Staff Meeting Bulletin
Hospitals of the » » »
University of Minnesota

Psychosomatic Relationships

Volume XI | Friday, December 8, 1939 | Number 9

STAFF MEETING BULLETIN
HOSPITALS OF THE . . .
UNIVERSITY OF MINNESOTA

Volume XI | Friday, December 8, 1939 | Number 9

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Published for the General Staff Meeting each week during the school year, October to May, inclusive.

Financed by the Citizens Aid Society

William A. O'Brien, M.D.

I. LAST WEEK

Date: November 24, 1939

Place: Recreation Room
Powell Hall

Time: 12:15 to 1:25 p.m.

Program: Movie: "Ugly Duckling"

Roentgenologic Aspects of
Bronchial Asthma
C. P. Truog

Discussion
R. W. Koucky
R. V. Ellis
A. A. White
L. G. Rigler

Present: 146

- - - -

Date: December 1, 1939

Place: Recreation Room
Powell Hall

Time: 12:15 to 1:00 p.m.

Program: 1939 Football Movies

Narrator: Ralph Piper

Present: 140

Gertrude Gunn
Record Librarian

- - -

II. MOVIE

Title: "The Story of Dr. Jenner"

Released by: M-G-M

- - -

III. ANNOUNCEMENTS

1. WEDDING

Carroll J. Bellis and
Helen Jett - November 25, 1939.

- - - -

2. MORE LETTERS

"Thanks for the bulletin.

Jimmie."

J. J. Drummond,
Worrall Hospital,
Rochester, Minn.

- - -

"This bulletin is much appreciated, and is retained as part of our library.

St. Luke's Hospital,
Duluth,
James McNee, Supt."

- - -

"Hello! Send the Staff Bulletin.

L. G. Ericksen,
South Bend, Indiana."

- - -

"...I've been transferred down here to Panama. The U. S. is certainly moving troops into the Canal Zone rapidly. They have over 25,000 men here now.

Medically, this place is interesting. Hookworm must exist in 80% of the natives and Malaria is as common as Influenza in the States. Because of the prevalence of Gonorrhea we see a lot of ectopic pregnancies.

Emmet L. Kehoe,
Colon Hospital,
Canal Zone, Panama."

- - -

IV. PSYCHOSOMATIC RELATIONSHIPS

B. C. Schiele
R. L. Meller

Psychoneuroses and other personality disorders commonly present difficult diagnostic and therapeutic problems to the clinician. Every human being has a more or less distinct personality which is capable of reacting in a variety of ways. Hence, it is not surprising that the question as to whether part or all of a given patient's symptomatology may be functional must be frequently considered. Furthermore, errors easily arise in such problems, as the diagnosis of cuntional disease is based on less tangible grounds than is usually the case in organic disturbances.

It is the purpose of this report to discuss a few of the technical and theoretical aspects of functional disorders as they pertain to the general practice of medicine and surgery.

In order to avoid misunderstandings over the use of terms, it is necessary to set forth a few definitions:

Organic disease hardly needs defining. It is generally conceded to be any disease whose symptoms are chiefly the result of some demonstrable structural change or other tangible cause.

A functional disorder is one in which structural change is not demonstrable. This term also usually implies that the cause is not tangible.

A psychogenic disorder is a functional disturbance due chiefly to psychological causes. While psychogenic disorders are functional ones, the reverse is not necessarily true.

The term psychoneurosis may be roughly applied to a broad clinical group characterized by certain disorders of mental and bodily functions which are believed to be chiefly psychological in origin. (This definition has not bee elaborated to exclude the functional psychoses, as these are not to be considered in this report.) Here we are chiefly concerned with those psychoneuroses and other functional disorders in which bodily complaints or symptoms are prominent.

Though there is a world of difference between a typical psychogenic disorder, such as an hysterical paralysis, and a clear-cut organic disturbance, such as traumatic paralysis, no sharp line can be drawn between the psychogenic and organic diseases. The term psychosomatic refers to those interrelationships which exist between psychological and bodily functions. Physiology in its broadest sense serves as a meeting ground.

