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# FOIA MARKER

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**Record Group/Collection:** George H.W. Bush Presidential Records  
**Collection/Office of Origin:** Science and Technology Policy, Office of (OSTP)  
**Series:** Bromley, D. Allan, Files  
**Subseries:** General Science Files

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**OA/ID Number:** 62039  
**Folder ID Number:** 62039-010

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**Folder Title:**  
Life Sciences: Biotechnology [2 of 4] [1991]

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Stack:

Row:

Section:

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Position:

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Mary

"Document Control for Division of Life Sciences"

TYPE: ACTION DOCUMENT NUMBER: 9125130  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C  
\*\*\*\*\*

FROM: ANTONY, M.S.: CENTER DE RECHERCHES NUCLEAIRES

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 12/09/91

SUBJECT: HE REQUESTS A LETTER OF ENCOURAGEMENT FROM DR.  
BROMLEY FOR HIS WORK DESTINED TO HELP RESEARCHERS IN  
THEIR FIGHT AGAINST MUCOVISCIDOSIS.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: LIFE SCIENCES ASSIGNED: D.A. Henderson

ACTION STAFF  
REQUIRED: AS APPROPRIATE ACTION: Necessary Action

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: 12/31/91 STAFF DUE DATE 12/31/91  
DATE COMPLETED: DATE COMPLETED/DEPT: 12/30/91

\*\*\*\*\*  
COPIES TO: INTERNATIONAL/POLICY

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: Dr. Henderson determined that no action was necessary; close  
record out.

CLOSED

OSTP RECEIVED: 12/17/91 DEPT RECEIVED: 12/18/91  
FILE: P-LIFE SCIENCES

CENTRAL FILES:



RECEIVED

Maria-Susai ANTONY 17 A9:51  
CENTRE DE RECHERCHES NUCLEAIRES  
Groupe de Réactions et Structure Nucléaires  
B.P. 20 67037 STRASBOURG CEDEX  
(France) MAIL ROOM

Tél. 88 28 65 97  
Telex CNRS CRO 890032F  
Télécopie 88 28 62 92

Strasbourg, December 9th, 1991

Prof. D. Allan BROMLEY  
Assistant of the President of the United States  
for Science and Technology  
Director, Office of Science and Technology Policy  
WASHINGTON / USA

Prof. Bromley,

I am thankful to you for permitting me to write to you concerning the forthcoming "Isotope Chart-Strasbourg 1991". I met you at the Amphitheatre just after Professor Greiner's Conference.

The benefits from the sale of the Chart of the Nuclides will be given to the French Association for fight against "Mucoviscidosis", a genetic disease affecting respiratory problems.

I have herewith enclosed a few letters of encouragement from

- Professor Elie Wiesel, Nobel Laureate for Peace
- Président Mitterand, Prime Minister Edith Cresson, Science and Technology Minister Hubert Curien, and Education Minister Lionel Jospin
- Professors Collins and Chee, who led the research team which identified the Cystic Fibrosis Gene responsible for Mucoviscidosis.

There will be insertion about the isotope chart in the Journal of the American Nuclear Chemistry through the kind intervention of Dr. Peter Haustein of Brookhaven.

I request you to send me a letter of encouragement for my humble work destined to help researchers in their fight against this genetic disease, affecting 2 in 2000 births in France.

Thanking you,

Yours sincerely,

M.S. Antony  
M.S. ANTONY

# **TABLEAU DES ISOTOPES - STRASBOURG 1991**

**M.S.ANTONY, Docteur ès Sciences**

**Centre de Recherches Nucléaires, Université Louis Pasteur**

**Strasbourg, France**

**LE BENEFICE DE LA VENTE SERA VERSE A  
L'ASSOCIATION FRANCAISE DE LUTTE CONTRE LA  
MUCOVISCIDOSE**

**Ce travail est dédié à la Mémoire du**

**Docteur Albert SCHWEITZER**

**Prix Nobel de la Paix**



*Cela vient du coeur. Puisse cela aller au coeur.*

Missa Solemnis - Beethoven

Ces paroles de Beethoven résument mes motivations dans  
l'accomplissement de ce travail

# CHART OF THE NUCLIDES STRASBOURG 1991

M.S.Antony. Docteur ès-Sciences. Centre de Recherches Nucléaires.  
Strasbourg, France

## OBJECTIVE

The benefits from sales will be entirely donated to the French Association against Mucoviscidosis. The chart of the Isotopes Strasbourg 1991 is dedicated to the memory of Dr. Albert Schweitzer. Nobel Laureate for Peace. known as the Jungle Doctor of Lambarené. Gabon.

## GENERALITIES

- About 2500 isotopes from neutron to element  $^{266}_{109}\text{X}$
- 700 new isotopes and isomers added to existing charts of Karlsruhe and Knolls Power Station. New York
- 30000 informations such as :
  - a) Mass defects (experimental/theoretical)
  - b)  $T_{1/2}$  (period)
  - c) Energies of  $\beta^+$ ,  $\beta^-$ ,  $\alpha$ ,  $\gamma$  rays
  - d)  $\sigma_n$  (thermal neutron absorption cross-section)  $\sigma_{n,\alpha}$
  - e) isotopic abundance
- About 1200 publications from leading scientific journals consulted
- About 10000 hours of work of compilations, calculations and verifications

## PRESENT STATUS

- ready for input into IBM computer
- printing by the end of 1991

## DIMENSIONS

- 160 x 68 cm recto-verso
- six colours representing different decay modes

## PUBLICITY

- About 5000 post-cards to researchers and sympathisers all over the world
- 1000 bitnet mails by IBM

## PRICE

30 Francs/copy, which shall be the net gain.

M.S.ANTONY  
CENTRE DE RECHERCHES NUCLEAIRES  
ET UNIVERSITE LOUIS PASTEUR

67037 STRASBOURG Cedex

CURRICULUM VITAE

---

- Chercheur au Centre de Recherches Nucléaires, Strasbourg
- Titulaire de :
  - a) B.A.(Madras, Inde)
  - b) Diplôme d'Ingénieur (Calcutta, Inde)
  - c) Docteur de l'Université (Lyon)
  - d) Diplôme d'Etudes Approfondies (Strasbourg)
  - e) Docteur-ès Sciences (Strasbourg)
- Environ 70 publications des travaux théoriques et expérimentaux
- Depuis quatre ans, prépare une carte des isotopes. Cette compilation comporte 2500 cases. Chaque case de 21 x 21 mm porte les caractéristiques nucléaires principales de l'isotope. Cette carte sera probablement la plus grande (environ 160 x 70 cm recto-verso) et la moins chère (environ 30 francs/copie) des tableaux. Le bénéfice de la vente ira à l'Association Française de Lutte contre la Mucoviscidose.
- Emploi de la carte : physique, chimie, biologie et médecine nucléaire, centrales nucléaires, enseignement au lycée .... Le contact sera pris avec les principaux laboratoires et universités dans tous les continents.



Boston University

University Professors  
745 Commonwealth Avenue  
Boston, Massachusetts 02215  
617/353-4566



Elie Wiesel, *Andrew W. Mellon Professor in the Humanities*

November 6, 1989

Dr. M.S. Anthony  
Centre de Recherches Nucleaires  
Groupe Reactions et Structure Nucleaires  
B.P. 20  
67037 Strasbourg Cedex  
France

Dear Dr. Anthony:

Thanks for your recent letter. I am  
pleased to learn that you will give all of the  
money to a worthy cause.

With best wishes, I am,

Sincerely yours,

*Elie Wiesel*  
Elie Wiesel

EW/cjm

PRÉSIDENCE  
DE LA  
RÉPUBLIQUE

Paris, le 16 Mai 1991

*Le Conseiller Technique*

N° 423 JA.MCP

Monsieur,

Monsieur le Président de la République me charge de répondre à votre lettre du 19 Avril 1991 par laquelle vous lui adressez le Tableau des Isotopes Strasbourg 1991, carte que vous voulez vendre au profit de l'Association Française de Lutte contre la Mucoviscidose.

Il m'a chargé de vous transmettre ses voeux pour que cette initiative soit couronnée de succès.

Veuillez agréer, Monsieur, l'expression de mes sentiments les meilleurs.



Jean AUDOUZE

Monsieur M.S. ANTONY  
Centre de Recherches Nucléaires  
Groupe de Réactions et Structures  
Nucléaires  
B.P. 20  
67037 - STRASBOURG Cedex

PREMIER MINISTRE

*Le Conseiller Social*

Paris, le 27 juin 1991

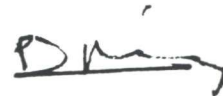
CH.CH.10521

Monsieur,

Madame le Premier Ministre me charge de répondre à votre correspondance du 3 juin 1991 par laquelle vous lui adressez le Tableau des Isotopes Strasbourg 1991, carte que vous souhaitez vendre au profit de l'Association Française de Lutte contre la Muscoviscidose.

Madame le Premier Ministre m'a prié de vous dire combien elle était sensible à votre geste, et, à cette occasion, elle m'a chargé de vous transmettre ses vœux afin que cette initiative soit couronnée de succès.

Je vous prie de croire, Monsieur, en l'assurance de ma considération distinguée.



Pierre-Louis REMY

Monsieur M.S. ANTONY  
Centre de Recherches Nucléaires  
Groupe de Réactions et Structures Nucléaires  
B.P. 20

67037 STRASBOURG CEDEX



*Cabinet du Ministre d'Etat,  
Ministre de l'Education Nationale,  
de la Jeunesse et des Sports*

*Paris, le 2 MAI 1991*

*Le Conseiller Technique*

CAB10/N° 1131 bis

Monsieur,

Vous avez bien voulu attirer l'attention du Ministre sur l'entreprise que vous menez pour établir un Tableau des Isotopes et sur votre intention de verser le bénéfice de la vente à l'Association Française de Lutte contre la Mucoviscidose.

Le Ministre m'a prié de vous dire combien il était sensible à votre geste. Il vous adresse tous ses encouragements.

Je vous prie de croire, Monsieur, en mes meilleurs sentiments.



Jean REY

Monsieur M.S ANTONY  
Centre de Recherches Nucléaires  
B.P : 20  
67037 STRASBOURG CEDEX

LE MINISTRE

MINISTÈRE  
DE LA RECHERCHE  
ET DE LA TECHNOLOGIE



4 JUIN 1991

Paris, le 1

13692/A

Monsieur,

Vous avez bien voulu me faire part de votre attrayant projet de dresser un tableau des isotopes dont les bénéfices de la vente seront intégralement reversés à l'Association Française de Lutte contre la Mucoviscidose.

Sans omettre de souligner le réel intérêt que représentera pour l'ensemble de la communauté scientifique la réalisation de l'entreprise à laquelle vous vous êtes attelé, je souhaite, en premier lieu, mettre en exergue son noble et généreux dessein dont j'espère vivement qu'il s'accomplira.

Je vous prie d'agréer, Monsieur, l'expression de mes sentiments les meilleurs.

Hubert CURIEN

Monsieur M.S. ANTONY  
Centre de Recherches Nucléaires  
Institut National de Physique Nucléaire  
et de Physique des Particules  
B.P. 20  
67037 Strasbourg Cedex

555 UNIVERSITY AVENUE  
TORONTO, ONTARIO  
CANADA M5G 1X8  
PHONE (416) 597-1500

# THE HOSPITAL FOR SICK CHILDREN



August 16, 1990

Dr. M.S. Antony  
Centre de Recherches Nucléaires  
BP 20 67037  
Strasbourg Cedex  
France

Dear Dr. Antony,

Thank you for your letter of July 17, 1990 and the information about your publication "Chart of Nuclides - Strasbourg 1990".

Although I am totally ignorant about nuclear physics, I gather from the details you sent me that the chart is highly informative with 2,500 isotopes and 30,000 pieces of information. There is no doubt that it will be very useful reference material and popular in the field.

It is most exciting to hear that you are going to contribute the benefits from sales of this chart to the French Association to fight mucoviscidosis (cystic fibrosis). For this reason, I would like to give you my strongest support and wish you the greatest success with this publication. I would also like to thank you for your continued support to CF research. Any breakthroughs in CF research is the result of cooperation and dedication of individuals like yourself. I salute you.

With warmest regards.

Sincerely,

Lap-Chee Tsui, Ph.D., F.R.S.C.  
Sellers Chair in Cystic Fibrosis Research  
Professor of Molecular and Medical Genetics

L-C.T:ss



# The University of Michigan Medical Center

Ann Arbor, Michigan 48109-0618

Francis S. Collins, M.D., Ph.D.  
Division Chief  
(313) 747-3414

Department of Internal Medicine  
Division of Medical Genetics  
(313) 763-2532

Thomas D. Gelehrter, M.D.  
(313) 764-5490

Andrew P. Feinberg, M.D., M.P.H.  
(313) 747-4808

November 19, 1990

Dr. M.S. Antony  
Centre De Recherches Nucleaires  
Groupe Reactions et Structure Nucleaires  
B.P. 20, 67037 Strasbourg  
Cedex, France

Dear Dr. Antony:

Thank you for your letter of October 25. I am delighted to write this letter in support of your laudable efforts to prepare a comprehensive nuclide chart, and to donate the proceeds to research directed at curing Cystic Fibrosis. This is a very humanitarian effort, and I hope it receives the broad support which it deserves.

Best wishes.

Sincerely yours,

Francis S. Collins, M.D., Ph.D.  
Chief  
Division of Medical Genetics  
Associate Professor  
Departments of Internal Medicine  
and Human Genetics  
Associate Investigator  
Howard Hughes Medical Institute

FSC/nf



***Sonderseminar***

Montag.10.12.1990 , 11:30 Uhr

KC I - Seminarraum, Nordbau ,1.Stock, Eingang D

**M.S. Antony, CRN Strasbourg**

Thema: Status of the Strasbourg Nuclide-Chart Project

E.Roeckl

**Isotopes et  
mucoviscidose**

Un chercheur du Centre de recherches nucléaire de Strasbourg (Université Louis Pasteur) prépare un tableau des isotopes nucléaires particulièrement fourni: 2 500 isotopes et 30 000 paramètres. Cette masse considérable de données va être entrée sur ordinateur au centre de calcul de Strasbourg-Cronenbourg.

L'auteur de ce travail, M.S. Antony, prévoit un tableau de 160 x 60 cm (recto-verso), dont la diffusion, au prix de 30F, sera faite au profit de l'Association française de lutte contre la mucoviscidose.

"Document Control for Division of Life Sciences"

TYPE: ACTION DOCUMENT NUMBER: 9124824  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS C  
\*\*\*\*\*

FROM: DIEBOLD, John: THE DIEBOLD INSTITUTE

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 11/15/91

SUBJECT: HE IS SENDING DR. BROMLEY THE SPECIFICATIONS TO  
WHICH THEIR EUROPEAN, JAPANESE AND UNITED STATES  
POLICY CASEWRITERS ARE WORKING, WITH RESPONSE TO THE  
MEDICAL/HEALTH CARE INFORMATION INFRASTRUCTURE  
STUDY.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED: D.A. Henderson

ACTION STAFF  
REQUIRED: ACTION: Response for Bromley signat

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE 11/30/91  
DATE COMPLETED: DATE COMPLETED/DEPT: 12/03/91

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
LIFE SCIENCES

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
PHONE: EXT:  
REMARKS: Originally sent FYI to DLS; on 11/20, Bromley asked that D.A.  
draft a response for his signature to his long-time friend.

OSTP RECEIVED: 11/18/91 DEPT RECEIVED: 11/22/91  
FILE: P-LIFE SCIENCES

CENTRAL FILES:

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20506

Mary

December 3, 1991

Dear John,

My thanks for your letter and a copy of The Information Infrastructure Study prospectus. It seems to me that this study goes to the heart of the quandaries confronting the medical care system. It is an historic, anomalous paradox for a sector of the economy which consumes 12 percent of GNP to have so little accessible data either for public policy formulation or private decision. If the medical care system is to achieve a successful, rational transition, an information infrastructure is critical and long overdue. I congratulate you on your boldness in grappling with this all too complex issue. When the study is completed, I should very much appreciate seeing a copy.

Sincerely,



D. Allan Bromley  
Director

Dr. John Diebold  
The Diebold Institute for  
Public Policy Studies, Inc.  
2 Depot Plaza, Suite 203  
Bedford Hills, New York 10507



4824

**The Diebold Institute for Public Policy Studies, Inc.**

RECEIVED  
OCT 17 1991  
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MAIL ROOM  
November 15, 1991

Dear Allan,

That was an outstanding presentation at the Council on Foreign Relations luncheon -- My heartiest congratulations on it!

As promised I am enclosing the specifications to which our European, Japanese and United States policy casewriters are working, with response to the Medical/Health Care Information Infrastructure Study.

The policy issues we are addressing can best be ascertained by a quick look at these specifications. The studies themselves will be completed during the first quarter of the new year.

With every best personal wish,

Sincerely,

J. Diebold

John Diebold

Enclosure

The Honorable D. Allan Bromley  
Assistant to the President  
for Science & Technology  
Old Executive Office Building (Rm. 358)  
17th St. & Pennsylvania Ave., N.W.  
Washington, D.C. 20506



**Background Information to Assist  
Policy Experts in Preparing  
European, U.S. and Japanese  
Case Analyses of  
Health/Medical Information Infrastructure**

***The Diebold Institute for Public Policy Studies, Inc.***



"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9124823  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS  
\*\*\*\*\*

FROM: STARCHER, Earl

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 11/10/91

SUBJECT: A LETTER REGARDING THE THEORY OF EVOLUTION OF MEHER  
BABA.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

\*\*\*\*\*  
COPIES TO: LIFE SCIENCES

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
REMARKS: PHONE: EXT:

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FILE: P-LIFE SCIENCES  
CENTRAL FILES:

4823

RECEIVED

91 NOV 13 4 31 29

1

OSTP  
MAIL ROOM

Earl Starcher  
PO Box 550  
Columbus, NM 88029-0550 1 (505) 531-2683

November 10, 1992

The Honorable D. Allan Bromley  
Asst to the President for Science and Technology  
OEO BLDG, Room 358  
17th and Pennsylvania N.W.  
Washington, DC 20506

Dear Sir,

In recent times, Darwins theory of natural selection as the driving force of evolution has met criticism from several different sources. Dr David Foster, a British scientist, seems to have provided conclusive evidence that Darwin was wrong about natural selection with his computation of the specificity of the protein, hemoglobin.\* But, if Darwin was wrong about natural selection, then the question of what the driving force of evolution is, remains unanswered.

