CANCER NEWSLETTER

1411 ALDENHAM LANE RESTON, VIRGINIA TELEPHONE 703-471-9695

OMB BACKS DOWN, RELEASES NEW CONSTRUCTION FUNDS AFTER RULING THEY ARE "ALTERATION, RENOVATION"

The Office of Management & Budget has saved face and avoided a head-on clash with Congress and perhaps the courts by agreeing to release \$6 million in construction funds awarded in October to Columbia University for a new cancer research center. But OMB is standing by its refusal to fund new construction: the impasse with Columbia was resolved only by the silly but practical device of ruling that the federal contribution would be used for "alterations and renovations."

Other institutions will benefit by this ruling. The \$1.5 million approved by the National Cancer Advisory Board for payment to Yale to finish its new center was placed in the alterations and renovations category, as was the \$4.7 million the Board approved in November for the Sidney Farber Center. Seven of the eight smaller awards approved in October, totalling less than \$1 million, also will be considered alterations and renovations.

OMB refused to apply the ruling to the largest award made by the Board in October--\$8 million to Albert Einstein for its new cancer center. That remains in the new construction category, and OMB insists (Continued to page 2)

In Brief

SCHMIDT ASKS NCI GRANTEES, CONTRACTORS TO TELL HIM HOW THEY WASTE CANCER MONEY

INSTITUTIONS with grants or contracts from NCI will get letters from Benno Schmidt, chairman of the President's Cancer Panel, asking what portion, if any, of their cancer program funds are being wasted, Schmidt is still burning over Nobelist James Watson's charge that the program is wasting a lot of money. Institutions getting \$1 million or more from NCI total 106. C'mon, Benno. You don't really expect anyone to admit his institution wastes money, do you? ... PAUL O'NEILL was confirmed by the Senate without debate as deputy director of the Office of Management & Budget. ... LEE CLARK, member of the Cancer Panel, says that NIH study section critiques of grant applications "aren't quite as caustic as they used to be," and that the 61% funding of approved grants NCI had expected to achieve, before the threat of the drastic budget reductions proposed by the President. is as high as is feasible. "We can't go much higher than that and be assured that all the research being done is meritorious," Clark said. . . . NCI EXECUTIVES believe that the President's budget recisions cutting NCI travel funds by \$400,000 and program direction and evaluation funds by \$5 million will stick. That means previously planned contracts with professional organizations and consulting firms will be cut back substantially. . . . STEPHEN CARTER has been appointed deputy director of NCI's Div. of Cancer Treatment. He has been associate director for cancer therapy evaluation.

Vol. 1 No. 45

Dec. 13, 1974

© Copyright 1974

The Cancer Newsletter

Subscription \$100 per year

CAN-DIAL Test
Generates 16,000 Calls
For Cancer Information
.... Page 2

New Research
Grant Awards
.... Page 3

RFPs Available
.... Page 5

Contract Awards
.... Page 6

Sole Source
Negotiations
.... Page 6

HEW SUPPORTS NCI ON CONSTRUCTION; CARLUCCI LECTURES O'NEILL ON LAW

(Continued from page 1)

it will not release funds for new construction, a decision NCI is appealing.

After OMB announced it would not release funds for new construction at Columbia (*The Cancer Newsletter*, Nov. 8), NCI countered with a novel and enterprising approach: non-federal money (totalling \$26 million) raised by Columbia would pay for the building "shell;" the \$6 million from NCI then would be used to "alter and renovate" the interior of the "shell."

Ridiculous as it seems, OMB went along with it, giving in to pressure by Cancer Panel Chairman Benno Schmidt, Asst. Secretary for Health Charles Edwards and others at HEW headquarters, and perhaps members of Congress who rightly claimed that Congress ordered release of new construction funds in the HEW appropriations bill.

Columbia's problem was especially pressing. The contractor who had won the job was committed to the bid price only to Nov. 14. Renegotiation could cost the university as much as \$1 million.

The contractor extended the deadline to Dec. 14, however. OMB made its decision to release the money earlier this week, so Columbia can proceed with construction immediately and without penalty.

Another grant approved by the Board in November but not yet recommended for funding is the \$5-6 million to UCLA for its new cancer center. Even when funds are available, this will fall in the new construction category, so the future of that award is in doubt.