For the most part, structural disease shows itself through alterations of physiological functions. Psychogenic disorders may also show themselves largely by alteration of physiology and may in certain cases produce symptoms practically identical with those of organic disease. For example, tachycardia can be produced by exertion (physiologic), by emotion (psychogenic), or as a result of organic disease (pathologic). Careful clinical study usually can distinguish between the psychogenic and pathological tachycardias. There are many other physiological disturbances, such as vomiting, sweating, diarrhea, tremors, vasomotor reactions, etc., which may be produced by either psychological or physical causes.

A similar statement may be made for many syndromes. A good example is the similarity which exists between anorexia nervosa and Simmond's disease. Anorexia nervosa is a functional disorder, certain cases of which are almost indistinguishable from Simmond's disease. In these functional cases we find the same cessation of menses, marked lowering of the basal metabolic rate, dryness of the skin, loss of hair, and extreme emaciation which may terminate fatally. In fatal cases the pituitary gland is normal. The same picture when produced by the diseases of pituitary gland is known as the classical Simmond's disease.

The exact way in which psychogenic factors can produce physiological changes is not clearly understood. It is a matter of common knowledge that many symp-

toms in the normal individual can be produced through mental or emotional strain. An example is the fatigue experienced after watching an exciting game or after giving a lecture. It is thought that the mechanism in the production of psychopathological fatigue is similar to that in the normal example just cited. Difficult life situations, frustrations, emotional handicaps, and other similar factors can apparently operate over a long period of time to produce the sustained disorder. It is frequently necessary to take refuge in such concepts as hereditary predisposition and constitutional weakness in order to round out our explanations as to the genesis of these and many other disorders.

It is not unreasonable to suppose that continued functional alterations may be able to produce tangible organic change. Just how much value should be placed upon any given psychogenic factor in such a series of events is difficult to say, but at least in some cases it seems that the psychogenic factors serve as a trigger mechanism or a link in the chain of causation which bring about the essential organic change. (We refer th reader to Case B.)

The total and complete clinical picture in any given case does not depend only upon the type and severity of the disease process, but also upon the personality of the individual patient. For example, witness the different ways in which two individuals often react to identical diseases or injuries. In a somewhat similar manner we will observe quite different clinical pictures if two individuals of different temperament develop febrile illness which produces a delirious reaction. Because of the personality factors which are ever present, almost any case can be considered as possibly having a functional aspect. Very often, then, instead of asking "Is this case functiinal or is it organic?", the question will be "How much of this case is functional and how much organic?" Actually, of course, the personality factors are insignificant in many conditions; but there are many cases in which it is very essential that they be considered.

Many disturbances of bodily functions naturally exist which cannot be placed clearly in either the organic or the functional group. The etiology and pathogenesis of these conditions are more or less obscure; and it is not illogical to suppose that emotional factors may possibly play some role in their pathogenesis, at least in certain cases. To study these conditions from this angle is worthwhile even if the reverse should prove to be the case. A few conditions to which this statement applies are listed below: essential hypertension, certain types of arthritis, peptic ulcer, mucous colitis, ulcerative colitis, a number of allergic manifestations, and certain types of hyperthyroidism.

Diagnosis

When a diagnosis of a psychoneurosis or other functional disorder is made, it should be based on positive as well as upon negative factors. At best such a diagnosis is a clinical judgment which, as in other types of disease, is dependent upon the physician's final impression after studying the history, physical and laboratory findings, and perhaps the course of the disease. Some of the more common points which suggest a functional diagnosis are outlined as follows:

The nature of the presenting complaint. These are often multiple, vague, the patient giving about the same value to all of them. Such a patient commonly has a complaint about each system inquired into. For example, such a patient may complain of nervousness, being tired all the time, a light headed feeling, headache, backache, heart trouble, indigestion, cold hands and feet, loss of appetite, etc. A functional element is immediately suspected if the patient displays unusually marked concern over his disorder, especially if this concern seems entirely out of proportion to the seriousness of the condition. Obviously, normal people vary greatly in this manner, some being quite indifferent to serious conditions while others are greatly con-

cerned over very minor difficulties. By and large, however, a marked amount of concern is commonly found in certain functional disorders, especially those characterized by depression. For example, consider the depressed patient who shows marked concern and anxiety over a few insignificant hemorrhoids. Functional complaints are not uncommonly bizarre or unusual. The very nature of the complaint may suggest its emotional basis, for example: an atypical localized area of tenderness or pain, or tachycardia and choking associated with apprehension or fear.

