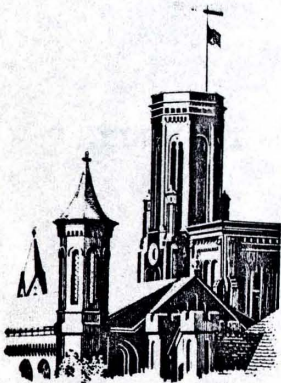
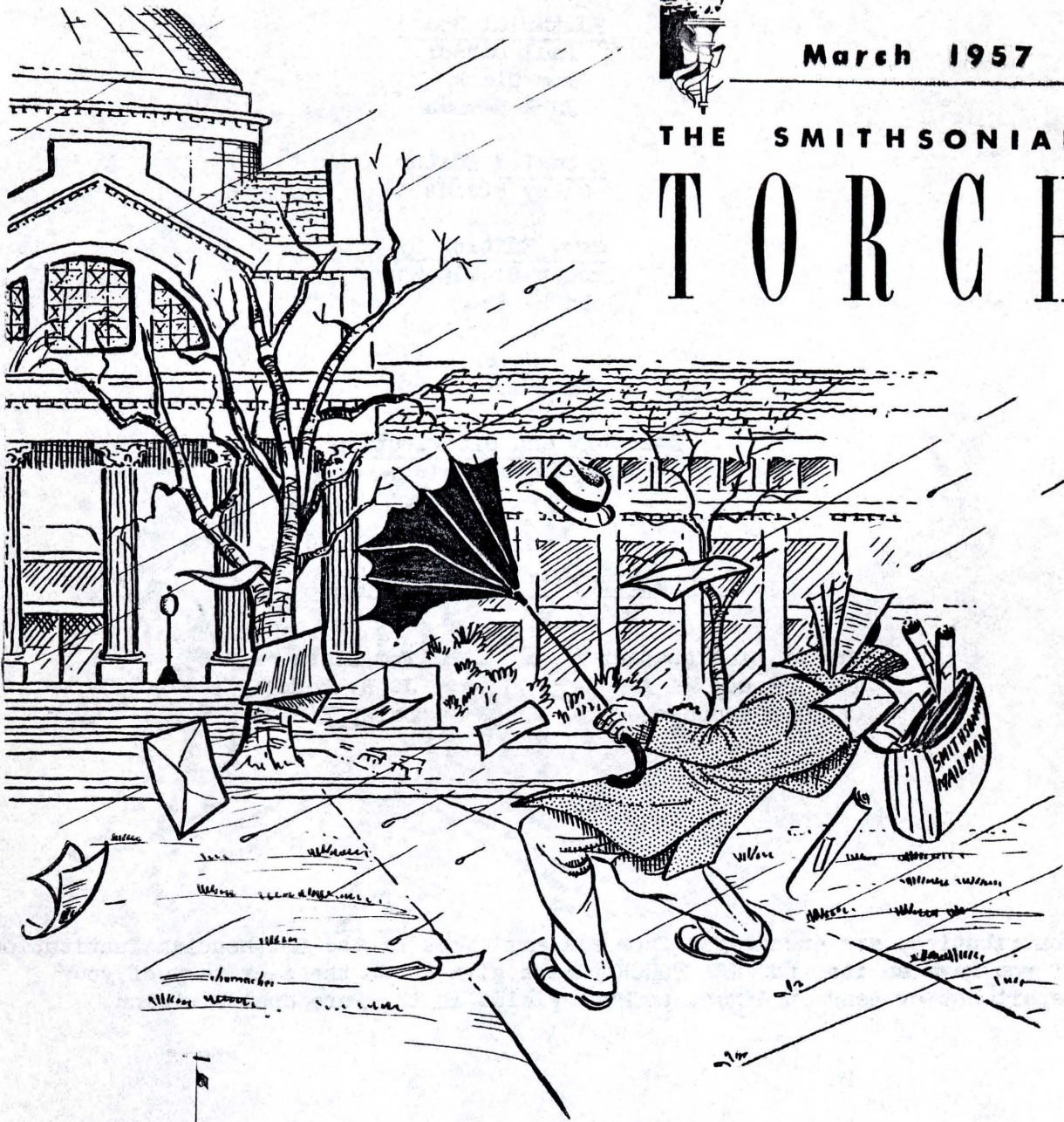




March 1957

THE SMITHSONIAN TORCH



HAZARDS OF A MARCH CROSSING

SMITHSONIAN INSTITUTION • WASHINGTON, D. C.

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Contributions are encouraged from all employees of the Smithsonian Institution. If you have an item for THE TORCH please give it to the secretary of your department or send it direct to Mrs. Fields in the Personnel Division.

CONTRIBUTIONS SHOULD BE RECEIVED BY THE LAST DAY OF THE MONTH.