For the past 11 months I have been trying to contact scientists about a new and revolutionary concept of evolution which I feel provides the answer as to what the driving force of evolution is. So far, my efforts have been fruitless.

In reviewing what I am trying to accomplish, I have come to realize that this is more a matter for our national educational system rather than some individual scientist. For if the concept proves valid, it would necessarily need be implemented into our educational system by the U. S. Department of Education.

Since early October 1991, I have become aware of "America 2000" and the Carnegie Commission report of September 1991. Since learning of the goals of "America 2000", I feel sure this new concept will contribute greatly towards the improvement of K-12 by 2000. Of course, this new concept will need to be proven by science.

\* The Philosophical Scientists--by Dr David Foster (Dorset Press NYC)



This concept has been given by the greatest spiritual personality that the world has seen for over 700 years. He is Avatar Meher Baba. He was born in India in 1894 and died in 1969. His life and service to humanity has been documented in great detail. His legacy to posterity includes many charts, diagrams and explanations of the origin of the universe and the purpose of evolution which can be useful to science as well as the spiritual minded.

Meher Baba possessed "Divine Authority", "Divine Sight" and "Infinite Consciousness". His knowledge came from personal experience and direct perception and not via a teacher-student relationship. In some circles this is known as "COSMIC CONSCIOUSNESS".

This concept is so simple that it can be taught in kindergarden. No one need be a taxonomist to classify any organism and assign it to the proper kingdom as defined by Meher Baba. This is done entirely by sight, by observing the poise and actions of the organism. This is why I say children in kindergarden could easily catch on and have fun while doing it.

In addition to using sight, there are two criteria that are simple and easily learned. The primary criteria are "The Characteristics of The Different Kingdoms" found on page 30 of the book GOD SPEAKS (see enclosure #1). The second criteria is a determinative formula for transitional forms which can be found on page 21 of the book, BEAMS FROM MEHER BABA (see enclosure #2).

Since evolution is basic to good science, teaching this concept at an early age would go a long way towards solving the problems students have in comprehending science. Understanding the purpose of evolution should also provide satisfying reasons for the human existence.

When I speak of the simplicity of the concept, I am addressing the taxonomic classification and assignments to the kingdoms only. Classifications of subdivisions within kingdoms would still require biological training. The formula for transitional forms given by Meher Baba would likely be of use to scientists who work towards establishing genealogical trees. It would also be useful to the emerging science of molecular phylogenetics.



As a lay person, I have never had any biological training. But by using the two criteria previously mentioned, I can easily see there is a contradiction from what science says and what the Meher Baba concept says. This is why I say the method is simple.

Science says that reptiles evolved subsequent to fish. The Meher Baba concept says that the reptile evolved prior to fish. Science says that the whale is an animal that was formerly a land animal that returned to the ocean. The Meher Baba concept says the whale was never a land animal and will evolve into the bird kingdom (see enclosure #3 for pictorial presentation of the sequence of kingdoms).

It seems science theorizes the whale was formerly a land animal to a large extent because of the rudimentary hindlimb found in the baleen whale. Science theorizes this rudimentary hindlimb is a degenerating remnant carried over from its land animal ancestry. By using the Meher Baba concept one can theorize that this hindlimb is generating legs in preparation for its entry into the bird kingdom.

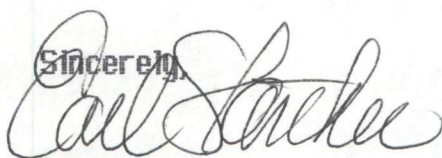
My opinion is that the humpback whale evolves next into the bird kingdom via the form of the penguin. I feel this could easily be checked out by biological paradigms in use today.

As someone who has 26 years of experience with the Meher Baba literature, I feel sure His explanations and diagrams will benefit science immensely, particularly the disciplines of:

- |                          |                                              |
|--------------------------|----------------------------------------------|
| 1. systematics           | 4. genetics                                  |
| 2. embryology            | 5. all medical and psychological disciplines |
| 3. vertebra paleontology | 6. tectonic plate influences                 |

Does this all sound too simple to be true? We will never know if it isn't checked out. Since this concept is of global interest, I intend to contact other nations in an effort to place this in the international scientific community. I hope our nation is not left at the starting gate of the New World Order because of preconceived notions of our scientists.

Sincerely,

  
Earl Starcher



This same letter and enclosed material has been addressed and sent to :

The Honorable Lamar Alexander  
U. S. Department of Education  
400 Maryland Ave, S.W.  
Washington, DC 20202

Ms Maxine F. Singer  
Carnegie Institution of  
Washington  
1513 "P" Street, N. W.  
Washington, DC 20005

The Honorable Walter E. Massey  
National Science Foundation  
1800 "G" Street, N.W. Room 520  
Washington, DC 20550

Mr James B Reston  
New York Times  
229 West 43rd Street  
New York, NY 10036

The Honorable Bernadine Healy  
National Institute of Health  
9000 Rockville Pike Bldg 1, Room 126  
Bethesda, Md 20205

The Honorable James D. Watkins  
U. S. Department of Energy  
1000 Independence Ave, S.W.  
Washington, DC 20585

Mr Frank Press  
President  
National Academy of Sciences  
2101 Constitution Ave  
Washington, DC 20418

Ms Shirley Malcom,  
Directorate for Education and Human Resources programs  
American Association for the Advancement of Science  
1333 "H" Street, N.W.  
Washington, DC 20005

Mr David Z. Robinson  
Executive Director  
Carnegie Commission on Science, Technology and Government  
10 Waverly Place  
New York, NY 10003



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WALNUT CREEK, CA 94595

PART  
3

THE DIFFERENT KINGDOMS 31

## *Characteristics of the Different Kingdoms*

To achieve complete development of consciousness in the human form, the evolutionary process had to take seven major leaps, viz., from stone to metal, from metal to vegetable, from vegetable to worm, from worm to fish, from fish to bird, from bird to animal and finally from animal to the human being, each possessing different characteristics.

### **Characteristics of the Kingdom of Stones and the Kingdom of Metals**

In the stone-forms and metal-forms, the soul has its initial experiences of the gross world. The kingdom of metals, like the kingdom of stones, is inorganic and solid. Both kingdoms include within their range a rich variety of species. In the solid states of stones and metals, life and energy are dormant. Therefore they are regarded as inanimate. The stone-forms and metal-forms cannot move about by themselves, i.e., they have no voluntary motion. For this reason the consciousness, which associates itself with these forms, tends to assert itself through a recumbent, horizontal position (rather than through an erect position or vertical, upright stand) in the gross world.

### **Characteristics of the Vegetable Kingdom**

In the vegetable kingdom, consciousness realizes itself as half animate and half inanimate. The increased consciousness of the vegetable-form asserts its existence in the gross world through an upright or erect stand. The vegetable-forms have to take the help of some other things such as earth or rock for maintaining an erect position. They can neither stand by themselves nor move voluntarily from place to place since they are rooted in one spot.

### **Characteristics of the Kingdom of Worms**

In worm-consciousness the soul gathers experiences of voluntary movement. It experiences itself as animate. In its travail to gain more and further consciousness, the worm-conscious soul experiences itself in the gross world, first as an invertebrate and later as a vertebrate, and goes on creeping in diverse species of worms. Voluntary movements are made by crawling by means of pairs of legs, sometimes by multiple pairs of legs, and sometimes by pairs of legs and pairs of wings. Worms may have surfaces that are hairy, smooth, silky, rough or scaly. The worm goes through a struggle for existence and survival and is endowed with sensation and life. Sometimes it is an amphibian, i.e., it has not only voluntary movement on earth, but has also mobility in water. For the purpose of this explanation, the worm-form includes all worms, insects, reptiles and amphibia, of their species. Even when they have legs and wings, they have a tendency to crawl and they are distinct from birds and from quadruped animals. The worm-form is recumbent, has no upright or erect stand and is prone to lie prostrate.

### **Characteristics of the Kingdom of Fish**

The fish-conscious soul identifies itself with varied species of fish and experiences the gross world as a living creature in

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EDITION OF "GOD SPEAKS"

ENCLOSURE #1

water (a vertebrate endowed with life and sensation and voluntary motion), and has fins. It goes through a struggle for sustenance and survival. The fish-conscious soul does not assert its existence in the gross world through an erect stand, but experiences itself as recumbent, never holding its head high and erect.

### Characteristics of the Kingdom of Birds

The bird-form enriches (enlightens) consciousness with new experiences since, as a feathered vertebrate, it is capable of flying in the air and, with the help of its two legs, of maintaining an erect stand in the gross world.

### Characteristics of the Kingdom of Animals

The animal-form brings to consciousness further expansion, since it can yield new experiences through the greater varieties existing in the kingdom of animals. Endowed with life, sensation and power of voluntary locomotion, quadruped animals have to face a struggle for existence and survival. They are sometimes herbivorous and sometimes carnivorous. Animal consciousness does not assert its existence in the gross world through erect or upright posture, but has a tendency to look downwards with drooping head. Apes, however, are the most evolved type of animals, and they tend to stand erect like human beings.

### Characteristics of the Kingdom of Human Beings

In the human-form the evolving consciousness of the soul attains its full development. The process of evolution of consciousness has its terminus in the human form. Here consciousness is full and complete.

When a human being is born, it can only lie prostrate and it continues to experience this state for a fairly long period. But it soon expresses a tendency first to sit erect and then to stand

erect. The fully evolved human consciousness of the soul eventually asserts its existence in the gross world through an upright position.\*

#### • THE ASCENDING SOUL

"I died as mineral and became a plant,  
I died as plant and rose to animal,  
I died as animal and I was man.  
Why should I fear? When was I less by dying?  
Yet, once more, I shall die as man, to soar  
With angels blessed; but even from angelhood  
I must pass on; all except God doth perish.  
When I have sacrificed my angel soul,  
I shall become what no mind e'er conceived.  
Oh, let me not exist! For Non-existence  
Proclaims in organ tones, 'To Him we shall return!'"

—Rumi



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94595

ENCLOSURE #2



## The Advancing Life-Stream

THE onward march of evolving consciousness from one species to another proceeds step by step and very rarely by leaps. But the diverse steps in onward evolution must not be rigidly construed. If a particular species is extinct its spiritual purpose can be served by some other kindred species, or by added births in some complementary species, or by deficient and partial expressions through a slightly higher species. In short, evolution takes advantage of innumerable alternatives available to it. It can never be frustrated by minor gaps constituted by extinct species or missing links.

Even if the kangaroos, whooping cranes or any other species of plants or animals become

20

extinct, it will neither arrest nor hamper the advancing life-stream. Nor will it frustrate the real purpose of evolution, which is to arrive at full consciousness. Even if there were a hundred missing links, the advancing life-stream can either forge new suitable species or make new use of existing species.

However, an interesting fact which needs special mention is that at the transition from one species to another species, there is for every such transition a sub-species or a form which is double-faced. It can, as it were, not only look in two opposite directions but also move in two opposite directions. With equal facility it can retain its contact both with the species from which it is disengaging and with the new species into which it is becoming moulded. This intermediate form has to be able to move backwards and forwards. It is absolutely necessary for transitions from one species into another.

Some species help and others hamper the forward movement of the advancing life-stream. For example, weeds retard the development of higher forms of vegetables and plants. Their part in the vegetative life is comparable to that of primitive races in the civilized world. But

21



their function is not merely negative. By competing with higher forms of vegetation, they invite in such higher forms a greater power for struggle for existence. Yet the spiritual status of a species is not always to be determined by its usefulness to some other species. The stinging nettle is not necessarily lower in evolution just because it stings those men who touch it. To think so would be to take a purely anthropocentric view of creation. To view things in their right perspective, we have to see all forms, including human forms, as evolved for the fulfillment of the one eternal divine life.

In its creative self-fulfillment, the advancing life-stream can and does forge new species such as natural or artificial hybrids in vegetable or animal kingdoms. Even man-made hybrids in plants or animals can become a medium for gathering fresh experiences in the ascending scale of evolution. But it is not compulsory for *every* soul to go through these hybrid forms. It is open to the soul to gather these experiences through the parent species from which the hybrids have sprung into existence.

However, evolution is sometimes expedited through hybrid forms, and this would be ap-

plicable to the products of interracial marriages.

The advancing life-stream creates numerous forms. But no form should be regarded as a cage, restricting and canalizing the gathering of experiences in a manner that would exclude intercommunion with other forms of the same species or even with forms of other species. Human beings communicate with each other and evolve together by an interchange of experiences. In the same way, intercommunication of some type is an important factor even in the world of plants and animals. Exchange of experiences and evolving together are not necessarily conditioned by the use of spoken or written language, which facilitates profiting by each other's experiences.

Men can understand each other through spoken or written language and get an opportunity of sharing life with others, but animals also share life together despite the absence of such language. Even animals and plants have a language of their own, a mode of partial or rudimentary intercommunion. They share life with other forms and advance together. In fact all forms and species live in a common world. They not only share life with forms of their own



species but also with forms of other species. Thus birds, beasts, plants and human beings, and all that lives and breathes, make their contributions to the unfolding life of each. The unfoldment of the divine in life is a common enterprise and not an exclusive achievement.

Even the evolution of angels and archangels (with all of their hierarchy) is not to be regarded as an exclusive stream in advancing life. They can incarnate among the human beings and become linked up with the human stream of life. They are also subject to the laws of cycles and all that happens to them is subject to the control of Perfect Masters.

In the subhuman creation, reincarnation of evolved consciousness takes place through the subtle matrix, from which at a later stage a fully formed subtle body develops. Plants and animals do not have a fully developed subtle body, but the rudimentary subtle matrix gradually takes shape according to the stage of development achieved. This subtle matrix is the vehicle for the transmigration of subhuman consciousness from one species into others. It is also the medium in which the subhuman creatures live in the astral before taking a new gross form.

As a general rule the life-stream advances through opposites. For example, those men who have once appeared with mental brilliance in the gross world are sometimes devoid of that mental brilliance in a subsequent incarnation. Of course, the capacities of mental brilliance which they have once acquired are retained in the mental body and are in no way destroyed. But the intrinsic logic of the spiritual advancement of the soul may entail for it a period in which these capacities of mental brilliance are not accessible to it. The opposites of experience\* are equally necessary for the full unfoldment of spiritual understanding.

Once a soul acquires the human form, the general rule is an onward march through human incarnations only. Retrograde incarnation is extremely rare in the advancing self-fulfillment of the life-stream. It sometimes results from flagrant misuse of occult powers. Retrograde incarnation is not a general rule but an extremely rare exception. Continuation of the human form without reversion to any subhuman form is the normal occurrence. Even for

\*Vide "Discourses" of Meher Baba, "God to Man and Man to God."



gross violation of moral laws a corrective is provided by the same soul having to go through the opposite of what he has done or experienced. For example, a person who murders another for lust might himself be murdered for lust, either in the same incarnation or in the next, and thus realize the nefariousness of his heinous crime.

However, retrograde incarnation can take place in those exceptional circumstances where occult powers are used for the perpetration of heinous crimes. A soul which is invested with occult powers (due to his station on a higher plane) is expected to have them under full control. But if he grossly misuses them due to being a victim of his lower desires or ego-projects, he invites upon himself the drastic penalty of having to revert back to the subhuman form and recommence his evolution from that point. This sort of thing can happen on the fourth plane unless there is a timely intervention by some higher beings. But retrogression of this type is very unusual. The forward march of the advancing life-stream brings with it an increasing ascent towards the peak of realized Truth, and an increasingly greater unfoldment of inner divinity.



## Avatar as the First Master

IN THE infinite Beyond state of God, which transcends the categories of consciousness as well as unconsciousness, there appeared the first initial urge for God to know Himself. And with the arising of this initial urge, there was an instantaneous manifestation of infinite consciousness as well as infinite unconsciousness, as simultaneous resultants. Of these two seemingly opposite but complementary aspects, the infinite consciousness plays the role of the Avatar or Divine Incarnation. The infinite unconsciousness finds its expression through an evolution, which seeks to develop full consciousness through time processes. In the human form, the full consciousness strives to



# Declarations of Divinity

BY

MEHER BABA

"I am the Ancient One. Not a leaf has the power to quiver without My wish. I am the one who knows everything about everyone."

"I am the Highest of the High, and want you to love Me not for any spiritual or material gain....I want you to love Me for Myself, as being God in human form."

"I am in everyone and in everything. I am everywhere and everything. For years you have worshipped Me in the Badrinatayan Temple, worshipping the image of stone. Today you are blessed to have the opportunity of My darshan in this physical form."

"I am the Lord of the Universe and I am the slave of My lovers."

"The universe has come out of Me, and has to come unto Me. This is no idle talk. I say it with the authority of my experience of being the Ancient One."

"I say with my divine authority, I am God in human form, therefore love me."

"And the glory of the suns is the seventh shadow of my real state of Reality. Even a glimpse of this glory is enough for one to lose all consciousness."

"I am the light of the Universe."

"I am the Ancient One and the creation is my shadow; so I know what has happened and will happen before and after millions of years, which is nothing but illusion."

"I am Krishna. I want all of you to love me as Mira loved me."

"I am God, I am in you all. Since eternity I never come and I never go. I am present everywhere."

"I belong to no religion. Every religion belongs to Me. My own personal religion is of My being the Ancient Infinite One and the religion I teach to all is of love for God."

"I am the One so many seek and so few find. No amount of intellect can fathom Me. No amount of austerity can attain Me. Only when one loves Me and loses one's self in Me, am I found."

"I can say with Divine Authority that I experience eternally, consciously and continually being One with you all, and One in you all. Any worship or obedience to any deity - animate or inanimate - to any Saint, Master, Advanced Soul, or Yogi, eventually comes to me. By offering pure unadulterated love to anyone and to anything you will be loving Me, as I am in everyone and in every thing, and also beyond everything."

"I, too, am old...older than the earth..."

"I am the God of Gods. Have trust in Me. I know everything, don't worry."

"I am Krishna, I am Buddha, I am Christ."

"I am not this physical form. I am the Ocean - the unlimited Ocean of Love. Try to love Me more and more and you will know Me."

"I am not limited by this form. I use it like a garment to make myself visible to you; without it you could not see Me. And I communicate with you through words best fitted to your understanding. If I used the language of My own consciousness, you would not know what I was talking about."

"Don't try to understand me. My depth is unfathomable. Just love Me."

"Though none of you understand me externally in My physical form, I am within you - within everybody - as the Real, Infinite Christ."

"I am God - God the Beyond and God in human form."

"I was Rama, I was Krishna, I was this One, I was that One, and now I am Meher Baba. In this form of flesh and blood I am that same Ancient One who alone is eternally worshipped and ignored, ever remembered and forgotten."

