

the peritoneal surface, promotion of healthy granulation-tissue formation, increase of the peritoneal resistance, hyperleucocytosis, increased bactericidal action of the exudate, etc.—have been advanced in explanation. Surgeons differ very much in the details of technique in their operations upon such cases. Some open the abdomen and remove the exudate with dry sponges; others flush with warm physiological salt solution; others still wash out the cavity with solutions of salicylic acid, etc. There is also a difference of method in regard to the removal of the organs (tubes, lymph glands, etc.) primarily affected. In general it may be stated that laparotomy is indicated in all cases of tuberculous peritonitis in which the general condition of the patient permits, or in which there is no evidence of cerebral, pulmonary, or extensive glandular or bone tuberculosis. The medicinal treatment of tuberculous peritonitis is advised in some cases, the administration of iodoform as well as its use by inunction having been reported as resulting in cures. Cases of cure have also been reported as following the use of tuberculin.

Very recently a number of writers have been advising conservatism in the treatment of acute general peritonitis by operation. Those who advocate a medicinal method modify the older methods by giving no food by the mouth, employing rectal feeding, allowing no ice, checking thirst by wet gauze to lips and by rectal injections, giving no cathartics, administering small doses of morphine, and applying continued cold to the abdomen. This treatment is based upon the theory that the peritoneal exudate itself may weaken the virulence of or destroy the germs gaining entrance to the cavity. Alcohol has been strongly advised in the treatment of puerperal peritonitis, large and frequent doses being given.

The injection of purgatives directly into the intestinal canal has been advised and as strongly condemned.

Some surgeons advise against operation in sthenic cases of perforative peritonitis without symptoms of sepsis, on the ground that spontaneous resolution may occur. There is, however, a great danger that such cases may under the influence of morphine be allowed to drift along until too late.

Hot vaginal douches have been strongly recommended in cases of pelvic peritonitis. If the external genitals are protected injections of water at 40° C. may be given without discomfort. The pelvis should be elevated, and about 4-5 litres of water used for the irrigation daily. Tampons of glycerin or potassium iodide with glycerin are applied after the irrigation. Stratz in particular claims good results from the application of this method in pelvic peritonitis associated with pyosalpinx.

The statistics of the results of the treatment of acute general peritonitis by operation are very encouraging. Krogus in his monograph published in 1901 has made an elaborate study of the results of operation in general peritonitis following appendicitis. The percentage of cures ranged from 28.5 to 46.

Surgical interference in the case of impending perforation of gastric or intestinal ulcers, appendicitis, rupture of sac in ectopic gestation, salpingitis, necrotic ovarian cystomata or subserous uterine fibromata, hemorrhagic pancreatitis, etc., has proved of the very greatest value as a prophylactic measure. With improved methods of diagnosis much may be hoped for by the further development of such prophylactic operations.

The literature of peritonitis is enormous. Collections of bibliography will be found in the article by Döderlein in Veit's "Handbuch der Gynäkologie," and in the one by Eichhorst in Eulenbarg's "Real-Encyclopädie." An exhaustive review of the literature of peritonitis from the year 1885 to 1900 is given by von Bruns (*Cent. f. allg. path. Anat.*, 1901.)  
Aldred Scott Warthin.

**PHYSICIAN, RELATION OF, TO THE LAW.**—In this we have a subject of much interest and importance, yet one that is too little known among the profession at large. Experience, while a valuable teacher, is, where the law is concerned, a very expensive one; so it is the

duty of every practitioner to familiarize himself with the laws having a medical aspect, remembering that local, not national, statutes prevail.

In several States medical jurisprudence is one of the subjects of examination as conducted by the State Board of Examination and Registration, and is given equal importance with the other branches, as it should be, for there is no more pitiful sight than to see a medical witness, bright in other subjects, held up to ridicule by attorneys because of ignorance of the legal requirements of the particular case in question.

Judges throughout the Union try to sustain the same rulings along general lines, but it is impossible to lay down fixed rules for all sections of the country in an article of this nature, as the wording of the statutes differs in almost every State; hence they are capable of various interpretations.

**License to Practise.**—In many of the States good laws have been enacted requiring that the applicant for license present a diploma from a recognized school, showing the necessary training to qualify him for the work which he desires to undertake. Some States, in addition to the presentation of a diploma, require an examination before a State or local board, and will admit no one to the practice of medicine and surgery until a certificate of qualification is issued to the applicant by the Board of Examiners.

After the applicant has received the necessary State documents it is his duty to present the same and his diploma for record to the clerk of the county in which he desires to locate. In case of removal from one county to another the papers must be again recorded in the office of the county clerk. The law must be complied with in every particular, else non-recognition will result if he should be called into court.

If one is located near a county or State line, cases can be attended in the adjoining county or State without a record in the same, provided the practitioner be legally recognized in the county and State in which he is located.

In case of change of location to another State all the local laws must be investigated and fully complied with, the physician going before examining boards if necessary.

As a measure cannot be made retroactive, those who have qualified under former acts are entitled to all the rights and benefits of the law existing at the time of their qualification. In many of our Western and Southern States are to be found legal practitioners who received their medical training as members of a hospital corps during the civil war, or as apprentices of physicians who established themselves in a legal way under the very lax laws that formerly covered the practice of medicine in these localities. Many of these men, being keen observers, and having had the advantages of short post-graduate courses, do much good.

**Different Schools.**—Under the law the members of the different schools have equal rights. Each is allowed to practise the method in which he has been trained, and he can recover by law such fees as he can prove that he has earned, even if men of other schools testify that the treatment given was not all that it should have been. Decisions have been rendered in several States granting freedom of practice to osteopaths when it was fully demonstrated that their principles in the handling of infectious and malignant cases were faulty.

**Malpractice.**—In order to recover in a malpractice suit it is necessary to prove that the attending physician or surgeon did not use or display ordinary skill in handling the case in question. This ruling gives a wide latitude in arriving at what constitutes "ordinary skill." A city practitioner, with vast opportunities in hospital work, is expected to have greater skill than the man in country practice whose opportunities are necessarily limited.

A recent ruling of the Superior Court of Cincinnati set aside a judgment rendered in favor of the plaintiff by a lower court, on the ground that expert testimony had not been introduced to show that the attending physician had failed to use or display ordinary skill and care in the

handling of this particular case. This ruling is most wise and will no doubt be the cause of much less annoyance, to say nothing of loss of time and money, to the profession generally, as unscrupulous attorneys have in recent years been filing suits against physicians who were fortunate enough to possess funds or property, in the hope of blackmailing by a so-called compromise, realizing that the majority of men would rather pay them a fee than stand suit under the older rulings.

Like others under the law the physician is liable for damages if he is careless and neglectful in his work. When he is employed to treat a case the contract is implied, and the person or persons employing the medical man are to understand, when the case is accepted, that ordinary skill is to be shown.

**Suggestive Therapeutics.**—This subject, which has attracted considerable attention in recent years, is one that has its legal complications if carried too far.

A Cincinnati physician was recently indicted on the charge of obtaining money under false pretense as a result of erroneous ideas as to the scope of this line of treatment. A woman who had been under the care of a number of physicians for some time, going first to one and then to another, decided to make another change and called in the man in question. After going into her history, perhaps realizing that his predecessors had done all that was possible in a strictly medical way, he decided that hers was a good case for suggestion, and to this end informed her that she had a tumor which it would be necessary for him to remove. The patient consented and was removed to a hospital for the operation. As an endometritis existed, the womb was curetted, and, after the effects of the anæsthetic had disappeared, the patient was informed that the operation was successful. The attending physician reported that the recovery was rapid, and that the patient had fully recovered from all pre-existing symptoms. After a time the patient asked to be shown the tumor which had been removed. Several excuses were offered, but the patient was persistent; so, to continue the suggestion, the woman was shown a piece of beef so arranged as to resemble a tumor. In some manner it was suggested that a section be made and studied by a pathologist to ascertain the nature of the growth. This suggestion was acted upon and the "tumor" was sent to a well-known man for examination and report, with the result that criminal proceedings were begun against the too ardent advocate of suggestion.

In all cases in which suggestion is likely to benefit, members of the family should be consulted and their consent and co-operation obtained. If actual deception is considered necessary a consultation should be arranged, all the facts bearing on the case reduced to writing, and the document signed by the attending physician, the consultant, and some responsible member of the family, and then carefully filed for reference.

In all cases of suggestion the charges made for service rendered must be in accordance with the work actually performed, else fraud will be claimed and established.

**Cases Having a Legal Aspect.**—All cases of this nature should be considered in every possible detail, and full notes should immediately be made and recorded in a permanent form for future references. A judge is always of the opinion that a doctor should notice everything, and if he fails in his examination on the witness stand, the public is ready to censure him and the opposing attorneys make light of his ability in their arguments.

If a physician is called to see an individual dying as the result of accident, assault, or attempt at self-destruction, who is capable of making an ante-mortem statement, he should insist that the latter be reduced to writing, signed and witnessed. Before his statement is taken the patient must be informed that death is certain to follow, as dying declarations are of great legal importance, and this point must always be made. The simple statement of an injured person who may be of the opinion that recovery will follow, is of very little value.

When viewing a dead body the physician should note

its position, not alone as regards the relation of its members and the surface on which it lies, but also as regards its relation to all surrounding objects. Very careful inspection must be made of the surface of the body and of all wounds, scars, marks, livid spots, and other abnormal conditions; they should be measured and the results should be recorded, together with exact descriptions and a statement of their anatomical relations.

As rigor mortis is of value in determining the state of health at the time of death, this feature must not be overlooked. A note must also be made in regard to the following: Whether the surface of the body is livid or pallid, what expression the face bears; whether the body is warm or cold, as revealed by the temperature of the mouth or the axilla; the exact time at which the body was seen; the condition and nature of the clothing; the contents of the pockets; whether there was any jewelry; at what time—giving hour and place—the person was last seen alive, and whether he or she was alone; if vomited matter is present, collect some of it for chemical analysis; note the presence or absence of weapons, drugs, bottles, or other possible clues.

If a post-mortem examination is necessary to establish the cause of death, every vital organ should be thoroughly examined. The stomach and intestines should be examined for inflammation, and if such areas are found the exact seat and possible nature must be determined. The contents should be collected for examination. The amount, odor, color, and other characteristics are to be noted. If death by poisoning is suspected, the stomach, liver, intestines, and kidneys should be removed for a chemical examination. All vessels used for the collection of vomit, or of other fluids and organs removed, must be known to be perfectly clean and not to have been where contamination with arsenic, strychnine, or mercury could have been possible. Note whether the rectum is empty or filled with feces; the latter condition indicating that purging could not have taken place. Carefully examine the lips, mouth, pharynx, larynx, œsophagus, and trachea for evidences of the corrosive action of poison.

Note whether there is an abnormal amount of fluid in the pleural cavity, pericardium, cranium, or spinal canal. Thoroughly investigate the action of the valves of the heart.

In cases in which death has resulted from the slow action of poison it is important to investigate the changes which may have taken place in the kidneys and liver. In all cases of death from an unknown cause the best way of arriving at a definite conclusion as to whether death was due to natural or to violent means is by the slow process of exclusion. Full notes along this line will make the position of the medical witness secure, as he is then prepared to meet the attack of attorneys when by cross-examination they try to make the point that death could have resulted from other causes.