When a personality disorder is being considered as a diagnostic possibility, it is very helpful to inquire into the following points, many of which are commonly present when a personality disorder exists. The patients often admit being "nervous"; by this they usually mean they are tense, restless, or irritable. They often admit being worried, unhappy, having crying spells. Insomnia with disturbing dreams is exceedingly common. Neurotic patients are usually concerned about themselves; and this usually shows itself in a variety of ways other than in physical complaints. Loss of normal interest is usually quite marked. Such patients complain that they cannot read because they cannot concentrate; they no longer enjoy their activities and interests; they do not enjoy social occasions, visiting with people, perhaps even their family relationships. Frigidity and impotency are common. Chronic fatigue and loss of pep, a common finding, is occasionally distinguishable from the fatigue associated with organic disease (example, anemia); the patient may be able to distinguish between the two or state that he feels the fatigue which he suffers after a hard day's work is different in character. Many of these points may occur in patients who suffer from bodily disease (for example, tuberculosis); but their occurrence in the proper setting is highly indicative of a primary personality disorder.

The <u>past history</u> may indicate that the patient has long been considered nervous or that he considers himself a chronic invalid, chronically complaining of one thing or another. History of previous attacks of mental disorder or of "nervous breakdowns" is significant.

Likewise, any difficult situations, such as a home problem, an economic or personal problem which may affect the patient adversely and contribute to his neurotic difficulties, may appear in the history.

<u>Physical and laboratory studies</u>. These are not necessarily entirely negative; but in order for a diagnosis of a functional disorder to be considered, they must be inadequate to explain the patient's complaints and symptoms or at least any given symptom which may be under consideration.

In patients with purely neurotic disorders it is not uncommon for the physician to find one or more bodily ailments, such as enlarged tonsils, decayed teeth, hernia, etc. The treatment of these minor conditions, while in itself beneficial, actually may do harm by misleading both patient and physician into feeling that the underlying condition is being treated. This treatment may serve to fix the patient's bodily concern if the underlying condition is a functional disturbance characterized by hypochondriasis, or it may be even dangerous if the early subtle signs of a beginning neurological condition, such as general paresis, are neglected.

As elsewhere observation and study are great diagnostic aids. Shifting symptoms, emotional and behavior disorders as well as the observation of many of the above mentioned points are factors in favor of the final diagnosis.

Removing or lessening a patient's symptoms by means of suggestion or other therapeutic procedures is not an absolute indication that the disorders are functional. Most people are somewhat suggestible, and a rather suggestible individual, even though he suffers from an organic disease, is likely to be influenced by such procedures. On the other hand, it is true that if a dramatic physical symptom, such as paralysis of the legs, is promptly and completely re-

moved by suggestion, this is conclusive proof that the disorder is functional and not due to an irreversible structural lesion. Physicians commonly use placebo (hypodermics) in an effort to evaluate and relieve complaints which are suspected of being functional. While it is true that neurotic patients are often suggestible and are more apt to obtain considerable relief from such therapy, the fact that a patient obtains relief from a sterile hypodermic is not conclusive evidence that his difficulty is not organic. Pain is a psychic phenomena and can be exaggerated or suppressed within limits by suggestion. Placebos often constitute very strong suggestion, and it is not to be wondered at, therefore, that they produce some effects on symptoms, such as pain. It is commonly observed in our clinic that individuals with Parkinsonism, for instance, improve very markedly on being told in an authoritative manner that they should attempt to exercise and that the outlook is not hopeless by any means.

