risk of financial failure of the institute.

This was a very real and constant concern to the University in SRI's early years, but that period is now long past. There can be no question that SRI has been an outstanding business success, and in this respect the judgment of its organizers has been fully vindicated.

D. An Overview of the Present Relationship

An analysis of the existing relationship between the University and SRI and the way in which it works in practice has led the Committee to the firm conclusion that the costs far outweigh the benefits, certainly so far as the University is concerned. De jure responsibility without de facto control seems to maximize all of the disadvantages without any corresponding increase in benefits.

This is not to suggest that the legal tie was not important or even crucial, during SRI's formative years. The relevant fact is that this is no longer true. SRI is now a mature institution in its own right, which can make its own way in a world in which research has clearly come of age. The history of the past twenty years indicates the Institute's overwhelming preference and apparent need for de facto independence.

For its part, the University has its own primary mission to further basic research and teaching. This is a large enough task, and requires a sense of purpose and mode of operation which is essentially different from the methods of a more action-oriented, problem-oriented, market-oriented institution engaged in applied contract research.

Given these facts the present relationship is an anomalous and ambiguous one. We are unanimous in recommending that it should not be continued in its present form.

There are two main lines of alteration to be considered—the Institute can be made completely independent of the University, or the ties between the two can be made closer. These alternatives are discussed by the members of the Committee in the statements which follow.

IV. MAJORITY STATEMENT

A. Issues and Arguments

Altering the existing relationship between the University and the Institute can take several forms. The principal ones we have considered are:

- a) Total assimilation of SRI into the University: This fundamental change would make SRI an internal component of the University, subject to a single centralized process of decision-making with respect to budget, staff and policies.
- b) Less sweeping measures aimed at making SRI more responsive to University needs and policies while preserving its present status as a separate and self-sufficient though wholly owned subsidiary.
- c) Divestment of SRI by the University under various assumptions regarding the status of the successor organization.

Altering legal structure is a means rather than an end in itself. The ends include the resolution of basic problems and considerations. In this light, the final selection of a revised set of formal arrangements is simply a conscious choice of the best or optimal route for resolving the major issues.

The University's present investigation of SRI's relation to the University has been occasioned in large part by the pressure exerted by students expressing their concern about the chemical-biological warfare work, counter-insurgency work, and the very direct involvement of SRI in Vietnam war activities. We feel that not only the more radical students, but in fact, a wide majority of the students and faculty at the University are extremely disturbed about the University and SRI's role with regard to this work. The Vietnam conflict has, to be sure, divided the country and the university community. But precisely because the country finds itself in a war about which it is in doubt, it is wholly inappropriate that an educational institution should be involved in it. In order to stop such objectionable research and prevent its future recurrence, there has been a demand that the University bring SRI under tighter institutional control.

Two issues need to be clearly distinguished—the moral issue and the organizational relationship issue. The moral issue deals with SRI's undertaking of chemical-biological warfare research, counter-insurgency research and research that directly supports the prosecution of the war in Vietnam. The organizational issue deals with the question of what ought to be the legal and working relationship between Stanford and SRI. In the eyes of the Committee, the University has only two options with regard to the question of the organizational relationship—either some form of sale or maintaining SRI as a University adjunct. These alternatives are described and explored below. The moral issue and the organizational relationship issue are distinct and separate. They deal with two different problems, and the decisions to be made on them are determined by two different sets of criteria. Both sets of criteria are relevant.

1. The Moral Issue

Approximately \$6½ million or 10% of SRI's total work is in research in chemical-biological warfare, counter-insurgency, or work that directly supports the war in Vietnam. It is our firm opinion that much of this research should not be carried on either at the University or at a University-affiliated research institute. All components of such morally objectionable research should be phased out as soon as possible; no new research projects should be sponsored that are clearly morally objectionable.

There must be a prohibition of research in chemical-biological warfare, of much work in counter-insurgency and of much work that supports the war in Vietnam. But it needs to be clearly stated that such a prohibition on morally objectionable research can be prescribed and maintained whether or not SRI is placed on sale or maintained under University control. The question of the organizational relationship does not depend in any way on the moral question about objectionable research.