When the medical man is called upon to make an examination of a body that has been buried, it is necessary that the body be identified by some one who can positively state that the body in question is the one ordered examined, else the point will be made and sustained that it is possible that the wrong body was exhumed.

**Criminal Assault.**—This is a subject often brought to the attention of the medical witness, especially in the case of children below the age of ten. Noma pudendi, when discovered by those in charge, is often thought to be the result of an assault, and the afflicted child, not understanding the true nature of the questions asked, will make admissions that result in serious charges being preferred against an innocent person. The other extreme is to be considered at all times in connection with assault, as in rare cases only the most careful examination will reveal physical signs; for wounds and abrasions of the hymen and vagina heal rapidly.

Casper<sup>1</sup> reports a case in which, on examination eleven days after the assault, no signs of the outrage could be observed.

The leucorrhœa common in childhood is often the cause of rape charges. Children of a scrofulous habit

may present points of ulceration about the vagina and vulva, accompanied by a purulent vaginal discharge, so that in any case the presence or absence of gonococci must first be determined and deductions made accordingly.

A child, as a rule, makes little or no resistance at the time of assault; so the bruises and other marks of violence usually observed in older females are absent and the case resolves itself into ascertaining the cause of abnormal conditions about the genital tract.

As false charges are sometimes preferred by older females, it should always be the rule to look upon all cases from this point of view when beginning the examination. If marks of violence are shown, ascertain the time of the alleged assault, and observe whether the wounds or bruises are older than the time indicated; also obtain all the facts as to the manner of the assault, and note whether the marks of violence presented could have resulted in the manner described.

When an examination of the genital tract is made it must be remembered that the hymen is at times destroyed as the result of a purulent discharge, and also that, in some women, it is destroyed at the beginning of the menstrual period. On the other hand, the presence of an intact hymen is not a positive sign that penetration has not taken place. The important thing, in such cases, is to determine whether or not the vaginal canal has been dilated.

In the event of assault on a married woman, or on one who is not a virgin, evidences of injury to the genital tract may or may not exist. If the assailant is alone in his deed, marks of violence are always to be found about the person of the victim, often including the vulva and vagina, for the resistance offered causes undue force to be used in penetrating. If the assailant, however, has assistance, either manual or in the form of drugs, no signs of assault may be present. Where drugs have been administered, their character must be discovered, if possible, and their physiological action fully investigated, in order that it may be shown that hallucinations have not led to the making of the charge. The hallucinations produced by the administration of anaesthetics for slight operations have resulted in dentists being accused of rape.

A case of extreme interest is that of a young woman who was violated while asleep. She had returned from a long walk with her accepted admirer, had drunk a glass of ale, then had fallen asleep in his presence, and the assault followed. Owing to the fact that she was an unusually heavy sleeper, the pain produced by laceration of the hymen and distention of the parts had not been sufficient to awaken her. An examination by a competent medical man revealed the usual physical signs of recent defloration, and the assailant admitted his guilt when charged with the crime.

The medical witness is usually concerned in cases of young children and the feeble-minded; the testimony of the victim commonly establishing the charge in adult cases.

**Criminal Abortion.**—While we, as a rule, divide the expulsion of the fetus before the normal termination of intra-uterine life into abortion, miscarriage, and premature delivery, the law regards all under the one head.

It is the duty of the medical witness to distinguish between natural and violent abortion, and, if the cause be violence, to ascertain whether it was criminal or accidental in character. Criminal abortion may be produced by mechanical means or by the use of drugs acting upon the uterus. When mechanical means are used, marks of the violence can usually be demonstrated on the mother and on the expelled fetus, unless the work has been done by one thoroughly familiar with the anatomy of the parts, and who exercises great care when he introduces the instrument for the purpose of rupturing the membranes.

The use of medicinal substances, by profoundly shocking the system and in this indirect way affecting the uterus, at times produces abortion. When seen the pa-

tient is usually giddy, nauseated, and purging. Drugs, even ergot, can be expected to cause an evacuation of the uterus only after the third month of gestation, the muscle fibres not being well enough developed prior to this time to respond; in fact, it is rare that the effect can be obtained until the fifth month of pregnancy is reached.

The diagnosis, shortly after evacuation, is rendered easy by a careful examination, which should always be made, as cases of feigned abortion are on record and similar ones will no doubt occur again.

When a physician is called to see a case in which the evacuation of the uterus seems imperative, he should request a consultation, and a full and complete history should be obtained and reduced to writing, if abortion is decided upon.

**Infanticide.**—By this term we mean the murder of a new-born child. In perhaps no class of cases is the medical expert so handicapped as in this. Many children die shortly after birth, yet live long enough for well-known evidences of this fact to exist, and the question to be determined is whether death was due to natural causes or to violence. Marks of injury may show on almost any part of the body of the infant and be due to forces acting at the time of delivery. The first question that presents itself when one views a dead infant, is what is its age; and in this connection it must be remembered that the younger in uterine age the infant is, the greater the danger of death at birth or shortly after.

The child should be weighed and measured and all details in regard to its degree of development should be recorded, especial care being taken to note the size of the head as compared with that of the trunk, the degree of ossification, the color and thickness of the skin, and whether the surface of the brain is smooth or already presents convolutions. If the child is fully developed it must be determined whether it lived to breathe and whether it was born alive; for, it must be remembered, a child may breathe and yet be born dead. Experiments have taught us that in a still-born child the forcing of air into its lungs in an attempt at resuscitation will produce the same condition as that of a child who was born alive but breathed only feebly. It is only after all these details have been most carefully observed that the physician may feel warranted in forming a trustworthy opinion. In atelectasis the child may be born alive and exist for some hours, yet the lungs will sink in water, even when divided into small portions.

In those infants who have lived long enough to feed, the presence of food or other foreign substances in the stomach proves that the child was alive at birth, and if death is the result of poisoning, the appearance of the gastric mucous membrane or the usual chemical analysis will reveal the cause of death. It must be remembered, however, that it is possible for an infant, still-born, to have amniotic fluid or other contents of the parturient canal in its stomach as the result of an effort to breathe, the material having been drawn into the mouth during such effort and then swallowed before death ensued.

Death from suffocation is very common in the new-born; it may be due to some malformation, to weakness, to the blocking of the air passages with mucus or other substances, or to the effects of too heavy covering. Where destruction is intended and a damp cloth or other impermeable material is placed over the mouth and nostrils, death will result; and if the act has been done without the employment of undue pressure, the medical witness will be at a loss to state whether the child was born alive or dead, his opinion being possibly in favor of the latter view.

**Birth Records.**—The medical attendant should write down at the time the exact date and hour of birth, the sex of the child, the state of its development and all characteristic marks, and he should place this record on file for reference. In many legal battles such a record has been of value in determining the right of inheritance and has aided in dealing justice where fraud has been attempted. Male children have been substituted for female, living children for those born dead, and a perfect

child for a monster who would not be recognized as a legal heir.

**Insanity.**—Under this heading we shall not consider those cases in which the insanity is marked by hallucinations and impairment of all functions, but preferably those in which only a careful study will enable the medical witness to determine whether the patient in question is or is not sane, and those who are feigning insanity.

No definite law can be laid down as to what constitutes insanity; all symptoms must therefore be carefully studied and deductions drawn from them for the benefit of the court.

Persons displaying unnecessary hatred to those about them are often presented for examination as to their sanity, as this characteristic is offered in evidence in case of criminal proceedings against them; but unless it can be shown that there is some impairment of the faculties of attention, comparison, and volition, the individual cannot be adjudged insane. The faculties should be examined when the patient is not conscious of the object of the visit made. Ordinary subjects of general conversation should be used in this examination and mental note made of any and all irregularities, which can be reduced to writing as soon as possible after the examination is concluded. During the examining visit some subject should be introduced which requires that the patient shall write a letter of his own composition which, in genuine cases of insanity, will give evidence of the condition that can readily be demonstrated. Patients of this nature should be repeatedly examined, as many of them present lucid intervals.

Perhaps the most common condition in which the average practitioner is called to testify is that of setting aside a will, the charge usually being made that at the time of execution, or possibly of alteration, the patient was not of sound mind. When attending a case in what appears to be the last illness, the physician should note carefully the patient's mental condition from visit to visit, and he should preserve a record of these observations, in order that he may be able, if called as a witness, to state whether the supposed irregularities were due to a weakened mental condition or to an eccentric disposition.

In the case of criminals for whom is entered a plea of insanity, a careful study of their history and the facts and conditions of the crime committed will usually clear up the medical aspect and enable the physician, when on the witness stand, to be sure of his ground.

A sane person will be found to have a motive for the crime, be it plunder or revenge; he is often assisted in the crime and will at first usually deny guilt, except in cases in which the motive for the crime is notoriety, as in the assassinations of Presidents Garfield and McKinley. An insane person will have no motive, or only a fancied one, for the commission of the crime, and, instead of one victim, as would be the case if the murderer were a sane person, he will often kill several, perhaps those most near and dear, and will make no attempt to cover up his tracks or deny the act.

**Life Insurance.**—Where life insurance is concerned, the medical witness is of importance in determining—for the satisfaction of the heirs of the deceased, of the company carrying the liability, and of the court, if legal action has been started—as to whether death was the result of natural or of violent means. In the case of a natural death it is important to learn how long the individual had suffered from the disease that caused death, and whether or not there were predisposing chronic pathological conditions existing prior to the issuance of the policy covering the case involved. On the other hand, if death resulted from violence, it is necessary to ascertain whether the cause was criminal, accidental, or suicidal.

Accident insurance having now become an extensive business the attention of the profession is frequently called to cases that require the utmost care in arriving at a definite opinion. Diabetic ulcerations are stated to be the result of trauma (a wound received in a barroom fight or an injury caused by a fall)<sup>1</sup> or a syphilitic ulcer-

ation is claimed to be the result of a burn, and so on through the entire list of diseased conditions that produce lesions which can be charged to an accident.

Shrewd criminals often conceive unique plans for defrauding insurance companies, and the medical witness must always be on the alert for such surprises. Post-mortem examinations should always be insisted upon when a case is not absolutely clear.

**Partnership.**—Agreements are often entered into by members of the medical profession for mutual benefit and a firm name selected. The basis for settlement is decided upon and division made accordingly, but no legal responsibility is assumed by one for the other, and each member of the firm is alone responsible for errors made in his professional work. Should the firm enter jointly into outside investments, they then become liable under the law to the same extent as do the regular commercial unions.

**Fees.**—The question of fees has ever been a hard one for the medical profession. The courts have ruled that no one is so good a judge as to the number of visits necessary to be made in a given case as the medical attendant, and he can so render an account. In several States fee bills have been enacted regulating the maximum amount to be charged for certain classes of work. As nearly every case—especially those wherein the amount of the bill rendered is claimed to be exorbitant—possesses certain complications, it is not hard for expert opinion to prove to the court or jury that the fee charged is not excessive. By far the most common question that arises in this connection is not the amount, but who shall pay the fee. A prominent Cincinnati surgeon recently sued a corporation for services rendered an employee and lost his case, the court ruling that the defence had proven that the individual who employed the doctor, although he was connected with their concern, had no authority to make contracts, and was simply acting as a messenger for the injured person, and that the patient must be looked to for liquidation of the account.