The points outlined above merely indicate the reaction of the personality to the disorder or situation at hand. However, if one keeps in mind the relationship between psychological and physical functions, it is easier to understand these cases and avoid the blunders which inevitably ensue if one has a dogmatic dualistic concept that body and mind are two separate and distinct things. Undoubtedly, every few physicians, if asked their opinion, would state that a condition must be either organic or functional; but in actual practice we often find ourselves attempting to push a patient into the one or other of these groups.

Cases

Case A. The patient is a 31 year old white female who a short time prior to admission developed "heart attacks" which were subjectively characterized by palpitation, choking sensation, and fear of impending death. She had had similar brief episodes earlier in her life, the first occurring at 17 when a diagnosis of heart trouble was made. Because of this, our patient avoided over-exertion and led a carefully regulated life.

The x-ray and physical findings led to a diagnosis of congenital heart disease, probably sub-aortic stenosis. There was nothing to indicate that she had ever had cardiac failure, but the presence of pallor, small pulse, and cold extremities gave evidence of reduced circulation. Because of the unusual features of both her symptoms and her findings, it was necssary that her cardiac status be carefully evaluated. Being apprehensive, the patient apparently misinterpreted the numerous examinations and tests as indicating either that death was imminent or that she was suffering from some dreaded disease, such as cancer.

In any event, she became worse. Her attacks grew more frequent, being precipitated by emotional upsets. She complained of queer feelings, seemed detached and had difficulty in expressing herself clearly. It was noted that she was nervous, tense, unhappy; she slept poorly and had difficulty in concentrating.

It became evident at this time that all her symptoms were not due to her organic disease. When her apprehension was lessened by a careful explanation of the nature of her cardiac status, she showed some improvement.

Psychiatric consultant held the opinion that in her cardiac condition the patient suffered from a typical anxiety state (a type of psychoneurosis). The patient has a neurotic background; and though fairly well adjusted, has lived an immature, nomadic life. The present attack was probably related to an extramarital situation which had caused considerable tension.

The patient readily recognized the psychogenic factors and expressed considerable relief. After the second psychiatric interview, she was free of her symptoms.

Case B. White male, age 53, laborer. Admitted to the University Out-Patient Department in the Fall of 1938 because of a weeping exfoliative skin disorder of 15 years duration. The onset occurred while the patient was working in a flour mill. Though he frequently changed type of work and place of living and visited many physicians and tried many treatments, he was never completely free from his skin lesions for any length of time. Dermatology Staff made a diagnosis of contact dermatitis, exfoliative type. After nine months of Out-Patient study, no specific cause for his dermatitis had been discovered; but it had been noticed that he improved considerably on phenobarbital and relapsed whenever this drug was discontinued. In addition, he complained of sleeping poorly, of being tense, nervous, and worried, so that he was sent to the Neuropsychiatric Division for investigation.

There was little in his past history or background that was unusual. He had been married for 27 years, had four grown children. The first years of married life were satisfactory; but during the last half, the patient's wife became increasingly unhappy, irritable, and complaining. The patient found this very difficult to bear because he had a sensitive makeup and sought peace at any price. He further noted that the emotional scenes which occurred at home invariably precipitated an acute exacerbation of his skin disorder. Though he found it difficult to leave his family, he experienced some improvement after living apart in another city.

During the course of his psychiatric treatment, the following interesting episode occurred: His wife came to town and paid him an unexpected visit. Almost immediately the patient began to experience a sharp prickling sensation in his fingertips and along the back of his hands. The next morning, over this same area, small vesicles appeared which were beginning to ooze. This was followed during the next 24 hours by the typical exfoliative eruption. In this instance it was limited to the hands. This attack, which occurred in July 1939, subsided much more quickly than was usually the case; and to date his skin has remained clear except for one mild generalized attack following his only visit with his wife. Under continual psychotherapy he has also experienced considerable relief of his nervousness and insomnia. Hypnosis was included among the psychotherapeutic procedures used and apparently was most effective in this case.