THE SMITHSONIAN TORCH

(Published monthly for the employees of the Smithsonian Institution)

March 1957

Number 25

TELEPHONE EXHIBIT

A new exhibit telling the story of the telephone was opened on March 10 in the Arts and Industries Building.

Planned by the Smithsonian staff and the Bell Telephone Laboratories, the exhibit was presented by the telephone industries in the United States. Beginning with the "galvanic music" with which Charles G. Page of Massachusetts startled the learned world in 1837, the telephone story is carried through to the most recent applications of electronic devices.

Attending the opening ceremonies were James B. Morrison, president of the Chesapeake & Potomac Telephone Companies; Leon F. Roberts, director of information for the United States Independent Telephone Association, who made the presentation on behalf of the Bell System and the independent telephone industry; Dr. Melville Bell Grosvenor, president of the National Geographic Society and grandson of Alexander Graham Bell, who cut the ribbon formally opening the exhibit; and Dr. Leonard Carmichael, who accepted on behalf of the Smithsonian.

Featured in the exhibit is the work of Alexander Graham Bell. Included are the instruments that Bell presented to the Smithsonian a number of years ago and reproductions of such curious apparatus as his "human ear phonograph," through which he learned of the power of sound waves to set relatively heavy objects into vibration. These and instruments from other inventors record the period of the birth of the telephone and the first appearance of systems of telephonic

communication. The story of the telephone is brought up to date with an exhibit of present research in the transistor and solar battery, and with examples of several unusual types of telephone now being brought into use.

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PARK EMPLOYEES COMMENDED

The National Zoological Park received a very fine letter of commendation from the American Red Cross, District of Columbia Chapter, for its cooperation with the regional blood donor program.

During the period January 1 to December 31, 1956, when its quota for the year was 27 donations, the men and women of the National Zoological Park made 54 donations, exactly double the amount expected of them.

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AIR MUSEUM SITE APPROVED

The National Capital Planning Commission recently approved location of the Smithsonian Institution's proposed National Air Museum on the north side of Independence Avenue between Fourth and Seventh Streets, N.W. The site is across the Mall from the National Gallery of Art and is now occupied by Government temporary buildings.

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CORRECTION

Mrs. Arthur M. Greenwood, the major donor of material used in the Hall of Everyday Life in Early America, recently wrote a letter to The Torch pointing out an inaccuracy in the story about the hall that appeared in the February issue. Her letter is so interesting that its full contents are given here:

"In behalf of that accuracy which is the policy of the Smithsonian, would you make a correction in the statement on page 3 of 'The Torch' for February 1957, regarding the 'gaily stenciled bedroom of about 1820' in the new hall of Everyday Life in America?

"The stenciled (i.e., painted directly on the plaster) walls of this room are not copied from a room in the Charles Gilman house in East Brimfield, but rather from a bedroom in my home (Time Stone Farm) here in Marlborough, Mass. I loaned the Smithsonian the stencils which we used here when we restored the original stenciling in 1925, that we might depict as authoritatively as possible a country bedroom with painted walls and painted furniture in the early days of the 19th century.

"Responsible for these particular walls here at The Farm at that period was a Revolutionary soldier, one Abner Goodall, owner of this homestead then. He was wounded at the battle of White Plains, honorably discharged, and invalided home. For the sum of \$7.50 he sent his 'hired man' to take his place, while he himself 'redded up the homestead' for his bride, Molly Howe, daughter of the landlord of the Red Horse Tavern in Sudbury, now known as the Wayside Inn. Molly died in 1818, and Abner in 1823, and their own written records establish with some authority the origin of the original room, the walls of which you have reproduced in the new hall.

"For the record' I have gone into this detail, and also to keep faith with some very picturesque old-timers."

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COMBAT ART

The Smithsonian recently received six oil paintings of World War II combat to add to its extensive collections of historical art. The paintings were presented by Clarence J. Tibado, a young artist of Lake Wales, Fla.

In receiving the paintings, Dr. Carmichael stated that they were "important historical documents as well as works of art."

Mr. Tibado served aboard the heavy cruiser Pensacola during World War II when she participated in numerous historic engagements in the Pacific. Tibado worked on his ship, painting when off duty while the impressions gained during battle were fresh in his mind.

Included in the group of paintings are graphic representations of the Battle of Tassafarong, where U. S. Navy Task Force 67 fought an engagement with a Japanese destroyer attempting to ferry supplies to Guadalcanal on the night of November 30, 1942. One of these paintings shows the Pensacola at the moment she was struck by a torpedo, seriously damaging the ship and killing many of the crew.

Another painting shows the Battle of Midway when the carrier Yorktown was under attack by Japanese torpedo planes.

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Don't be afraid to let on that you're still learning.