"I am that Ancient One whose past is worshipped and remembered, whose present is ignored and forgotten and whose future (Advent) is anticipated with great fervour and longing."

"I am what I am, whether the world bows down to Me, or whether it turns against Me; it does not matter. It is no one's fault."

"If people call me Messiah, Saviour or Redeemer, it does not affect Me. Terms and names do not matter. What really matters is the state of Christ Consciousness that I eternally enjoy and towards which I shall lead all who come to Me."

"The time has come. I repeat the call and bid all come unto Me."

"I say with my Divine Authority to each and all that whosoever takes My name at the time of breathing his last comes to Me; so do not forget to remember Me in your last moments. Unless you start remembering Me from now on, it will be difficult to remember Me when your end approaches. You should start practicing from now on. Even if you take My name only once every day, you will not forget to remember Me in your dying moments."

Quotes from Meher Baba's writings done by Permission from Adi K. Irani Copyright and Licensee.



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FROM: STANDAERT, Frank G.: AMERICAN SOCIETY FOR PHARMACOLOGY AND  
EXPERIMENTAL THERAPUTICS

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 11/01/91

SUBJECT: A COPY OF A LETTER TO PRESIDENT BUSH URGING THE  
PRESIDENT TO RECOMMEND TO CONGRESS A FISCAL BUDGET  
FOR 1993 WHICH WILL RESTORE VIGOR TO AMERICA'S  
BIOMEDICAL RESEARCH EFFORTS.

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ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

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American Society for Pharmacology  
and Experimental Therapeutics

**Anthony J. Mazzaschi**  
Public Affairs and Education Officer

(301) 530-7060  
FAX: (301) 530-7061

9650 Rockville Pike  
Bethesda, MD 20814-3995



AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

9650 Rockville Pike

Bethesda, Maryland 20814-3995

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DIRECTOR

4672  
Kay A. Croker  
Executive Officer

November 1, 1991

The President  
The White House  
Washington, DC 20500

Dear Mr. President:

We strongly urge you to recommend to Congress a fiscal 1993 budget for the National Institutes of Health and the Alcohol, Drug Abuse, and Mental Health Administration that provides sufficient funds to restore vigor to America's basic biomedical research efforts.

The past success of America's investment in biomedical research has resulted in increased demands for more research in order to deliver more benefits to more people. New research programs have been initiated on Acquired Immune Deficiency Syndrome, substance abuse, and women's health, as well as on behavioral and psycho-social problems. These are important programs and must be continued. However, part of the funding for these programs has come at the expense of investigator-initiated, fundamental research. Consequently, the funds available for such untargeted research have declined and the success rate for investigator-initiated research proposals has dropped so low that many outstanding scientific opportunities are going unexplored.

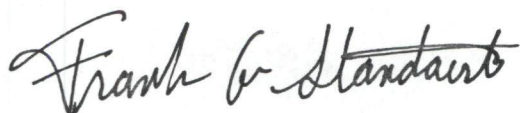
Fundamental, non-programmatic, small scale biomedical research is the genesis of all means for understanding diseases and their treatment and prevention. This research is carried out by individual investigators or small groups of researchers and helps to spread the knowledge of biomedical advances and spur economic activity in every state. Because of its unique character this research has yielded the innovative discoveries that have led to the advances that are now being expanded in larger scale targeted research, biotechnology development and clinical utility.

Biomedical research is at the threshold of major discoveries that will revolutionize clinical practice, affect the lives of millions of Americans through improved health and save billions of dollars through reduced medical care expenditures and increased productivity. However, these advances will occur only if we invest in the future by funding basic research. With all respect, we strongly urge that you support a fiscal 1993 appropriation for NIH and ADAMHA that will allow an increase in the success rate for investigator-initiated research project grant applications.

November 1, 1991  
Page Two

Past performance indicates that funds appropriated to NIH and ADAMHA will more than pay for themselves by reducing health care expenditures and spurring ancillary economic activity. Your strong support for the critical research that should be funded by NIH and ADAMHA investigator-initiated research project grants will save thousands of lives and billions of dollars. This investment is essential, Mr. President.

Respectfully Yours,



Frank G. Standaert, MD  
President,  
American Society for Pharmacology and  
Experimental Therapeutics



J. Minor Coon, PhD  
President,  
American Society for Biochemistry and  
Molecular Biology



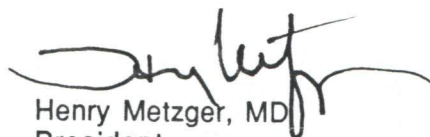
Marc W. Kirschner, PhD  
President,  
American Society for Cell Biology



Norman C. Staub, MD  
President,  
American Physiological Society



Donald B. McCormick, PhD  
President,  
American Institute of Nutrition



Henry Metzger, MD  
President,  
The American Association of  
Immunologists



Donald L.D. Caspar, PhD  
President,  
Biophysical Society



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20506

November 13, 1991

MEMORANDUM FOR ALLAN BROMLEY

FROM:

D.A. HENDERSON 

SUBJECT:

POSSIBLE LANGUAGE FOR REPLY

We recognize the very major contributions made by biomedical research in improving human health and the ever expanding horizons of opportunity to further accelerate that effort. Investigator-initiated research continues to be the basic foundation of programs in the field and it is our hope that, within the constraints of a very stringent budget, additional resources will be found to permit appropriate expansion of that effort.

The block contains several handwritten signatures and initials. On the left, there is a signature that appears to be "D. Henderson" with a checkmark next to it, and another signature below it. To the right of these, there are the initials "OK" and a large, stylized signature that looks like "DAB".

Please draft a brief  
noncommittal letter  
of Thanks.

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FROM: CHAMBERS, Charles M.: AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 10/30/91

SUBJECT: RE: HIS ENDORSEMENT OF JOHN PATRICK JORDAN FOR THE  
POST OF COOPERATIVE STATE RESEARCH DIRECTOR.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

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AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

Charles M. Chambers  
Executive Director

October 30, 1991

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OFFICE OF THE  
DIRECTOR

The Honorable D. Allan Bromley  
Assistant to the President  
for Science and Technology  
and Director  
Office of Science and Technology Policy  
Executive Office of the President  
The White House  
Washington, DC 20506

Dear Director Bromley:

As you may know, our good mutual colleague in the Department of Agriculture, Assistant Secretary for Science and Education Charles E. Hess, has returned to his academic work at the University of California at Davis. Last summer, I wrote to Secretary Madigan suggesting that maintaining our nation's great and growing leadership in agricultural research is essential to our continued international competitiveness. The recent dramatic events that have unfolded in the Soviet Union have only underscored the importance of that view.

Because I know you share our interest in having strong and capable scientific leaders throughout the senior cabinet level offices, I thought you might be interested in learning of our endorsement of Cooperative State Research Director John Patrick Jordan for this important post. A copy of my letter is enclosed.

This Institute, founded under federal charter as part of the National Academy of Sciences in 1947 and independent since 1955, has a longstanding interest in agricultural research and education. If I may elaborate on my endorsement of Dr. Jordan, please let me know.

Sincerely yours,

Charles M. Chambers

Enclosure





AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

Charles M. Chambers  
Executive Director

July 31, 1991

The Honorable Edward R. Madigan  
Secretary of Agriculture  
Room 200-A, Administration Building  
14th Street and Independence Avenue, S.W.  
Washington, DC 20250

Dear Secretary Madigan:

This Institute, founded under federal charter as part of the National Academy of Sciences in 1947 and independent since 1955, has a longstanding interest in agricultural research and education.

We have been pleased to have had a number of opportunities to work productively with Assistant Secretary Charles Hess recently, and his predecessor, Orville Bentley, in many areas of advanced scientific study as applied to our nation's food and fiber enterprises.

With Dr. Hess now returning to his academic work at the University of California at Davis, I am writing to encourage you to consider the importance of maintaining your department's great and growing leadership in agricultural research as essential to our continued international competitiveness. To our mind, the ideal candidate would be a qualified research scientist who has extensive experience with your extension network, and who has known and respected views on agriculture policy, especially on Capitol Hill.

There are doubtlessly many such prospects in the private sector who could be recruited. May we also suggest that you could not be better served by considering one of your own, Dr. John Patrick Jordan, Administrator of the Cooperative State Research Service.

While I could spend several pages reciting Dr. Jordan's accomplishments and qualifications, I believe you will find the following one most telling. This Institute is a federation of 47 scientific society and research laboratories representing the entire medical, agricultural, environmental and basic biological communities of over 80,000 members. Each year one, and only one, biologist is elected president to lead AIBS. In 1988, Dr. Jordan was so honored.

Best wishes in filling this important post, and if I may provide further information, please let me know.

Sincerely,

Charles M. Chambers

cc: Mr. Chase Untermeyer  
Executive Office of the President

THE WHITE HOUSE  
WASHINGTON

November 5, 1991

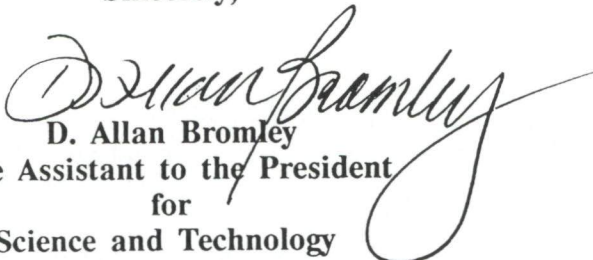
Dear Dr. Chambers:

Thank you for your letter of October 30 sharing your organization's endorsement of John Patrick Jordan as a potential nominee for Charlie Hess' position at Agriculture--not easy shoes to fill as Charlie was an extremely strong and able spokesperson in the Department of Agriculture.

I will, as opportunity presents itself, indicate that I have heard from you and am aware of the American Institute of Biological Sciences' interest in this important post.

I appreciate your letting me know.

Sincerely,

  
D. Allan Bromley  
The Assistant to the President  
for  
Science and Technology

Dr. Charles M. Chambers  
Executive Director  
American Institute of Biological Sciences  
730 11th Street, NW  
Washington, DC 20001-4521



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FROM: GIBBONS, John H.: OFFICE OF TECHNOLOGY ASSESMENT

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 10/29/91

SUBJECT: PROVIDING DR. BROMLEY WITH A COPY OF OTA'S REPORT ON  
BIOTECHNOLOGY IN A GLOBAL ECONOMY.

\*\*\*\*\*  
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ACTION STAFF  
REQUIRED: ACTION:

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JOHN H. GIBBONS

JOHN H. GIBBONS  
DIRECTOR

Congress of the United States  
OFFICE OF TECHNOLOGY ASSESSMENT

WASHINGTON, DC 20510-8025

October 29, 1991

91 OCT 31 A10:14

The Honorable D. Allan Bromley  
Assistant to the President for  
Science and Technology  
Director, Office of Science and Technology Policy  
Old Executive Office Building  
17th Street & Pennsylvania Avenue, N.W.  
Washington, DC 20506

OFFICE OF THE  
DIRECTOR

Dear Al:

I am pleased to enclose OTA's Report on Biotechnology in a Global Economy.

Since the discovery of recombinant DNA technology in the early 1970s, biotechnology has become an essential tool for many researchers. Biotechnology--which has the potential to improve the Nation's health, food supply, and the quality of the environment--is viewed by several countries as a key to the marketplace of the 21st century. In order to understand the potential of biotechnology in a global economy, it is first necessary to identify current and potential applications of biotechnology, and to learn how various Nations support and regulate the uses of biotechnology in commerce.

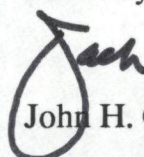
This report examines the impact of biotechnology in several industries, including pharmaceuticals, chemicals, agriculture, and hazardous waste clean-up; the efforts of 16 Nations to develop commercial uses of biotechnology; and the actions, both direct and indirect, taken by various governments that influence innovation in biotechnology.

Seven policy issues relevant to U.S. competitiveness in biotechnology were identified during the course of the study:

- Federal funding for biotechnology research,
- targeting biotechnology development,
- developing regulations,
- coordinating Federal agencies,
- protecting intellectual property,
- improving industry-university relationships, and
- structuring coherent tax policies.

I hope you will find the Report useful and informative, and I invite you to call me or Kevin O'Connor, Project Director, at 8-6692 to answer any questions you may have regarding this assessment.

Sincerely,

  
John H. Gibbons

Enclosures:  
Summary  
Report  
Report Brief





## Biotechnology in a Global Economy

Biotechnology—both as a scientific art and commercial entity—is less than 20 years old. In that period of time, however, it has revolutionized the way scientists view living matter and has resulted in research and development (R&D) into products that can dramatically improve human and animal health, the food supply, and the quality of the environment (see box A). Still, many early prognostications about biotechnology, seen in retrospect, were premature. To date, most U.S. biotechnology companies have no sales and have been losing money since their inceptions. Products have not been developed and marketed as quickly as previously thought possible, and many scientific and public policy issues remain unsettled.

OTA finds that two prerequisites are necessary for a nation to fully compete in biotechnology: a strong research base, and the industrial climate to convert the basic research into products. By these measures, the United States remains preeminent in biotechnology, with strong research programs (primarily in biomedicine), well-established pharmaceutical and agricultural industries, and resources of venture capital and public financing that made possible the creation of hundreds of dedicated biotechnology companies (DBC's). U.S. patent law provides generous protection for all kinds of biotechnology-derived inventions, and laws and regulations to protect the public health and environment are largely in place.

The competitiveness of U.S.-developed biotechnology *products and processes* may ultimately depend on broad issues, e.g., protection of intellectual property, the regulatory climate, tax policies, and fair trade practices. The competitiveness of U.S. *innovation*, however, could very well rely on the ability of biotechnology companies to stay in business. Because biotechnology is capital-intensive, staying in business means raising substantial sums of cash. Startup companies' fundamental need for cash, coupled with the desire of venture capitalists to profit from the creation of high-value-added products based on cutting-edge technology have led to the financial community's substantial involvement in the formation of DBC's. Biotechnology companies had little trouble raising cash in the early 1980s, but several factors, including the 1987 stock

### *Box A—What Is Biotechnology?*

Biotechnology is not an industry. It is, instead, a set of biological techniques developed through decades of basic research that is now being applied to research and product development in several existing industrial sectors (e.g., pharmaceuticals, therapeutics, agriculture, hazardous waste cleanup). The term "biotechnology" means different things to different people. A broad definition encompasses both new biological tools as well as ancient uses of selecting organisms for improving agriculture, animal husbandry, or brewing. A second, more narrow definition refers to "new" biotechnology: the industrial use of recombinant DNA, cell fusion, and novel bioprocessing techniques. It is the development and uses of this new biotechnology that has captured the imagination of scientists, financiers, policymakers, journalists, and the public. As in earlier reports, OTA uses the term "biotechnology," unless otherwise specified, to refer to new biotechnology.

market crash, have tightened the availability of venture capital financing. As DBC's attempt to move toward development, testing, and marketing of products (the expensive steps in creating biotechnology-derived products), other forms of financing (e.g., limited partnerships, secondary public offerings, strategic alliances, consolidation) are likely to occur. Currently, there is insufficient evidence to state that foreign acquisition threatens U.S. commercial interests in biotechnology. As U.S. DBC's move closer to product reality, however, foreign corporations with large pools of cash may be more willing to pursue acquisition in order to assure manufacturing rights.

### *Commercial Activity*

Although the arrival of products has been slower than expected, the development of biotechnology-based pharmaceutical products is flourishing. To date, 15 biotechnology-based drugs and vaccines are on the market, over 100 are in the various stages of human clinical testing, and many new products are in the pipeline. Revenues in the United States from biotechnology-derived products were estimated to be approximately \$1.5 billion in 1989, and \$2 billion in 1990. Both DBC's and established, multinational pharmaceutical companies are utiliz-



ing the tools and techniques of biotechnology in their drug development efforts. Although biotechnology will not fundamentally change the structure of the pharmaceutical industry, it is likely to be the principal scientific driving force for the discovery of new drugs and therapeutic chemical entities as the industry enters the 21st century.

The impact of biotechnology in other industrial sectors is mixed. In agriculture, biotechnology has the potential to increase yields, to lower the cost of agricultural inputs, and to contribute to the development of new high-value-added products to meet the needs of consumers and food processors. Potential products include seeds, pesticides, veterinary diagnostics and therapeutics, food additives, food processing enzymes, more nutritious foods, and crops with improved food processing qualities. Thus far, R&D has focused on crops and traits that are easiest to manipulate, particularly properties that are controlled by single genes in certain vegetable crops. The potential profit from new agricultural products depends on a variety of factors, such as the size of the market, competition with substitutes, rates at which new products and technologies are adopted, potential for repeat sales using patent or technical protection, regulatory hurdles, and consumer acceptance of new foods.

Biotechnology has a limited, though varied, role in chemical production. Products—e.g., chemicals produced by fermentation and enzymes with altered characteristics—will probably be developed and introduced by major firms without the fanfare that has accompanied other biotechnology developments and, like much of chemical production, will remain unknown to those outside the industry. The chemical industry's greatest use of biotechnology may be the result of the industry's expanding investment in pharmaceuticals and agriculture. This reflects the industry's shift away from the production of bulk chemicals and toward investment in research-intensive, high-value-added products, the worldwide industry response to oil shocks, recessions, and increasing competition.

Although biotechnology has several potential environmental applications—including pollution control, mining, and microbially enhanced oil recovery—commercial activity to date is minuscule. Bioremediation, efforts to use biotechnology for waste cleanup, has received public attention because of the use of naturally occurring micro-organisms in oil-spill cleanups, but the scientific, economic, regulatory, and public perception barriers to use of bioengineered organisms that were apparent a decade ago still exist. Commercial use of such organisms for environmental cleanup is not likely for the near future.

### *Industrial Policy*

The U.S. Government has made no deliberate attempt to influence the level and composition of the Nation's industrial output related to biotechnology. Various Federal agencies have formulated policies

to encourage growth, innovation, and capital formation in all high-technology industries, but have not drastically changed their practices for biotechnology. Companies wishing to commercialize biotechnology products confront many of the same regulatory, intellectual property, and trade policies faced by other U.S. high-technology firms.