Sufficient time has not elapsed to determine the permanency of his cure, but at least he is better than he has been at any previous time since the onset 15 years ago. Also the patient cannot be considered completely well until he is able to deal with his wife without skin disturbance.

Case C. White male, 45, laborer. When first seen in the Nervous and Mental Clinic on August 18, 1939, the following complaints were elicited: headaches, dizziness, diplopia, vomiting, and difficulty in walking. These had been present for about two months. Though the symptoms as outlined are clearly suggestive of an intracranial lesion, the actual clinical picture was so atypical and confusing that it suggested a functional condition. The patient expressed himself vaguely, admitted nervousness, insomnia, emotional depression, and described some financial and domestic worries. Consequently, as the neurological examination and skull x-ray were negative, the patient was diagnosed functional neurosis and given a trial on sedation.

One month later, as he had obviously lost weight, had been eating almost nothing and vomiting considerably, he was admitted to the medical service. Here careful work up, including gastrointestinal studies, was negative. The patient was then transferred to neurology where further investigations revealed no positive neurological findings except an unsteady, bizarre gait which could easily have been simulated. His refusal to eat and his peculiar behavior were so manifest that it was necessary to transfer him to the psychiatric ward for care and observation. He was listless, insolent, uncooperative in his behavior;

refused all food, but did not resist tube feeding; took no interest in anything and would only talk about himself and his troubles.

Nevertheless, it was evident that all of his complaints, except the peculiar behavior, could be explained by a cerebellar tumor. Two months after his original examination in the Out-Patient Department, a beginning choked disc was noticed. A craniotomy (preceded by a ventriculogram) was performed and a mid-line tumor impinging upon the cerebellum was removed from the floor of the 4th ventricle.

As further evidence of the fact that this patient reacted peculiarly to physical disease, it should be mentioned that he presented a photographic repetition of his previous behavior while suffering with a postoperative meningitis from which he eventually recovered.

Since recovery, though, dizziness and difficulty in walking have continued, his behavior has returned to normal. This patient was difficult to diagnose because of his peculiar personality reactions which tended to mask and detract from otherwise typical symptoms. He presented a striking contrast to other patients on our service who were similarly afflicted.

The most serious misinterpretation was not in suspecting a functional disorder but in assuming one to be present on the basis of a few rather ordinary situational factors in the absence of positive psychiatric findings when the presenting complaints strongly suggested serious intracranial disease. Moreover, there was no history of any neurotic tendencies, and the presenting complaint was clear cut. The psychogenic factors which were elicited, while no doubt distressing, are exceedingly common and would hardly be sufficient to explain the sudden onset of such a difficulty. We had little evidence to indicate that these situational factors were potent enough to produce neurotic symptoms in this man, and in addition, there was no change in them incident to the onset of the present illness.

Case D. White female, 18, school girl. A rapid tremor of right arm developed during a family quarrel. The character of the tremor and the lack of objective findings strongly indicated that the condition was hysterical. This diagnosis was further supported by the following: The patient admitted being nervous, tense, she slept poorly, was emotionally unstable. There was a neuropathic family background (father psychotic) and a poor social environment. In the past she had had emotional upsets with attacks of generalized tremulousness. This patient proved to be very suggestible, her symptoms were readily moved. With the purpose of avoiding recurrence, further psychotherapy and social measures were utilized and were able to bring about a marked improvement in this patient's adjustment to life.

This case is briefly reported to illustrate a disorder entirely psychogenic in origin which was readily remedied by simple psychotherapeutic measures. This case presents a considerable contrast to some of the more complicated functional disorders which are illustrated by the next case.

Case E. White female, 21 unemployed. Hospitalized because of recurrent attacks of abdominal pain and vomiting. She gave a history of long-standing gastrointestinal difficulty. Some abdominal pain had been present for over ten years with occasional severe attacks, lately of increasing frequency. Most of her teeth had fallen out and all were decayed in spite of adequate care. Constipation had been life long. She had always thought of herself as having "a weak stomach" and was very fussy about her food. Her appendix had been removed long ago. Most of these gastrointestinal difficulties occurred to some degree in a number (at least 3) of her siblings. In addition, our patient had a left congenital hemiparesis.