When answering calls where it is probable that the individual requiring the service will be unable to pay for the same, the physician should ask some one in authority to become responsible. It is not sufficient for a person in authority simply to ask the medical man to assume charge of a case, he must also agree to settle for the service rendered; otherwise liability can be denied and this defence will be sustained by the court. In nearly all sections of the United States this ruling has prevailed where medical men have been called to attend an injured passenger or employee by local agents, conductors, and other minor officials of railway companies. The same ruling applies in cases in which parents have requested attendance upon their children of legal age; the patient being considered liable while the parent is looked upon as a simple messenger without liability. In the case of the wife, legally absent from home, the husband is held to be responsible for medical attention rendered; if, on the other hand, she is not legally absent, she alone is considered responsible.

**Consent of Patient.**—In cases of injury, or in those in which it has been determined that an operation is necessary, it should always be the rule to obtain the consent of the patient to do whatever is necessary after administration of the anaesthetic. In case the patient is not in a condition to understand, or if the patient is a minor, then the consent of a responsible member of the family or guardian should be obtained. Occasionally one meets with cases in which the individual claims to prefer death to the loss of a limb, and if he still persists in this view after all the facts are set forth, his wish must be respected. It is needless to say that every avenue for a malpractice attack must be carefully guarded either by securing in advance reliable disinterested witnesses or by resigning the case if another practitioner can be found who is willing to assume charge.

Consent procured by misrepresentation has no standing in law.

Mr. Benjamin Vaughan Abbott, in his excellent article

on this subject in the first edition of the HANDBOOK, cites a case of much interest, as follows: "A lady became suspicious that a housemaid in her employ had become pregnant, taxed her with it, and gave her notice of dismissal. She denied it. The lady sent for her family physician and ordered the girl to go to her room and submit to an examination. The girl protested, but went to the room followed by the physician. She objected to each of the doctor's requirements, as to removing her clothing, etc. However, she obeyed, remonstrating all the while, and the usual examination was made, resulting in the doctor being satisfied that the charge was groundless. But the mistress dismissed her, notwithstanding. A lawsuit was brought on behalf of the girl against the physician, for damages for assault. The case was several times discussed in court, with the final result in the physician's favor. The courts considered that although the girl remonstrated, yet as she went to her room, undressed, and lay down to be examined, all without being forced, the examination did not take place in a legal sense without her consent. It was a case of reluctant obedience to arbitrary, wrongful command, as distinguished from a forcible compulsion which she was powerless to resist."

**Emergencies.**—While there is no definite law covering the rights of the profession at large in emergencies, the courts would no doubt sustain any action necessary for the well-being and safety of the public. Health officers are given a wide latitude in all matters of public hygiene and safety and should always be appealed to if possible.

**Relation of Physician and Patient.**—The relation of patient and physician is acknowledged by law to be most intimate. Any abuse of this confidence on the part of the physician would in all probability render him liable in a suit for damages. Abbott<sup>2</sup> reports a case from the Michigan courts in which a physician was assessed damages for allowing a non-medical man to be present and render slight assistance at an obstetrical case, notwithstanding the fact that the physician showed that circumstances required his being accompanied by the man in question, and that there was no other protection from the prevailing storm than the room in which the woman was confined.

In damage suits the ruling has been made that the attending physician may testify as to what the patient said regarding the manner in which the accident occurred, it being held that the law in its strict sense refers to those things necessary for the physician to know regarding family history, habits, etc., for the proper treatment of the case, and not to voluntary admissions made during the visit. This ruling would not hold in criminal cases if the patient should admit that a wound had been received while doing a dishonest act. Here the ruling has been made that this is imparted in confidence and must not be revealed under any circumstances. On the other hand, the law will not protect a third party, guilty of crime, but will allow the testimony of the attending physician to assist in conviction. To illustrate, we will consider the case of a young woman dying as a result of criminal abortion. Here all the facts were given the attending physician as a dying statement. This was admissible as evidence to aid in the conviction of those responsible for her condition. In the case of State vs. Pierson, the latter was charged with having caused the death of one Withey by the administration of arsenic. In this case the physician who attended Withey in his last illness was allowed to testify as to what he saw and heard. This was sustained by the Court of Appeals under the ruling that the law was to protect the patient and physician in legitimate communications, not to shield criminals.

**Wills.**—It is not often that the physician is concerned in the drawing of such documents, and it should be avoided if possible, especially if complicated details are to be arranged or the doctor is to be a beneficiary. In cases of emergency it may be necessary for the attending physician to draw up the will, in which case any simple, but clear, form will be sufficient. Have the instrument

signed and witnessed by three or more competent individuals and deliver the document into safe hands.

Mark A. Brown.

<sup>1</sup> Taylor's Medical Jurisprudence.  
<sup>2</sup> Abbott: REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Vol. V., page 673, first edition.

**PHYSICIANS: RELATIVE NUMBER AS COMPARED WITH EXISTING POPULATIONS.**—The relative number of physicians in any country or population depends upon many circumstances and conditions, such as the laws governing the practice of medicine, the progress of medical education, the prevalence of empiricism, and many other social conditions.

In some countries the number may be ascertained from the figures of the census; in others, as in Germany, from careful enumerations of the medical profession made by the Government.

In the United States at the present time certain medical directories, issued at frequent intervals, contain this information, with an approximate degree of accuracy.

The following tables present the numbers of physicians per 10,000 of the population in each of the United States in the two years 1898 and 1902:

RATIO OF PHYSICIANS TO THE POPULATION IN THE UNITED STATES IN 1898 AND IN 1902 IN GROUPS.

States and Territories.	Ratio of physicians to the population, 1898.	States and Territories.	Ratio of physicians to the population, 1902.
California.....	23.8	California.....	26.1
Iowa.....	23.7	Colorado.....	25.4
Indiana.....	21.4	Vermont.....	21.5
Vermont.....	20.8	Indian Territory.....	20.7
Ohio.....	20.3	Oklahoma.....	20.6
Illinois.....	19.3	Missouri.....	20.3
Arizona.....	19.1	Ohio.....	20.3
Colorado.....	19.0	Arkansas.....	19.7
Missouri.....	18.7	Indiana.....	19.7
Tennessee.....	18.6	Maine.....	18.8
Massachusetts.....	18.5	Iowa.....	18.4
New Hampshire.....	18.1	Kansas.....	18.4
Maryland.....	17.9	Illinois.....	18.3
New York.....	17.7	Tennessee.....	18.2
Texas.....	17.5	Maryland.....	18.1
Arkansas.....	17.2	New Hampshire.....	17.8
Maine.....	16.5	Michigan.....	17.6
Nevada.....	16.3	Massachusetts.....	17.2
Michigan.....	16.0	Texas.....	17.2
UNITED STATES.....	15.4	New York.....	16.9
Connecticut.....	15.2	Kentucky.....	16.3
Rhode Island.....	15.2	Nevada.....	16.3
Oregon.....	14.9	UNITED STATES.....	15.9
West Virginia.....	14.9	Pennsylvania.....	15.4
Pennsylvania.....	14.9	Oregon.....	15.3
Oklahoma.....	14.4	Rhode Island.....	15.2
Florida.....	14.4	West Virginia.....	15.1
Delaware.....	14.2	Connecticut.....	15.0
Montana.....	14.0	Washington.....	14.9
Idaho.....	13.8	Delaware.....	14.7
Kansas.....	13.6	Arizona.....	14.5
Virginia.....	12.3	Nebraska.....	14.3
Georgia.....	12.3	Georgia.....	14.2
New Jersey.....	12.1	Idaho.....	13.4
Alabama.....	11.9	Montana.....	13.2
Washington.....	11.3	Florida.....	13.1
Louisiana.....	11.0	Wyoming.....	13.0
Mississippi.....	10.9	Alabama.....	12.2
Utah.....	10.2	New Jersey.....	12.1
Minnesota.....	9.6	South Dakota.....	12.1
Wyoming.....	9.4	Virginia.....	12.0
Nebraska.....	9.2	Wisconsin.....	11.5
South Carolina.....	8.7	Utah.....	10.7
North Carolina.....	8.5	Alaska.....	10.7
North Dakota.....	7.8	Minnesota.....	10.6
South Dakota.....	7.7	Louisiana.....	10.6
New Mexico.....	7.2	Mississippi.....	10.1
		North Dakota.....	9.3
		New Mexico.....	8.5
		North Carolina.....	8.2
		South Carolina.....	8.1

Allowance has been made in the foregoing tables for increase of population.

Examination of the foregoing table shows that the ratio of physicians in the United States has increased from 15.4 per 10,000 inhabitants in 1898 to 15.9 in 1902.

The ratio had increased in each of 29 States and Territories, and had decreased in 19. Alaska and the Indian Territory are included in the second list, but not in the first.

The States in which either the increase or decrease appears to have been excessive are Iowa and Arizona, with decrease of 22 and 24 per cent, respectively, and Kansas, Wyoming, Oklahoma, Nebraska, and South Dakota with increase of 35, 38, 43, 55, and 57 per cent, respectively.

The map or chart shown herewith was constructed for the year 1898 and presents the ratio of physicians to the population by means of different shadings, black indicating the highest ratio.

The information obtained from these figures must be deemed to be only approximately accurate, since the two essential factors, namely, the directory list of physicians and the census enumeration of the population, with the necessary estimates for intercensal years, cannot be regarded as strictly correct in a rapidly growing country like the United States, subject to the constant change which attends the migration of population, not only from foreign countries to the United States, but also from one State to another.

In general, however, the figures for the larger States, and for the New England, Middle, and Southern States, embraced in all the groups except the first, may be considered to be fairly trustworthy.

and in Porto Rico and the Philippines less than 1 per 10,000.

The relative number of physicians in other countries is generally less than it is in the United States. Prinzinger\* published the following figures in 1901 for the principal European countries:

Number of physicians and surgeons to each 10,000 inhabitants: In Germany, 5.1; in Austria, 4.1; in Hungary, 2.8; in Italy, 6.3; in Switzerland, 6.1; in France, 3.9; in Spain, 7.1; in Belgium, 5.2; in England, 6.1; in Scotland, 7.7; in Ireland, 5.6; in Denmark, 6.4; in Norway, 5.3; in Sweden, 2.7; in Russia (European), 2.7.

The number of homeopathic physicians in the principal states of the German Empire were as follows:

In Württemberg 30 or 3.7 per cent. of the whole number of physicians.  
In Russia 136 or 0.9 of one per cent. of the whole number.  
In Baden 8 or 0.9 of one per cent. of the whole number.  
In Saxony 15 or 0.8 of one per cent. of the whole number.  
In Bavaria 16 or 0.6 of one per cent. of the whole number.

At the last enumeration of physicians in the German Empire, the whole number of homeopathic physicians in the empire was stated to be 240, or less than 1 per cent. of the whole number of practitioners, which was 27,374.