- - -

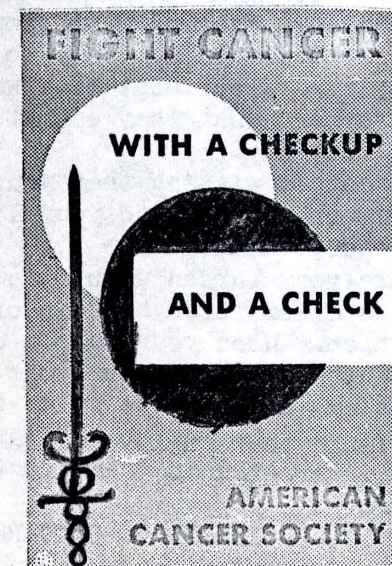
YOU CAN HELP CONTROL CANCER

Today most cancer can be cured if detected and treated in time. Hundreds of Washingtonians are being saved every year--but more could be saved.

It's up to you. For your own protection learn and heed cancer's warning signals, and consult your physician if one appears. Even if you feel well, make sure to have a health checkup at least once each year.

These are ways in which you can help yourself and your family--and this is one of the ways in which the American Cancer Society helps you. Giving the public information on cancer control is a year-round program of the cancer society. Thousands of Washingtonians have benefited--but many more must be reached if more lives are to be saved.

And that's not all! When cancer does strike--as it does one out of every four persons, three out of every four families--the society provides direct service to ease suffering by providing financial aid, sick room supplies, surgical dressings, and counseling service. This year your local cancer society has granted \$68,281 for professional service in institutions in the District of Columbia to aid in the diagnosis and treatment of cancer.



These services--research, education, and service--are made possible by your support of the annual Cancer Crusade in April. Welcome your Cancer Crusader. Give generously and heed the information given you. It's for your own protection.

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Conceit is an incurable form of I-strain.

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KEEPER AT ZOO RETIRES

After 48 years at the National Zoological Park, Frank O. Lowe retired as head keeper on February 28. He was honored by Zoo employees at a luncheon held in the park restaurant on February 26.

Both Mr. John E. Graf, Assistant Secretary of the Smithsonian, and Dr. Theodore H. Reed, Acting Director of the National Zoological Park, praised the excellence of Mr. Lowe's long record here. They wished him happiness in his retirement and spoke of how much he will be missed by his fellow employees and by the animals he has watched over for so many years.

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SPECIAL ART EXHIBIT

The National Collection of Fine Arts is sponsoring an "Exhibition of Paintings and Sculpture" by the Artists Guild of Washington and the Washington Sculptors Group in the foyer of the Natural History Building.

The exhibit opened on March 10 and will continue through March 29.

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THE GUY IN THE GLASS

When you get what you want in your struggle for pelf,
And the world makes you king for a day,
Then go to the mirror and look at yourself,
And see what that guy has to say.

For it isn't your father, or mother, or wife,
Who judgment upon you must pass.
The fellow whose verdict counts most in your life
Is the guy staring back from the glass.

He's the feller to please, never mind all the rest,
For he's with you clear up to the end,
And you've passed your most dangerous, difficult test
If the guy in the glass is your friend.

You may be like Jack Horner and "chisel" a plum,
And think you're a wonderful guy,
But the man in the glass says you're only a bum
If you can't look him straight in the eye.

You can fool the whole world down the pathway of years
And get pats on the back as you pass,
But your final reward will be heartaches and tears
If you've cheated the guy in the glass.

By Dale Winbro

AN INVITATION TO BETTER MANAGEMENT

There's nothing so important to any organization as its people, yet many executives and supervisors pay less attention to their people than to procedures. Here are 12 basic guides which can help you in working with your people:

1. People want to be understood--not judged.
2. Cooperation cannot be forced; it must be deserved.
3. You communicate more through action than through words. It's what you do, not what you say, that matters.
4. Silence, too, is communication. Silence at the wrong time can have a shattering impact on people.
5. Individuals are complex. They are many people wrapped into one. Know them. Your least subordinate may be your superior by every measure besides authority.

6. In dealing with people, sentiment and emotion count. Don't insist on pure logic--understand emotions.
7. Each individual's job must have a social and human function and meaning to him. Help him find it.
8. Don't overlook the seemingly trivial in dealing with people.
9. Learn to listen not only to what people say, but what they want to say and what they cannot or will not say.
10. Instead of wishing that your employees understand you, learn to understand them.
11. Share your burden with others. Ideas exist throughout an organization. When your people understand, they will share your problems and help to solve them.
12. Convince your employees that you are interested in them and their welfare.

BE INTERESTED AND BE SINCERE.

KILL OR CURE TREATMENT

"Medicine" is the supreme secret among the Guaymi Indians of Panama.