Developed primarily in U.S. laboratories, many applications of biotechnology are now viewed by companies and governments around the world as essential for economic growth in several different industries. In general, countries that have targeted biotechnology for government support and encouragement (e.g., Japan, Korea, Singapore, and Taiwan) emphasize export-driven growth. In the United States and much of Europe, in contrast, growth promotion is less prominent and is one of many competing social concerns. The development of regulations has likewise varied; several Pacific Rim nations have not developed regulations specifically dealing with biotechnology. Some European countries (e.g., Denmark and Germany) have responded to public pressure to impose laws and regulations specific to biotechnology. Australia, Brazil, France, Japan, The Netherlands, the United Kingdom, and the United States allow the use of biotechnology with some restrictions and oversight.

Intellectual property law, which provides for ownership of the work of the mind, fosters new inventions. U.S. patent law is the broadest and most inventor-generous statute in the world; in addition to processes, patents have now been issued for microbes, plants, and, in one instance, a transgenic animal. Harmonization of international patent law looms as perhaps the greatest challenge for commercializing biotechnology-related processes and products.

Seven policy issues relevant to U.S. competitiveness in biotechnology were identified during the course of this study. They are:

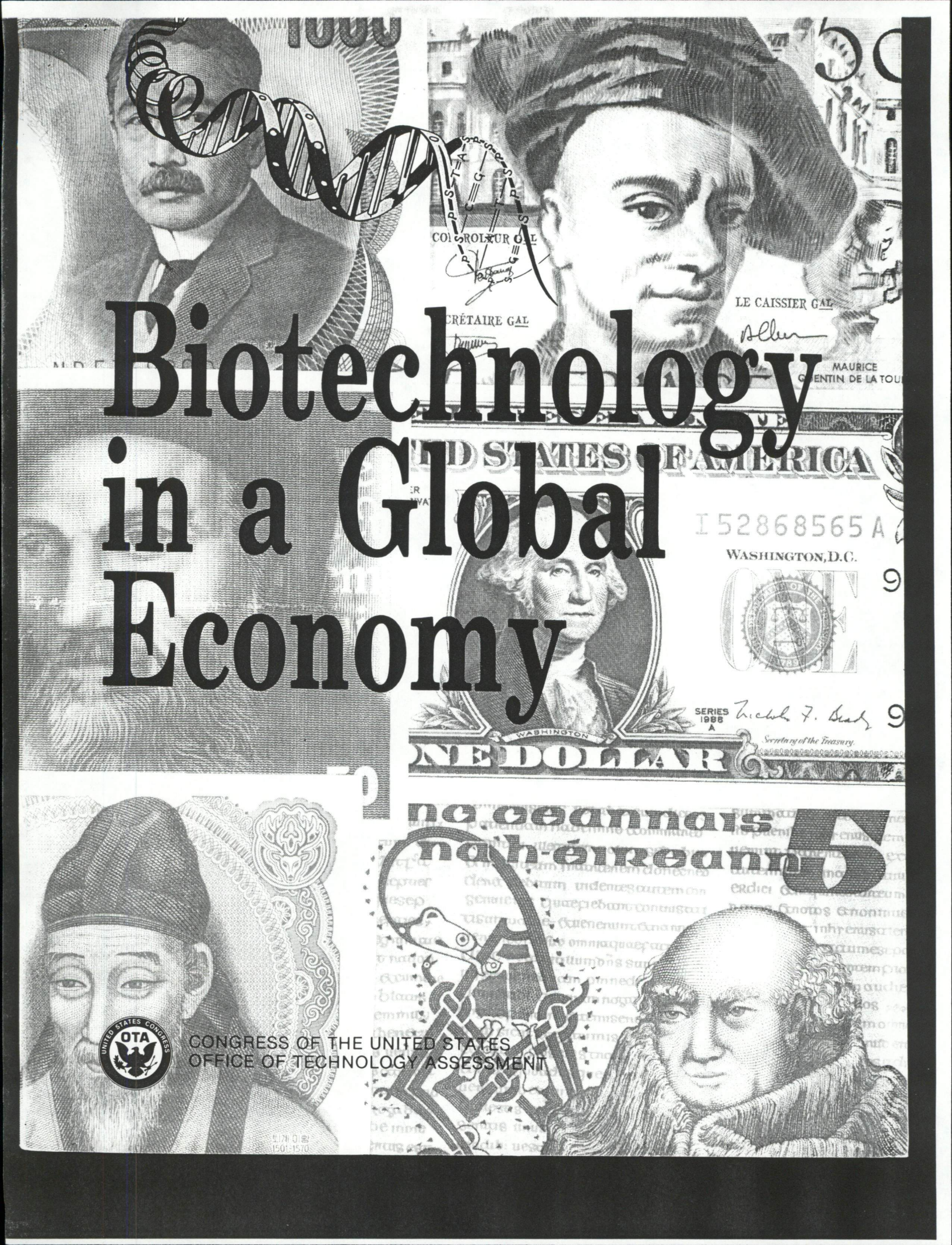
- Federal funding for biotechnology research,
- targeting biotechnology development,
- development of regulations,
- coordination of Federal agencies,
- intellectual property protection,
- industry-university relationships, and
- tax policies.

*Copies of the report for congressional use are available by calling 4-9241.*

*Copies of the report for non-congressional use can be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325 (202) 783-3238. The GPO stock number for the OTA report, "Biotechnology in a Global Economy," is 052-003-01258-8. The price is \$13.00. The GPO stock number for the summary is 052-003-01259-6. The price is \$1.75.*

*For further information contact OTA's Publications Office. Address: OTA, U.S. Congress, Washington, DC 20510-8025 (202) 224-8996.*





# Biotechnology in a Global Economy

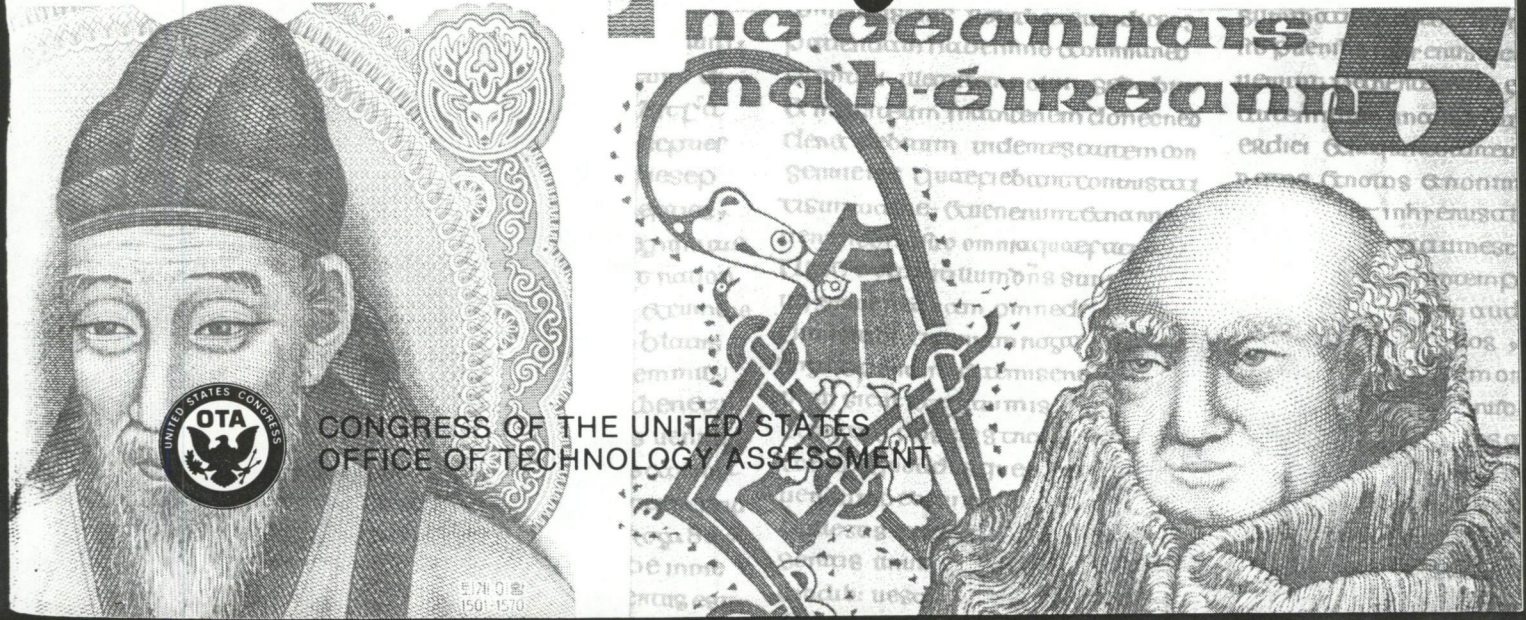


CONGRESS OF THE UNITED STATES  
OFFICE OF TECHNOLOGY ASSESSMENT





# Biotechnology in a Global Economy





"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9124687  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS  
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FROM: GOLDSTEIN, George S.

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 10/28/91

SUBJECT: A THANK YOU TO DR. BROMLEY FOR ATTENDING THE FRIENDS  
OF THE NATIONAL LIBRARY OF MEDICINE PATRON'S DINNER  
AND ENCLOSING SOME INFORMATION ABOUT HIS NEWLY  
FORMED PHARMACEUTICAL R&D COMPANY.

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DIRECTORATE STAFF  
ASSIGNED: LIFE SCIENCES ASSIGNED:

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SENDER'S DUE DATE:  
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COPIES TO: D. Allan Bromley

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THE WHITE HOUSE

WASHINGTON

December 4, 1991

Dear George:

It was indeed a pleasure chatting with you and Gail Wilensky during the recent meeting of friends of The National Library of Medicine. I was interested to receive the information about the suitable discovery corporation. It looks fascinating, but it is far enough from my area of personal expertise so that I would not venture any professional comment.

Let me only wish you every success with it.

With all best wishes,

Sincerely yours,

A handwritten signature in dark ink, reading "D. Allan Bromley". The signature is fluid and cursive, with the first name "D. Allan" and the last name "Bromley" clearly distinguishable.

D. Allan Bromley  
The Assistant to the President  
for  
Science and Technology

Dr. George S. Goldstein  
Lodge Road  
Briarcliff Manor, New York 10510



4687

GEORGE S. GOLDSTEIN, M.D., F.A.A.P.

LODGE ROAD

BRIARCLIFF MANOR, NEW YORK 10510

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91 NOV 6 P 3:48

October 28, 1991

Dr. Allen Bromley  
Science Advisor to The President  
The White House  
Washington, D.C.

OFFICE OF THE  
DIRECTOR

Dear Dr. Bromley:

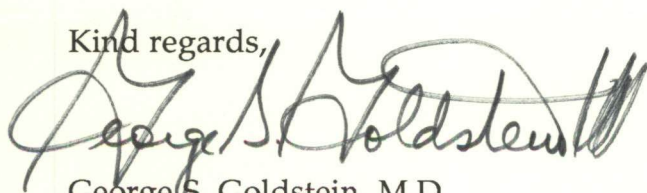
This is just a brief note to express my appreciation for your attendance at the Friends of The National Library of Medicine Patron's Dinner last Thursday evening. More than that though, I vey much enjoyed the three-way conversation with you and Gail Wilensky.

It was gratifying to meet someone who knew Polykarp Kusch, since despite his Nobel laurels, he seems to be very much out of the public eye these days.

Since you are, as I understood it, both physicist and engineer, I am taking the liberty of enclosing some brief descriptions of the technology that underlies the R&D company we have started in pharmaceuticals. One of its' principal virtues is its potential for eliminating the need for radioactivity in the study of drug-receptor interactions. Any comments you might wish to make would be warmly welcomed.

Thanks again for the pleasant conversation, and I enjoyed meeting you!

Kind regards,



George S. Goldstein, M.D.

GSG/df  
Enclosure

### Executive Summary

Pharmaceutical Discovery Corporation (PDC) is developing new drugs to treat diseases of the Central Nervous System (CNS) and Cardiovascular systems through its novel, proprietary, Photofluor™ technology. PDC is also applying Photofluor™ technology to the development of new, environmentally safe, inexpensive and more accurate diagnostic tests. The genesis for the proprietary Photofluor™ technology was the basic research performed by PDC's scientists and advisors at leading universities and research institutions. PDC's scientific and management team developed this technology to its present (patent pending) state and is currently employing its technology under contract to and on behalf of major pharmaceutical client companies.

Photofluor™ technology enables PDC to discover new and important medicines by characterizing real-time (milli-second) activity of novel entities in the CNS and cardiovascular system. This technology reveals actions of new compounds which would otherwise not be discernible. Through its unique understanding and quantification of mechanisms of drug action, PDC is developing treatments for conditions currently not treatable such as stroke, head injury, cocaine abuse and the complications of diabetes. PDC is applying Photofluor™ technology to develop the next generation of anti-convulsants, anti-psychotic and anti-hypertensive medicines that are more specific, closely targeted, safer, and have fewer side effects than existing medications.

PDC's Photofluor™ technology also provides the foundation for a new generation of diagnostic techniques which are exquisitely sensitive, environmentally safe and far less expensive than current techniques based on radioactive materials. Consequently, this allows the performance of rapid, sensitive and accurate diagnostic testing while the patient is still in the physician's office; thus, eliminating the need for biological samples to be collected, labeled, documented, and then sent to central, radioactive site-licensed laboratories for processing and reporting. Currently being developed are an accurate assay for renin (in collaboration with one of PDC's scientific advisors), a test for the presence of the pathogen which causes Lyme's disease and tests for the specific viruses which cause the common cold. PDC's new tests for bacteria, protozoa and viruses are based on the pathogen itself rather than an immunological response to the pathogen. Early detection of the pathogen makes treatment easier, safer and more efficacious. PDC's management believes that Photofluor™ technology has the potential of revolutionizing diagnostic testing in microbiology in the same manner that Technicon, Baxter and others revolutionized clinical blood chemistry testing in the preceding decades.



Photofluor™ binding possess several major advantages over traditional radioligand binding. First, it can detect phenomena which cannot be observed with radioligand techniques. These include short-lived events which occur relatively quickly after the tissue is exposed to the ligand. Fluorescence can be measured immediately after incubation, while traditional radioligand techniques require several minutes or longer before a measurement can be made. Failure to detect these "early:" phenomena may mask the mechanism of a new drug, or worse, lose the opportunity to elucidate new mechanisms and consequently new indications and the substantial revenues that come with them.

The second advantage is that in a given period of time a greater number of compounds can be screened with fluorescence binding than with traditional radioligand binding. Fluorescence binding is a relatively quick procedure and requires only two steps, incubation and fluorimetry. Traditional radioligand binding is time consuming and involves four or more steps, incubation, addition of the scintillation "cocktail", transfer to the scintillation counter and determination of radioactivity over a period of several hours. The difference in number of steps and time required to perform the assay translates to a saving in manpower and faster screening of compounds.

The third is that fluorescence can provide a real time continuous read-out of binding activity, unlike traditional radioligand techniques which measure binding at only one point in time. Fluorescence thereby provides a means of studying receptor kinetics.

The fourth and, perhaps, most important advantage is the total elimination of radioactivity from the assay procedure. Photofluor™ binding uses fluorescence rather than radioactivity, therefore, the need for laboratory certification, and the tremendous costs of laboratory waste disposal are reduced or eliminated. Furthermore, the environmental safety advantages afforded not only enhance the corporate image, but provide reduced health risks to employees.

In summary, Photofluor™ binding possesses major advantages over conventional radioligand binding:

- 1) Faster Screening of Compounds
- 2) Enhanced Sensitivity
- 3) Reduced Manpower Requirements
- 4) Real Time Continuous Readout to Study Receptor Kinetics
- 5) Elimination of Radioactive Hazards
- 6) Significantly Reduced Costs

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TYPE: INFORMATION DOCUMENT NUMBER: 9124533  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS  
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FROM: BEVEN, Terence : AMERICAN COLLEGE OF NUCLEAR PHYSICIANS

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 10/16/91

SUBJECT: A THANK YOU LETTER REGARDING DR. BROMLEY'S INTEREST  
IN THE CONGRESSIONAL BREAKFAST MEETING OF 09/26/91.  
IN ADDITION A BRIEFING PACKET IS PROVIDED.

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REQUIRED: ACTION:

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DATE COMPLETED: DATE COMPLETED/DEPT:

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COPIES TO: D. Allan Bromley  
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Carl Bretscher

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ACNP

1101 Connecticut Avenue, N.W. • Suite 700 • Washington, D.C. 20036

(202) 429-5120

Fax (202) 223-4579

4533  
SNM

American  
College of  
Nuclear  
Physicians

The Society  
of Nuclear  
Medicine

91 OCT 24 A 8:45

OFFICE OF THE  
DIRECTOR

October 16, 1991

The Honorable D. Allan Bromley  
Assistant to the President  
for Science and Technology  
Old Executive Office Building  
17th and Pennsylvania Avenue, N. W.  
Washington, D. C. 20500

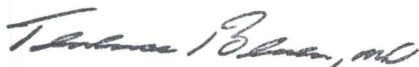
Dear The Honorable D. Allan Bromley:

On behalf of the American College of Nuclear Physicians (ACNP) and the Society of Nuclear Medicine (SNM), we are writing to thank you for your interest in the Congressional breakfast briefing on Thursday, September 26, 1991. A copy of the briefing packet is enclosed for your review.

We are encouraged by the remarks of our keynote speaker, Dr. William Happer, and look forward to continuing our relationship with the DOE in the development of promising research initiatives in diagnostic imaging and therapy. We are urging the DOE to reconsider the priority assigned to biomedical and nuclear medicine research funding. The ACNP and SNM recognize that a cooperative relationship between the nuclear medicine community and the DOE is necessary to ensure the continued success of research opportunities in nuclear medicine.

We look forward to your attendance at future ACNP/SNM briefings. Please do not hesitate to contact Kristen Morris or Valerie Fedio, ACNP/SNM Washington Office, 202/429-5120, for additional information regarding the issues discussed.