The number of physicians in Germany has increased, both absolutely and relatively, from 13,728, or 3.2 per

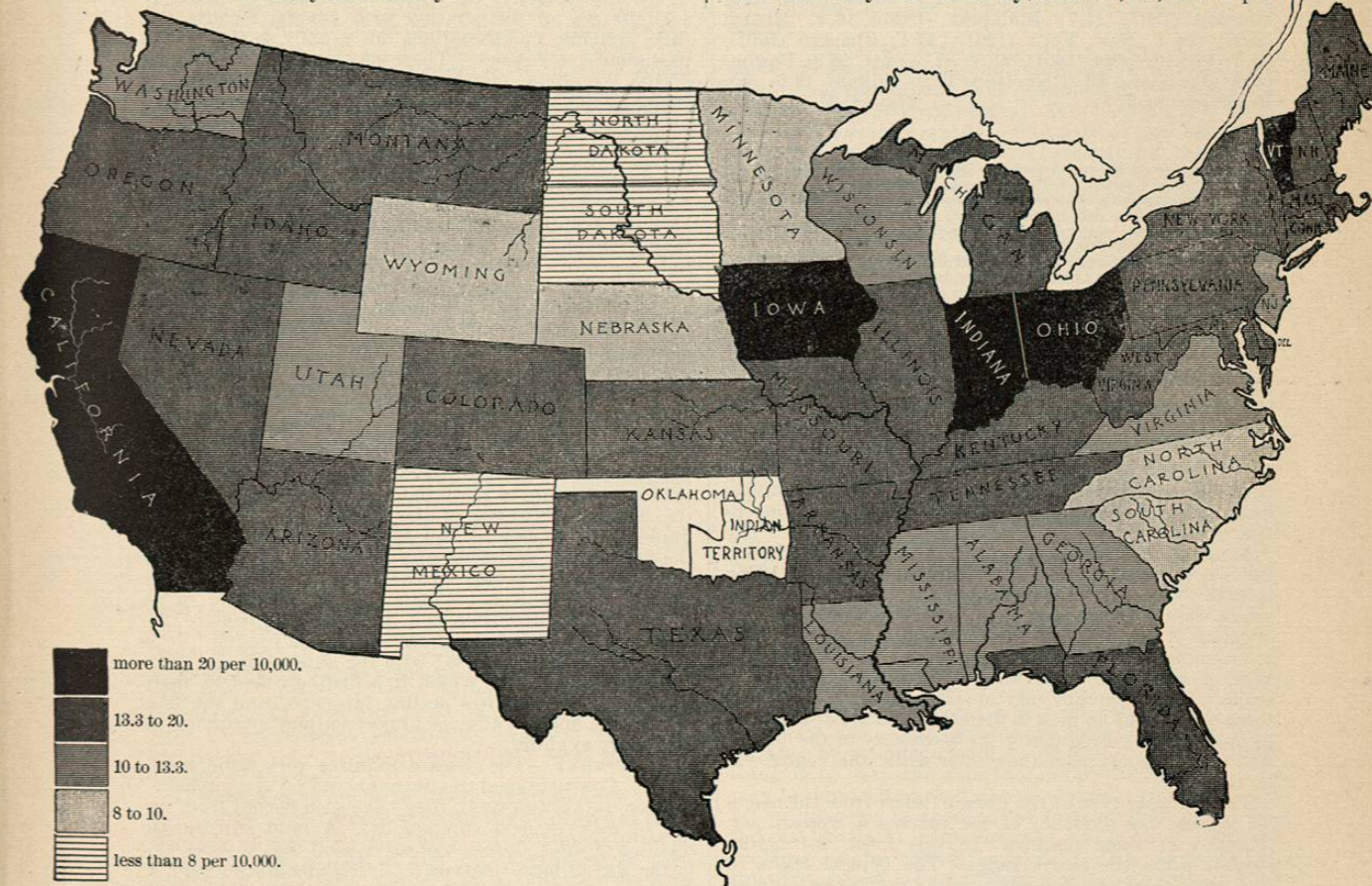


Fig. 5162.—Ratio of Physicians to the Population in the United States, per 10,000 Inhabitants in 1898.

The figures for the Philippine Islands, Hawaii, and Porto Rico are not given in the table, since they can hardly be regarded as valuable for purposes of comparison. The ratio in Hawaii is stated to be 5 per 10,000,

10,000 inhabitants in 1876, to 27,374, or 5.1 per 10,000, in 1900.†

\* Zeitschr. f. Socialwissensch., 1901, Bd. 4, Hft. 7.  
† Rheinischer Kurier, 1901, No. 415.

In the whole of Prussia there were registered in 1900 16,100 physicians, 956 dentists, and 3,118 apothecaries.\*

Prinzling also states that quackery has gained so strong a foothold in Germany as to demand energetic measures for its suppression. Weavers, barbers, shoemakers, and persons of other ordinary occupations are often found practising as physicians.

The relative number of quacks in 1898 in the principal German states were as follows: In Saxony, 16.4 per 10,000; in Württemberg, 5.5; in Prussia, 5.3; in Bavaria, 4.5; in Baden, 2.9; in Hesse, 2.9; in Alsace-Lorraine, 1.3.

The veterinary surgeons in Germany at the last enumeration were 3,813 in number, and when compared with the class of patients whose ills they are called upon to relieve, were found to be in the proportion of 1 to every 1,240 horses and every 5,677 head of cattle.

The proportion of physicians in the cities is, as might be expected, much greater than that of the rural districts. For example in Germany in 1876, in the cities and towns having more than 5,000 inhabitants in each, the ratio of physicians was 7.5 to each 10,000 inhabitants, and in the rural districts only 1.8 per 10,000. These figures had increased respectively to 8.4 and 2.4 in 1898.†

The ratios of physicians in the great cities of Europe and the United States were as follows during the years named: London (1895), 12.8 per 10,000 population; Paris (1896), 9.7; Berlin (1900) 14.1; Vienna (1896), 13.0; Brussels (1897), 14.7; Budapest (1896), 16.4; Madrid (1899), 24.4; New York (1901), 17.1; Chicago (1901), 20.5; Philadelphia (1901), 21.8; St. Louis, 26.3; Boston, 26.8; Baltimore, 23; Cleveland, 21.9; Buffalo, 19.6; San Francisco, 31.5.

Samuel W. Abbott.

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**PITYRIASIS ROSEA.**—Pityriasis rosea is a disease of the skin characterized by the development of symmetrically distributed patches, roundish or circinate in outline, slightly scaly and of a faint red color. It is one of the rarer dermatoses. The disease has been described under several names. Pityriasis rosea, the name given it by Gibert, is the one nearly universally used now. It was described by Hebra under the name herpes tonsurans maculosus, and by Bazin under the title pityriasis maculata et circinata.

**SYMPTOMATOLOGY.**—The eruption occurs in two forms, the macular and the circinate. Probably the first lesion in both forms is a very small pinkish macule or papule which rapidly spreads to form the characteristic macule or patch of the disease. In the macular type the lesions are roundish patches, gradually fading into the healthy skin, of a pinkish color and covered with fine branny scales. These patches vary in size from one-sixteenth to three-quarters of an inch in diameter, and are of a reddish to fawn color. Frequently the periphery of the lesions will show the erythematous color while the centre will be fading.

The circinate type of the disease differs from the macular in that the tendency of the patches to spread peripherally is more marked. In this form the border spreads while the centre fades. The typical lesion of this form, therefore, is a more or less circular patch with a pinkish border and a fawn-colored scaly centre. Adjacent patches of this sort may coalesce and thus form peculiar gyrate figures. These patches do not usually become larger than an inch in diameter. By the time they reach that size the reddish border breaks up and

\* R. Wehmer: Medicinal-Kalender, Berlin, 1901.

† Vierteljahrsschrift f. öff. Gesundheitspflege, 1902, vol. xxxiii., Suppl., p. 402.

fades out, leaving the characteristic fawn-colored stains of the disease. The lesions are apt to occur in successive crops, so that it is possible to see at one time the minute papules of the beginning of the disease, along with the patches and circinate figures of a later stage of the process. At times the eruption remains papular for the most part throughout its entire course, only a few patches or circinate figures developing.

Brocq called attention to the fact that a single primary patch, usually of large size and situated upon the abdomen, preceded by ten days or two weeks the general eruption, and this observation has been confirmed by other dermatologists.

The extent of the eruption varies very greatly. In some cases it is confined to one or two regions, but most frequently it is widely distributed. It occurs by preference on the front and sides of the abdomen, over the chest and on the buttocks, and on the sides of the neck. It may be universal, but it rarely develops on the face or below the elbows and knees. There is also considerable variation in different cases in the color of the lesions, which at times show an inflammatory red but more frequently a pinkish or fawn color. The eruption usually disappears in from two or three weeks to two or three months, but cases not infrequently last longer, even for four or six months.

The appearance of the eruption is usually preceded by a slight rise of temperature with general malaise, but these systemic manifestations are usually so slight as to pass almost unnoticed. There may be some enlargement of the lymphatic glands. This may be confined to the submaxillary and post-cervical glands. At times also the axillary and inguinal glands show slight painless enlargement. There is slight itching, particularly at night, or when the patient gets overheated, but it is not of severe character and causes little or no annoyance.

**ETIOLOGY.**—The etiology of the disease is unknown. Like the exanthemata and other toxic eruptions it occurs most frequently in children. It was thought by Hebra to be a mycotic affection, and this view still has its advocates. Its symmetrical distribution, the accompanying slight febrile disturbance, and the character of the eruption seem to indicate that it is closely allied to erythema multiforme.

**HISTOPATHOLOGY.**—Microscopically the changes found are those of a slight inflammatory process in the skin.

**DIAGNOSIS.**—The exceedingly trivial character of the systemic disturbances and the duration of the eruption serve to distinguish it from the exanthemata. From psoriasis and widely distributed forms of seborrhœic eczema occurring in small patches, it is distinguished by the lack of infiltration of the patches, the much lower grade of inflammation, and the character of the scales, the fine branny scales of pityriasis rosea presenting no similarity to the coarser scales of psoriasis and seborrhœic eczema. From tinea circinata it is distinguished by its much wider distribution, the rapid development of the lesions, and the absence of the ringworm fungus. It is most likely to be confused with the squamous and circinate syphilides, from which it is distinguished by more rapid development, less scaling, absence from the face and hands, and the absence of concomitant symptoms of secondary syphilis.

**TREATMENT.**—The disease requires very little treatment. Constitutional treatment should be symptomatic. Certain authorities think they have seen benefit from the use of salicylic-acid compounds. A mild antipruritic dusting powder, or lotion or salve is all that is necessary in the way of local treatment. William Allen Pusey.

**PITYRIASIS RUBRA.**—Pityriasis rubra is a dermatitis, usually subacute or chronic in intensity, in all but the most exceptional cases universal, and characterized by abundant dry desquamation. Other names by which the condition is known are dermatitis exfoliativa (Wilson), pityriasis rubra aigu (Devergie), erythrodermie exfoliante (Besnier). It is a rare disease.