Healing practices are guarded more zealously than the whereabouts of gold, and even the most welcomed outsiders are told nothing. This was the case with the Reverend Ephraim S. Alphonse, for many years a Wesleyan Methodist missionary among these people. However, after years of observation, Mr. Alphonse is able to describe a few of the practices in a "Guaymi Grammar and Dictionary with some Ethnological Notes," recently published by the Bureau of American Ethnology.

The descriptions will cause little enthusiasm among American physicians, although some of the treatments may be based on sound psychology.

For a pain in any part of the body a "pain diversion" therapy is used by the Guaymi medicinemen--that is, they relieve the suffering by causing a more severe pain in the same part.

Toothache, for example, is treated by attaching a nail to a bit of wood, heating it red hot, and then briskly touching the parts around the affected tooth nine or ten times. The same is done for gallstones or pains in the liver or spleen. When there is a swelling in which there is pus, the red-hot nail is thrust in until the pus drains out. The treatment is quite effective. "The wound generally heals in a few days," Mr. Alphonse observed.

Certain sores, like those of yaws, are smoked. A hole is dug in the ground, the nest of a colony of wood termites is broken and put in, and a fire is set. This gives off a heavy smoke which rises for hours. An affected leg is held over this smoke for a whole day while the patient lies prostrate. The cure, Mr. Alphonse says, usually works so far as the sore is concerned.

If a snake bites a man, the missionary relates, after various preliminary treatments a bush that has the color of the snake is boiled, and the brew is given the victim to drink until he recovers. Before that, however, these preliminaries are necessary:

The victim must not be touched or seen by a pregnant woman or the husband of such a woman. If the snake is killed the head is cut off and burned, and the ashes are mixed with gunpowder. The patient eats this mixture swallowing whole the gall of the serpent. The wound is opened with a knife, gunpowder is put in, and a match applied. "To kill a really bad snake," Mr. Alphonse relates, "tobacco is chewed in an odorous paste, wrapped in a thin leaf, and put on the end of a long stick. With this the snake is teased until it snaps at the tobacco. Instantly it is paralyzed and can be handled with the bare hands."

Knowledge of herbs is handed down from father to son. When a medicine-man dies, a relative whom he has instructed steps into his place after a period of mourning. Eventually a case comes up to test the skill of this relative. If he effects a cure, his fame spreads and he encourages this with boasts of spiritual revelations. Once both fear and confidence are inspired, his practice is established.

Twin babies, Mr. Alphonse says, forebode evil to their parents. The only way to offset this is to cause one to die. This is usually done at birth, but at times one of the babies is allowed slowly to perish.

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He is a wise man who tries to make a friend of a foe.

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LEADERSHIP AND SUPERVISION (Part 1)

Beginning with this issue The Torch will carry a series of articles on "Leadership and Supervision" from material furnished by the U. S. Civil Service Commission.

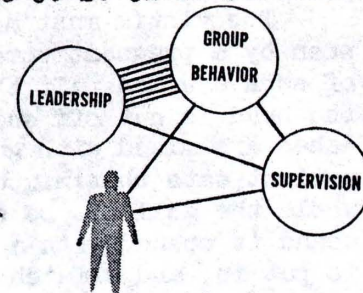
The Setting.-

Social science has recently developed new information about groups and leadership in general and supervisor-employee relationships in particular. Since organizational effectiveness is closely linked to the ability of supervisors to direct the activities of employees, these findings are important to executives everywhere.

Social science cannot provide all of the necessary answers. Sufficient research has been done, however, to provide us with insight to develop our own answers in many cases. For example, social science has given us the concept that human behavior is purposive. An employee's actions may appear to be illogical and irrational, but we know that they have meaning to him and are directed to an end. Knowing this, we can deal more sympathetically with him, and our understanding is more likely to lead to effective action.

None of the material which follows should be construed as lessening the responsibility of supervisors and administrators to do everything in their power to aid in the attainment of organizational goals. The supervisor is an agent of management; there is nothing immoral, bad, or inhuman in his fulfilling his responsibility for production. We have not brought together research findings simply to promote human kindness. We are reporting this research because of its importance to management and to organizational endeavor.

Is a Supervisor a Leader?-First-line supervisors are found in all large business and government organizations. They are the men at the base of an organiza-



tional hierarchy. Decisions made by the head of the organization reach them through a network of intermediate positions. They are frequently referred to as "part of the management team," but their duties seldom seem to support this description.

A supervisor of clerks, tax collectors, meat inspectors, or securities analysts is not charged with budget preparation. He cannot hire or fire the employees in his unit on his own say-so. He does not administer programs which require great planning, coordinating, or decision making.

Then what is he? He is the man who is directly in charge of a group of employees doing productive work for a government agency. If the work requires the use of machines, the men he supervises operate them. If the work requires the writing of reports, the men he supervises write them. He is expected to maintain a productive flow of work without creating problems which higher levels of management must solve. But is he a leader?