Schmidt in his arguments to OMB pointed out the futility of the no-new-construction rule. Institutions can merely purchase old buildings and then apply for "alteration and renovation" grants. This could cost the government much more in the long run than if straightforward new construction grants were awarded.

The support for NCI from HEW was as surprising as it was welcome. Neither Edwards nor Secretary Weinberger has shown much sympathy for NCI's problems in the past. Edwards has sometimes expressed resentment over the independent status Congress gave the cancer program. Weinberger has worked diligently to further the restrictive policies he started when he was OMB director, one of which was the ban on new health facilities construction.

Apparently, HEW brass—unlike OMB—has abandoned the Nixonian tactics of ignoring the intent of Congress.

A memo to OMB Deputy Director Paul O'Neill from former Undersecretary Frank Carlucci, now ambassador to Portugal, points up this change in attitude.

O'Neill had arrogantly criticized NCI for continu-

ing to accept new construction grant applications after the Nixon budget proposal for fiscal 1975 appeared omitting such funds.

Carlucci told O'Neill that refusal to accept applications would be "unwise" in view of court decisions on the illegal impounding of health funds in 1973 by the Nixon Administration. The courts ruled that the Administration acted unlawfully in refusing to accept grant applications in programs that had not been legally terminated.

In the absence of explicit Congressional approval. Carlucci insisted, it would have been illegal for NCI to stop accepting construction applications.

The fact that OMB was still pressing an Executive Branch agency to commit an illegal act reveals a failure to understand how the Nixon Presidency destroyed itself.

Congress had repeatedly and in a variety of ways directed that new health facilities construction would be supported with federal funds. A Nixon veto of the Hill-Burton Act was resoundingly overridden; the Cancer Act and other health authorization bills specifically assigned authority to support new construction to agencies; and appropriations bills repeatedly earmarked funds for construction.

Yet, acting as if Congress and the courts were merely advisory bodies and not co-equal branches of the government. OMB tried to force NCI to ignore the law.

NCI is having another behind-the-scenes fight with OMB, this one over the 1976 budget which will be unveiled in late January.

NCI told OMB that it wanted the full amount authorized by the National Cancer Act for fiscal 1976–\$898.5 million, and has been arguing strongly in support of that request. OMB executives listened politely, then came back with a figure that astounded and appalled NCI staff members.

"It's way, way under our request," an NCI executive said. Best guess: a token increase over the \$600 million the Administration asked for 1975, probably \$615 to \$625 million.

CAN-DIAL TEST GENERATES 16,000 CALLS FOR INFORMATION ON CANCER

The "CAN-DIAL" cancer public information system being tested at Roswell Park generated 16,000 calls from April 15, when it went into operation in the greater Buffalo area, to mid-October, when it became available to all New York state localities.

The system was designed to provide answers to questions about cancer frequently asked by the public. Twenty-eight taped messages were in use (three more have since been added). Spanish translations of eight messages were available, and the rest are in the process of being translated.

The system is operational 16 hours a day, seven days a week. It was actively promoted by various

public service channels, including TV, radio, newspapers, telephone book yellow pages, brochures and speaking engagements.

Callers most frequently asked for the tape, "If You Want to Give Up Cigarettes." This was more than twice as popular as the next most requested tape, "Cancer of the Breast."

Other popular tapes were "The Effect of Cigarette Smoking on the Non-Smoker;" "Cancer's Warning Signals;" "What is Cancer?" "Cancer of the Colon and Rectum;" "What is the PAP test?" "Cancer of the Uterus;" and "Lung Cancer."

Roswell Park found that TV announcements were followed by an immediate flurry of calls which lasted about an hour and then quickly fell off. Printed announcements produced a more sustained response often lasting several days. The yellow pages produced "an immense reponse which is still being experienced."

Sources of information reported by callers were: 16%, TV and radio; 3%, printed sources; 25% yellow pages; 37% brochures; 6%, schools; 10%, friends or relatives.

NEW GRANTS AND AWARDS

More cancer research grants announced by NIH for June, 1974, are listed here by state. Those for Alabama through Florida appeared in The Cancer Newsletter last week.

RESEARCH GRANTS (continued)

ILLINOIS

Northwestern Univ.—John I. Brewer, Cancer center support grant, \$327,956; Paul F. Hollenberg, Hemoprotein-catalized oxygenations of carcinogens, \$61,618.