**SYMPTOMATOLOGY.**—The disease may begin primarily

as pityriasis rubra, or it may develop upon other inflammatory dermatoses. When occurring primarily it may begin in either of two ways. In some cases it begins as a diffuse hyperemia, which increases until the skin becomes a bright red, and with the increase in redness there is the development of the characteristic desquamation. In other cases it begins as circumscribed red scaly patches. These spread peripherally and new patches form at the same time, until the entire surface becomes involved in the process. In the early stages of the disease the skin is of a bright, hyperæmic red color, which fades on pressure, and the induration is very slight. As the process becomes older the redness becomes of a deeper hue, and in some cases has presented a markedly venous character. There is also at times, even when arsenic has not been used, the development of marked pigmentation in the skin. The true color of the skin is more or less concealed by the abundant grayish scales which cover it. The abundance of this desquamation is one of the most salient characteristics of pityriasis rubra. The scales are dry and grayish in color; at times they are fine, but usually, except on the face, they occur as thin papery flakes. On the palms and soles the horny epidermis exfoliates in large flakes, which may at times amount to masks of the parts. The scales are easily detached and quickly reform. A quart or more of scales may be produced in twenty-four hours, so that they can be collected by the handful from the patient's bed. There is usually very slight induration of the skin, although after the disease has persisted for a long time the skin may become considerably indurated and stiffened as a result of the chronic inflammatory process. Rarely is there any free exudate. Except for perspiration the skin is dry, although a certain amount of weeping and even the formation of bullæ have been described. When we come, however, to cases of this character, accompanied by bullæ and free exudation, the border-line between this disease and pemphigus foliaceus becomes confusing.

There is more or less involvement of the appendages of the skin. The growth of the hair is interfered with and much falling of the hair takes place. At times the accumulation of scales underneath the nails causes them to be raised up and thrown off. Again the nails may become thin and softened and stunted or lost entirely. In some cases the nails become thick and rough and striated. The secretion of sweat is usually much diminished, but there may be an increase on such parts as the axillæ and genito-crural fold. The tongue in most cases is bright red, undoubtedly due to the exfoliation of the epithelium, which is washed away in the saliva.

The subjective symptoms are relatively unimportant. In rare cases the itching is severe, but usually it is of trivial character or absent. The sensation is more apt to be one of tenderness, burning, and stiffness of the skin. The onset of the disease is usually accompanied by a temporary febrile disturbance, which may recur with each exacerbation of the process. Except for such slight disturbances there may be no positive illness, although there is usually an indefinite lowering of the general physical tone, which becomes more marked as the disease progresses. Later on, the patients become anæmic, cachectic, and emaciated, and thus become the ready prey to intercurrent affections. Insanity, and other mental and nervous disturbances have been noted in a number of the cases.

The acute cases are often accompanied by very violent constitutional symptoms, with all the evidences of grave septic or nutritional disturbance. The temperature may range as high as 105° or 106° F. There may be great depression, diarrhœa, rigors, and a typhoid condition, and death may occur in one or two weeks.

**ETIOLOGY.**—The cause of the disease is unknown. It is probable that several conditions, essentially different, present this complex of symptoms. It is rare in children and occurs most frequently after middle life. It is more frequently observed in men than in women. Crocker thinks there is a close relationship between acute rheumatism and gout and pityriasis rubra, eleven out of eight-

teen cases which he analyzed having shown this relationship. Jadassohn has pointed out the frequency of the association of tuberculosis in some form with pityriasis rubra. It is recognized that pityriasis rubra may supervene upon psoriasis, eczema, and other inflammatory affections. Brocq has seen a severe acute attack brought on by the vigorous application of chrysarobin, and Crocker has seen it follow vigorous inunctions with mercurial ointment and the external use of arsenic. Stelwagon has seen it develop on the extremities after the use of quinine by patients who had an idiosyncrasy as regards that drug. As an exciting cause, sudden chilling of the body has in some cases seemed to have a direct relationship to the development of the disease, and in other cases it has been excited by alcoholic debauches.

**PATHOLOGY.**—Microscopically the disease shows nothing to differentiate it from other simple inflammatory processes in the skin. There are the usual changes of a superficial dermatitis, and when the disease has persisted for a long time there are the connective-tissue changes characteristic of chronic inflammation of the skin. Several efforts have been made to discover central or peripheral nerve changes in connection with the disease, but without definite findings.

**DIAGNOSIS.**—The involvement of the entire skin, which occurs in all but the rarest cases, the profuse dry desquamation, the slight induration, together with the rapid development, are the prominent characteristics of the disease.

If it is admitted that psoriasis or a squamous eczema could become absolutely universal and of uniform type of eruption throughout, it is possible that they might be confused with pityriasis rubra. It is hardly likely, however, that this ever occurs. A universal psoriasis could be differentiated by the gradual development, the greater induration of the skin, and the thick, silvery white, closely adherent scales of that disease, and the hemorrhagic puncta following the forcible removal of the scales. It is hardly conceivable that an eczema could show a uniform type of eruption over the entire body, such as is seen in pityriasis rubra. Additional points of distinction from eczema would be the yellowish crusts of eczema, the presence of more or less free exudate, less rapid onset, greater induration of skin, more itching, and less evidence of constitutional disturbance.

The two conditions with which pityriasis rubra is likely to be confused are pemphigus foliaceus and pityriasis rubra pilaris. In pemphigus foliaceus there is the occurrence of flaccid bullæ, which, if not seen themselves, at least leave traces of their existence in undermined borders of epidermis and in the excretion of serum and pus, which dries in crusts upon the surface and gives rise to the sickening characteristic odor of pemphigus foliaceus. Pityriasis rubra pilaris does not develop so rapidly as pityriasis rubra, is not so likely to be universal, is accompanied by much greater induration of the skin, and shows the characteristic papules, which are entirely absent in pityriasis rubra. These rough, dry, horny papules, capping the hair follicles and giving the skin the nutmeg-grater appearance, that are seen on the back of the fingers and hands in pityriasis rubra pilaris, are entirely absent in pityriasis rubra.

**TREATMENT.**—The patients are made much more comfortable by emollient local applications. The essential thing is to keep the skin thoroughly lubricated. This may be done with vaseline, rose ointment, olive oil, lanolin, or mixtures of these in the form of liniments. The internal treatment is symptomatic, and is directed toward building up the patient's general health. Arsenic and quinine have both been advised empirically without very strong evidence of their having any specific effect. The patients should be carefully protected against chilling, and they do best when they stay in bed. There is little evidence that treatment has any effect except in relieving symptoms. William Allen Pusey.

**PITYRIASIS RUBRA PILARIS.** See *Lichen Ruber Acuminatus*.

may present points of ulceration about the vagina and vulva, accompanied by a purulent vaginal discharge, so that in any case the presence or absence of gonococci must first be determined and deductions made accordingly.

A child, as a rule, makes little or no resistance at the time of assault; so the bruises and other marks of violence usually observed in older females are absent and the case resolves itself into ascertaining the cause of abnormal conditions about the genital tract.

As false charges are sometimes preferred by older females, it should always be the rule to look upon all cases from this point of view when beginning the examination. If marks of violence are shown, ascertain the time of the alleged assault, and observe whether the wounds or bruises are older than the time indicated; also obtain all the facts as to the manner of the assault, and note whether the marks of violence presented could have resulted in the manner described.

When an examination of the genital tract is made it must be remembered that the hymen is at times destroyed as the result of a purulent discharge, and also that, in some women, it is destroyed at the beginning of the menstrual period. On the other hand, the presence of an intact hymen is not a positive sign that penetration has not taken place. The important thing, in such cases, is to determine whether or not the vaginal canal has been dilated.

In the event of assault on a married woman, or on one who is not a virgin, evidences of injury to the genital tract may or may not exist. If the assailant is alone in his deed, marks of violence are always to be found about the person of the victim, often including the vulva and vagina, for the resistance offered causes undue force to be used in penetrating. If the assailant, however, has assistance, either manual or in the form of drugs, no signs of assault may be present. Where drugs have been administered, their character must be discovered, if possible, and their physiological action fully investigated, in order that it may be shown that hallucinations have not led to the making of the charge. The hallucinations produced by the administration of anaesthetics for slight operations have resulted in dentists being accused of rape.

A case of extreme interest is that of a young woman who was violated while asleep. She had returned from a long walk with her accepted admirer, had drunk a glass of ale, then had fallen asleep in his presence, and the assault followed. Owing to the fact that she was an unusually heavy sleeper, the pain produced by laceration of the hymen and distention of the parts had not been sufficient to awaken her. An examination by a competent medical man revealed the usual physical signs of recent defloration, and the assailant admitted his guilt when charged with the crime.

The medical witness is usually concerned in cases of young children and the feeble-minded; the testimony of the victim commonly establishing the charge in adult cases.

**Criminal Abortion.**—While we, as a rule, divide the expulsion of the fetus before the normal termination of intra-uterine life into abortion, miscarriage, and premature delivery, the law regards all under the one head.

It is the duty of the medical witness to distinguish between natural and violent abortion, and, if the cause be violence, to ascertain whether it was criminal or accidental in character. Criminal abortion may be produced by mechanical means or by the use of drugs acting upon the uterus. When mechanical means are used, marks of the violence can usually be demonstrated on the mother and on the expelled fetus, unless the work has been done by one thoroughly familiar with the anatomy of the parts, and who exercises great care when he introduces the instrument for the purpose of rupturing the membranes.

The use of medicinal substances, by profoundly shocking the system and in this indirect way affecting the uterus, at times produces abortion. When seen the pa-

tient is usually giddy, nauseated, and purging. Drugs, even ergot, can be expected to cause an evacuation of the uterus only after the third month of gestation, the muscle fibres not being well enough developed prior to this time to respond; in fact, it is rare that the effect can be obtained until the fifth month of pregnancy is reached.

The diagnosis, shortly after evacuation, is rendered easy by a careful examination, which should always be made, as cases of feigned abortion are on record and similar ones will no doubt occur again.

When a physician is called to see a case in which the evacuation of the uterus seems imperative, he should request a consultation, and a full and complete history should be obtained and reduced to writing, if abortion is decided upon.

**Infanticide.**—By this term we mean the murder of a new-born child. In perhaps no class of cases is the medical expert so handicapped as in this. Many children die shortly after birth, yet live long enough for well-known evidences of this fact to exist, and the question to be determined is whether death was due to natural causes or to violence. Marks of injury may show on almost any part of the body of the infant and be due to forces acting at the time of delivery. The first question that presents itself when one views a dead infant, is what is its age; and in this connection it must be remembered that the younger in uterine age the infant is, the greater the danger of death at birth or shortly after.

The child should be weighed and measured and all details in regard to its degree of development should be recorded, especial care being taken to note the size of the head as compared with that of the trunk, the degree of ossification, the color and thickness of the skin, and whether the surface of the brain is smooth or already presents convolutions. If the child is fully developed it must be determined whether it lived to breathe and whether it was born alive; for, it must be remembered, a child may breathe and yet be born dead. Experiments have taught us that in a still-born child the forcing of air into its lungs in an attempt at resuscitation will produce the same condition as that of a child who was born alive but breathed only feebly. It is only after all these details have been most carefully observed that the physician may feel warranted in forming a trustworthy opinion. In atelectasis the child may be born alive and exist for some hours, yet the lungs will sink in water, even when divided into small portions.

In those infants who have lived long enough to feed, the presence of food or other foreign substances in the stomach proves that the child was alive at birth, and if death is the result of poisoning, the appearance of the gastric mucous membrane or the usual chemical analysis will reveal the cause of death. It must be remembered, however, that it is possible for an infant, still-born, to have amniotic fluid or other contents of the parturient canal in its stomach as the result of an effort to breathe, the material having been drawn into the mouth during such effort and then swallowed before death ensued.