She had a very obvious hypochondriacal make up. She showed much concern over her condition, had multiple complaints other than those referable to her gastro-

intestinal tract. Even after she had improved, there was seldom a time when she didn't have some new complaint.

The mother was very nervous, and there was other evidence of a neurotic background. The patient's personality was immature. She was "spoiled" and pampered at home, had frequent temper outbursts.

Because it was felt probable that her difficulties were functional, she was admitted on the Neuropsychiatric Service; and a Surgical consultation was requested regarding the possibility of intestinal obstruction. Though she improved rapidly and began to eat fairly well a week after admission, it was felt that she should have the benefit of a laparotomy, as radiographic studies had strongly indicated a definite structural lesion which might produce a partial intestinal obstruction.

At operation no obstruction was disclosed, but a peritoneal parathecal pocket and a small ovarian cyst with some free blood was found. These were removed. These findings can hardly explain the patient's symptoms, as she was readmitted with another typical attack of pain and vomiting ten days after discharge. This attack again subsided in about a week; but as the patient displayed the same hypochondriacal pattern as before, she was kept for a long period of psychiatric study.

During both admissions, we applied as much psychotherapy and re-education as possible to both the patient and her mother. Though we felt that little of it was effective, they did carry out more of our suggestions after the second period of hospitalization. These suggestions referred to treating the patient as more of an adult, giving her more responsibilities at home, encouraging her to socialize, minimizing rather than magnifying her complaints, etc.

When last seen in the clinic, six months later, she had had no attacks, had gained 20 pounds, and had a better outlook on life. She still vomited easily, especially when upset; and her constipation had remained unchanged.

This case illustrates the commonly met problem of a patient suffering from profound physiological disturbances for which no definite physical basis can be found. It is not certain that such cases are entirely psychogenic or even functional. Even if they are psychogenic, they are definitely more complicated and difficult problems than the relatively simple one illustrated by the preceding case, Case D.

Therapy

A few points on psychotherapy are of general enough importance to merit discussion.

1. Listen to the patient's story. Psychotherapy really begins with the first contact between physician and patient. By listening to the patient's story the physician not only comes into possession of the facts, but the patient is considerably relieved by "getting it off his chest" and by the realization that someone is interested in helping him.

2. Adequate physical and laboratory investigation demonstrates to the patient with bodily concern that his organs have been systematically surveyed. This places the physician in a position of authority in respect to the physical complaints.

3. Explanation and reassurance. It is unwise to tell neurotic patients that "there is nothing wrong with you" or "forget it." Neurotic patients by the very nature of their disorder are susceptible to misunderstandings and imaginations. They therefore should receive adequate explanation as to the nature and significance of their symptoms. Most patients will understand, accept, and be relieved when it is explained that their difficulties are functional and not serious.

On the other hand, the physician should tactfully adhere to the truth and should avoid false (excessive, groundless) reassurance.

It is helpful to explain to a patient

that his symptoms are on an "emotional basis" rather than to use the terms "neurotic," "neurasthenic," "imaginary," and the like. The former is much more acceptable to the patients, whereas the latter are often promptly rejected by him.

Other general concepts should be kept in mind.

1. Don't diagnose a patient psychoneurotic, and then treat him as though he were a malingerer.

2. Whenever possible, it is desirable to evaluate the personality factors of a patient along with any physical investigation that is indicated. When a neurosis is suspected, it is usually not wise to exhaust every conceivable physical possibility before considering the role of psychogenic factors lest much time be wasted and the patient discouraged or antagonized.

Often such a combined study is not possible: for example, in the busy Out-Patient Department. A patient who is likely to have a psychoneurosis should have a reasonable physical work up before referral for Psychiatric study. On the other hand, the Psychiatrist should be able to obtain some impression of the patient's difficulty and possibly aid in the diagnosis even before all possible laboratory and clinical investigations have been carried out. Especially in the Out-Patient Department the time required for complete medical work-up can be utilized by the Psychiatrist as a period of observation and study. In addition, time and money will be saved for the patient.

