

APPENDIX I

DoD LABORATORIES IN THE FUTURE

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FOREWORD

This paper was presented on 19 October 1967 at a National Security Industrial Association R&D Symposium, of which the theme was "National R&D for the 1970's." The intent of the paper was to summarize the past actions taken with respect to the Department of Defense (DoD) laboratories and to predict the future role and characteristics of those organizations.

INTRODUCTION

Kettering once remarked, "We should all be concerned with the future because we will have to spend the rest of our lives there." Playing the role of a prophet, however, can be both stimulating and frustrating, pleasure and pain, but, as Horace Walpole said, "Prognostics do not always prove prophesies, . . . at least the wisest prophets make sure of the events first." I intend to take this advice seriously.

Before we can really examine the future of our laboratories, we must first make some assumptions concerning the future role of the Department of Defense, the organization which they serve. We must assume that the international scene will undoubtedly continue to require that our national objectives have the strong support of military power; that our major objectives will be both to maintain an "assured destruction" capability and an effective deterrent to limited wars; and that we will require a flexible capability that can react rapidly to the countermoves of our adversaries or take immediate advantage of new advances in science and technology. Finally, in order to meet these defense needs, new technology, techniques, weapons and systems will be required, together with a greater degree of interaction between technology and operations.

DEFENSE-SUPPORTED INSTITUTIONS

In order to maintain our most flexible and imaginative defense posture, the Department of Defense must utilize every conceivable resource, capability and contribution it can possibly motivate, attract or support. This requires the competence and contributions of all types of institutions—industry, university, nonprofit and in-house organizations. Each of these institutional forms has a relatively unique, although not mutually exclusive role to play. Each is an important, interrelated, synergetic subsystem whose products of new knowledge, designs and weaponry are the first-line technological defense against foreseeable threats.

In terms of level of support for these organizations (FY 1966 obligations), industrial organizations receive about 60 percent of the RDT&E (research, development, test and evaluation) appropriation; educational institutions, about 12 percent; nonprofit organizations, approximately 5 percent; and in-house organizations, slightly above 20 percent. Although the dynamics of Defense RDT&E activities will result in many programmatic changes, it is not clear that there will be major shifts in the relative balance of support for these institutions.

ROLE AND DEFINITION OF LABORATORIES

Probably no class of institutions has been studied and analyzed, praised and criticized, organized and reorganized to the degree that has been the lot of the Defense in-house laboratories. This is an area in which everyone fancies