Death from suffocation is very common in the new-born; it may be due to some malformation, to weakness, to the blocking of the air passages with mucus or other substances, or to the effects of too heavy covering. Where destruction is intended and a damp cloth or other impermeable material is placed over the mouth and nostrils, death will result; and if the act has been done without the employment of undue pressure, the medical witness will be at a loss to state whether the child was born alive or dead, his opinion being possibly in favor of the latter view.

**Birth Records.**—The medical attendant should write down at the time the exact date and hour of birth, the sex of the child, the state of its development and all characteristic marks, and he should place this record on file for reference. In many legal battles such a record has been of value in determining the right of inheritance and has aided in dealing justice where fraud has been attempted. Male children have been substituted for female, living children for those born dead, and a perfect

child for a monster who would not be recognized as a legal heir.

**Insanity.**—Under this heading we shall not consider those cases in which the insanity is marked by hallucinations and impairment of all functions, but preferably those in which only a careful study will enable the medical witness to determine whether the patient in question is or is not sane, and those who are feigning insanity.

No definite law can be laid down as to what constitutes insanity; all symptoms must therefore be carefully studied and deductions drawn from them for the benefit of the court.

Persons displaying unnecessary hatred to those about them are often presented for examination as to their sanity, as this characteristic is offered in evidence in case of criminal proceedings against them; but unless it can be shown that there is some impairment of the faculties of attention, comparison, and volition, the individual cannot be adjudged insane. The faculties should be examined when the patient is not conscious of the object of the visit made. Ordinary subjects of general conversation should be used in this examination and mental note made of any and all irregularities, which can be reduced to writing as soon as possible after the examination is concluded. During the examining visit some subject should be introduced which requires that the patient shall write a letter of his own composition which, in genuine cases of insanity, will give evidence of the condition that can readily be demonstrated. Patients of this nature should be repeatedly examined, as many of them present lucid intervals.

Perhaps the most common condition in which the average practitioner is called to testify is that of setting aside a will, the charge usually being made that at the time of execution, or possibly of alteration, the patient was not of sound mind. When attending a case in what appears to be the last illness, the physician should note carefully the patient's mental condition from visit to visit, and he should preserve a record of these observations, in order that he may be able, if called as a witness, to state whether the supposed irregularities were due to a weakened mental condition or to an eccentric disposition.

In the case of criminals for whom is entered a plea of insanity, a careful study of their history and the facts and conditions of the crime committed will usually clear up the medical aspect and enable the physician, when on the witness stand, to be sure of his ground.

A sane person will be found to have a motive for the crime, be it plunder or revenge; he is often assisted in the crime and will at first usually deny guilt, except in cases in which the motive for the crime is notoriety, as in the assassinations of Presidents Garfield and McKinley. An insane person will have no motive, or only a fancied one, for the commission of the crime, and, instead of one victim, as would be the case if the murderer were a sane person, he will often kill several, perhaps those most near and dear, and will make no attempt to cover up his tracks or deny the act.

**Life Insurance.**—Where life insurance is concerned, the medical witness is of importance in determining—for the satisfaction of the heirs of the deceased, of the company carrying the liability, and of the court, if legal action has been started—as to whether death was the result of natural or of violent means. In the case of a natural death it is important to learn how long the individual had suffered from the disease that caused death, and whether or not there were predisposing chronic pathological conditions existing prior to the issuance of the policy covering the case involved. On the other hand, if death resulted from violence, it is necessary to ascertain whether the cause was criminal, accidental, or suicidal.

Accident insurance having now become an extensive business the attention of the profession is frequently called to cases that require the utmost care in arriving at a definite opinion. Diabetic ulcerations are stated to be the result of trauma (a wound received in a barroom fight or an injury caused by a fall)<sup>1</sup> or a syphilitic ulcer-

ation is claimed to be the result of a burn, and so on through the entire list of diseased conditions that produce lesions which can be charged to an accident.

Shrewd criminals often conceive unique plans for defrauding insurance companies, and the medical witness must always be on the alert for such surprises. Post-mortem examinations should always be insisted upon when a case is not absolutely clear.

**Partnership.**—Agreements are often entered into by members of the medical profession for mutual benefit and a firm name selected. The basis for settlement is decided upon and division made accordingly, but no legal responsibility is assumed by one for the other, and each member of the firm is alone responsible for errors made in his professional work. Should the firm enter jointly into outside investments, they then become liable under the law to the same extent as do the regular commercial unions.

**Fees.**—The question of fees has ever been a hard one for the medical profession. The courts have ruled that no one is so good a judge as to the number of visits necessary to be made in a given case as the medical attendant, and he can so render an account. In several States fee bills have been enacted regulating the maximum amount to be charged for certain classes of work. As nearly every case—especially those wherein the amount of the bill rendered is claimed to be exorbitant—possesses certain complications, it is not hard for expert opinion to prove to the court or jury that the fee charged is not excessive. By far the most common question that arises in this connection is not the amount, but who shall pay the fee. A prominent Cincinnati surgeon recently sued a corporation for services rendered an employee and lost his case, the court ruling that the defence had proven that the individual who employed the doctor, although he was connected with their concern, had no authority to make contracts, and was simply acting as a messenger for the injured person, and that the patient must be looked to for liquidation of the account.

When answering calls where it is probable that the individual requiring the service will be unable to pay for the same, the physician should ask some one in authority to become responsible. It is not sufficient for a person in authority simply to ask the medical man to assume charge of a case, he must also agree to settle for the service rendered; otherwise liability can be denied and this defence will be sustained by the court. In nearly all sections of the United States this ruling has prevailed where medical men have been called to attend an injured passenger or employee by local agents, conductors, and other minor officials of railway companies. The same ruling applies in cases in which parents have requested attendance upon their children of legal age; the patient being considered liable while the parent is looked upon as a simple messenger without liability. In the case of the wife, legally absent from home, the husband is held to be responsible for medical attention rendered; if, on the other hand, she is not legally absent, she alone is considered responsible.

**Consent of Patient.**—In cases of injury, or in those in which it has been determined that an operation is necessary, it should always be the rule to obtain the consent of the patient to do whatever is necessary after administration of the anaesthetic. In case the patient is not in a condition to understand, or if the patient is a minor, then the consent of a responsible member of the family or guardian should be obtained. Occasionally one meets with cases in which the individual claims to prefer death to the loss of a limb, and if he still persists in this view after all the facts are set forth, his wish must be respected. It is needless to say that every avenue for a malpractice attack must be carefully guarded either by securing in advance reliable disinterested witnesses or by resigning the case if another practitioner can be found who is willing to assume charge.

Consent procured by misrepresentation has no standing in law.

Mr. Benjamin Vaughan Abbott, in his excellent article

on this subject in the first edition of the HANDBOOK, cites a case of much interest, as follows: "A lady became suspicious that a housemaid in her employ had become pregnant, taxed her with it, and gave her notice of dismissal. She denied it. The lady sent for her family physician and ordered the girl to go to her room and submit to an examination. The girl protested, but went to the room followed by the physician. She objected to each of the doctor's requirements, as to removing her clothing, etc. However, she obeyed, remonstrating all the while, and the usual examination was made, resulting in the doctor being satisfied that the charge was groundless. But the mistress dismissed her, notwithstanding. A lawsuit was brought on behalf of the girl against the physician, for damages for assault. The case was several times discussed in court, with the final result in the physician's favor. The courts considered that although the girl remonstrated, yet as she went to her room, undressed, and lay down to be examined, all without being forced, the examination did not take place in a legal sense without her consent. It was a case of reluctant obedience to arbitrary, wrongful command, as distinguished from a forcible compulsion which she was powerless to resist."

**Emergencies.**—While there is no definite law covering the rights of the profession at large in emergencies, the courts would no doubt sustain any action necessary for the well-being and safety of the public. Health officers are given a wide latitude in all matters of public hygiene and safety and should always be appealed to if possible.

**Relation of Physician and Patient.**—The relation of patient and physician is acknowledged by law to be most intimate. Any abuse of this confidence on the part of the physician would in all probability render him liable in a suit for damages. Abbott<sup>2</sup> reports a case from the Michigan courts in which a physician was assessed damages for allowing a non-medical man to be present and render slight assistance at an obstetrical case, notwithstanding the fact that the physician showed that circumstances required his being accompanied by the man in question, and that there was no other protection from the prevailing storm than the room in which the woman was confined.

In damage suits the ruling has been made that the attending physician may testify as to what the patient said regarding the manner in which the accident occurred, it being held that the law in its strict sense refers to those things necessary for the physician to know regarding family history, habits, etc., for the proper treatment of the case, and not to voluntary admissions made during the visit. This ruling would not hold in criminal cases if the patient should admit that a wound had been received while doing a dishonest act. Here the ruling has been made that this is imparted in confidence and must not be revealed under any circumstances. On the other hand, the law will not protect a third party, guilty of crime, but will allow the testimony of the attending physician to assist in conviction. To illustrate, we will consider the case of a young woman dying as a result of criminal abortion. Here all the facts were given the attending physician as a dying statement. This was admissible as evidence to aid in the conviction of those responsible for her condition. In the case of State vs. Pierson, the latter was charged with having caused the death of one Withey by the administration of arsenic. In this case the physician who attended Withey in his last illness was allowed to testify as to what he saw and heard. This was sustained by the Court of Appeals under the ruling that the law was to protect the patient and physician in legitimate communications, not to shield criminals.

**Wills.**—It is not often that the physician is concerned in the drawing of such documents, and it should be avoided if possible, especially if complicated details are to be arranged or the doctor is to be a beneficiary. In cases of emergency it may be necessary for the attending physician to draw up the will, in which case any simple, but clear, form will be sufficient. Have the instrument

signed and witnessed by three or more competent individuals and deliver the document into safe hands.

Mark A. Brown.

<sup>1</sup> Taylor's Medical Jurisprudence.  
<sup>2</sup> Abbott: REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Vol. V., page 673, first edition.

**PHYSICIANS: RELATIVE NUMBER AS COMPARED WITH EXISTING POPULATIONS.**—The relative number of physicians in any country or population depends upon many circumstances and conditions, such as the laws governing the practice of medicine, the progress of medical education, the prevalence of empiricism, and many other social conditions.

In some countries the number may be ascertained from the figures of the census; in others, as in Germany, from careful enumerations of the medical profession made by the Government.

In the United States at the present time certain medical directories, issued at frequent intervals, contain this information, with an approximate degree of accuracy.

The following tables present the numbers of physicians per 10,000 of the population in each of the United States in the two years 1898 and 1902:

RATIO OF PHYSICIANS TO THE POPULATION IN THE UNITED STATES IN 1898 AND IN 1902 IN GROUPS.