If SRI is sold either to its employees or to an outside buyer, then explicitly stated restraints prohibiting morally objectionable research can be placed in the conditions of sale or mortgage. At the same time, an enforcement procedure can also be defined which will allow the University to take action should there be any recurrence of such research in the future.

If, on the other hand, SRI is maintained as a University adjunct, then again restraints prohibiting morally objectionable research can be prescribed. A procedure for monitoring the research and for enforcing the restraints can be established at the same time.

In either the case of sale of SRI or of retention of SRI as a University adjunct, we need the following:

- 1) clear restraints prohibiting chemical-biological warfare research, counter-insurgency research, and research that directly supports the war in Vietnam; and
- 2) an influential and open review committee or committees selected from concerned and competent individuals in society, leaders from SRI, and from faculty and students at the University to review and advise the President of the University on the research work that SRI is doing in these areas. Such a committee should be set up immediately and its hearings should be conducted in an open fashion so as to assure the whole community that morally objectionable re-

search will stop and not recur in the future.

We* arrive at these conclusions after taking into account the fact that there are arguments against them. Many thoughtful members of society find it difficult to make moral distinctions between different types of military weaponry or research—between chemical gases (which may be lethal or non-lethal) and nuclear missiles, for example, or between contingency studies for Thailand and contingency studies for Berlin. While agreeing that much of such research is inappropriate at a university, because it contains nothing of value for university functions, these members feel this is also true of much of SRI's ordinary commercial work to which no objection is raised. This becomes merely another way of saying that the University and the Institute carry out markedly different kinds of activities.

The important moral questions, as these individuals see it, lie not in the acquisition of knowledge, but in the uses to which it is put. Concern over the former is both misdirected and largely futile; concern over the latter is of the essence of both moral and political responsibility. It is, if anything, hindered by elevating SRI's conduct in Thailand of a research project on guerrilla detection to a central position; the critical questions relate to what U.S. policy in Thailand is to be, and why.

2. The Organizational Issues

The organizational issues can best be outlined by listing sets of questions for which reasonable answers must be found before reasonable institutional arrangements can be devised. The sequence, dictated by expositional convenience rather than their importance, is as follows:

a) The Form of SRI. If the present form of SRI is to be altered, what form should the "successor" organization have? Should it be essentially an independent and autonomous institution or should it be essentially a subsidiary of Stanford or of any other corporation? In either situation should it continue as a not-for-profit institution or should it be converted into a for-profit research company? Finally, whether it is drawn into or divested from the University should it retain the present Stanford name or should its name be changed to something less likely to be confused with the remainder of the University?

b) The Scope of SRI Research Work. How should the proper scope and thrust of SRI's future research efforts be guided? What should be the balance between ad hoc responses to short-run market demands for services from either government or industry and planned responses to potential and foreseeable but harder to fund "needs?" Does the present composition of capability and output satisfy the intent of the University, or should some components be excised and others deliberately expanded?

c) The Question of Primary Mission. To what extent do the primary missions of SRI and the University overlap? To what extent do they differ? Can the sectors of overlap be conjoined to produce significantly better results for both institutions and society under one form of relationship than another? Do these potential benefits outweigh the potential costs of uniting their disparate sectors under the same form of relationship?

d) The Division of Discretionary Funds. How should SRI and the University divide the flow of residual discretionary revenue which SRI now generates and might generate in the future? Through a common pool to be reinvested in developing and/or disseminating new knowledge? On the basis of a 50-50 sharing between two separate decision centers? On the present basis of a 100% share of discretion on reinvestment lodged solely with SRI? On some other basis?

Even if each of these questions had only two possible answers apiece the number of different responses to the entire set of questions is clearly very large, and certainly large enough to court individual minority positions for almost any committee of manageable size. Nonetheless the entire issue of the "optimal" legal form of relationship to be selected for the future presupposes that each of these questions has been answered correctly. This, neither we, nor anybody, has the insight and wisdom to guarantee. What we can assert is that the answers to these questions are relevant to any organizational solution—and hence that they must be examined.