To carry out a specific part of an agency's mission, management creates a unit, staffs it with a group of employees and designates a supervisor to take charge of them. Management directs what this unit shall do, from time to time changes directions, and often indicates what the group should not do. Management presumably creates status for the supervisor by giving him more pay, a title, and special privileges.

Management asks a supervisor to get his workers to attain organizational goals, including the desired quantity and quality of production. Supposedly, he has authority to enable him to achieve this objective. Management at least assumes that by establishing the status of the supervisor's position it has created sufficient authority to enable him to achieve these goals--not his goals, not necessarily the group's but management's goals.

In addition, supervision includes writing reports, keeping records, membership in a higher-level administrative group, industrial engineering, safety engineering, editorial duties, "housekeeping" duties, etc. The supervisor, as a member of an organizational network, must be responsible to the changing demands of the management above him. At the same time, he must be responsive to the demands of the work group of which he is a member. He is placed in the difficult position of communicating and implementing new decisions, changed programs and revised production quotas for his work group, although he may have had little part in developing them.

It follows, then, that supervision has a special characteristic: achievement of goals, previously set by management, through the efforts of others. It is in this feature of the supervisor's job that we find the role of a leader in the sense of the following definition: A leader is that person who most effectively influences group activities toward goal setting and goal achievement.

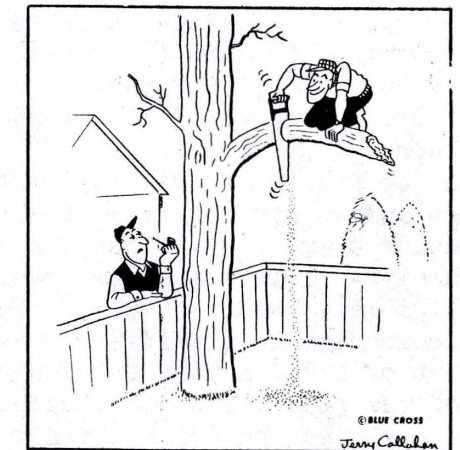
Supervision is different then from leadership. The supervisor is expected to fulfill the role of leader but without obtaining a grant of authority from the group he supervises. The supervisor is expected to influence the group in the achieving of goals but is often handicapped by having little influence on the organizational process by which goals are set. The supervisor, because he works in an organizational setting, has the burdens of the additional fact that his position is subordinate to a hierarchy of higher-level supervisors. These differences between leadership and supervision are reflected in our definition: Supervision is basically a leadership role, in a formal organization, which has as its objective the effective influencing of other employees.

Even though these differences between supervision and leadership

exist, a significant finding of experimenters in this field is that supervisors must be leaders to be successful.

The problem is: how can a supervisor exercise leadership in an organizational setting? We might say that the supervisor is expected to be a natural leader in a situation which does not come about naturally. His situation becomes really difficult in an organization which is more eager to make its supervisors into followers rather than leaders.

NEXT MONTH: Leadership--Natural and Organizational.



"Pardon a curious neighbor, Finchley, but do you have Blue Cross?"

Killing time isn't waste; its sheer murder.

NOT FOR TURNIPS

The blood of every living species is different. Human beings cannot receive the blood of any other animal without serious or even fatal results. We must be our own manufacturers.

The body contains 12 to 13 pints of blood that constantly is being renewed. When some is lost or removed, the body replaces the liquid part almost immediately and the cells and minerals in a few days.

In this country civilian needs call for nearly 3,700,000 pints of blood each year for accident victims, hemophiliacs, childbirth emergencies, and operations. For every pint of plasma given a patient, three pints of whole blood must have been donated by someone else. A patient may need as few as 2 pints (6 donors) or as many as 40 pints (120 donors).

There are few qualifications for a blood donor. He must be 21 to 60 years of age (or from 18 to 21 with parents' consent unless married or in the service), 110 pounds or more in weight, and in good health. This means that many people are eligible. Twenty-five per cent of every community is qualified in every way. One pint of blood a year from only 5 per cent of the population would supply the entire civilian and defense needs of the nation!

The Red Cross does everything possible to protect the health and comfort of blood donors. An hour or two of your time once or twice a year would be of invaluable aid to someone in need. There will be many opportunities for your donation this year. Our next two appointments are scheduled at 11 a.m. for the Fridays of March 29 and April 19.

If you are interested in participating or have further questions, please call Miss Amundson on 449. Ask your supervisor for more details regarding the advantages of participating in Smithsonian's Blood Donor Program.

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RETURNS FROM LATIN AMERICA

George Griffenhagen, curator of medicine and public health, returned on February 21 after a 3-week trip through Latin America that included stops in Venezuela, Brazil, Peru, Ecuador, Panama, Costa Rica, and Cuba.