Sincerely,



Terence Beven, M. D.  
President  
American College of Nuclear Physicians



Leon S. Malmud, M. D.  
President  
Society of Nuclear Medicine

**AMERICAN COLLEGE OF NUCLEAR PHYSICIANS  
SOCIETY OF NUCLEAR MEDICINE**

*Congressional Briefing on Nuclear Medicine  
for the House Republican Research Committee  
Task Force on Energy*

*Thursday, September 26, 1991  
7:00 a.m. to 9:00 a.m.*

*Capitol Hill Club, Presidential Dining Room  
Washington, D. C.*

**Program** 

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*7:00 a. m.                      Breakfast*

*7:45 a.m.                      Welcome*

*Dr. Terence Beven, President  
American College of Nuclear Physicians*

*8:00 a.m.                      Keynote Speaker*

*Dr. William Happer, Director, Office of Energy Research  
Department of Energy*

*8:30 a.m.                      Dr. Stanley J. Goldsmith, Director, Andre Meyer Department of Physics-  
Nuclear Medicine  
The Mount Sinai Medical Center, New York, New York*

*8:45 a.m.                      Closing Comments*

*Dr. Terence Beven*



## AMERICAN COLLEGE OF NUCLEAR PHYSICIANS

### THE SOCIETY OF NUCLEAR MEDICINE

#### Issue Brief

The American College of Nuclear Physicians (ACNP) and the Society of Nuclear Medicine (SNM) represent approximately 14,000 physicians, scientists, technologists and radiopharmacists involved in nuclear medicine clinical practice and research. In a typical nuclear medicine procedure, the imaging study, a very small amount of a radioisotope is administered by injection. This radioisotope may be designed specifically to concentrate in a certain organ or to be metabolized or removed from the body by a particular route. The transit is recorded by instrumentation which images the distribution of the radioactive preparation in the body. Radiopharmaceuticals may also be used in the treatment of disease. For example, both the President and First Lady have been treated for Graves' disease with a therapeutic nuclear medicine procedure. Each year in the United States, approximately 10,000,000 nuclear medicine imaging procedures are performed.

The patients who have been served by nuclear medicine, both in the United States and in most other countries around the world, have benefitted immensely from support from the Atomic Energy Commission (AEC) and the Department of Energy (DOE). In order for the United States to retain its prominent role in the application of radioactive materials in medicine, it is essential that this nation provide a reliable source and supply of radioisotopes.

The future of nuclear medicine is contingent upon the production and availability of stable and radioactive isotopes for both clinical and research purposes. For this reason, the DOE manages the Medical Applications Program, which includes federally funded nuclear medicine research. The United States' position as a world leader in the application of radioactive materials in the health sciences is reliant upon the DOE's ability to maintain medical isotope production.

Unfortunately, despite our pioneering leadership in this field, we are reliant upon sources outside the United States for the radionuclides necessary for the advancement of clinical practice and research in the field of nuclear medicine. The reactor and accelerator facilities that produce radionuclides for nuclear medicine, both domestically and abroad, are facing several problems that adversely affect the supply of radioisotopes for health care. For example, more than 90% of all nuclear medicine diagnostic procedures in the United States are performed with technetium-99m radiopharmaceuticals. Currently, the sole supplier of this vital commodity is a Canadian-based company and there exists no domestic back-up.

The lack of a continuous supply of accelerator-produced radioisotopes poses another critical problem for nuclear medicine patients. Twenty years of DOE-sponsored research at Los Alamos National Laboratory (LANL) and Brookhaven National Laboratory (BNL) has shown that large DOE accelerators (at higher energies than available with commercial accelerators) provide the most efficient means of producing a number of medically important



radioisotopes. However, accelerator-based radioisotope programs at LANL and BNL depend on the parasitic use of physics research accelerators. Declining budgets in these physics research programs have severely restricted the operating time of these accelerators and, as a result, curtailed the supply of radioisotopes needed by nuclear medicine patients.

In the recent past, the United States was the focal point for training in the nuclear sciences. Aspiring students came to this country to learn the sciences and technologies of nuclear medicine. Our preeminence has deteriorated such that vacant positions for nuclear medicine scientists, physicians and technologists are increasing. We face a critical shortage of undergraduate and graduate students and have become increasingly dependent on foreign-trained students to fulfill existing needs. United States graduate students and faculty members in nuclear medicine often travel abroad to seek advanced study and training in nuclear medicine because research radioisotopes are more available in other countries.

The ACNP and SNM, in cooperation with the DOE, have prepared a feasibility study of a National Biomedical Tracer Facility (NBTF) for consideration by Congress. A NBTF would serve to advance basic research, provide training in the application of radioisotopes in nuclear medicine as well as limit the current reliance on foreign sources for radioisotope production. At the DOE's present funding level, this cannot be accomplished.

This nation urgently needs a NBTF to produce radioisotopes for nuclear medicine research and clinical practice. This national resource, with both research and educational components, would provide the United States with the capability to compete in the rapidly developing fields of radiologic and biomedical science. In addition to the medical applications, the NBTF would provide materials used by scientists working in many other fields, such as nutrition, genetics, molecular biology, pharmacology, drug development, nuclear physics, environmental chemistry and measurements, geology and industrial manufacturing. Alternative methods for providing reactor-produced radioisotopes via accelerators deserve investigation. Such methods, if proven feasible, would provide environmentally preferred alternative methods of production. The NBTF would provide a national and international focal point for the education of the future scientist.

The ACNP and SNM believe that in order to continue the progress achieved in the field of nuclear medicine increases in the DOE Medical Applications program are necessary. A substantial and steady infusion of funds is necessary to counter the previous stagnant funding levels and facilitate promising research which is based on competitive scientific review.

We also believe it is imperative that funding for research efforts should not be appropriated without scientific peer review. Earmarking funds for particular projects not only undermines the scientific peer review process but also is contrary to recommendations made by committees of distinguished experts whose counsel and evaluation was sought by DOE.

The ACNP and SNM will continue to work with the DOE to expand research activities in nuclear medicine and production and the availability of isotopes for medical use. The exchange of views and knowledge between DOE officials and the medical community assures the greatest possible benefit is derived from the funds committed.



## American College of Nuclear Physicians

### The Society of Nuclear Medicine

#### Description of ACNP/SNM

The **American College of Nuclear Physicians (ACNP)** is organized to focus on socio-economic and governmental issues confronting the development and practice of nuclear medicine. The ACNP was founded in 1974. Membership in the ACNP is open to certified physicians, scientists and corporations actively engaged in the practice or the development of nuclear medicine. There are approximately 1,500 members of the ACNP.

Founded in Seattle, Washington in 1954, **The Society of Nuclear Medicine (SNM)** is the largest scientific organization dedicated to nuclear medicine. It is a multi-disciplinary organization of physicians, physicists, chemists, radiopharmacists, technologists and others interested in the diagnostic, therapeutic and investigational use of nuclear medicine. There are approximately 12,000 members of the SNM.

Recognizing the vital need for legislative and regulatory representation in Washington, D.C., in 1981 the ACNP and the SNM formed the ACNP/SNM Conjoint Government Relations Office, headquartered in Washington, D. C. The purpose of the Washington Office is to serve as a liaison between nuclear medicine and various federal departments and congressional committees. Through the activities of the Government Relations program, the ACNP and SNM have been able to enhance the quality and availability of health care in the United States.

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TYPE: INFORMATION DOCUMENT NUMBER: 9124415  
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS  
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FROM: JORDAN, John Patrick: USDA

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 10/11/91

SUBJECT: RE: THE REPORT ON THE NATIONAL RESEARCH INITIATIVE  
FOR AGRICULTURE, FOOD AND ENVIRONMENT.

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DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

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D. Allan Bromley

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Department of  
Agriculture

Cooperative  
State Research  
Service

Office of the  
Administrator

Washington, D.C.  
20250

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October 11, 1991

OFFICE OF THE  
DIRECTOR

Dr. Allan D. Bromley  
Assistant to the President  
for Science and Technology  
Office of Science and Technology Policy  
Room 358 - Old Executive Office Building  
730 Jackson Place, N.W.  
Washington, D.C. 20506

Dear Dr. Bromley:

Last week we completed the first year of an exciting new program. That program, the National Research Initiative for Agriculture, Food and Environment (NRI), is an innovative approach to research programming addressing the Nation's most critical needs.

The NRI totaled \$73 million in FY 1991 and was initiated with a well constructed request for proposals in the four areas authorized by the Appropriations Act. A short report on the first year is attached, highlights of which are:

- o Priority was given to the most pressing needs of American Agriculture.
- o USDA's scientific review process incorporated approximately 14,000 reviews on its way to funding 590 grants. The review system is second only to the National Science Foundation in extensiveness. The breadth of disciplines and problems involved in the NRI made it necessary to mobilize this level of review.
- o Assistant Secretary Charles E. Hess, the Departments' Science and Education Agencies, with the help of one of the State Agricultural Experiment Station Systems' Directors-at-Large organized strong citizen support through the conduct of seven workshops involving users that included commodity, agribusiness, and environmental groups. In each workshop, participants reviewed program plans in all six major research divisions; the four launched in FY 1991 and the two added in FY 1992.
- o Recommendations from the user workshops were addressed by Science Planning Committees in which nearly 150 of the Nation's outstanding agricultural scientists representing biological, physical, and social sciences translated those recommendations into statements of agricultural science need.
- o The NRI Chief Scientist who is a member of the National Academy of Sciences then took all of these comments into account in building the request for proposal.

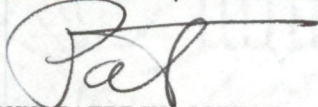


- o Panel members and ad hoc reviewers were carefully selected to provide broad representation. All geographic sections of the country, all different sizes of organizations (major universities, emerging universities, Federal laboratories, and private laboratories) as well as a good distribution of age, seniority, gender, and minority status among scientists were included. We are particularly pleased at the large number of ad hoc reviewers for it is from this valuable pool that subsequent years panel members will be drawn.
- o The Strengthening Grant program which was targeted at 10 percent actually ended up being 11 percent. This part of the program assists institutions that do not have strong track records in the competitive grants arena. It also aids researchers who are just beginning their careers. It was an excellent opportunity to attract these top young people to the field of agricultural research.
- o The principal investigator of each proposal that was not funded received a panel summary and a verbatim review so that the investigator can use these to strengthen future proposals.
- o Congress was officially notified when the awards were made. In addition, non-technical summaries of all funded research were submitted on a monthly basis to the Appropriations Committees of both the House and Senate.

Success usually stems from the efforts of many people and the success of the NRI is no exception. Leadership from the National Academy of Sciences, Assistant Secretary Charles E. Hess, and the scientists of CSRS provided the foundation for the program.

In addition to the CSRS administrators and scientists, as well as researchers from the Nation's diverse scientific community, there was major involvement of the administrators and scientists of ARS, ES, ERS, FS and NAL under the technical leadership of the Chief Scientist for NRI.

As in all successful programs of this nature, the NRI would not have had such an auspicious launching were it not for consistent and enormous support by the Administration, not only within the Department, but also from you and OMB. This is manifested by a commitment to propose increases of \$50 million per year until the program is fully funded. Adding the strong support by both Houses of Congress to the diverse support mentioned earlier ensured a firm beginning and the continued growth of the program in the FY 1992 with the addition of \$25 million.



JOHN PATRICK JORDAN  
Administrator

Attachment



**THE NATIONAL RESEARCH INITIATIVE ON  
AGRICULTURE, FOOD AND ENVIRONMENT:**

**A Report on the First Year,**

**Fiscal Year 1991**



Prepared by the Cooperative  
State Research Service on  
behalf of the U.S. Department  
of Agriculture

## *The Program Concept*

The National Research Initiative Competitive Grants Program (NRICGP) addresses research areas in modern biological, environmental and engineering sciences which are known to possess unique opportunity for improving and sustaining agriculture in concert with social, economic and environmental needs. About 70% of the NRICGP is directed towards the basic, fundamental end of the research spectrum, from which major conceptual breakthroughs emerge. Twenty percent is directed to mission-linked research: research that bridges the basic and applied sciences, resulting in practical outcomes. Ten percent of the Initiative is directed towards attracting new scientists into careers in high priority areas of national need in agriculture. This program provides support for postdoctoral fellows and new faculty and strengthens research capabilities of individuals at small and mid-sized institutions.

The NRICGP began in 1991 with an appropriation of \$73 million and subsumed the USDA Competitive Research Grants Office (CRGO). The newly formed NRICGP continues to seek the best U.S. science to address agricultural problems. Competition is open to scientists at academic institutions, Federal research agencies, private and industrial organizations, and those individuals qualified but not affiliated with one of the aforementioned organizations.

## *Authorization*

With enactment of the Food, Agriculture, Conservation, and Trade Act of 1990 (FACT), the Congress took steps to affirm its support of the NRICGP. In Section 1615, the Congress established this initiative as well as defined and identified "High Priority Research" to be covered. High Priority Research is defined as basic and applied research that focuses on both national and regional research needs (and methods for technology transfer) in the following areas: plant systems; animal systems; nutrition, food quality, and health; natural resources and the environment; engineering, new products and processes; and, markets, trade, and policy. Authorizing legislation also required an emphasis on sustainable agriculture where appropriate. In authorizing funds to support the Initiative the Congress further identified specific percentages of available funds to be allocated. These included ten (10) percent multidisciplinary team research (to be increased to thirty (30) percent by 1993), twenty (20) percent for mission-linked research, and ten (10) percent for strengthening as described above.

## *Input of Research Needs*

A number of background documents were utilized to identify agricultural research needs. These included: "Investing in Research, a Proposal to Strengthen the Agricultural, Food, and Environmental System" (National Research Council); strategic plans from each USDA research and education agency; the priorities established by the Joint Council on Food and Agricultural Sciences and the National Agricultural Research and Extension Users Advisory Board; and importantly, the Congress and Secretary of Agriculture.



To obtain input from commodity organizations and other appropriate groups, User Workshops were planned by an informal committee advising the Assistant Secretary for Science and Education. This committee was made up of a representatives from each user group, administrators in CSRS and the Chief Scientist of the NRICGP. User Workshops were then convened with invited representatives of various commodities and user groups involved in the food and agricultural system. The meetings addressed priorities in all areas of agricultural research within the NRICGP. The following Users Workshops were held prior to the preparation of the NRICGP request for proposals (RFPs):

|                    |                             |
|--------------------|-----------------------------|
| Animal Agriculture | Oilseed and Fiber Crops     |
| Food Processing    | Forestry and Horticulture   |
| Grain Crops        | Agribusiness                |
|                    | Environmental (Spring 1991) |

Reports were prepared outlining the priorities of *each* workshop in *all six major research divisions* of the NRICGP.

Following the meetings of the User Workshops, Science Planning Committees were convened to address research in the four major research divisions for the NRICGP funded in 1991. These were:

- Natural Resources and Environment
- Nutrition, Food Quality and Health
- Animal Systems
- Plant Systems

The Science Planning Committees included scientists from academia, Federal laboratories and agencies. These committees reviewed the reference documents and all reports of the User Workshops in order to establish research priorities. Priorities were identified at the projected 1991 appropriation level and at the ultimate funding goal of the NRICGP (\$500 million). Recommendations were prepared by each Science Planning Committee.

Fiscal Year 1991 funds were not appropriated for two of the six major research divisions in the NRICGP. These were Markets, Trade and Policy and Processes Antecedent to Adding Value or Developing New Products.

### *Request for Proposals*

The Request for proposals was drafted by the Chief Scientist and scientific staff of the NRICGP from the reports of the Science Planning Committees, with careful attention paid to User Workshop reports, priority setting documents identified above, and appropriation language. The RFP was distributed to the scientific community and other interested groups.



## *Program Execution*

The request for proposals was published in the Federal Register. It identified 20 research programs within the four major research divisions. Twenty-four peer panels were brought together to review submitted proposals.

The peer panels consisted of scientists/experts whose selection was based on the expertise needed to thoroughly and fairly review applications. Care was taken to include women and minorities, and individuals from small and large institutions with a wide geographical distribution (Table I).

In addition to the expertise brought to the process by the panel members, written reviews were solicited from scientists and experts representing a wide variety of fields. These ad hoc reviews provide the additional expertise which makes it possible to select the most meritorious proposals.

Participation in the ad hoc review process provides an opportunity for many individuals to gain experience in the review process and in the nature of the science. Importantly, this pool of ad hoc reviewers provides a resource from which future panel members can be selected. Involving minorities and women in this process is an excellent method of preparing these groups for future panel participation and proposal submission.

## *Outcome*

The NRICGP attracted 2,722 proposals requesting funds of \$637,822,000. Funding was available to support 590 grants totaling \$69,204,000 (Table II). The success rate was 22 percent. The average funding level was \$52,591/year. However, a few grants were funded at significantly higher levels and over a longer period of time than in the past.

There were a number of research topics the subject of which did not fall directly within an identified division or program but which are of major importance to the Department and to science. The support for these is indicated in Table III. It should be noted that the data in Table III concerning research topics were drawn from a number of programs identified in Table II. For example, in the Water Quality Area, \$2,979,400 was from the Water Quality Panel and \$1,389,590 was from other panels such as Forest/Rangeland/Crop Ecosystems that also addressed water quality issues.



In addition to the science areas covered by the program, proposals can be looked at from other dimensions. Such dimensions include the type of research and the extent to which expertise drawn from several disciplines is brought to bear on the same scientific question; these are not mutually exclusive.

| Research Dimension         | Amount of Support | Percent |
|----------------------------|-------------------|---------|
| Basic fundamental research | \$50,985,444      | 73.7    |
| Mission-oriented research  | 18,218,556        | 26.3    |
| Multidisciplinary research | 19,481,367        | 28.2    |
| Single discipline research | 49,722,633        | 71.8    |

Awards for strengthening were made to Individual Postdoctoral Investigators, New Investigators, and individuals at small and mid-sized institutions. These proposals were reviewed within specified program areas rather than by a separate panel, but the potential awardees were eligible for funding through the strengthening grants. Thus the applicants receiving strengthening awards demonstrated the ability to write excellent proposals and to perform cutting-edge science. Such support was as follows:

|                      |             |                      |
|----------------------|-------------|----------------------|
| Strengthening grants | \$7,450,250 | 10.8% of total funds |
|----------------------|-------------|----------------------|

Additionally, 11% of the NRICGP funds were awarded to investigators who reside in states designated as receiving the least amount of Federal research funds (EPSCOR states as defined by the National Science Foundation).

For each proposal not funded, a summary of the panel evaluation and the *verbatim* written reviews are provided to assist the investigator in strengthening the proposal for resubmission. Many of the proposals not supported were of high quality but could not be funded due to budget constraints.

The Congress is officially notified when an NRICGP award is made. In addition, non-technical summaries describing each research project are submitted on a monthly basis to the appropriations committees of both the House and Senate.