Univ. of Chicago-John E. Ultmann, Cancer control center, \$276,750.

INDIANA

Purdue Univ.—Gopal D. Das, Experimental brain tumors: developmental studies, \$26,555. IOWA

Univ. of Iowa-Richard L. De Gowin, Effects of radiation on replicating endothelial cells, \$33,413. KANSAS

Univ. of Kansas—Byungkook Lee, Crystallographic studies on the enzyme L-asparaginase, \$29,687. LOUISIANA

Louisiana State Univ. (Baton Rouge)—Kendall N. Houk, Photoelectron spectroscopy of drugs and carcinogens, \$31,610.

MASSACHUSETTS

Children's Cancer Research Foundation—Alfred L. Frechette, Cancer control developmental grant, \$790,102.

Harvard Univ.—Jan Cerny, Immunocompetent cells in experimental leukemia, \$70,134; Richard N. Goldstein, Interactions of satellite phage P4 and its helper, P2, \$47,530; Edmund C. Lin, Glycerol transport and

metabolism in tumor cells, \$59,993

Mass. General Hospital—Max R. Proffitt, Autoimmunity and virus-induced leukemia, \$51,497.

Tufts Univ.—James W. Drysdale, Carcinofetal human isoferritins, \$78,316.

Worcester Foundation—Jay R. Greenberg, Messenger RNA synthesis and turnover in tumor cells, \$38,833.

MICHIGAN

Michigan Cancer Foundation—Stanislav Chladek, Recognition of normal and neoplastic TRNA by ribosomes, \$21,900.

Wayne State Univ.—Paul A. Schaap, Enzymatically generated singlet oxygen in carcinogenesis, \$30,897. MINNESOTA

Univ. of Minnesota (minneapolis)—Philip R. Craddock, Leukemia chemotherapy and neutrophil dysfunction, \$17,432; Ronald D. Edstrom, Normal and leukemic lymphocyte surface glycoproteins, \$31,980. MISSOURI

Washington Univ.—Joseph M. Davie, Binding-site mutants of mouse plasmacytomas, \$76,351. NEW HAMPSHIRE

Dartmouth College—Gordon W. Gribble, Synthesis of polynuclear aromatic hydrocarbons, \$15,788; George A. Michaels, Studies of nuclear envelope in normal and tumor cells, \$31,711.

NEW YORK

Roswell Park—Sek W. Hui, Electron diffraction of cancer cell membranes, \$20,280.

American Health Foundation—Stephen S. Hecht, Methylchrysenes: new probes for mechanism of carcinogens, \$52,422.

Mount Sinai-James F. Holland, Acute leukemia group B operations office, \$177,042.

Cornell Univ.—Robert J. Ellis, Reactivity of axillary lymph nodes in breast cancer, \$61,330.

Memorial Hospital for Cancer & Allied Diseases—Guy F. Robbins, Cancer control developmental grant, \$270,763.

New York State Cancer Programs Assn.—Daniel S. Martin, Cooperative clinical research in community hospitals, \$54,790.

New York Univ.—Harry B. Demopoulos, Exploratory studies in cancer research, \$72,228.

Rockefeller Univ.—Richard W. Compans, RNA tumor virus structure and biogenesis, \$11,342; John B. Zabriskie, Immunologic responses in neoplastic growth, \$43,604.

Sloan-Kettering-John D. Fissekis, 5-substituted pyrimidines and cancer chemotherapy, \$52,006; Gideon Goldstein, Thymin induction of T cell differentiation, \$37,953; Irwin H. Krakoff, Clinical chemotherapy and pharmacology, \$194,000; Theodore P. Pincus, Mouse leukemia and autoimmunity: host-virus relations, \$89,642; Joseph Roberts, A program for development of new antitumor enzymes, \$91,570; Stephen S. Wachtel, Serological analysis of epidermal cell antigens, \$44,521.

Veterans Administration Hospital (Northport)—Stanley Zucker, Pathogenesis of anemia in malignancy, \$35,900.

Univ. of Rochester-Irving L. Spar, Studies with radioiodinated antiserum to CEA, \$44,665. NORTH CAROLINA

Univ. of North Carolina (Chapel Hill)—Geoffrey Haughton, Integrated tumor biology program, \$268.736.