Take for example the issue of excising some portion of SRI's present activity, on the grounds that it is morally inappropriate. Two reasonable people, both of whom believe that a given definable 10% of present activity should be excised might nonetheless arrive at different conclusions regarding the issue of divestment vs. a closer drawing-in of the Institute. On the other hand two people who hold radically different views about the fraction to be excised—for example 1% vs. 50%—may nonetheless agree that the appropriate form of organization is integration within the University. In this situation mere agreement on the preferred form of SRI's future organization does not necessarily imply underlying agreement on basic issues. Likewise, disagreement on organizational form may blur a deeper fundamental agreement on the issue itself.

3. Questions of "Form" and Scope

Many people in the University as well as staff members of SRI see its present non-profit status as being important, if not essential. In this view, the non-profit status can contribute importantly to the quality and objectivity of SRI's work and hence to its social value.

*Mr. Nivison, who joins the signers of this part of the report, is neutral on this issue. He believes that whatever is done should accord with the wishes of the academic community.

The same is true of SRI's autonomy (which it has largely possessed to date in spite of the machinery of legal control vested in the University Board of Trustees). The argument for independence runs along the same lines as the arguments for non-profit status. Many of the most highly qualified and valuable professional staff at SRI choose in effect to take part of their overall compensation in the form of a degree of self-selection in research projects and opportunities for unsponsored research. Conversion of SRI to a for-profit institution, especially as a subsidiary, may cause some such people to decide to leave.

But perceived staff preferences are not the only dimension of the for-profit vs. not-for-profit issue. At present SRI devotes about a fifth of its effort to what might be labeled "projective planning research" both in the field of technology and in socio-economic areas. This aspect of their work probably represents their most creative contribution to long-run technological and social problems. This type of research requires expenditure of funds with very risky outcomes. Because of this level of risk, this research is in large part back-stopped by the remainder of the activity, which necessarily tends to be both more short-term and more economically lucrative than the projective planning aspects. If SRI were to be converted to a profit making institution the result would inevitably be a sharp decrease in, if not the subsequent loss of, the projective planning aspects of their work—primarily because these aspects are hard to finance and also because there is no sector of the society including government itself which is at present ready to support such activity totally on its own. It is also clear that various government agencies actively seek non-profit organizations to do work that will facilitate social and economic innovations. A move to a profit status would eliminate an important emerging area of development.

On the scope of SRI's work, the previous section has already dealt directly with the question of the need to define and excise those segments of its present work which are immoral or inappropriate. But the scope also has a positive dimension: this is the need, in restructuring or reorganizing the Institute, to find that form of organization which will encourage and indeed press the Institute into the performance of longer-run research goals and tasks as opposed to more short-run consulting type solutions to narrower needs.

One issue which is clearly central to the question of optimal organizational relationship between the two institutions is the degree to which the two have common or complementary purposes and modes of operation. The traditional view is that the primary function of the University is education and basic research. In contrast the primary function of SRI is applied and exploratory-applied research. In this view the University's sense of purpose and mode of operation must be essentially different from the purpose and methods of the more action-oriented, problem-oriented and market-oriented institution which is engaged primarily in applied contract work. The relatively small areas of overlap and commonality between these two kinds of institutions can and should be fostered to the greatest possible advantage of both, but these common areas represent so small a part of either basic mission that their consideration should not dominate the selection of the overall organizational tie.

However it is possible to hold a different set of views about the nature of the two institutions. For example, if the University's primary function is redefined in ways that assign a much higher priority to its role as an active agent of direct social change with correspondingly smaller roles for its traditional functions of teaching and research, and if at the same time the primary mission of SRI is redefined as a necessary component of such a University, one can be led to very different conclusions regarding optimal interorganizational arrangements. This view assumes that an organization as complex as Stanford can in fact shift its function as radically as this view would demand.

The final issue at the organizational level concerns the appropriate distribution of discretionary funds generated by SRI's activities. If we assume that these activities or the bulk of them continue along present lines, the future flow of discretionary investable funds would be \$3 to \$4 million a year. When SRI was originally formed it was envisaged that 50% of net income would be turned over to the University for its own preferred uses. In fact, apart from a contribution to the Stanford PACE program, this has not occurred. Instead, SRI has used its discretionary fund flows internally. The future division of such funds is an issue, regardless of whether SRI is drawn closer into the University or whether it is divested. The major difference is that under divestment, the potential value of such funds is capitalized into an explicit number; specific arrangements are made for a specific transfer from the Institute to the University; and the University ceases to carry the responsibility for meeting future losses which SRI might suffer in any given period. In short, with divestment the University can expect some positive flow of revenues. In contrast, if SRI is drawn into the University, the expected flow of monies could be either positive or negative.