Table I

## ANALYSIS OF FY 1991 PANEL MEMBERSHIP IN THE NRICGP

| Geographical/Institutional Distribution |                       |    |    |    |       |     |
|-----------------------------------------|-----------------------|----|----|----|-------|-----|
| Category                                | Geographical Regions* |    |    |    | Total | %   |
|                                         | NC                    | NE | S  | W  |       |     |
| ARS                                     | 2                     | 4  | 2  | 2  | 10    | 5   |
| Land Grant Universities                 | 64                    | 22 | 52 | 42 | 180   | 69  |
| Public/Private Universities             | 9                     | 8  | 11 | 6  | 34    | 13  |
| Institute/Industry                      | 10                    | 12 | 4  | 10 | 36    | 13  |
| Region (Total)                          | 85                    | 46 | 69 | 60 | 260   |     |
| Regional Distribution (%)               | 33                    | 18 | 26 | 23 |       | 100 |

\*Geographical regions as defined by the USDA.

| Panel Membership     |            |            |
|----------------------|------------|------------|
| Panel Members        | Number     | %          |
| <i>Type:</i>         |            |            |
| Full Professors      | 96         | 37         |
| Associate Professors | 62         | 24         |
| Assistant Professors | 58         | 23         |
| Federal/Industry     | 44         | 16         |
| <b>Total</b>         | <b>260</b> | <b>100</b> |
| <i>Composition:</i>  |            |            |
| Men                  | 196        | 75         |
| Women                | 49         | 19         |
| Minorities           | 15         | 6          |
| <b>Total</b>         | <b>260</b> | <b>100</b> |



Table II

| <b>Fund Allocations for NRICGP<br/>Fiscal Year 1991</b> |              |                            |
|---------------------------------------------------------|--------------|----------------------------|
| <b><i>NATURAL RESOURCES</i></b>                         |              |                            |
| Plant Responses to the Environment                      | \$ 5,134,900 |                            |
| Forest/Rangeland/Crop Ecosystems *                      | 2,682,600    |                            |
| Water Quality †                                         | 2,979,400    |                            |
| Wood Utilization                                        | 1,900,000    |                            |
| UV-B Monitoring                                         | 575,100      |                            |
| Total, Natural Resources                                |              | \$13,272,000               |
| <b><i>NUTRITION &amp; FOOD SAFETY</i></b>               |              |                            |
| Human Nutrient Requirements                             | \$ 2,592,000 |                            |
| Food Safety                                             | 1,200,000    |                            |
| Total, Nutrition & Food Safety                          |              | 3,792,000                  |
| <b><i>ANIMAL SYSTEMS</i></b>                            |              |                            |
| Brucellosis                                             | \$ 450,300   |                            |
| Reproductive Biology                                    | 4,874,000    |                            |
| Animal Disease                                          | 7,799,300    |                            |
| Animal Molecular Genetics                               | 1,340,000    |                            |
| Cellular Growth/Development                             | 4,496,400    |                            |
| Total, Animal Systems                                   |              | 18,960,000                 |
| <b><i>PLANT SYSTEMS</i></b>                             |              |                            |
| Plant Genome/Plant Genetics †                           | \$10,465,525 |                            |
| Plant Pests                                             | 6,575,000    |                            |
| Plant Pathology/Weeds                                   | 5,415,000    |                            |
| Plant Growth/Development                                | 4,910,000    |                            |
| Nitrogen Fixation                                       | 2,277,049    |                            |
| Photosynthesis                                          | 2,330,800    |                            |
| Soybean                                                 | 467,364      |                            |
| Alcohol Fuels                                           | 487,272      |                            |
| Forest/Rangeland/Ecosystems *                           | 251,990      |                            |
| Total, Plant Systems                                    |              | 33,180,000                 |
| <b>GRAND TOTAL</b>                                      |              | <b><u>\$69,204,000</u></b> |

\* Reviewed as one program; funds allocated from two divisions.

† See Table III for totals including cross-cuts.

Table III

| <b>Crosscutting Program Areas<br/>Fiscal Year 1991</b> |                |                          |
|--------------------------------------------------------|----------------|--------------------------|
| <b>Research Topic</b>                                  | <b>Support</b> | <b>No. of<br/>Grants</b> |
| Plant Genome                                           | \$10,499,525   | 77                       |
| Forest Biology                                         | 6,427,898      | 53                       |
| Global Change                                          | 9,058,590      | 79                       |
| Sustainable                                            | 7,059,088      | 76                       |
| Animal Genome                                          | 4,526,000      | 27                       |
| Animal Health                                          | 8,869,600      | 53                       |
| Water Quality                                          | 4,368,990      | 33                       |



"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9124309  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS  
\*\*\*\*\*

FROM: RAMALINGAM, S.: UNIVERSITY OF MINNESOTA

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 10/01/91

SUBJECT: ACCEPTANCE OF INVITATION TO ASSIST ON THE PANEL ON  
INTERNATIONAL ECONOMIC COMPETITIVENESS OF PCAST.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE: STAFF DUE DATE  
OSTP DUE DATE: DATE COMPLETED/DEPT:  
DATE COMPLETED:

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
PCAST  
INTERNATIONAL/POLICY

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
REMARKS: PHONE: EXT:

OSTP RECEIVED: 10/07/91 DEPT RECEIVED:  
FILE: P-PCAST

4309

# UNIVERSITY OF MINNESOTA

Twin Cities Campus

RECEIVED

The Productivity Center  
Institute of Technology

213 Mechanical Engineering Building  
111 Church Street S.E.  
Minneapolis, MN 55455

612-625-6023  
Fax: 612-625-8884

91 OCT 7 A 8:47

OFFICE OF THE  
DIRECTOR

October 1, 1991

The Honorable D. Allan Bromley  
The Assistant to the President  
for Science and Technology  
Suite 360  
Old Executive Office Building  
Washington, DC 20500

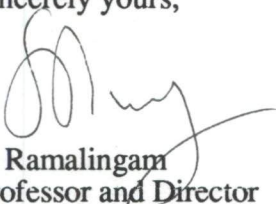
Dear Honorable D. Allan Bromley:

Thank you for your letter of September 24, 1991 inviting me to assist the Panel on International Economic Competitiveness of the President's Council of Advisors on Science and Technology (PCAST) in finding ways to enhance the partnership between the government and the private sector to improve our competitiveness.

I appreciate the invitation and would be pleased to be of assistance to PCAST in its deliberations. I look forward to hearing from Dr. Gomory.

With best regards.

Sincerely yours,



S. Ramalingam  
Professor and Director



"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9124484  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS  
\*\*\*\*\*

FROM: HESS, Charles: U.S. DEPARTMENT OF AGRICULTURE

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 09/30/91

SUBJECT: DR. HESS IS FORWARDING A LETTER FROM PAOLO FASELLA  
ALONG WITH THE DRAFT REPORT OF THE SECOND MEETING OF  
THE EC-US TASK FORCE ON BIOTECHNOLOGY RESEARCH.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

\*\*\*\*\*  
COPIES TO: D. Allan Bromley  
LIFE SCIENCES  
INTERNATIONAL/POLICY

\*\*\*\*\*  
WHITE HOUSE TRACKING #: CONTACT PERSON:  
REMARKS: PHONE: EXT:

OSTP RECEIVED: 10/22/91 DEPT RECEIVED:  
FILE: P-LIFE SCIENCES  
CENTRAL FILES:



DEPARTMENT OF AGRICULTURE  
OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20250

*Bromley* 4484  
RECEIVED

91 OCT 22 PM 2:48

September 30, 1991

OFFICE OF THE  
DIRECTOR

Professor P. Fasella  
Director General  
DG XII  
Commission of the European Communities  
Rue de la Loi 200  
B 1049 Brussels, Belgium

Dear Paolo:

Thank you for sending me the final report of the second meeting of the U.S. - EC Task Force on Biotechnology Research. I have forwarded the report to Dr. Allan Bromley, Assistant to the President for Science and Technology, and to the U.S. Task Force members.

I appreciate your best wishes on my departure from the U.S. Department of Agriculture (USDA). I would like to thank you for your effort in getting the task force underway and for your leadership during the first two meetings. The Task Force is an excellent contribution to U.S. - EC scientific discussions. My role as U.S. Chairperson was one of my most rewarding duties as Assistant Secretary.

I have conferred with Dr. Bromley and he will appoint a new U.S. Chairperson for the Task Force in the near future. Ms. Steinbock will work with the staff of the new Chairperson to ensure that they are fully briefed and that the agreed activities are carried forward smoothly.

I would like you to invite you visit the University of California at Davis during one of your future visits to the United States.

Sincerely,

*Charles E. Hess*

CHARLES E. HESS  
Assistant Secretary  
Science and Education



*Martha Steinbach*

COMMISSION  
OF THE  
EUROPEAN COMMUNITIES

DIRECTORATE-GENERAL  
FOR SCIENCE, RESEARCH  
AND DEVELOPMENT  
JOINT RESEARCH CENTRE

The Director-General

17.09.1991 032288  
Brussels

DG XII/91 - MFC/om

Prof. Charles E. Hess  
Assistant Secretary  
Science and Education  
Department of Agriculture  
Office of the Secretary  
USA - Washington DC 20250

Dear Charley,

Thank you for your letter of August 12, concerning the draft report of the second meeting of the EC-US Task Force on Biotechnology Research. We are happy to agree to the changes you propose, and I enclose what can now be taken as the definitive report of the second meeting, and freely distributed as such.

Like you, I thought it a very productive and lively meeting, and we look forward to the following activities.

Since I understand that you will shortly be returning to Davis, let me take this opportunity to thank you for all your efforts which have contributed to the creation and launching of this Task Force, and more generally to the development and encouragement of transatlantic scientific cooperation. Given the international reputation of UC Davis in agricultural biotechnology, I have no doubt that we shall continue to hear from you, and hope you will keep in contact. Best wishes for your future.

Yours sincerely,

*P. Fasella*

P. Fasella

## EC-U.S. TASK FORCE ON BIOTECHNOLOGY RESEARCH

### REPORT ON THE 2nd MEETING, BRUSSELS, 15-16 JULY 1991

The EC-U.S. Task Force on Biotechnology Research, established in September 1990 convened for the second time in Brussels, 15-16 July 1991. The meeting was jointly chaired by P. Fasella and C. Hess. Topics for cooperation identified at the first meeting of the Task Force in September 1990 and proposals for new initiatives were discussed.

#### OPENING SESSION

In his opening remarks P. Fasella informed the group that the EC-U.S. Joint Consultative Group on Science and Technology had appreciated the work of the Task Force on Biotechnology Research. He emphasised his preference to consolidate the activities already commenced by the Task Force without excluding to take up others if necessary. C. Hess stated that he appreciated the concept of the second meeting which combined general discussion on a number of topics with the workshop on *in vitro* toxicology. Both chairmen emphasised the need for improving the public understanding and acceptance of biotechnology.

#### PUBLIC UNDERSTANDING, ATTITUDES AND INFORMATION CONCERNING BIOTECHNOLOGY

M.F. Cantley presented the results of the March 1991 "Eurobarometer" survey, which in interviews conducted with 12,800 EC citizens had included questions on biotechnology. The results showed widely varying awareness and attitudes. There was interest to pursue this work in an international and collaborative context.

A. Young gave an update on USDA public information programmes, emphasising the agencies' philosophy of keeping the public well informed and giving the public opportunities for participation in decision making. He presented a proposal for an EC-U.S. workshop on "Communicating the Science of Biotechnology to the Public" (see conclusions).

M. Caswell gave a presentation on the history and methodological approaches to research on the economic impacts of technologies including biotechnology in market economies. She emphasised that biotechnology was one of many factors which influence the structure of agriculture.

P. Fasella supported the idea of continued joint study of the methodologies used in this kind of research and raised the issue of the diffusion of biotechnology to Eastern and Central European countries. C. Hess stated that the U.S. favoured the transfer of biotechnology into these regions and to developing countries.

#### BIOSAFETY RESEARCH

I. Economidis reported on research into risk assessment within the of the Community programmes BAP, BRIDGE FLAIR and ECLAIR and gave a short preview of future activities under the successor programme of BRIDGE. He explained the general conclusions of research under BAP with particular emphasis on the safety relevance of r-DNA techniques.

R. Frederick presented the activities of the interagency and ad hoc Working Group on Risk Assessment of the U.S. Federal Coordinating Council for Science, Engineering and Technology (FCCSET) and the



Subcommittee on Risk Assessment (SRA). The ad-hoc Working Group as an advisory body which provides information on risk assessment and assesses U.S. Federal approaches and objectives.

D. Mackenzie explained plans for implementing section 1668 of the 1990 U.S. Farm Bill which includes a grants programme on biotechnology risk assessment research. This programme is being developed by an interagency advisory committee which will develop an annual list of researchable questions.

R. Frederick described EPA's risk assessment programme which had been in existence since 6 years. The emphasis of research was related to the regulatory functions of the agency. It was structured around three elements: exposure studies, effects studies, and control strategies.

A. Young reported on the success of the Kiawah Island International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms, which brought together experts to share their biosafety data. Following his presentation the Task Force discussed and agreed on the desirability of a follow-up symposium.

The group also discussed mechanisms for communication, both through meetings and electronic communication, between biosafety researchers in the EC, USDA and EPA programmes. The parties considered it as useful to gather and document data on what has been done when new organisms (modified and non-modified) are introduced.

#### GENOME ANALYSIS

D. de Nettancourt outlined the Community activities devoted to genome analysis (man, animals, plants and microorganisms). He summarised the main conclusions (type of research needed, possible approaches, utility of transnational cooperation) reached at Elounda (Greece) where ongoing research in Europe, the U.S. and Japan had been recently reviewed.

A. Vassarotti gave an overview of the EC approach to the systematic sequencing of the yeast genome and provided details on past and ongoing activities. While scientists had informally reached an international distribution of the sequencing work there is still a need to harmonise and standardise supporting technologies like the 2-D gel analysis of yeast proteins.

E. Magnien presented EC activities on the *Arabidopsis thaliana* genome (rapid access to genes; DNA and seed resource centres). The EC network, also linked into AGPMSSC coordinated activities, prepares future programmes of sequencing, which should be harmonised with U.S. initiatives.

M. Clutter characterised the Multinational Coordinated *Arabidopsis thaliana* Genome Research Project. She suggested that this project served as a model for international coordination. In this project bench scientists provided the direction via an international steering committee while governments provide funding.

During the discussion the parties agreed that genome research programmes constitute an information intensive type of megaproject with specific management requirements.

J. Miksche described the USDA Plant Genome Programme which had the goal



of locating, characterising and transferring genes of agricultural importance. The programme addresses genes or gene sequences from 19 species. Projects are selected on the basis of peer-reviewed grants.

B. Loder explained the involvement of the Community in the worldwide efforts to analyse the structure of the human genome and to gather information about the genes.

#### TRAINING IN BIOTECHNOLOGY

D. de Nettancourt presented statistics on the training activities (training through research and summer schools) implemented in the BAP and BRIDGE programmes. He also described the decentralised network organised by the CEC with the Carlsberg for training through research for seed improvement.

M. Clutter described the various U.S. training opportunities at all levels from undergraduate to mid career retooling. Many U.S. programmes permit U.S. grantees to work anywhere in the world, thus stimulating international exchanges.

During the discussion it was agreed that the Commission services would continue to explore possibilities for financing the training in the U.S. of young European scientists, and of hosting U.S. scientists.

#### APPLICATION OF BIOTECHNOLOGY TO TOXICOLOGICAL TESTING

G.V. Quinnan gave an overview of the FDA regulatory process for drugs biologics. The unprecedented number of new biotechnological products made international discussions on regulatory principles increasingly important. Quinnan emphasised that preclinical trials of biotechnology derived products have drawbacks because of potential species specificity and immunogenicity of the molecules, thus creative and more novel approaches to designing and developing non-clinical evaluations are needed. Concurrent with the full Task Force meeting on July 15, a workshop on the development of *in vitro* testing methods to predict biological activity was held under the auspices of the Task Force. The workshop began with an overview presentation of the BRIDGE and U.S. National Toxicology programmes. Participants then presented brief reports on a variety of toxicological disciplines focusing on the state-of-the-art and future trends.

A. Klepsch and H. Bazin gave an overview on the future activities in the development of *in vitro* tests in toxicology/pharmacology, particularly considering developmental toxicology, immunotoxicology and development of new animal models of human diseases. The importance of EC-U.S. cooperation in training and research was emphasised.

During the discussion J. Frazier noted the importance of extrapolating of *in vitro* to *in vivo* validation of results and communicating to the public a realistic understanding of *in vitro* toxicological testing. He also stressed the need for cooperation between U.S. and European scientists in this field.

#### DATA BANKS AND COLLECTIONS

J. Cassatt described the GenBank/EMBL collaboration and the lessons learned from this experience. He explained advantages and disadvantages of a two foci data base system.



B. Nieuwenhuis and D. Mackenzie highlighted topics for EC-U.S. collaboration and first initiatives, particularly considering databases on (1) biosafety, (2) genomes and sequences and (3) taxonomy and genetic resources. The setting-up of a Task Force working group on biotechnology databases addressing the three areas genome analysis, environmental performance and genetic diversity was suggested.

The chairman of the EC delegation welcomed this proposal which was considered in the conclusions (see below).

#### CONTRIBUTIONS OF BIOTECHNOLOGY TO THE ASSESSMENT AND CONSERVATION OF GENETIC DIVERSITY

K. Beese gave an overview on needs for research and technology for the efficient assessment and conservation of genetic diversity and improvements in the utilisation of genetic resources. He explained the links to biotechnology research and made suggestions for joint EC-U.S. activities.

The U.S. delegation expressed its interest in continuing to discuss this issue under the Task Force (see conclusions).

#### THE U.S. GOVERNMENT CROSS-CUT ON BIOTECHNOLOGY RESEARCH

R. Levinson reviewed the history and structure of FCCSET which operates under the aegis of the U.S. Office of Science and Technology Policy. She described the current U.S. efforts to formulate a coordinated long-term plan for federal support of biotechnology research, beginning with a comprehensive inventory of current support.

The group discussed the scope of public funding of basic and applied research in the EC and U.S.

#### APPLICATIONS OF BIOTECHNOLOGY TO THE DEVELOPMENT OF NON-MEDICAL MATERIALS

M. Marron described the U.S. Department of Defense programme of biotechnology research to develop materials for severe work environments and of high reliability. He gave examples of areas where biotechnology offers opportunities for producing new classes of materials from non-petroleum based feedstocks.

#### CONCLUSIONS

The EC-U.S. Task Force on Biotechnology Research in its second meeting concluded to continue and develop its work as follows:

1. Organisation of a joint workshop on public understanding of biotechnology

This workshop will take place in Dublin (IRL) in March 1992. Participants will be professionals in public communication and social scientists. Examination and evaluation of methodologies will be the target of the meeting.

Reference persons: EC - M.F. Cantley  
U.S. - A.L. Young



2. Continued joint study of the social and economic effects of biotechnology and of the effects of not developing this technology

This study would involve completing the inventory of publications and examining the methodologies used in these studies.