Duke Univ.—F. Stanley Porter, Southwest cancer chemotherapy study group, \$14,300; William W. Shingleton, Cancer control developmental grant, \$286,899; Samuel A. Wells, Familial polyposis: a clinical and immunological study, \$61,263.

Wake Forest Univ.—B. Moseley Waite, Lysophospholipid metabolism of neoplasias, \$21,335. OHIO

Univ. of Cincinnati—Eugene A. Coats, Respiratory inhibitors as antineoplastic agents, \$39,920.

Case Western Reserve Univ.—Mark A. Mandel, Local immune response against cancer, \$77,595; Gerald M. Saidel, Immunotherapy and dynamics of the metastatic process, \$58,900.

Ohio State Univ.—Bruce S. Zwilling, Immuno-prophylaxis and immunotherapy of lung cancer, \$45,673.

OREGON

Univ. of Oregon-Robert A. Campbell, Polyamine radioimmunoassay in cancer, \$77,411.

PENNSYLVANIA

Penn. State Univ. Milton S. Hershey Medical Center—Samson T. Jacob, Mitochondrial polyadenylate polymerase in neoplasia, \$34,172.

Medical College of Pennsylvania—Bernard A. Eskin, Radioiodine uptake & imaging in the human breast, \$20,205.

Univ. of Pennsylvania—Richard A. Cooper, Eastern cooperative oncology group, \$25,001; John J. Mikuta, Gynecologic oncology group, \$28,676; Darcy B. Wilson, Immunobiology of normal and neoplastic lymphocytes, \$603,977.

Wistar Institute of Anatomy and Biology—Michael S. Halpern, Viral protein in avian sarcoma virus-infected cells, \$27,763.

Montefiore Hospital—Richard K. Shadduck, Regulation of granulopoiesis, \$84,570.

Univ. of Pittsburgh—Garret M. Ihler, Role of DNA in DNA, RNA and protein synthesis, \$23,809; Gordon A. Ryan, Proteins involved in DNA replication, \$44,100.

RHODE ISLAND

Univ. of Rhode Island—Paul S. Cohen, Functional viral MRNA made without protein synthesis, \$13,999; Karl A. Hartman Jr., The molecular structure of RNA viruses, \$13,487.

Roger Williams General Hospital (Providence)—F.J. Cummings, Eastern cooperative oncology group, \$30,618.

TEXAS

Texas A&M-Ralph A. Zingard, Thio and seleno sugar esters of group V acids, \$21,333.

Univ. of Texas (Dallas)—Dimitri J. Lang, Electron microscopy of DNA of cells and viruses, \$33,346.

Baylor—Heather D. Mayor, Growth of adeno-associated satellite viruses, \$37,190.

Univ. of Texas (San Antonio)—Samuel J. Friedberg, O-alkyl lipids in surface membranes of tumor cells, \$24,155; William T. Kniker, Immunologic aspects of cancer and infection in primates, \$78,097. UTAH

Univ. of Utah—Cyntha A. Lark, The role of methylation in DNA replication and repair, \$28,359; Frank J. O'Neill, Control of nuclear events in normal & neoplastic cells, \$25,479; Peter J. Stang, Vinyl trifluoromethanesulfonate chemistry, \$44,328. VIRGINIA

Norfolk Area Medical Center—Robert M. McCombs, Role of oncornaviruses in carcinoma of the prostate, \$52,640.

Virginia Commonwealth Univ. (Richmond)—Marvin A. Friedman, Effects of piperonyl butoxide on chemical carcinogenesis, \$37,296; Harold F. Young, host-neoplasia interactions of gliomas, \$40,988.

WASHINGTON

Fred Hutchinson Cancer Research Center—William B. Hutchinson, Cancer control development grant, \$457,707.

Univ. of Washington—Arthur Camerman, Stereochemical principles for anti-cancer drugs, \$57,750; Edward D. Thomas, Protective environment in intensive cancer therapy, \$522,364. WEST VIRGINIA

Univ. of West Virginia—Richard J. Cenedella, Investigations of lipolytic activities in tumor cells, \$16,931.

WISCONSIN

Univ. of Wisconsin (Madison)—David Perlman, Microbial metabolite inhibition of tumor B12 binding, \$52,527; Harold P. Rusch, Development of regional cancer control program, \$529,235.