Mr. Griffenhagen is the executive secretary of the Fourth Pan-American Congress of Pharmacy and Biochemistry, which will be held in Washington next November. His trip primarily was on business connected with that meeting.

Throughout his trip he was received at airports by delegations of the leading pharmacists. He extended personal invitations to the ministers of health in several countries, and in Panama he was received personally by Ernesto de la Guardia, Jr., the President of Panama.

In Caracas, Mr. Griffenhagen addressed a special meeting of the Colegio de Farmaceuticos del Distrito Federal, a leading pharmaceutical association in Venezuela. In Lima, he addressed a special meeting of the Federacion Nacional de Quimicos Farmaceuticos and spoke before the Instituto Cultural Peruano-Norteamericano; and in Guayaquil he addressed a dinner meeting of the Colegio de Quimicos y Farmaceuticos del Guayas.

His visit to Havana was arranged to coincide with the celebration of "The Day of the Pharmacist" (February 19, 1957). He was guest of honor at the special session of the Academia de Farmacia de Cuba celebrating the 50th anniversary of the Cuban Colegio Farmaceutico Nacional.

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"Every horse thinks his own pack heaviest."

----Thomas Fuller

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CREDIT UNION NOTES

All officers of the Credit Union were reelected by the Board of Directors at the meeting on February 12. The officers are J. A. Collins, president; W. L. Schmitt, vice president; Lucile McCain, clerk; and T. F. Clark, treasurer.

It might be well to review some of the rules and regulations of our Credit Union.

Dividends are paid only on savings that are in your account on December 31. Savings in your account on December 31 will earn dividends for each full month they have been on deposit during the year. Thus, savings deposited in October and still in your account on December 31 would earn dividends for November and December. Any portion of your savings that is withdrawn and later deposited would earn dividends only for the months following the month in which the savings were re-deposited.

Dividends are computed on your share-savings in multiples of \$5. Therefore, you should round out your share balance to an even multiple of \$5. Dividends are declared by the members at the annual meeting in January. The rate of dividend depends upon the earnings of the Credit Union. For the past two years it has paid 4 per cent.

The rules permit you to keep your savings in the Credit Union and receive dividends on your account until the December 31 following your separation from the field of membership; however, employees who retire are not required to withdraw their savings.

Members are automatically covered by life savings insurance, which pays \$1 insurance for each dollar in your savings account up to age 55; 75 per cent of your deposits between age 55 and 60; 50 per cent between 60 and 65; and 25 per cent between 65 and 70. This insurance is in addition to the insur-

ance that pays off the unpaid balance of your loan in case of death.

Since your life insurance is based on your share balance, it is important to avoid withdrawing your savings, particularly if you are 55 or over. If you withdraw funds from your account, your life insurance is reduced and you also lose dividends. It is usually wiser to borrow temporarily and leave your savings intact. When you do this, your life is immediately and automatically insured for the unpaid balance of your loan. In addition, your savings remain insured and you do not forfeit dividends.

The limit on share deposits is \$25 for any calendar month. The maximum amount for each account is \$1,000. Accounts of less than one share (\$5) that have been inactive for two years are automatically closed out.

We urge all members to have their accounts in joint ownership if possible.

Quite a few members have failed to send in their passbooks to have their dividends credited. Please do this promptly.

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VISITORS FROM NORWAY

Hans J. Gabrielsen, governor of the province of Oppland, Norway, and his wife and daughter visited the National Museum in February. After paying their respects to Director Remington Kellogg, they toured the Natural History Building.

The visitors particularly enjoyed the hall of early America and expressed favorable comments on the method of subject presentation. They seemed especially impressed with the over-all educational features of the improvements already accomplished and those presently under way.

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NEW APPOINTMENTS

Photographer:

Jack Scott (Min. & Petro.)

Publications Editor:

Lyle G. Boyd (APO)

Station Observer:

Samuel B. Whidden (APO)

Administrative Clerk:

Mona Graham (Off. of Asst. Sec.)

Timekeeping Instrument Repairer:

Charlie G. Smith (Engn. & Ind.)

Clerk-Stenographers:

Frances Andrews (NCFA)

Elaine H. Dixon (NCFA)

Clerk-Typists:

Helen Huffer (Supply)

Barbara Jacobsmeyer (NCFA)

Esther G. Blancett (Off. of Dir.)

Michiko Sally Sueda (Off. of Dir.)