Reference persons: EC - M.F. Cantley  
U.S. - M. Caswell

3. Continuation of the exchange of views on genome analysis
4. Follow-up symposium on the Kiawah Island International Symposium of the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms

The group endorsed the concept of a broad single meeting addressing scientific biosafety issues, providing, that such a symposium can cover the interests of individual U.S. agencies and CEC services. This meeting will be held in Goslar, Germany, May 11-14, 1992.

Reference persons: EC - D. de Nettancourt/I. Economidis  
U.S. - A.L. Young

5. Establishment of a working group on data bases underpinning biotechnology research

Reference persons: EC - B. Nieuwenhuis/M.F. Cantley  
U.S. - D.R. Mackenzie/J.C. Cassatt/S.R. Heller

6. Continuation of the discussions on the application of biotechnology to biological diversity assessment, conservation and use

Cooperation in this field will be one key item of the third Task Force meeting. A satellite meeting the day before or after the Task Force meeting may be planned.

Reference persons: EC - K. Beese  
U.S. - M.E. Clutter/J. Miksche

7. Continuation of the discussions on the development of new models (in vitro and in vivo) for the assessment of biological activity of molecules and compounds

This cooperation will cover both pharmacological and toxicological aspects.

Reference persons: EC - H. Bazin  
U.S. - S. Pauker

8. Continuation of the discussions on 'training in biotechnology'

There is no need for the establishment of another group, but the topic will again be discussed during the 3rd meeting of the Task Force.

Reference persons: EC - D. de Nettancourt  
U.S. - J.C. Cassatt



TIME AND PLACE OF THE 3rd MEETING OF THE TASK FORCE

The next meeting of the EC-U.S. Task Force on Biotechnology Research will take place in Washington, July 1992.

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION DOCUMENT NUMBER: 9124220  
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS  
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FROM: ROBINSON, Dorothy K.: YALE UNIVERSITY

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 09/20/91

SUBJECT: RE: A STUDY ON SCIENTIFIC MISCONDUCT.

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DIRECTORATE STAFF  
ASSIGNED: ASSIGNED:

ACTION STAFF  
REQUIRED: ACTION:

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SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
DATE COMPLETED: DATE COMPLETED/DEPT:

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COPIES TO: D. Allan Bromley  
LIFE SCIENCES

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Yale University

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4220  
DOROTHY K. ROBINSON  
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451 College Street  
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September 20, 1991

OFFICE OF THE  
DIRECTOR

The Honorable D. Allan Bromley  
The Assistant to the President for Science and Technology  
Old Executive Office Building, Room 360  
17th and Pennsylvania Avenue, N.W.  
Washington, D.C. 20506

Dear Allan:

Thank you so much for having me to lunch at the White House with Bernadine Healy. I found our discussion extremely useful, and I look forward to following up with her on several of the topics.

Although we somehow got off the subject, I think your idea of a study on scientific misconduct would be very helpful. One fairly contained way to address the subject would be to focus strictly on the definition of scientific misconduct or fraud and explore the boundaries of the definition in the areas you described -- such as the role of error and the ethical significance, if any, of lapses in care in recordkeeping. PHS regulations have gone beyond intentional conduct such as fabrication, falsification and plagiarism, to include other deviations from accepted practice, but have expressly excluded "honest error" or "honest differences in interpretations in data." The NSF rules have a somewhat different definition, but similarly are intended to exclude mere error. Nonetheless, I am not sure the public appreciates how integral error is to the processes of science, and how damaging it can be to consider error merely in terms of its place on a sliding scale that proceeds toward fraud. As I mentioned, I also would endorse Bernadine Healy's suggestion that guidance to universities on conflicts of interest is clearly needed by them, and OSTP could play a unique and vital role in articulating the essential principles.

As always, please feel free to call on me if there is any way I can be of assistance to you as OSTP pursues these or other issues, including, of course, the year-long indirect cost study.

With best regards,

Sincerely,



Dorothy K. Robinson

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

ORIGINATOR: 02

STATUS C

DOCUMENT NUMBER: 9124064

DIRECTORATE STATUS

\*\*\*\*\*

FROM: RAAP, Jelle: Medical Journalist, Holland

TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 09/07/91

SUBJECT: RE: AIDS-STUDY BASED ON LITERATURE, PRATICE AND  
SEVEN YEARS OF STUDY.

\*\*\*\*\*  
DIRECTORATE  
ASSIGNED: STAFF  
ASSIGNED:

ACTION  
REQUIRED: STAFF  
ACTION:

\*\*\*\*\*  
OSTP DUE DATE: SENDER'S DUE DATE:  
DATE COMPLETED: STAFF DUE DATE  
DATE COMPLETED/DEPT:

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LIFE SCIENCES

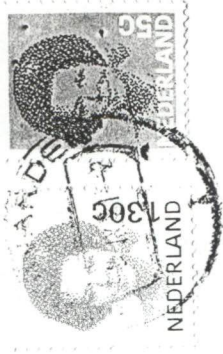
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OSTP RECEIVED: 09/17/91  
DEPT RECEIVED:

FILE: P-INTERNATIONAL\*LIFE SCIENCES



For information!



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# AIDS

Nationale Commissie  
AIDS-Bestrijding

Aan de heer <sup>J.</sup> Raap  
Ds. Oosterhuisstraat 14  
9265 LV Suawoude

Polderweg 92  
1093 KP Amsterdam  
telefoon: 020-(6)939444  
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AIDS-Infolijn:  
06-022 2220

ons kenmerk 3599/BE/91/C  
uw kenmerk

datum 8 maart 1991

Geachte heer Raap,

Dank voor uw brief van 5 maart jl. over de toepassing van taurine voor de behandeling van de HIV-infectie.

Ik heb uw brief doorgezonden naar de Programma coördinatie-commissie AIDS-onderzoek van de Raad voor Gezondheidsonderzoek (RGO, tel: 070-3838905).

De Commissie adviseert ondermeer de Staatssecretaris van WVC over de besteding van gelden voor AIDS-onderzoek.

Met vriendelijke groet,



B.D.P. Eijrond

C.c. PccAo/RGO



Prijsoverzicht: voor toelichting zie pagina VII

## Antimycotica

| Preparaatnaam      | Afleveringsvorm            | Stofnaam        | Dagdos          | Dagprijs in f |
|--------------------|----------------------------|-----------------|-----------------|---------------|
| { Griseofulvin Leo | tabl. 125/500 mg           | griseofulvine   | 500 mg          | 0,76/0,69     |
|                    | tabl. 125/500 mg           | griseofulvine   | 500 mg          | 0,76/0,70     |
| Fungizone          | zuigtabl. 10 mg            | *amfotericine B | 4               | 1,20          |
|                    | susp. 100 mg/ml            | amfotericine B  | 4 ml            | 2,97          |
|                    | tabl. 100 mg               | amfotericine B  | 4               | 3,39          |
|                    | ad perfus. 50 mg           | amfotericine B  | prijs per amp.  | 27,60         |
| X Nizoral          | tabl. 200 mg               | ketoconazol     | 1               | 2,61          |
| X                  | susp. 20 mg/ml             | ketoconazol     | 10 ml           | 3,28          |
| { Nystatine        | drag. 500.000 E.           | nystatine       | 3-6             | 2,10-4,20     |
|                    | drag. 500.000 E.           | nystatine       | 3-6             | 2,14-4,28     |
|                    | tabl. 500.000 E.           | nystatine       | 3-6             | 2,26-4,52     |
|                    | susp. 2.400.000 E. = 24 ml | nystatine       | 4 ml (kind)     | 1,61          |
| Pimafucin          | drag. 100 mg               | natamycine      | 4               | 5,07          |
|                    | drupp. 20 ml               | natamycine      | prijs per flac. | 42,69         |
| X Daktarin         | tabl. 250 mg               | miconazol       | 4               | 15,36         |
|                    | amp. 200 mg = 20 ml        | miconazol       | prijs per amp.  | 7,31          |
|                    | gel 20 mg/g                | miconazol       | 10-20 g         | 3,20-6,40     |
| X Ancotil          | tabl. 500 mg               | flucytosine     | 12-24           | 24,62-49,25   |
| X                  | amp. 2500 mg               | flucytosine     | prijs per amp.  | 34,81         |

## K. VACCINS, SERA EN IMMUNOGLOBULINEN

Vaccins en sera worden, in tegenstelling tot pharmacotherapeutica, vrijwel steeds gebruikt met het doel ziekten te voorkomen.

De indicatie wordt meestal gevormd door de resultante van enerzijds het epidemiologisch onderzoek en anderzijds het onderzoek naar het risico voor de volksgezondheid of voor bepaalde categorieën van personen (gastarbeiders, reizigers, lijders aan bepaalde ziekten) of individuele patiënten. Waar de toepassing van belang is voor de volksgezondheid, wordt aandrang uitgeoefend (er is geen verplichting) en wordt het vaccin gratis beschikbaar gesteld. De indicatie voor de gratis toediening wordt jaarlijks aan artsen en belanghebbenden van overheidswege bekendgemaakt. Dit geldt voor de enting tegen kinkhoest, difterie, tetanus, poliomyelitis, mazelen en rodehond. Over de indicatiestelling van vaccins tegen influenza wordt door de Geneeskundige Hoofdingspectie aan de artsen regelmatig voorlichting gegeven. Voorlichting over BCG-enting verlenen de consultatiebureaus voor tuberculosebestrijding. Aanwijzingen voor rabiesbehandeling worden verstrekt in een gecombineerd advies van de Veterinaire en Geneeskundige Inspecties en het Rijksinstituut voor Volksgezondheid en Milieuhygiëne. Voor reizigers naar het buitenland zijn adviezen opgenomen in een folder 'Vakantie en hygiëne, wenken voor reizigers en toeristen', die op aanvraag gratis wordt verstrekt door de Geneeskundige Hoofdingspectie. Een algemeen kenmerk van een vaccin is de specifieke immuniserende werking (monovalentie). Vaccins en sera behoren tot de middelen met de smalste werkingspectra. Door combinatie van vaccins of van sera ontstaat een verbreding van de werking (polyvalentie). Het bekendste voorbeeld hiervan is het DKTP-vaccin. Het ideaal, dat bij de toepassing van vaccins kan worden nagestreefd, is algehele uitroeiing van ziekten. Door een mondiale opsporing van ziektegevallen en een systematische toepassing van vaccinatie is dit ideaal onlangs bij variola major (pokken) bereikt. Opzienbarend zijn ook de resultaten van de massale entingen tegen de vroeger als kinderziekte bestempelde infectieziekten, zoals difterie, kinkhoest, kinderverlamming en mazelen. Ook tetanus en congenitale afwijkingen

door rodehond zijn in de westelijke wereld door vaccinatie praktisch verdwenen.

Soms probeert men, door toediening van sera en vaccins in de incubatieperiode, het uitbreken van een ziekte te voorkomen. Een goed voorbeeld hiervan is rabies (beetwonden door van rabies verdachte dieren).

Vaccins worden op verschillende wijzen bereid; uit levende micro-organismen of uit gedode micro-organismen (of bestanddelen daarvan, dan wel uit door hen geproduceerde toxinen). De vaccins van levende micro-organismen bestaan uit in virulentie verzwakte stammen; deze kunnen zich in vivo nog wel vermenigvuldigen, hetgeen voor een goede immuniteit noodzakelijk is. Vaccins van levende micro-organismen zijn o.a.: BCG, gele koorts-, mazelen-, rodehond- en oraal poliomyelitisvaccin.

Vaccins van gedode micro-organismen of van ontgifte toxines zijn o.a.: DKTP-vaccin, typhus typhoidea-, cholera- en influenzavaccin. Tot deze groep behoort ook het sinds kort beschikbare hepatitis B-vaccin, afkomstig uit het oppervlakteantigeen (HBsAg) van het hepatitis B-virus. Van verschillende vaccins (waaronder die van HBsAg) bestaat de verwachting dat op korte termijn bio-synthetische (DNA-recombinanten) specimina beschikbaar zullen zijn. Deze zullen het voordeel bieden van veel grotere zuiverheid en vrijheid van bepaalde contaminatie-risico's (AIDS!).

Sera worden uit bloed bereid van het dier of de mens.

Sera van dierlijke oorsprong worden bereid door hyperimmunisatie van voornamelijk paarden. Uit het plasma worden door zuivering antitoxinen gewonnen. Ondanks de zuivering moet rekening worden gehouden met overgevoeligheidsreacties. Waar mogelijk worden deze sera vervangen door die van humane oorsprong. Antidifterieserum wordt, dank zij de goede immunisatietoestand, in Nederland praktisch niet meer gebruikt. Serum tegen botulisme wordt bij de sporadisch voorkomende gevallen van voedselvergiftiging door *Cl. botulinum* nog gebruikt.

Sera van menselijke oorsprong zijn de immunoglobulinen, bereid uit bloedplasma van normale donors, reconvalescenten of recent gevaccineerden. Het antitetanus-immunoglobuline is het belangrijkste specifieke humane serum. Over het werkmeganisme wordt het volgende op-



AIDS-STUDY BASED ON LITERATURE, PRACTICE AND SEVEN YEARS OF STUDY BY TALKING ABOUT 1200 NATURAL PRODUCTS IN AN OVERDOSE TO INFILTRATE INTO THE MOST NATURAL REACTIONS OF EVERY ORGAN AND OF THE WHOLE BODY.

\*\*\*\*\*

Winschoten, june 1989

by Mr. Jelle Raap (medical journalist)

\* All rights reserved. No part of this(articles) may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without permission of the author: Mr. Jelle Raap; Iepenlaan 3, 9674 BL Winschoten-Holland. Telephone-number: 05970 - 160 99. (medical journalist; specialisation: natural medication.)

No illness is as worldwide known as AIDS. Apparently it is a new illness, because my grandparents never told me anything about it. Even my father and mother - who both died in the last few years - were not fully aware of it. When reading in the Farmaceutical Kompas, volume 1985, page 605, an alarming thought struck my mind: the injection against Diphtheria, Pertussis, Tetanus and Polio (hereafter DPTP) - that is an indisputable truth - is a risk of infection for AIDS. I had not realized it for years, but I did have deep feelings of fear and distress, because I got poliomyelitis as a five years old child, because of the latent effects of the DPTP-injection. I got thymuscontractions when I was only ten. And once my mother said to me: "The DPTP has been too much for you, but you do not need it anymore, the doctor said". Was not he a nice doctor? He made me ill only once, but it appears to last all my life.

It always seemed very strange to me that homosexuals, haemophiliacs and drug-addicts who are using a dirty needle, are stigmatized as being AIDS risk groups. All three groups attract attention merely, because they poison their blood. But these groups have been there for years, without suffering from AIDS. To me the structural logic fails, there must be another explanation.

The Farmaceutical Kompas is very clear about the main cause of AIDS: the risk of infection by DPTP and nothing less than that. Here a conscientious study has to start.

What is the CONTAMINATION-RISK about in this case? The mixing of two or more substances which are INCOMPATIBLE. The DPTP-vaccin consists of killed bacteria (germs) and of albumen (mostly from chickens) on which the bacteria are grown in pharmaceutical laboratories. Both elements we may take a closer look at with the help of other sciences and other knowledge.

#### ORGANO-THERAPY

The latent effects of killed bacteria are hard to explain, because the theory about it is already some decades old. The body produces more monocytes, so the RES-system must have gained strenght? I think the ORGANO-therapy may shed some light on the problem. Organo-therapy is a branch of homeopathy: homeopathic potencies of organs, e.g. potencies of livercells, heartcells, spleencells. I took Organo-musclecell 4 ch and IT WORKS (also to the muscle of the heart, so in a holistic way). The basic ideas of the ORGANO-therapy are:

1. an organcell in potency can only identify the organ it is related to and thus it can only work on that specific organ;
2. each organcell has got a certain vibration and even if you were to mix e.g. hypophysis- and livercells together in one bottle, each component functions separately from the other one and they show different levels



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3. potency 4 ch activates and stimulates an organ, 7 ch regulates it and 9 ch curbs it;

If organcells in potency can already have these effects within some weeks, sometimes within some hours, dependent on the use, the organ and the illness, how drastic then, will be the effects of an injected fluid? It is important to realize that homeopathic medicines (including Organo) as well as (DPTP-)injections are working independently of the basal metabolism.

By homeopathic medicines I mean only those which are put under the tongue to penetrate into the membrane-system and later on into the membrane (to activate the thymus). The medicines which are administered orally and swallowed with water, I leave aside.

Compared with the latent effects of the organo-homeopathic medicines we may conclude that a residue of the DPTP-injection cannot be recognize itself. Because the main constituent of the residue is animal albumen (chickens) it can easily penetrate into the RNA/DNA-synthesis, more preciously in the albumen side with the same organo-energetic factor. This must be the logical conclusion, because DPTP-injections may contain AVIDINE, which expels BIOTINE. Because biotine (vitamin B8) activates the basal metabolism in the area of the heel, the penetration of the DPTP-residue must have been very deep. And because biotine correlates with the amino-acid TAURINE, both systems are losing a lot of energy, the basal metabolism as well as the whole membrane system (including the thymus and the activity of vital organs like the pancreas as far as they are dependent on the pro-hormones). When the groundenergetic control and force lack, the whole system will loose strength.

#### CONCLUSION IN RELATION TO AIDS:

\*\*\*\*\*

When BIOTINE and TAURINE both lack, viral toxines will never be able to leave the body. They will gradually incorporate into the monocytes. And then the circle is almost closed: the body needs more taurine for the spleen in order to produce new monocytes while there is a shortage of taurine. What will the body do when there is a shortage? The straightforward answer is: it will draw on its reserves by converting the fatty acids into albumen and then it will split up the albumen into, among other things, amino-acids, so that the body can take what it needs.