B. Closer Integration

1. Assimilation into University

There is obvious appeal inherent in the notion of uniting SRI and the University for the purpose of increasing the capacity of both to advance human welfare. What is less obvious, but formidably real, are the difficulties and disadvantages involved. It is eloquent testimony to the reality of these drawbacks that no member of the Committee is of the opinion that an integration of Stanford and SRI should be seriously considered. Given the Committee's unanimity on this point, the matter of complete integration need not be discussed at length; but since many members of the community have not had the opportunity of giving close consideration to the question, some brief attempt to outline the reasons for our conclusion is desirable.

First, the sheer size of SRI is a factor of some moment. To integrate the Institute with the University would expand the latter's payroll by more than 3,000 persons, or 35%. For example, SRI's present administration includes ten vice presidents. The administrative structure of the joint enterprise after integration might not include all these persons at the same rank, but it would certainly have to be greatly enlarged over the present University administration. This is the more true because SRI's activities require more administrative personnel in proportion to volume than do the University's. SRI is far closer to the business world in its needs and procedures than is the University; it must be ready to respond rapidly and effectively to a wide variety of requests for service originating outside the Institute. An industrial firm or a governmental unit often wants prompt action on a piece of applied research, without which it finds that some important commercial or governmental project cannot be carried out. Personnel and facilities must then be quickly mobilized to respond. University research, on the other hand, almost always originates with the individual faculty member, or a small group of faculty members. Typically, it does not involve an intricate or urgent set of deadlines; being for the most part "basic" rather than "applied" (or at least tending in that direction), it partakes far less of the character of a job done for a customer, even when it is sponsored by agencies outside the University, than does most SRI project research. University Research Administration is a correspondingly lean office, containing only 9 people, including secretaries.

It involves no denigration of SRI to assert that the Institute, in contrast to the University, has no significant educational mission. SRI is organized to provide contract research for clients, and this function simply does not blend smoothly with that of a university. The practical impact of that difference was made admirably clear to the Committee by the testimony of Professor Carl B. Spaeth, Chairman of the Committee on International Studies in the University. Describing how requests for "social service" research and training programs come to the University in numbers far exceeding Stanford's capacity to respond, he pointed to the necessary steps that must be taken, each time such a proposal is undertaken, in order to protect the University's educational function. If faculty are to be taken from the University campus for on-site research elsewhere, provision must be made so that the University's teaching can be carried on. The result is "overstaffing": the University employs two or more persons in the same specialty so that one can be away on applied research without leaving the field vacant on campus. But this is expensive, prohibitively so in most instances; the agency, whether a business, a foundation, or a branch of government, cannot afford to support incremental academic appointments in order to get accomplished a piece of research that may be expected to take but a limited number of months overall. SRI is not and could not be hampered by such constraints, without suffering a disastrous loss of research volume.

There is the further point that research projects in the University are generally not approved unless they involve Stanford students, and thereby contribute directly to the educational process. Most SRI projects would not be adaptable to this requirement; the research is often of the strongly applied kind, containing few areas of investigation susceptible to treatment by graduate students. SRI's response to a customer must be quick; he wishes to buy the services of the Institute, and will take his business elsewhere if he must wait while a survey is conducted to determine whether, by ingenuity, an educational component can be worked out satisfactorily from the University viewpoint.

Other practical difficulties abound. The situation regarding overhead costs at SRI is markedly different from that of the University. Universities seldom if ever obtain a full return of their costs in undertaking research. Were a non-profit research institute to operate this way it would soon go out of business. (The use of a commercial metaphor is all but unavoidable, which merely clarifies the contrast in the two situations.) Personnel policies are also markedly different, as are salary scales. Appointment procedures are quite unlike, as are provisions for dismissal.