Clerk-Dictating Machine Transcriber:

Carol A. Padgett (NAM)

File Clerks:

Bernard Van der Vliet (BSIE)

Ruth V. Rige (BSIE)

Senior Clerk:

Lea Spector (BSIE)

Messenger:

Walter N. Webb (APO)

Elevator Operator:

Melvin W. Marshall

Guards:

Louis Thomas

Wesley R. Little

Julian O. Drake

Hollis Dobson

SEPARATIONS

Walter T. Marinetti

Virginia C. Montgomery

Phyllis E. Riley

Kenneth W. Mulloy

Barbara K. Metcalf

Louis H. Hoffman

Noah Coates

Calvin E. Wilkerson

Oscar C. Zahrndt

Frank Lowe

- - -

TRICK MIRROR

There is a mirror of one's past in one's brain.

Under certain circumstances a person may be possessed of two consciousnesses--one of the immediate surroundings and circumstances, and one of the surroundings and circumstances of something subconsciously remembered. The phenomenon amounts to a "doubling of consciousness." One state of awareness is just as vivid as the other. The two are not likely to be confused.

This weird condition is reported by Dr. Wilder Penfield, director of the Montreal Neurological Institute, in a paper published in the most recent annual report of the Smithsonian Institution.

The condition arises unpredictably, Dr. Penfield reports, when the cerebral cortex that covers one of the temporal lobes of the brain is stimulated with a gentle electrical current applied through a wire needle during surgical operations. Such surgery on the cortex lying just above one ear is performed under local anesthesia for a certain type of epilepsy. The patient remains conscious and free from pain throughout because of local anesthesia.

Here are some instances reported by Dr. Penfield:

"A young woman heard music when a certain point in the superior surface of the temporal cortex was stimulated. She said she heard an orchestra playing a song. The same song was forced into her consciousness over and over again by restimulation at the same spot...She was quite sure each time that someone had turned on a gramophone in the operating room.

"A South African who was being operated upon cried out in great surprise that he heard his cousins talking, and he explained that he seemed to be there laughing with them although he knew he was really in the operating room in Montreal.

"There were many other examples of hearing music but always the patient heard a singing voice, a piano, an organ, or an orchestra, and sometimes he seemed to be present in the room or in church where he had heard it. What he heard and experienced was a single occasion recalled to him with a vividness that was much greater than anything he could summon voluntarily by effort of his will.

"If the individual was asked later to recall the song he might be able to sing it, but he might not be able to recall the circumstances of any one previous hearing. His later memory of the song was a generalization. On the other hand, the electrode had reproduced for him one single previous experience when he had heard the music and it awakened in him the emotion which that particular occasion had originally aroused in him."

Dr. Penfield advances a possible explanation of the phenomenon. The cortex of the superior and lateral surfaces of the lobe is an area to which no function has been ascribed previously. Another part of this lobe, however, is concerned with hearing, but not with sound recollection or interpretation.

Apparently every sensory experience--sight, sound, taste, smell, touch, and the like--is carried by the appropriate nerves to a specific part of the cortex. There it is coordinated with other sensory impressions to make up a total pattern of experience. Now, the temporal lobe observations indicate, this pattern, or appropriate parts of it, is laid down or recorded in the cells of the cortex as though in a sound moving picture. It remains there forever, although it may pass completely out of conscious memory. The path over the nerves, however, is permanently impressed in the cortex.

Dr. Penfield holds that the cortex itself--supposedly the seat of intelligence in man and higher animals in whom it is enormously developed--

is not primarily responsible for the existence of consciousness. This is a function of the higher circuits in the "old brain," the brain stem. In it lie the coordinating circuits of the so-called centrencephalic system--which is thoroughly developed in lower animals. Before there is awareness the patterns of nerve conduction in the cortex must be relayed to this old brain. Actually, large parts of the cortex can be cut away without seriously disturbing consciousness, but this disappears very quickly when the brain stem, with its centrencephalic system, is injured or diseased.

In some way electrical stimulation of the temporal cortex reactivates one of the permanently recorded experience patterns and the nerve pathways leading to the "old brain" act as a mirror, a reflection of the former experience. Thus the doubled consciousness results.

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BOOKLET ON PHARMACY MUSEUMS

The American Institute of the History of Pharmacy has published a 52-page illustrated booklet on pharmacy museums in Europe and America. The author is George Griffenhagen, curator of the division of medicine and public health.

Mr. Griffenhagen's booklet covers the beginning of pharmacy museums, the development of national pharmacy collections in America, and types of pharmaceutical museums and their value to pharmacy. Of interest to travel-minded pharmacists is the appendix, which consists of an annotated list of pharmacy museums in this country and in Europe.

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A SUPERVISOR'S PRAYER

DEAR LORD, help me to become the kind of supervisor my management would like to have me be. Give me the mysterious something which will enable me at all times satisfactorily to explain policies, rules, regulations, and procedures to my workers even when they have never been explained to me.

Help me to teach and to train the uninterested and dim-witted without ever losing my patience or my temper.

Give me that love for my fellowmen which passeth all understanding so that I may lead the recalcitrant, obstinate, no-good worker into the paths of righteousness by my own example, and my soft persuading remonstrance, instead of busting him in the nose.