RESEARCH TRAINING GRANTS

CALIFORNIA

Univ. of California (San Diego)—Gordon H. Sato, Cancer biology and biochemistry, \$89,326.

Univ. of Southern California—Thomas C. Hall, Interdisciplinary cancer research training program, \$154.276.

RESEARCH FELLOWSHIP AWARDS (All postdoctoral individual fellowships)

ALABAMA

Univ. of Alabama (Birmingham)—George L. Gartland.

ARKANSAS

Univ. of Arkansas-Mary L. Raab.

DELAWARE

Univ. of Delaware-James L. Wyatt.

FLORIDA

Univ. of Florida (Gainesville)—Michel N. Laham. (Fellowship Awards will be concluded next week.)

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Institute, unless otherwise noted. Write to the Contracting Officer or Contract Specialist for copies of the RFP. Some listings will show the phone number of the Contract Specialist, who will respond to questions about the RFP. Contract Sections for the Cause & Prevention and Biology and Diagnosis Divisions are located at: NCI, Landow Bldg. NIH, Bethesda, Md. 20014: for the Treatment and Control Divisions at NCI, Blair Bldg., 8300 Colesville Rd., Silver Spring, Md. 20910. All requests for copies of RFPs should cite the RFP number. The deadline date shown for each listing is the final day for receipt of the completed proposal unless otherwise indicated.

RFP NO1-CP-55639-62

Title: Metabolism of carcinogenic compounds

Deadline: Jan. 31, 1975

(A brief summary of this RFP appeared in *The Cancer Newsletter* Nov. 22. More details appear here)

The Carcinogenesis program of NCI is interested in determining the role of metabolism in the activity of certain chemical carcinogens. With certain categories of known or suspect carcinogens little information is available and as a result it is desirable to consider these more thoroughly. The project is divided into chemical and biological phases. Proposers may bid on either or both phases and for one or more compounds.

CHEMICAL

It is expected that under this contract the proposers will synthesize or otherwise acquire suitable labeled materials for use in metabolic and mechanistic studies. The following compounds are of interest: 1,2-dibromoethane (ethylene dibromide), 1,2-dibromo-3-chloropropane, 2,4,6-trimethylaniline, 4-chloro-o-toluidine, 4,4'-methylenebis-N,N'-dimethylaniline, 4,4'-bis (dimethylamino) benzophenone, and vinyl chloride. These compounds would be preferably labeled with carbon-14. For halogenated materials, if the carbon-14 label cannot be readily obtained or synthesized, the one of the halogens may be labeled with either chlorine or bromide. At least 10 mCi of each 14C labeled compound should be obtained and 1 mCi of the halogen labeled materials.

When compounds are to be synthesized, the proposers should present schemes by which the synthesis will take place. Synthesized compounds should be suitably purified and data on the radiochemical and chemical purity of each product must be made avail-

able. Procedures for the efficient synthesis of such compounds must be adequately worked out in advance with unlabeled materials. The proposers may suggest compounds other than those noted in this RFP.

BIOLOGICAL

The second objective of the contract will be the study of the metabolic pathways of the labeled compounds in experimental species, preferably rats, and in vitro in an attempt to determine the mechanisms of action. This would involve determining the distribution of the compound in tissues, including blood; its interaction with certain cellular constituents such as proteins, DNA, and RNA; and the quality and nature of its metabolites in urine and feces. The influence of species, sex, and other factors on the metabolic pattern and fate may be later investigated if the initial studies indicate these factors are operative.

Contract Specialist: Daniel J. Longen
Cause & Prevention
301-496-6361

RFP NO1-CP-55657-56

Title: Studies on an in vivo/in vitro system as a potential bioassay for chemical carcingens

Deadline: Feb. 10, 1975

NCI is interested in establishing a contract to investigate and standardize an in vivo/in vitro system which may provide a rapid, senstive, reproducible and quantitative method for detection of potential carcinogenic substances.

The in vitro system requires the assay of complement components C2 and C4 as synthesized by guinea pig macrophages.

Contracting Officer:

D.J. Dougherty Cause & Prevention 301-496-6361

RFP NO1-CN-55194-07

Title: Education for cancer control

Deadline: Feb. 7, 1975

(A brief summary of this RFP appeared in *The Cancer Newsletter* Nov. 15)

There is a shortage of individuals qualified to organize, direct, and participate in cancer control programs. As such programs emerge and increase in number, the shortages will become more acute.