Finally, integration would almost inevitably come to produce an increased competition for University resources. This is worth stressing, since the expectation is sometimes voiced that assimilation of SRI would bring an augmentation of resources to Stanford. As Mr. Kenneth Cuthbertson, Vice President for Finance, put it in a communication to the Committee:

"First, although I am not aware he has yet stated it, Professor Parkinson might add to his laws that 'In a high-quality university, each major activity can justify for its own expenditure at least that amount of income

attributable to it.' I firmly believe that if the SRI activity were to live in healthy interrelationship with other University activities it would soon require more than its own income. A university like Stanford is committed to improving the quality of all its undertakings and presumably this same commitment would apply to SRI-type functions; indeed, the professional staff of the Institute and the faculty of the University could not otherwise work together with the required mutual respect. I am not assuming that the quality weaknesses of SRI are any greater than those of the University; I am assuming that recognizable inadequacies exist in both. I don't believe we could perpetuate the inadequacies of one (SRI) in order to overcome those of the other (University)—particularly when the former could point to its 'own' income available for seeking improvement."

In the Committee's view, this analysis is if anything confirmed by the Carnegie-Mellon case, to the extent we have information on it. This is the one example of a merger at all analogous to a joining of Stanford with SRI. It involved the linking of Carnegie Institute of Technology with the Mellon Institute, to form the Carnegie-Mellon University. The differences between the Mellon Institute before the merger and SRI today are striking, however. The Mellon Institute had an educational mission from its inception; training of research workers was among its purposes from the start, and it had for years collaborated with nearby universities in the training of advanced degree candidates. Mellon was far smaller than SRI; the total professional staff at Mellon was about 200, compared to 1,512 at SRI (as of December, 1968). Mellon's industry-sponsored research had been decreasing for years before the merger; in 1957 the Mellon Board of Trustees "announced plans for Mellon Institute which called for a major expansion of fundamental research and set, as a matter of policy, the goal of essentially equal effort in independent (i.e., non-sponsored) fundamental (basic, as distinct from applied) research and in sponsored industrial research."¹ Industry-sponsored research projects at Mellon dropped from more than fifty in 1955 to twelve in 1967. The Report explains: "This decline in the number of fellowships (the Mellon Institute term for sponsored projects) may be due to a lessened demand for the Institute's services as more industries have established their own research centers, or to the growth of other institutes offering specific problem solving staff and facilities. Examples of the latter include Battelle Memorial Institute, Stanford Research Institute, Midwest Research Institute, and Illinois Institute of Technology Research Institute."² Also significant in the Mellon emphasis upon basic research was the fact of generous endowments, including \$12 million book value "original endowment fund" and \$19 million book value in the "Fundamental Research Trust."³ Possession of such endowments, wholly lacking at SRI, obviously made it possible for Mellon Institute to simulate far more closely than does SRI the purposes and functions of University research.

In short, the Mellon Institute before its merger with Carnegie Tech was already a much more university-like organization than is SRI; its research emphases, its funding, its size all made amalgamation relatively simple and effective. In contrast, so different are the purposes and functioning of most SRI research undertakings and most University research projects that, no matter what form of integration might be attempted on paper, the facts would have to belie the form. Two quite separate enterprises would continue to exist, or one would be changed to the point of destruction.

2. University Adjunct

Even if absorption of SRI into the University seems neither feasible nor rewarding, it is still necessary to consider whether an assortment of lesser changes might remove many of the present objections and enhance the utility to the University of continuing SRI's status as a separate subsidiary. One argument for maintaining SRI's present status is as follows: As a not-for-profit research institute, SRI is not subject to many of the constraints which a business corporation faces. Because of its status, a not-for-profit research institute can sponsor exploratory research, research which is not heavily tied to the constraints and values of the market-place. Included here, for example, is research for which there are few buyers, but which is nevertheless valuable, e.g., educational policy research, or research which is free of the bias induced by marketplace competition, e.g., a "neutral" feasibility study for government on a weapons system, which could not be obtained from one of the defense contractors. It is this kind of exploratory research in technical-applied fields which is not heavily sponsored by either universities or industry, but which is the special potential of the not-for-profit research institute.

¹Report of the Joint Trustee-Staff Committee on University Policy for Sponsored Research, Sept. 5, 1968, Carnegie-Mellon University, pp. 6-7.

²*Ibid.*, p. 7.

³Progress Report on Planning for the Merger of Mellon Institute and Carnegie Institute of Technology, Jan. 16, 1967, p. 8.