This phase is one of the last. After the body has expelled the biotine B8 there will be a shortage of a typical fatty acid. B8 is namely used for a part of the fatty acid cycle, so from a shortage of B8 logically follows a shortage in the fatty acid cycle. That's why a report of the UNILEVER-CONCERN is enclosed. It can make clear that animals that are on a fat-free diet, show symptoms similar to those of AIDS-patients (here I leave the viral system out of consideration).

 ht. 42

# THE MEASUREMENT OF AN AIDS-PATIENT.

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Mr. Hugo Koch, a therapeutic doctor (naturopath) in Sluis, Veendam and Groningen, tested an AIDS-patient, using a ROTA-testsetmachine. Mr. Koch and I have been working together in some fields for almost six years. He takes account of the practical side and I of the theoretical side. Mr. Koch gave me the following results:

The AIDS-virus, he said, reacts to the homeopathic polychrest THUJA OCCIDENTALIS D6. This medicine is the best energetic impulse for condylomata (verruca) as well as for the adverse effects caused by the DPTP-injection: the AIDS-virus as well as the DPTP-fluid will cause wartlike growths. The conclusion can be: homeopathic scientist have known the symptoms of AIDS for many years, only they did not give it a name, because they only observed the condylomata as a good symptom for curing. I do not think they ever used a electronic bio-medical computer to discover the world behind the virus, as Mr. Koch did. He gave me the following results. The organs of an AIDS-patient which are functioning for only 20% (!!!!!) are just those which hardly or not at all react to chemical substances or do so in a very unpredictable way. Those organs are:

1. PANCREAS:
2. HYPOPHYSIS:
3. SEXUAL GLANDS:
4. SPLEEN:
5. THYMUS.

## CONCLUSIONS:

1. AIDS and DPTP (only when it has been exposed to the sun for too long or when it was kept too dry or under high temperatures) both lead to suppression of the hormonal system which eventually ends in viral infections in the RNA/DNA-synthesis, in the new cells and in the bloodcells.
2. Using the pill and hormone-injections (e.g. oestrogen) may also lead to AIDS.
3. To cure the illness, the pro-hormonal system must be supplemented with amino-acid.
4. After cleaning the pro-hormonal system, THE WAY OUT for other viral toxins is free and must be kept free.
5. By giving amino acid during a long period of time, the vital organs like the pancreas can regain their functions, which are needed for the RES-system.
6. Besides, we need a component for cleaning the blood in a quicker way, and also some blood-builders. We do not have to give all substances, because improvement of the pancreas means better digestion.
7. As a safety measure the intestines will have to be protected against the viral toxins that are expelled by the bloodcells through the liver, where the blood is cleaned. For that reason we need RESIN to hold the virus in the faeces, so that there is no way back for the viral infection.





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THUJA EXPERIMENT WITH OVERDOSE  
\*\*\*\*\*

Use: Thuja Occidentalis (Homeoden) D6, a homeopathic polychrest.  
Normal use: 3 times a day 5 - 15 globuli against verruca.

I tried 3 times a day 15 globuli, I felt a bit better emotionally, but it did not last long. Drinking coffee, smoking cigarettes and hard work will stabilize the effects. Because the emotional effects are quite good in essence, I tried Thuja Occidentalis K30 during three weeks every night before going to sleep 5 granuli. This higher potency is also stabilized when you obstruct the excretory system. But here I discovered an interesting thing: working hard is the deepest anti.factor. When I gave my emotions free play by playing the accordeon, the organ or the guitar, I felt much more free, happy, comfortable and at ease. Somatically, the only additional symptom was the developing of verruco between the fingers of my left hand. After that I began to take Thuja Occidentalis K200: once a week 5 granuli. Because the latent effects were quite good and my blockades were fairly strong, I had to try a very high potency. The results amazed me: I got hundreds of condylomata, first on my left hand fingers and later on the fingers of the right hand. And I could feel the change in the brain-metabolism on the left side: the suppression of the father line is on its return. The condylomata disappeared within three to six weeks, came back after three weeks (though not as many and not as severe as before and disappeared again).

My conclusion:

IF YOU CAN FIND THE RIGHT MEDICINE TO PURIFY THE RNA/DNA-SYNTHESIS AND YOU CAN DETERMINE THE ORTHOMOLECULAR COUNTERPART (THAT HAS TO BE AN AMINO ACID) YOU WILL HAVE FOUND THE FUNDAMENTALS FOR THE MEDICAL TREATMENT OF AIDS-PATIENTS.

On the basis of the results of my study I would like to argue that the treatment of AIDS-patients and the treatment of the adverse effects of DPTP will have to be synchronized. When a healthy person like me reacts to it, then a sick person will also react to the same polychrest if you can manipulate the ph-value of the blood by means of other synergetic components.

FURTHER CONCLUSIONS:  
\*\*\*\*\*

1. The new medicine will have to give latent energy to the pancreas as the key organ of the pro-hormonal system and of the digestive system;
2. This pancreaal working will have to coöperate with the activity of the hypophysis, the sexual glands, the spleen and the thymus. The amino-acid Taurine does so;
3. When the body regains its strenght, the viral toxines may be expelled through the skin or through the faeces;
4. The wartlike growths are no symptoms of an illness but they indicate the inescapable necessity to purify the body.

INSTEAD OF SUPPRESSING THE PROCESS WE SHOULD TRY TO DISCOVER THE CATALYZING FACTORS BEHIND THIS PURIFYING PROCESS.



*Handwritten signature* nt-44

THE PUBLICATION OF THIS ARTICLE IS PROTECTED BY A NOTARIAL ACT ("AKTE VAN DEPOT")  
FILED AT THE OFFICE OF NOTARY MR. JONKER IN WINSCHOTEN (HOLLAND).

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*Swanone. 05118-2593*

# PERSONAL EXPERIMENT WITH OVERDOSE OF THE AMINO-ACID "TAURINE".

Use: 1000 milligram.

Purpose: to find the local place of activity; latent effects on somatic sub-systems, medicinal interactions, therapeutic applications and correlation between somatical and psychological systems, risk-factors, CONTRIBUTION TO PATHOLOGICAL PATTERNS and the interaction with other natural medicines.

Local place of activity: the membrane of the left heel.

*(= achter Achilles, per)*

## LATENT EFFECTS:

\*\*\*\*\*

About four hours after taking taurine you feel an icy cold in the membrane of the heel for three minutes. The feeling may be described as the crystalizing of ice. As long as this icy cold is felt you have latent feelings of sorrow. After three minutes - possibly needed for the crystalizing - the cold temperature changes into a hot one and the feelings of sorrow make place for lofty feelings, like love, high spirits and a sense of well-being. During the very short time the temperature changes, you feel like LIVING in your own membrane. Initially, the membrane of the heel reacts to an overdose of taurine, then the pro-hormonal energy goes upwards from the groundenergetic base via the membrane of the leg to the membrane of the spinal marrow and to the cerebral membrane. When it reaches the cerebral membrane, the skin underneath your hair start itching like mad (it gives you the jimjams). The energy does not go directly to the top, but via some intermediate stations. You feel for instance a tingle in the membrane of the lower back and just after that a warm pressure on the thymus. The hormonal energy does not infiltrate into the heart system. The activation of the thymus precedes the energetic impulse of the centre of the biorithmicity: the cerebral cortex.

One day later you will feel that all the mucous membranes in the intestines, lungs and even in your nose are being purified. You cannot feel that in the area of the urinal-genital system, but this must be a very latent effect, which might be investigated in a separate study. The next few days you also feel a higher resistance to the cold, so you will not easily catch a cold. That is easy to explain: the mucous membranes are clean, so viral toxinex, bacteria or other elements cannot hide there anymore. Likewise important is the thin film of fatty fluid on the skin all over the body. This fatty fluid has a pleasant smell that is typical of your own body. It gives the skin a glow of health.

Significant is also the colour of the faeces, which usually is brown, but after taking an overdose of taurine it is between brown and black. This can be indicative of the complete purification of the basal metabolism. But it may also be the case that the dose is too high in relation to the normal activity of the liver. Because taurine is



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is going too fast. Such a change of the colour of the faeces I have seen only once before, then as a result of an overdose of vitamin B8 (biotine of vitamin H).

In relation to taurine, vitamin B8 is particularly interesting, because the local activity of vitamin B8 is in the same area (inside the medulloss near the heel).

Two perhaps personal reactions:

- a. two days later I got a small ringformed eruption on the penis that was reminiscent of paraphimosis. It looks like a beginning of syphilis, but is not. It was gone within one day. Still, I think it important enough to mention, because taurine has affinities with the emotional as well as with the pro-hormonal and sexual energy, so it can be used for several sexual diseases;
- b. changing of the colour of the hair. My hair is blond to brown, but after taking taurine it darkened: the hair colour that is typical of members of my father's family. As such this is not surprising: the DPTP-injection suppressed the left side of my body - the thymus-side - which means that the emotional energy and the hormonal and sexualij energy will also be suppressed, as well as one of the parent's lines, in my case my father's line.

Some eighteen years ago, a hairdresser - Mr. Ritske Nicolai from the Frisian village Garijp - told me that he could tell by the gloss and the colour of a person's hair that he or she was going to get the flu. When I related that to my own experiences, I conclude that viral infections suppress the pro-hormonal system. And they can also be cured by feeding this system, because the system will always reacts to a lack of amino-acid or to a surplus of amino-acid.

If you do not have any blockades in your systems, like renal hypertension, for instance, taurine will have the effects as described above. Even if there are blockades - and I as a healthy person created them by drinking overdoses of coffee and milk and by smoking cigarettes - taurine will work. In the latter situation it will work so intensely, that it will cause condylomata to appear on your fingers: a symptom of a blockade in your emotional/sexual/pro-hormonal system. The condylomata are indicative of a conflict in the thymus, which can be solved if there is a surplus of amino-acid to intensify the pro-hormonal energy in order to expell the viral toxines.

VITAMINS  
\*\*\*\*\*

 nt-46

Earlier experiments with overdoses of vitamins increased our knowledge about the leg. Vitamins of the B-group coöperate, but nor teachers, nor books could explain to me how and why they do it, so I had to look for an other way to infiltrate into the working system. Every night before going to sleep I took 500 milligram of simple medicine, soluble in water.

Why before going to sleep?

- because than there are no blockades, including the one that is caused by working hard, which might suppress the emotional system; ;
- because the basal metabolism has reached its peak by than;
- because in the still of the night you can listen to silence;

LOCAL PLACES OF ACTIVITY OF THE B-VITAMINS:  
\*\*\*\*\*

Vitamin B8 (biotin or vitamin H) causes an abnormal development of heat in the bone marrow of the foot.

Vitamin B6 (pyridoxine) causes an abnormal development of heat behind the sural muscle.

Vitamin B1 (thiamine) causes an abnormal development of heat in the bone marrow behind the meniscus.

Vitamin B12 (cobalamine) causes an abnormal development of heat in the bone marrow behind the thigh-muscle.

Vitamin B3 causes an abnormal development of heat in the bone marrow in the pelvis (Vitamin B3 or nicotinamide).

Vitamin B5 (pantothenic-acid), as far as I can see, does not affect the medulla, but it does affect the adrenal glands and thus it makes it easier for one to have a good cry. So it stimulates the activity of the thymus indirectly (via the ad.ren) by cleaning the emotional-pro-hormonal system.

Vitamin B2 (riboflavine) I could not locate either but the most interesting aspect of vitamin B2 is the effect on the citric-acidcycle - it is an anti-acidosis - and it will give socalled illuminated dreams.

LATENT REACTIONS  
\*\*\*\*\*

Vitamin B8:

Makes you feel better in a holistic way. When I dealt with the taurine-experiment, I already mentioned that an overdose of B8 will cause the faeces to become blacker, because I think the activity of the liver will run wild at once.

Vitamin B6:

After 12 hours it will make you flush, because - as can be read in the literature - too much histamine will come to the lungs.

Vitamin B1:

Contractions of the knee-muscle. It shows that an overdose CAN harm a person, because the vitamin cannot work anywhere else.



 nr. 47

Vitamin B12:

Makes you feel better in a holistic way. You have more energy.

Vitamin B3:

Wellknown in the literature, because of its stimulation of the sexual glands. I am convinced, however, that this is an additional effect of the stimulation of the bone marrow of the pelvis. Perhaps it acts as a catalyst as far as the amino acids are concerned. But still there is a direct or an indirect relation with the activity of the sexual glands, because the corners of your eyes grow square (they get hooked): a sign of sexual excitement.

Vitamin B5:

Above, I mentioned the urge to cry. I did not actually cry, although my eyes got wet.

Vitamin B2:

No local latent reaction, but rather a psychological one, as it causes illuminated dreams. Perhaps a latent effect on the brains or the bone-marrow in the head.

The most interesting aspect of vitamins from the B-group is the correlation between body and mind: feeling and thinking. I could not perceive a relation between the use of vitamins and a higher immunity to stress.

In the literature vitamin deficiency is wellknown, e.g. in the case of alcoholics: B12, B1;  
chronic alcoholics: B12, B1 and B6.

Did anyone ever study the mutual relation between the B-vitamines?

I read numerous books about it, spoke to a lot of therapists, doctors and nurses, but no one knows anything about the local effects. They all talk about energy-supplu, concentrations of certain substances in the blood and so on.

When I discovered the local effects of B1 I did not think it strange any-more that chronic alcoholics are always complaining about the muscles of their knees.

What we will see is that a shortage of:

vitamin B12 will cause mild depressions;  
vitamin B12 and B1 will cause slightly more severe depressions;  
vitamin B12, B1 and B6 will cause very serious depressions;  
vitamin B12, B1, B6 and B8 will cause chronic depressions which are very difficult to cure, e.g. in the case of AIDS-patients.

When you are aware of the fact that the DPTP-injection - only when it was kept too hot or when it has been exposed to the sun for too long - contains AVIDINE which expels the biotine B8, you can account for the deep depressions of AIDS-patients in the terminal stage. The eyes of patients suffering from this type of depressions are rolling in their eye sockets.

The COORDINATING CENTRE of al vitamins lies in the biorithmic centre: the back of the head (or the cerebral cortex). That suggest that the VITA of the body runs parallel with the VITA of the mind, both based on a hierarchic system (perhaps the organclock?).

# WHAT ABOUT HOMOSEXUALS AND HYPES?

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nr. 48

Common characteristics of both groups:

1. the use of needles (for gonorrhoe infections) to inject foreign substances into the body (the leg), which will penetrate into the bones and into the vitamin-line;
2. a strong suppression of the activity of the hypophysis;
  - homosexuals use oestrogen obtained from the black market, which will disorder the hormonal system and also the top of the endocrine system: hypophysis as well as hypothalamus and epiphysis; if the injections will reinforce the hormonal system, the hypophysis will stop working;
  - drug users are known to have "wet dreams", hallucinations, which take a lot of pro-hormonal energy at a time that the system is on the way down;
3. the loss of vitamins, especially of the B-group;
4. the loss of amino acid;
5. the loss of vitamins as well of amino acids means the loss of the ground-energetic force, a vicious circle in other words. The person in question will emaciate more and more due to a combination of viral infections and the high level of acidity of the blood.

What will a drug addict get in his blood when he uses a dirty needle?

- a. drugs;
- b. the blood of an other user; according to the organo-homeopathic science this is antagonistic to his own bloodcells;
- c. the penicilline formed on this dirty blood;
- d. the viral toxines of the penicilline-myelin;
- e. the transport-albumen of the previous user, which contains the hormones of that user (here we see the same conflict as with the use of oestrogen by homosexuals, hormone-injections and the pill).

The most important common factor is the suppressing of the pro-hormonal (= sexual/emotional) system which corresponds with the system that gets rid of viral toxines. Suppressing this system means suppressing the secretion of viral toxines, these toxines will penetrate into the bloodcells and together with the acidity of the blood (among other things caused by vitamin deficiency) they will lead to AIDS.

The conclusion with regard to the contamination-risk of DPTP is simple\*: purifying and feeding this system must be the solution.



*nit-49*

Injectations, of e.g. killed AIDS-virus or of a homeopathic potency of an AIDS-virus can never be the solution, because:

1. they do not change the acidity of the blood;
2. they do not give energy to the groundenergetic metabolism;
3. they do not solve the problem of the shortage of vitamins and amino-acids;
4. they do not improve the activity of the pancreas, so the digestive system will not change for the better;
5. they do not give energy to the vulnerable organs: hypophysis, thymus, spleen, sexual glands and pancreas;
6. if 12.000 prominent pharmacologists cannot solve the problem after numerous congresses, we will have to look for a human, alternative and allround-creative way to save the world.

*[Signature]*

TAURINE NH<sub>2</sub> (CH<sub>2</sub>)<sub>2</sub>SO<sub>2</sub>OH.

Aminoethylsulfonzuur, kristalliseerbaar, gemakkelijk in wateroplosbaar zuur, voorkomend in de gal, ontstaan door afbraak van acidum taurocholicum; voedingsextract uit vlees.

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Wegen der gleichzeitigen im Molekül vorhandenen bas. und sauren Gruppe in der Betaïnstruktur (inneres Salz) vorliegt:



Taurin bildet farblose, monokline wasserlösliche Prismen. Im organismus ist taurine die Endstoffe des Schwefelstoffwechsels, es entsteht durch enzym. Decarboxylierung der Cysteïnesäure, die durch Oxydation des Cysteïns (Aminosäuren) gebildet wird. Taurin bildet mit der Cholsäure eine Gallensäure (Taurocholsäure (C<sub>26</sub>H<sub>45</sub>O<sub>7</sub>NS)) und wird in dieser Form ausgeschieden.

Bron: Meyers Lexikon der Technik und der exakten Naturwissenschaften.

ND

MR S.D.T. DANTUMA

Lageweg 20 Bergum Postbus 36 9250 AA Bergum (Fr.) Telefoon 05116-3535

Burgum, 7 september 1990.

de heer J. Raap,  
Ds. Oosterhuisstraat 14,  
9265 LV SUWÂLD

Geachte heer Raap,

Ingesloten doe ik U toekomen het afschrift van de akte van  
depot d.d. 24 augustus 1990.

Hoogachtend,  
Namens Notaris Dantuma

*S. de Vries-Pruis*

S. de Vries-Pruis.



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TO: DR. D.A. BROMLEY

DATE OF  
CORRESPONDENCE: 09/07/91

SUBJECT: RE: AIDS-STUDY BASED ON LITERATURE, PRATICE AND  
SEVEN YEARS OF STUDY.

\*\*\*\*\*  
DIRECTORATE STAFF  
ASSIGNED: ASSIGNED: D.A. Henderson

ACTION STAFF  
REQUIRED: ACTION: Comments to Bromley

\*\*\*\*\*  
SENDER'S DUE DATE:  
OSTP DUE DATE: STAFF DUE DATE  
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\*\*\*\*\*:  
DIRECTORATE  
ASSIGNED:

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*Do it  
Documents?  
DAB*

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May

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20506

September 23, 1991

MEMORANDUM FOR ALLAN BROMLEY

FROM:

  
D.A. HENDERSON.

SUBJECT:

RAAP PAPER ON AIDS

This is a strange melange of ideas attributing AIDS to all manner of foreign substances such as DPT vaccine and estrogens. Homeopathy, naturopathy and other exotic approaches are "the" answer. No reply indicated.