The contractor shall perform the following tasks (in order of priority):

Task I: Develop objectives of proposed cancer control education programs.

The contractor shall secure the assistance of appropriate experts representing such areas of cancer control as etiology, prevention, detection and diagnosis, treatment, rehabilitation and continuing care, and in addition the aspects of public health with which this disease is most involved such as environmental protection, health care systems, psychosocial problems, etc. A set of specific objectives for cancer

control education programs for various health professionals shall be determined with options for emphasizing one or another aspect of cancer control. Task II: Determine the approximate number and type of trainees needed, their qualifications and employability.

The contractor shall conduct a review of ongoing and projected cancer control activities in association with appropriate experts; based on the findings of this review, it shall be decided how many trainees are needed and their eligibility requirements. In addition, an estimate of the employability of appropriately trained individuals should be made.

Task III: Design model curricula for proposed cancer control education programs.

Together with appropriate experts in the fields of public health education and cancer control as in Task I, the contractor shall design several curricular models for conducting cancer control education programs which will achieve the objectives described in Task I.

Task IV: Develop criteria and describe scope of content for each curricular model.

In each curricular model, the criteria and scope of course content shall be developed in conformance with the best information available on the intended consumer, and the subjects to be included.

Task V: Determine the most suitable education settings.

The contractor shall examine all types of health professional schools and determine in which settings the individuals selected would receive the most suitable training to fulfill the objectives identified in Task I.

Task VI: Determine the optimal length of time to train the individuals selected in the proposed programs.

After careful consideration of the data developed under Tasks I through V, the contractor shall determine what would be the optimal length of training to satisfy the objectives of the proposed education programs.

Task VII: Develop a methodology for program evaluation including cost effectiveness.

The contractor shall develop a plan whereby it may be determined that the objectives of the education programs have been met. The contractor must also address the issue training costs and demonstrate how such a program will be cost effective and therefore of significant benefit in the ultimate control and management of cancer.

Contract Specialist: Luther Holland

Control & Rehabilitation

301-427-7984

The following RFP has been issued by the Environmental Protection Agency. Write to EPA, Washington Contract Management Div., R&D Procurement Section, Washington D.C. 20460, Attn: W.M. Rug

RFP WA-75-R127

Title: Study on which a contractor would perform tests on a series of known chemical carcinogens to demonstrate the suitability of combined administration of a test compound and a promoter of tumor induction as a screening method for potential carcinogens.

Deadline: Probably late January

The chemicals to be tested will be administered to animals by various routes and a promoting agent will be applied to the skin of the animals. The correlation between known carcinogenic potential of the chemical and the appearance of skin tumors will be assessed.

CONTRACT AWARDS

Title: Clinical data reduction services

Contractor: Automation Industries, \$130,267.

Title: Isolation and characterization of type-C RNA viruses and diagnostic testing.

Contractor: Microbiological Associates, \$825,917.

Title: Provide necessary services and support in the conduct of the annual joint working conference of the Virus Cancer Program.

Contractor: Courtesy Associates, \$26,167.

Title: Modification of employer's attitude toward the employment of work-able cancer patients

Contractor: Westinghouse Electric Corp., \$354,007.

Title: Planning for a cervical cancer screening center Contractor: Massachusetts Dept. of Health, \$45,802.

Title: Award of eight tasks involving construction, A&E, alteration and renovation as necessary for the performance of the cancer research program being conducted at the Frederick Cancer Research Center.

Contractor: Litton Bionetics, \$475,045.

SOLE SOURCE

Proposals are listed here for information purposes only. RFPs are not available.

Title: Studies in colon carcinogenesis.

Contractor: American Health Foundation

Title: Studies on Marek's disease as a model for human herpesvirus oncogenesis.

Contractor: Life Sciences Inc., St. Petersburg, Fla.

contractor. Enc ociences me., St. retersourg, r.a.

The Cancer Newsletter—Editor JERRY D. BOYD

Published weekly by The Cancer Newsletter, 1411 Aldenham Lane, Reston, Va. 22090. All rights reserved. None of the content of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without the prior written permission of the publisher.