3. It is generally deemed unwise to operate on hypochondriacal patients unless the indications are clear cut and definite. The possibility that surgery may fix or complicate the hypochondriasis can be lessened by proper psychiatric management.

4. Sedatives, though useful, are largely palliative and not curative. Any comfort which they may give will be only short lived, as they obviously in no way affect the fundamental problem.

V. GOSSIP

The two ladies were visiting the radiologic exhibit in the health section of the Centennial Celebration of the Founding of Minneapolis at the Minneapolis Auditorium. A very good anterior-posterior radiograph of the cervical region was on display. A suggestion of shoulder and jaw was included in the view. Perhaps they had just come from the corset exhibit and the idea was still fresh in their minds, for one said to the other, "Gee, kid, look at the way she is laced in!"...Head obstetrician and gynecologist John McKelvey tells the story on some of the men who were taking their graduate work at Hopkins when he was. A tiger became ill, and diagnosis of some intraabdominal lesion was made. After judicious inspection and consultation, it was decided to do a laparotomy. The problem of anesthesia loomed very large until the tiger's cage was partially covered and ether soaked sponges were thrown in. After much effort and much ether, the animal finally grew drowsy. Anesthesia was quickly completed and the animal dragged from his cage. Everything progressed satisfactorily until one of the attendants, noticing the room was becoming warm, decided to do something about it. He turned on the ventilator which started out in the usual fashion with a whoop and a roar which the operators mistook for the animal on his way back to consciousness. The cause of the disturbance located, they returned to complete the operation, but in due time the animal died. The skin was stripped from the body after much effort, and the carcass was hauled away. Just as they were admiring their trophy, the owner of the animal came and redeemed the skin... .Head radiologist Leo G. Rigler also participated in an animal episode. Grace Wiley, head curator of reptiles at the Minneapolis Public Library, was most solicitous of the physical and social welfare of her friends. One well developed and mature rattlesnake appeared to be suffering with some sort of back trouble. She brought him to the hospital for advice and treatment. An x-ray was made by Dr. Rigler, who found tuberculosis of the spine in several portions of the back. A hurried consultation brought forth suggestions for a high vitamin diet, ultra violet irradiation and deep x-ray therapy. In due time, he completely recovered but the ankylosis interfered with his usual smooth rhythmic coils as the animal prepared to sleep in a special bed which his mistress provided for him. Another year passed and death overtook the reptile. At autopsy, complete healing of the spine was present. P.S. The cause of death was a gastro-intestinal infection....And while we're still on the animals, the Anatomy Blount's lynx swallowed a rubber ball which was successfully removed from its stomach (a rubber bone was also found). The animal, which is still a household pet is reported by the neighbors as increasing in weight (45 pounds) and length of jumps. It still sleeps in a cage under the bed. His name is Gronomo and he likes raw meat. Olives are his favorite dessert.. ..Some time ago when the Longfellow Gardens Zoo was operated by Professor "Fish" Jones, head pathologist E. T. Bell had an arrangement with the Zoo officials to do autopsies on all the animals as soon as they died to learn if glomerulonephritis ever occurred spontaneously. The elephant proved to be the biggest job, especially when the pleural cavity was inspected. It appeared as if the space was completely obliterated although no definite adhesions could be found. Later it was learned that this is a normal condition in the elephant. Many unusual kidneys were studied., including those of the seal, but no nephritis was found.... .A few years ago one of our graduate students needed elephant blood to complete his studies on relationship between cell size and surface area. An arrangement was made with the Ringling Brothers-Barnum and Bailey Show to get some elephant blood. The animals suspected that something was up. In order to keep them quiet straw was thrown over them and their backs scratched with brooms. When the small lancet entered their flesh, they squealed like children. One of the older ones made more fuss, and the last thing our friend heard as he beat it for the nearest exit was the trumpeting of the entire herd. As he reached the outside of the tent, he fell over a rope and was picked up by the circus policeman for questioning. He was released when his identity was established

Happy Days!