

enable attorney's fee, the amount to be fixed by the screening board. If the proceedings reach the stage of an agency hearing board and if the employee is later cleared, similar reimbursement should be authorized, the amount to be fixed by the hearing board.

(3) Employees of private employers contracting with the government should be entitled to reimbursement by the government for attorney's fees on the same basis as government employees.

(4) Bar associations are urged to make provision through lawyer reference plans or otherwise for adequate representation of employees in security proceedings.

15. Final Determination

The head of the charging agency should have the power to make the final security determination.

16. Successive Security Determinations

(1) It should be the policy of the government to prevent insofar as is practicable and consistent with national security the repetition of security proceedings on substantially the same facts as to the same person, whether in the same agency or in different agencies.

(2) In the absence of new evidence a security clearance should not be reopened.

(3) When there is new evidence a security clearance should be subject to reopening only with the concurrence of the screening board and the head of the agency concerned. If a new hearing is directed, all relevant evidence, whether or not presented in the earlier proceeding, may properly be considered in making the new security determination.

(4) The regulations to be promulgated by the Director should include provisions for reciprocal recognition of clearness wherever feasible, and such regulations, upon approval by the President, would be binding on the agencies affected.

17. Applicants for Positions and Probationary Employees

(1) So far as consistent with the interests of national security, an applicant for a position covered by the programs who is denied employment should, upon request, in accordance with regulations to be established, be furnished with a statement of all adverse security information concerning him, such statement to be as specific as security considerations permit, or a statement that there is no such adverse information.

(2) An applicant furnished with a statement of adverse security information should have the right to file an affidavit denying or explaining it. Such affidavit should be placed in the personnel file which contains the adverse security information and should be part of any report of an investigation of the applicant.

(3) A governmental agency should

also afford an informal interview to an applicant for, or a probationary employee in, a sensitive position so that he may have an opportunity to explain adverse security information, in any case where the general counsel of the agency recommends that an interview be given because of the importance of the employment of the person to the agency.

F. Name

18. Name of the Program

The name of the personnel security programs as a whole should be:

"The Federal Personnel Security System."

The Committee believes that with the adoption of these recommendations the future personnel security system would be substantially free of the weaknesses and defects which have appeared in connection with the present programs. National security would be adequately protected and no reasonable citizen could feel that this was being achieved at the sacrifice of our basic principles of liberty and our sense of fairness.

Individuality in Chimpanzee Behavior

The high degree of anatomical variability among chimpanzees, even among those of the same species, is well known; and, as might be expected, physiological variability has also been recorded, even though investigations in this area have not been numerous. H. W. Nissen, on the basis of studies of 151 chimpanzees (all presumably of one species) at the Yerkes Laboratory in Orange Park, Fla., during a period of 25 years, concludes that the behavioral variability of these animals is even more striking than their anatomical and physiological variability [*Am. Anthropol.* 58, 407 (June 1956)]. These observations are especially significant, since particular effort has been made to maintain uniform environmental conditions for some 60 animals born since 1939.

Excluding three obvious sources of individual variability,—namely, age, sex, and experience—Nissen considers only those instances of individuality that may have a genetic basis. Differences have been noted among adults in locomotor, postural, oral, and manipulative acts that have no apparent basis in differential experience—for example, extent to which bipedal locomotion is used, manner of quadrupedal gait, grooming, manner of eating, food preferences, manner of rocking or swaying, occurrence of thumb-sucking. Furthermore, variability is also evident in more general behavior traits, such as intelligence, dexterity, skill, inventiveness, emotionality, drive, persistence, aggressiveness, and timidity—for example, thresholds of excitability, attitude of the mother toward her young,

speed of learning, tool-using and instrumental problem-solving.

Nissen believes that the 57 chimpanzees now at Orange Park are as distinctive as an equal number of human beings drawn from any place on this planet. Although they do not differ in as many details of behavior—since the repertoire of human behavior is much larger—the range is sufficient to guarantee each chimpanzee its own individuality. It is well recognized that culture has a very great role in shaping human behavior and so producing variability therein. The Orange Park chimpanzees, however, show pronounced behavioral individuality, although they live in roughly the same environment. Nissen, however, emphasizes that this does not definitely prove that their behavioral variability was not environmentally determined, for it is possible that minute elements of early experience act cumulatively to produce wide variability in later life. But the same differences could well be produced by minute hereditary differences in endowment and propensities. Thus, on the basis of present knowledge, it appears likely that both environmental and genetic factors are involved in the production of individual variability in chimpanzee behavior.

Whatever future experiments along this line may reveal, it is obvious that Yerkes was entirely correct in calling the chimpanzee "a rugged individualist."
—W. L. S., JR.

Patent Ruling

The received date printed at the end of an article in a publication can no longer be employed by the U.S. Patent Office to bar a patent to an inventor, according to a ruling by the Court of Customs and Patent Appeals. The court's holding reverses a long line of decisions of the board of appeals of the Patent Office.

The decision was handed down on 21 June, in the case of *In re Emil Schlittler et al.* Schlittler is vice president and director of research of CIBA Pharmaceutical Products Inc., assignee of the patent application involved in the decision. The legal issue involved in the case was of such widespread significance that three patent law associations—the American Patent Law Association, the Connecticut Patent Law Association, and the New York Patent Law Association—filed briefs *amicus curiae*, all of which urged reversal of the Patent Office's policy of reliance on the "received" date.

In its rejection of the Schlittler *et al.* application, the Patent Office relied on a single reference, which was an article in the *Journal of the American Chemical*

Society published in November 1948. Schlittler and Andrea Uffer, a research associate, had filed an application in the Patent Office that was entitled to an effective filing date of 21 May 1948.