States and Territories.	Ratio of physicians to the population, 1898.	States and Territories.	Ratio of physicians to the population, 1902.
California.....	23.8	California.....	26.1
Iowa.....	23.7	Colorado.....	25.4
Indiana.....	21.4	Vermont.....	21.5
Vermont.....	20.8	Indian Territory.....	20.7
Ohio.....	20.3	Oklahoma.....	20.6
Illinois.....	19.3	Missouri.....	20.3
Arizona.....	19.1	Ohio.....	20.3
Colorado.....	19.0	Arkansas.....	19.7
Missouri.....	18.7	Indiana.....	19.7
Tennessee.....	18.6	Maine.....	18.8
Massachusetts.....	18.5	Iowa.....	18.4
New Hampshire.....	18.1	Kansas.....	18.4
Maryland.....	17.9	Illinois.....	18.3
New York.....	17.7	Tennessee.....	18.2
Texas.....	17.5	Maryland.....	18.1
Arkansas.....	17.2	New Hampshire.....	17.8
Maine.....	16.5	Michigan.....	17.6
Nevada.....	16.3	Massachusetts.....	17.2
Michigan.....	16.0	Texas.....	17.2
UNITED STATES.....	15.4	New York.....	16.9
Connecticut.....	15.2	Kentucky.....	16.3
Rhode Island.....	15.2	Nevada.....	16.3
Oregon.....	14.9	UNITED STATES.....	15.9
West Virginia.....	14.9	Pennsylvania.....	15.4
Pennsylvania.....	14.9	Oregon.....	15.3
Oklahoma.....	14.4	Rhode Island.....	15.2
Florida.....	14.4	West Virginia.....	15.1
Delaware.....	14.2	Connecticut.....	15.0
Montana.....	14.0	Washington.....	14.9
Idaho.....	13.8	Delaware.....	14.7
Kansas.....	13.6	Arizona.....	14.5
Virginia.....	12.3	Nebraska.....	14.3
Georgia.....	12.3	Georgia.....	14.2
New Jersey.....	12.1	Idaho.....	13.4
Alabama.....	11.9	Montana.....	13.2
Washington.....	11.3	Florida.....	13.1
Louisiana.....	11.0	Wyoming.....	13.0
Mississippi.....	10.9	Alabama.....	12.2
Utah.....	10.2	New Jersey.....	12.1
Minnesota.....	9.6	South Dakota.....	12.1
Wyoming.....	9.4	Virginia.....	12.0
Nebraska.....	9.2	Wisconsin.....	11.5
South Carolina.....	8.7	Utah.....	10.7
North Carolina.....	8.5	Alaska.....	10.7
North Dakota.....	7.8	Minnesota.....	10.6
South Dakota.....	7.7	Louisiana.....	10.6
New Mexico.....	7.2	Mississippi.....	10.1
		North Dakota.....	9.3
		New Mexico.....	8.5
		North Carolina.....	8.2
		South Carolina.....	8.1

Allowance has been made in the foregoing tables for increase of population.

Examination of the foregoing table shows that the ratio of physicians in the United States has increased from 15.4 per 10,000 inhabitants in 1898 to 15.9 in 1902.

The ratio had increased in each of 29 States and Territories, and had decreased in 19. Alaska and the Indian Territory are included in the second list, but not in the first.

The States in which either the increase or decrease appears to have been excessive are Iowa and Arizona, with decrease of 22 and 24 per cent, respectively, and Kansas, Wyoming, Oklahoma, Nebraska, and South Dakota with increase of 35, 38, 43, 55, and 57 per cent, respectively.

The map or chart shown herewith was constructed for the year 1898 and presents the ratio of physicians to the population by means of different shadings, black indicating the highest ratio.

The information obtained from these figures must be deemed to be only approximately accurate, since the two essential factors, namely, the directory list of physicians and the census enumeration of the population, with the necessary estimates for intercensal years, cannot be regarded as strictly correct in a rapidly growing country like the United States, subject to the constant change which attends the migration of population, not only from foreign countries to the United States, but also from one State to another.

In general, however, the figures for the larger States, and for the New England, Middle, and Southern States, embraced in all the groups except the first, may be considered to be fairly trustworthy.

and in Porto Rico and the Philippines less than 1 per 10,000.

The relative number of physicians in other countries is generally less than it is in the United States. Prinzinger\* published the following figures in 1901 for the principal European countries:

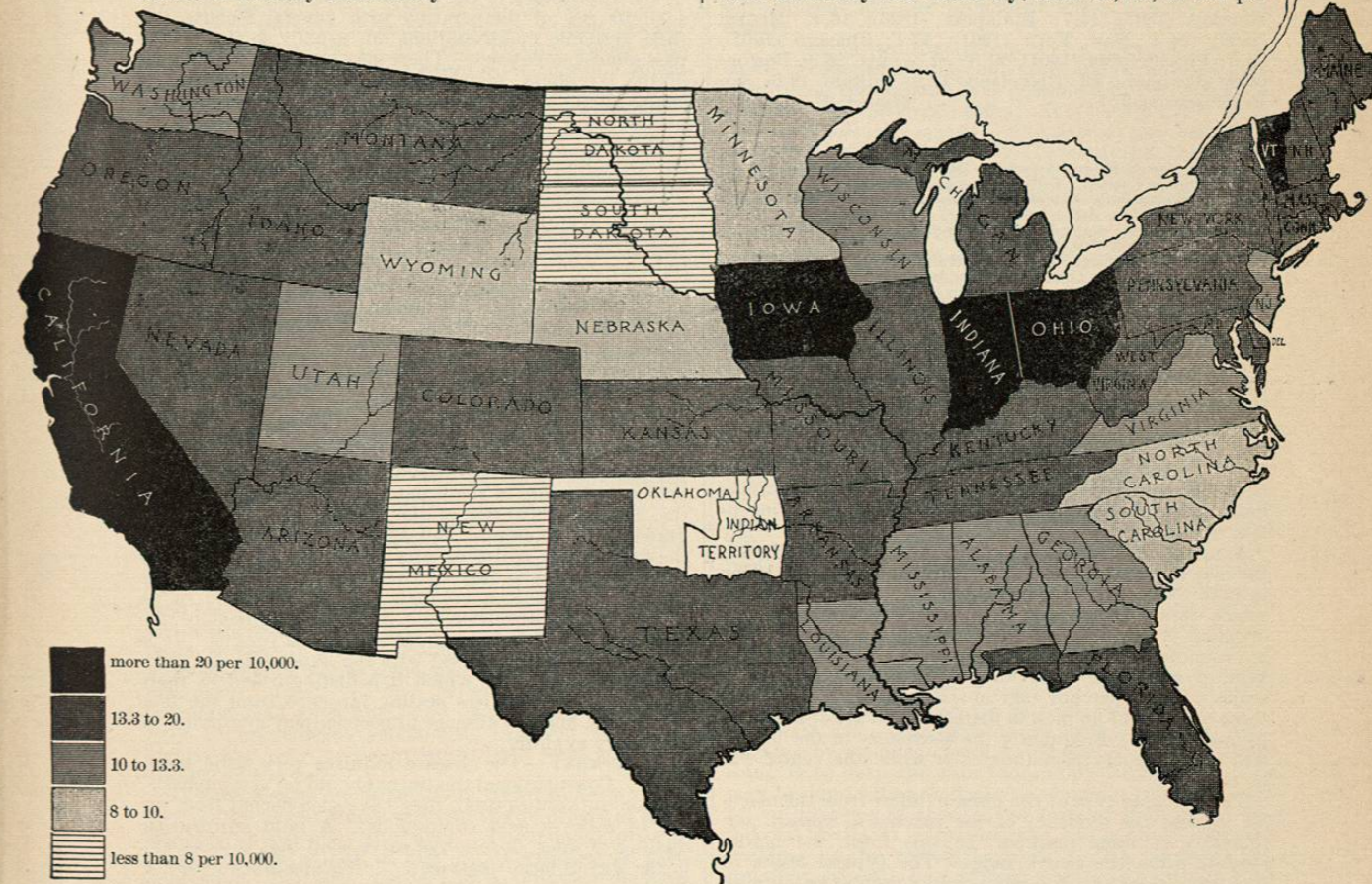
Number of physicians and surgeons to each 10,000 inhabitants: In Germany, 5.1; in Austria, 4.1; in Hungary, 2.8; in Italy, 6.3; in Switzerland, 6.1; in France, 3.9; in Spain, 7.1; in Belgium, 5.2; in England, 6.1; in Scotland, 7.7; in Ireland, 5.6; in Denmark, 6.4; in Norway, 5.3; in Sweden, 2.7; in Russia (European), 2.7.

The number of homeopathic physicians in the principal states of the German Empire were as follows:

In Württemberg 30 or 3.7 per cent. of the whole number of physicians.  
In Russia 136 or 0.9 of one per cent. of the whole number.  
In Baden 8 or 0.9 of one per cent. of the whole number.  
In Saxony 15 or 0.8 of one per cent. of the whole number.  
In Bavaria 16 or 0.6 of one per cent. of the whole number.

At the last enumeration of physicians in the German Empire, the whole number of homeopathic physicians in the empire was stated to be 240, or less than 1 per cent. of the whole number of practitioners, which was 27,374.

The number of physicians in Germany has increased, both absolutely and relatively, from 13,728, or 3.2 per



Number of Inhabitants to Each Registered Physician. FIG. 5162.—Ratio of Physicians to the Population in the United States, per 10,000 Inhabitants in 1898.

The figures for the Philippine Islands, Hawaii, and Porto Rico are not given in the table, since they can hardly be regarded as valuable for purposes of comparison. The ratio in Hawaii is stated to be 5 per 10,000,

10,000 inhabitants in 1876, to 27,374, or 5.1 per 10,000, in 1900.†

\* Zeitschr. f. Socialwissensch., 1901, Bd. 4, Hft. 7.  
† Rheinischer Kurier, 1901, No. 415.

In the whole of Prussia there were registered in 1900 16,100 physicians, 956 dentists, and 3,118 apothecaries.\*

Prinzling also states that quackery has gained so strong a foothold in Germany as to demand energetic measures for its suppression. Weavers, barbers, shoemakers, and persons of other ordinary occupations are often found practising as physicians.

The relative number of quacks in 1898 in the principal German states were as follows: In Saxony, 16.4 per 10,000; in Württemberg, 5.5; in Prussia, 5.3; in Bavaria, 4.5; in Baden, 2.9; in Hesse, 2.9; in Alsace-Lorraine, 1.3.

The veterinary surgeons in Germany at the last enumeration were 3,813 in number, and when compared with the class of patients whose ills they are called upon to relieve, were found to be in the proportion of 1 to every 1,240 horses and every 5,677 head of cattle.

The proportion of physicians in the cities is, as might be expected, much greater than that of the rural districts. For example in Germany in 1876, in the cities and towns having more than 5,000 inhabitants in each, the ratio of physicians was 7.5 to each 10,000 inhabitants, and in the rural districts only 1.8 per 10,000. These figures had increased respectively to 8.4 and 2.4 in 1898.†

The ratios of physicians in the great cities of Europe and the United States were as follows during the years named: London (1895), 12.8 per 10,000 population; Paris (1896), 9.7; Berlin (1900) 14.1; Vienna (1896), 13.0; Brussels (1897), 14.7; Budapest (1896), 16.4; Madrid (1899), 24.4; New York (1901), 17.1; Chicago (1901), 20.5; Philadelphia (1901), 21.8; St. Louis, 26.3; Boston, 26.8; Baltimore, 23; Cleveland, 21.9; Buffalo, 19.6; San Francisco, 31.5.

Samuel W. Abbott.