Instill into my inner being tranquillity and peace of mind that no longer will I wake from my restless sleep in the middle of the night crying out what has the boss got that I haven't got and how did he get it.

Teach me to smile if it kills me.

Make me a better leader of men by helping develop larger and greater qualities of understanding, tolerance, sympathy, wisdom, perspective, equanimity, mind-reading and second sight.

And when, DEAR LORD, Thou hast helped me to achieve the high pinnacle my management has prescribed for me and when I shall have become the paragon of all supervisory virtues in this earthly world, DEAR LORD, move over. AMEN.

....From The Kalends

GROWTH CONTROL

There is a "brake" on plant development--perhaps one of Nature's most fundamental controls over surging life.

It is a relatively narrow band of light on the edge of the invisible infrared in the solar spectrum.

This phenomenon is reported by Dr. R. B. Withrow, head of the Astrophysical Observatory's division of radiation and organisms, where the effects of light on the growth and development of plants and animals is being investigated.

Plant life, and through plants all life, is tied intimately to certain solar wave bands. It has long been recognized that the cornerstone of all life on earth is the process of photosynthesis by which plants, through energy provided by sunlight, are able to synthesize carbohydrates from water and carbon dioxide taken from the air. Animals eat these carbohydrates, the basic food. Other animals eat the carbohydrate eaters, and thus the chain ex-

tends from the simplest organisms to man.

But without some other process the carbohydrates might be a formless mass. The second process, long studied by the Smithsonian workers, is that which shapes a plant and controls development of stems, leaves, and blossoms. This, Dr. Withrow points out, may be a light effect second in importance only to photosynthesis itself. It requires very little solar energy. Experiments have demonstrated that the control is exercised by red light with a maximum of efficiency at wavelengths around 660 millimicrons--or millionths of millimeters. The Smithsonian findings have been substantiated in several other laboratories. It has been demonstrated, however, that this formative action can be blocked effectively by irradiation with wavelengths in the far red. The greatest effect is at wavelengths between 710 and 730 millimicrons.

The "brake" is not applied immediately. The maximum efficiency of the far red energy occurs a little more than an hour after the plant is exposed to the formative wavelengths, Dr. William Klein, another Smithsonian scientist, has found. The implication is that the action is an interference with the development process by acting on some product the formation of which is initiated by the shorter red wavelengths. The experiments have been carried out with seedlings of beans.

In other experiments by Dr. Withrow and Dr. C. C. Moh at the radiation and organisms laboratory, it was found that damage to plants from X-ray exposure--insofar as this results in breaking the bundles of genes, or units of heredity--can be increased from 30 to 50 per cent by previous exposure to about the same wave band of far red light that reverses the formative process. On the other hand, the increase in damage is nullified if the X-ray exposure is followed by exposure to the red wave band.

Breaking of the chromosomes, or strings of genes, is one of the first evidences of damage to living organisms by exposure to ionizing radiation. This breaking is responsible for some of the adverse hereditary effects concerning which there has been a great deal of publicity because of possible effects of the atomic bomb fall-out.

The Smithsonian experiments were carried out with pollen of Tradescantia flowers and root tips of beans where results are relatively easy to determine.

Work is now in process to determine how the red and far red spectra exert their effects, and how the results may be applied to altering effects of ionizing radiation in higher animals and men.

FRANK E. HOLDEN

Frank Holden, lapidary in the department of geology, died March 9 in Sibley Hospital from a heart attack. He had suffered a previous heart attack last September 29. He was 69 years old.

Mr. Holden was an expert in gem, meteorite, and mineral cutting and was in charge of the lapidary work in the department. Among his outstanding works is a map of the United States created from carved native stones of the 48 States. The outline of each State was cut from a single stone. The oceans, Great Lakes, and Gulf of Mexico were fashioned from turquoise.

Another of his creations is a Zodiac that was formed by cutting the 12 signs from mineral rock similar to the monthly birthstone gems.

Mr. Holden came to the Smithsonian from his native home in Pittsburg, Kansas, in 1940. It was at the Smithsonian that he learned the craft at which he excelled.

He resided at 8244 14th Avenue in Langley Park, Md. He is survived by his widow; a son, Stanley E. Holden; a granddaughter; and a sister who resides in Seattle, Wash.

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PUBLISHED IN FEBRUARY

"Notes on the Solar Corona and the Terrestrial Ionosphere," by Sydney Chapman, with a supplementary note by Harold Zirin. Smithsonian Contributions to Astrophysics, 14 pages.

"A New Species of Mysidopsis (Crustacea: Mysidacea) from the Southeastern Coast of the United States," by Thomas E. Bowman. Proceedings of the U. S. National Museum, 7 pages.

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