It was conceded by the Patent Office that the article was not a proper reference on the basis of its publication date alone. However, at the end of the published article was the notation "Received April 30, 1948." The Patent Office's position, in line with previous decisions of the board of appeals, was that this notation at the end of the article constituted prima facie evidence that the invention was "known" by others prior to 21 May 1948, under a provision of the Patent Statutes.

The court, after reviewing numerous decisions, construing and interpreting the word *known*, concluded that the "placing of the article in the hands of the publisher did not constitute either prima facie or conclusive evidence of knowledge or use by others in this country of the invention disclosed in the article, within the meaning of the [statute]."

Toxicity of Ozone

Biologists at Armour Research Foundation of Illinois Institute of Technology will attempt to study the toxicity of ozone. The foundation is conducting the investigation for the U.S. Air Force School of Aviation Medicine, Randolph Air Force Base, Texas.

Six investigators, headed by Hans-Georg Clamann, physiologist at the school of Aviation Medicine, will expose themselves to controlled concentrations of ozone in A.R.F.'s ozone chamber. Because of its toxicity, only laboratory animals have been exposed to ozone until recently.

Clamann and his five associates from Randolph Air Force Base will expose themselves to from 1 to 10 parts of ozone to 1 million parts of air in an 8-day series of experiments. Previous experiments on laboratory animals showed that exposure to as low as 12 parts ozone to 1 million parts of air proved fatal to some animals within 3 hours. However, the dose required to kill 50 percent of the common laboratory animals is in the range of 20 to 35 parts ozone to 1 million parts of air.

Premedical and Medical Education

The possibility of combining premedical and medical education will be studied at Northwestern University under a 3-year \$75,000 grant from the John and Mary Markle Foundation, and under a portion of a recent \$300,000 grant from the Commonwealth Fund. The commit-

tee conducting the study is composed of faculty members drawn from the medical school, the college of liberal arts, and the graduate school.

In the proposed plan, a student would enter the combined premedical and medical course on graduation from high school. The course would last 7 or 8 years and would present a unified progression of study in the arts and in the physical, biological, and medical sciences. There would be no sharp break between premedical and medical education; education in all fields would continue throughout the program.

First steps to be taken by the committee will be to examine ideas and methods of premedical and medical teaching now used, and the implications of recent advances in medicine in treating diseases. They will also study the facilities and personnel that the program would require, and they will collect and analyze opinions, ideas, and suggestions of students, doctors, and faculty members throughout the country.

Two of the problems to be solved in setting up a program will be in designing the courses so that a student could logically branch out into other fields allied to medicine if he desired to drop his training to be a physician, and to design the program so that graduates from other liberal arts colleges may enter the medical program at Northwestern.

AEC Foreign Agreements

The United States has negotiated agreements with France, Switzerland, and Australia for cooperation in the peaceful uses of atomic energy. All agreements take account of the arrangements that may be considered if an international atomic energy agency is created, and all specify safeguards and controls necessary for the safe use of fissionable material.

The agreement with France permits the exchange of unclassified information on the development, design, construction, operation, and use of various types of research, experimental power, and power reactors. Further data will also be transmitted on health and safety problems and on the use of isotopes in industry, agriculture, medicine, and biological research. Subject to agreement by the two countries, specialized research facilities and reactor materials-testing facilities within France and the United States will be made available for mutual use. Provision is also made for collaboration between private organizations of the two countries.

The United States has undertaken to provide France, subject to the conditions of the agreement, 40 kilograms of contained uranium-235 in uranium enriched up to a maximum of 20-percent uranium-

235. Further, the U.S. Atomic Energy Commission may sell a portion of this material enriched up to 90 percent with uranium-235, for use in a materials-testing reactor. Finally, the French Atomic Energy Commissariat may obtain gram quantities of plutonium and uranium-233 for experimental projects.

The agreement with Switzerland provides that the United States may sell to the Swiss Government uranium containing up to 500 kilograms of uranium-235. Most of this fuel will be enriched up to 20 percent with the uranium-235 for use in research, experimental, and power reactors. However, Switzerland may also obtain 6 kilograms in a 90-percent enrichment for fueling a materials-testing reactor.

The agreement also permits the transfer of equipment and devices, as may be agreed, for use in the civilian atomic energy program of Switzerland and the transfer for research purposes of gram quantities of plutonium, uranium-233 and uranium-235. Authority is provided for purchase of other reactor materials. The new agreement is separate from the research agreement for cooperation, covering exchange of unclassified data on peaceful applications of atomic energy which has been in effect since 18 July 1955.

The agreement with Australia provides for the sale of up to 500 kilograms of uranium enriched up to 20 percent in uranium-235, for use in research, power demonstration, and power reactors. Up to 6 kilograms of this amount enriched in uranium-235 up to 90 percent may be sold to Australia for use in a materials-testing reactor. The agreement also provides for the transfer of equipment and devices, as may be agreed, and for the exchange of visits to research facilities.

Australia is an important producer of uranium ores from its Radium Hill and Rum Jungle areas. The United States buys part of this ore through the Combined Development Agency. The agreement provides that existing ore agreements and contracts will continue in effect and that the two governments will exchange information on exploration for and treatment and production of ores.

High-Altitude Studies of Solar Flares

Studies of the effects of solar storms or flares on radio fadeouts are being undertaken for the International Geophysical Year by the U.S. Naval Research Laboratory. Balloon-supported rockets were released from the *USS Colonial* (LSD-18), some 200 to 400 miles west of San Diego, Calif., during the last 2 weeks in July.

Ten 12-foot long rockets of the "Dea-