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**PITYRIASIS ROSEA.**—Pityriasis rosea is a disease of the skin characterized by the development of symmetrically distributed patches, roundish or circinate in outline, slightly scaly and of a faint red color. It is one of the rarer dermatoses. The disease has been described under several names. Pityriasis rosea, the name given it by Gibert, is the one nearly universally used now. It was described by Hebra under the name herpes tonsurans maculosus, and by Bazin under the title pityriasis maculata et circinata.

**SYMPTOMATOLOGY.**—The eruption occurs in two forms, the macular and the circinate. Probably the first lesion in both forms is a very small pinkish macule or papule which rapidly spreads to form the characteristic macule or patch of the disease. In the macular type the lesions are roundish patches, gradually fading into the healthy skin, of a pinkish color and covered with fine branny scales. These patches vary in size from one-sixteenth to three-quarters of an inch in diameter, and are of a reddish to fawn color. Frequently the periphery of the lesions will show the erythematous color while the centre will be fading.

The circinate type of the disease differs from the macular in that the tendency of the patches to spread peripherally is more marked. In this form the border spreads while the centre fades. The typical lesion of this form, therefore, is a more or less circular patch with a pinkish border and a fawn-colored scaly centre. Adjacent patches of this sort may coalesce and thus form peculiar gyrate figures. These patches do not usually become larger than an inch in diameter. By the time they reach that size the reddish border breaks up and

\* R. Wehmer: Medicinal-Kalender, Berlin, 1901.

† Vierteljahrsschrift f. off. Gesundheitspflege, 1902, vol. xxxiii., Suppl., p. 402.

fades out, leaving the characteristic fawn-colored stains of the disease. The lesions are apt to occur in successive crops, so that it is possible to see at one time the minute papules of the beginning of the disease, along with the patches and circinate figures of a later stage of the process. At times the eruption remains papular for the most part throughout its entire course, only a few patches or circinate figures developing.

Brocq called attention to the fact that a single primary patch, usually of large size and situated upon the abdomen, preceded by ten days or two weeks the general eruption, and this observation has been confirmed by other dermatologists.

The extent of the eruption varies very greatly. In some cases it is confined to one or two regions, but most frequently it is widely distributed. It occurs by preference on the front and sides of the abdomen, over the chest and on the buttocks, and on the sides of the neck. It may be universal, but it rarely develops on the face or below the elbows and knees. There is also considerable variation in different cases in the color of the lesions, which at times show an inflammatory red but more frequently a pinkish or fawn color. The eruption usually disappears in from two or three weeks to two or three months, but cases not infrequently last longer, even for four or six months.

The appearance of the eruption is usually preceded by a slight rise of temperature with general malaise, but these systemic manifestations are usually so slight as to pass almost unnoticed. There may be some enlargement of the lymphatic glands. This may be confined to the submaxillary and post-cervical glands. At times also the axillary and inguinal glands show slight painless enlargement. There is slight itching, particularly at night, or when the patient gets overheated, but it is not of severe character and causes little or no annoyance.

**ETIOLOGY.**—The etiology of the disease is unknown. Like the exanthemata and other toxic eruptions it occurs most frequently in children. It was thought by Hebra to be a mycotic affection, and this view still has its advocates. Its symmetrical distribution, the accompanying slight febrile disturbance, and the character of the eruption seem to indicate that it is closely allied to erythema multiforme.

**HISTOPATHOLOGY.**—Microscopically the changes found are those of a slight inflammatory process in the skin.

**DIAGNOSIS.**—The exceedingly trivial character of the systemic disturbances and the duration of the eruption serve to distinguish it from the exanthemata. From psoriasis and widely distributed forms of seborrhœic eczema occurring in small patches, it is distinguished by the lack of infiltration of the patches, the much lower grade of inflammation, and the character of the scales, the fine branny scales of pityriasis rosea presenting no similarity to the coarser scales of psoriasis and seborrhœic eczema. From tinea circinata it is distinguished by its much wider distribution, the rapid development of the lesions, and the absence of the ringworm fungus. It is most likely to be confused with the squamous and circinate syphilides, from which it is distinguished by more rapid development, less scaling, absence from the face and hands, and the absence of concomitant symptoms of secondary syphilis.

**TREATMENT.**—The disease requires very little treatment. Constitutional treatment should be symptomatic. Certain authorities think they have seen benefit from the use of salicylic-acid compounds. A mild antipruritic dusting powder, or lotion or salve is all that is necessary in the way of local treatment. William Allen Pusey.

**PITYRIASIS RUBRA.**—Pityriasis rubra is a dermatitis, usually subacute or chronic in intensity, in all but the most exceptional cases universal, and characterized by abundant dry desquamation. Other names by which the condition is known are dermatitis exfoliativa (Wilson), pityriasis rubra aigu (Devergie), erythrodermie exfoliante (Besnier). It is a rare disease.

**SYMPTOMATOLOGY.**—The disease may begin primarily

as pityriasis rubra, or it may develop upon other inflammatory dermatoses. When occurring primarily it may begin in either of two ways. In some cases it begins as a diffuse hyperemia, which increases until the skin becomes a bright red, and with the increase in redness there is the development of the characteristic desquamation. In other cases it begins as circumscribed red scaly patches. These spread peripherally and new patches form at the same time, until the entire surface becomes involved in the process. In the early stages of the disease the skin is of a bright, hyperæmic red color, which fades on pressure, and the induration is very slight. As the process becomes older the redness becomes of a deeper hue, and in some cases has presented a markedly venous character. There is also at times, even when arsenic has not been used, the development of marked pigmentation in the skin. The true color of the skin is more or less concealed by the abundant grayish scales which cover it. The abundance of this desquamation is one of the most salient characteristics of pityriasis rubra. The scales are dry and grayish in color; at times they are fine, but usually, except on the face, they occur as thin papery flakes. On the palms and soles the horny epidermis exfoliates in large flakes, which may at times amount to masks of the parts. The scales are easily detached and quickly reform. A quart or more of scales may be produced in twenty-four hours, so that they can be collected by the handful from the patient's bed. There is usually very slight induration of the skin, although after the disease has persisted for a long time the skin may become considerably indurated and stiffened as a result of the chronic inflammatory process. Rarely is there any free exudate. Except for perspiration the skin is dry, although a certain amount of weeping and even the formation of bullæ have been described. When we come, however, to cases of this character, accompanied by bullæ and free exudation, the border-line between this disease and pemphigus foliaceus becomes confusing.

There is more or less involvement of the appendages of the skin. The growth of the hair is interfered with and much falling of the hair takes place. At times the accumulation of scales underneath the nails causes them to be raised up and thrown off. Again the nails may become thin and softened and stunted or lost entirely. In some cases the nails become thick and rough and striated. The secretion of sweat is usually much diminished, but there may be an increase on such parts as the axillæ and genito-crural fold. The tongue in most cases is bright red, undoubtedly due to the exfoliation of the epithelium, which is washed away in the saliva.

The subjective symptoms are relatively unimportant. In rare cases the itching is severe, but usually it is of trivial character or absent. The sensation is more apt to be one of tenderness, burning, and stiffness of the skin. The onset of the disease is usually accompanied by a temporary febrile disturbance, which may recur with each exacerbation of the process. Except for such slight disturbances there may be no positive illness, although there is usually an indefinite lowering of the general physical tone, which becomes more marked as the disease progresses. Later on, the patients become anæmic, cachectic, and emaciated, and thus become the ready prey to intercurrent affections. Insanity, and other mental and nervous disturbances have been noted in a number of the cases.

The acute cases are often accompanied by very violent constitutional symptoms, with all the evidences of grave septic or nutritional disturbance. The temperature may range as high as 105° or 106° F. There may be great depression, diarrhœa, rigors, and a typhoid condition, and death may occur in one or two weeks.

**ETIOLOGY.**—The cause of the disease is unknown. It is probable that several conditions, essentially different, present this complex of symptoms. It is rare in children and occurs most frequently after middle life. It is more frequently observed in men than in women. Crocker thinks there is a close relationship between acute rheumatism and gout and pityriasis rubra, eleven out of eight-

teen cases which he analyzed having shown this relationship. Jadassohn has pointed out the frequency of the association of tuberculosis in some form with pityriasis rubra. It is recognized that pityriasis rubra may supervene upon psoriasis, eczema, and other inflammatory affections. Brocq has seen a severe acute attack brought on by the vigorous application of chrysarobin, and Crocker has seen it follow vigorous inunctions with mercurial ointment and the external use of arsenic. Stelwagon has seen it develop on the extremities after the use of quinine by patients who had an idiosyncrasy as regards that drug. As an exciting cause, sudden chilling of the body has in some cases seemed to have a direct relationship to the development of the disease, and in other cases it has been excited by alcoholic debauches.

**PATHOLOGY.**—Microscopically the disease shows nothing to differentiate it from other simple inflammatory processes in the skin. There are the usual changes of a superficial dermatitis, and when the disease has persisted for a long time there are the connective-tissue changes characteristic of chronic inflammation of the skin. Several efforts have been made to discover central or peripheral nerve changes in connection with the disease, but without definite findings.

**DIAGNOSIS.**—The involvement of the entire skin, which occurs in all but the rarest cases, the profuse dry desquamation, the slight induration, together with the rapid development, are the prominent characteristics of the disease.

If it is admitted that psoriasis or a squamous eczema could become absolutely universal and of uniform type of eruption throughout, it is possible that they might be confused with pityriasis rubra. It is hardly likely, however, that this ever occurs. A universal psoriasis could be differentiated by the gradual development, the greater induration of the skin, and the thick, silvery white, closely adherent scales of that disease, and the hemorrhagic puncta following the forcible removal of the scales. It is hardly conceivable that an eczema could show a uniform type of eruption over the entire body, such as is seen in pityriasis rubra. Additional points of distinction from eczema would be the yellowish crusts of eczema, the presence of more or less free exudate, less rapid onset, greater induration of skin, more itching, and less evidence of constitutional disturbance.

The two conditions with which pityriasis rubra is likely to be confused are pemphigus foliaceus and pityriasis rubra pilaris. In pemphigus foliaceus there is the occurrence of flaccid bullæ, which, if not seen themselves, at least leave traces of their existence in undermined borders of epidermis and in the excretion of serum and pus, which dries in crusts upon the surface and gives rise to the sickening characteristic odor of pemphigus foliaceus. Pityriasis rubra pilaris does not develop so rapidly as pityriasis rubra, is not so likely to be universal, is accompanied by much greater induration of the skin, and shows the characteristic papules, which are entirely absent in pityriasis rubra. These rough, dry, horny papules, capping the hair follicles and giving the skin the nutmeg-grater appearance, that are seen on the back of the fingers and hands in pityriasis rubra pilaris, are entirely absent in pityriasis rubra.

**TREATMENT.**—The patients are made much more comfortable by emollient local applications. The essential thing is to keep the skin thoroughly lubricated. This may be done with vaseline, rose ointment, olive oil, lanolin, or mixtures of these in the form of liniments. The internal treatment is symptomatic, and is directed toward building up the patient's general health. Arsenic and quinine have both been advised empirically without very strong evidence of their having any specific effect. The patients should be carefully protected against chilling, and they do best when they stay in bed. There is little evidence that treatment has any effect except in relieving symptoms. William Allen Pusey.

**PITYRIASIS RUBRA PILARIS.** See *Lichen Ruber Acuminatus*.