

*The Truth About Pain Killers*

BY JEROME W. EPHRAIM

IT is easy to stop pain. There are many drugs that will perform this pleasant service, and modern synthetic chemistry is adding new ones every year. Accordingly, if you are addicted to self-medication, all you have to do is go to the nearest drugstore for relief from almost any form of discomfort. It is agreed, however, that such a procedure is often highly objectionable. The reason commonly cited is that the layman does not possess sufficient knowledge to select the proper drug. But mere lack of knowledge is not the most fundamental objection. The chief divergence between self-medication and scientific treatment lies in a radical difference of emphasis. The layman with a pain is interested almost exclusively in removing symptoms. The physician, on the other hand, is interested in finding and removing causes. If he employs pain killers, he uses them as palliatives only; he knows that in a majority of cases they do not cure, but merely give temporary relief.

This attitude—the scientific attitude—is comparatively modern. In earlier days physicians themselves treated symptoms rather than causes, instead of treating diseases as general disorders with various manifestations, they treated each symptom separately. Thus if a patient suffered with dull headache, aching of hips and loins, nausea, fits with cold, hot, and sweating stages, each symptom would be treated as a separate ailment and no consideration given to the underlying cause. Today each symptom is regarded as a clue upon which to base a diagnosis. The patient would be known to be suffering from malaria, and quinine, one of the few specifics in medicine, would be administered.

Pain, then, is usually a sign that something fundamental ought to be done. Fantus divides pain into four categories:

Pain due to local disease of an organ or tissue.

Muscle pains, as in over-strain or rheumatic affections.

Nerve pains: neuritis or neuralgia.

Mental pain or psychalgia: pain occurring without adequate discoverable causation.

Sometimes these occur in combination, but rational therapy consists in distinguishing them as far as possible and searching for causes, which may be infection, physical injury, fatigue, psychic maladjustment or other factors. Thus a headache may have its origin in sinus infection, catarrhal fever, intestinal or other visceral disorders, neuritis and neuralgia, neurasthenia, overwork, and various toxic conditions due to poison or disease. This by no means exhausts the list, but it illustrates the difficulty as well as the importance of correct diagnosis.

Admittedly our medical science is incomplete. Many pains (migraine for example), are of origin so obscure that no one knows exactly the cause. Here, treatment of symptoms is the only kind possible. Others urgently require relief at the same time that causal therapy is undertaken. Sleep, for example, is important; hence the administration of a drug to deaden pain and induce slumber is often indispensable, regardless of other treatment. The indiscriminate taking of sedative or analgesic drugs is of course an evil; on the other hand the exercise of Spartan courage and endurance at the expense of adequate rest may be an admirable demonstration of

character, but quite unintelligent and unwise.

Certain proprietary manufacturers, however, often exploit claims to the effect that their remedies (unlike others) are entirely safe. The usual intimation is of a marvelous new, secret discovery. The plain fact is that drugs chosen for such exploitation are commonly well-known drugs with familiar virtues and dangers. As for new discoveries, there is no possible way of knowing in advance whether they are even moderately safe. They have to be tested in actual practice before satisfactory judgment can be given. Therefore it is merely elementary common sense to avoid "newest discoveries."

It is convenient to divide all drugs used to relieve pain into three general classifications, the *sedatives*, which quiet the nerves; the *hypnotics*, which induce sleep; and the *analgesics* or pain killers. To be complete, other drugs can be classed as pain killers, but they are not of the type that the normal layman would use. *Narcotics*, such as opium or cocaine, relieve pain, and broadly speaking the definition of a narcotic might include the classes of drugs listed above. *Anesthetics*, such as ether and chloroform, produce a complete state of insensibility to pain and of course have their uses in surgery.

The best known sedatives are the bromides of potassium, sodium, etc. They are chiefly used in conditions of nervous irritability, but have the disadvantage that continued administration, besides being depressing, is likely to cause serious skin eruptions. The numerous headache and cold remedies containing the prefix "bromo" as part of their trade names are an indication of the high reputation which this drug once enjoyed; fortunately the amount of bromides contained in these remedies is very small. There is probably

no occasion for the average person to take drugs of the sedative class except under the direction of a physician. Rest, recreation, hygienic living and, in severer cases, psychotherapy are infinitely to be preferred.

Midway between the sedatives and true hypnotics is a small group exemplified by carbromal, which is interesting as an example of synthetic chemistry. As its chemical name — diethylbromacetylurea — implies, the molecules of this substance contain groups of atoms derived from alcohol, bromine, and urea, all of which possess sedative properties. The guiding purpose was to select those groups having an affinity for nerve tissues and arrange them into a new compound, much as an architect, with various materials at his disposal, and having a given need in view, might construct a new building. These synthetic compounds are not mere mixtures, but are definite entities with definite, though often highly complex, chemical formulas. Technically, carbromal is a ureide, and it is interesting to note that barbitol compounds, which are perhaps the most widely used of all hypnotics, are also ureides. Urea is a by-product of life processes, but is now made synthetically.

Chloral hydrate was one of the earliest synthetic hypnotics, and was eagerly welcomed as a substitute for opiates, as a sedative and sleep-inducing drug. Yet it proved to have dangers of its own, for it depresses the heart and respiratory system, and may be fatal in large doses. When administered with alcohol it is especially dangerous; the knockout drops of the Gay Nineties were chloral hydrate. It now has been largely superseded by newer drugs, chiefly the barbitol compounds.

Barbital and barbitol compounds are widely sold under trade names. Many people have acquired the habit of using such

drugs, perhaps initially as the result of doctors' prescriptions. Under a physician's direction they are relatively safe; they are, however, attendant with danger and their indiscriminate use is unwise. Other hypnotics such as paraldehyde are occasionally used, but the soundest advice is that sleeping potions should be taken only as a last resort. If they are necessary they should be fitted to the patient, and perhaps varied from time to time. Only the physician is competent to cope with cases of prolonged insomnia. Frequently, however, a certain amount of wakefulness is preferable to the after-effects of any drug. In any event the mildest measures should be tried first. These matters were fully discussed in my article "The Truth About Sleep" in the June AMERICAN MERCURY.

The most common pain killers for internal use are the coal tar analgesics. Aspirin (acetylsalicylic acid) is made by treating salicylic acid with concentrated acetic acid. Salicylic acid compounds, particularly sodium salicylate, have long been used in the treatment of rheumatic fever and similar affections. Aspirin was introduced to avoid the gastric symptoms frequently caused by the salicylates proper, the theory being that it would not liberate salicylic acid in the acid medium of the stomach, but only after reaching the alkaline medium of the intestines. Curiously enough, current advertising of some manufacturers stresses quickness of disintegration as a factor of distinguishing merit. This involves a double confusion. Any aspirin can be made to disintegrate rapidly by increasing the amount of starch normally used in the tablet as a binder; but disintegration is a different matter from solubility or the rate of absorption into the blood. (All true aspirin products have the same general characteristics, regardless of brand.) True aspirin is and should be

more or less insoluble. That is one of its chief merits, hence quick disintegration, if it has any effect, is probably a disadvantage rather than otherwise. Actually if you want a quickly soluble product, choose sodium salicylate—but it is much more likely to nauseate and irritate the stomach.

Aspirin is useful in minor aches and pains and in the symptomatic treatment of colds, but it does not cure. It is primarily a pain reliever, nothing more. Fortunately, it is relatively safe, although it will seriously affect persons who happen to be hypersensitive to it.

The search for other synthetic analgesics led to the discovery of another group, the pyrazol-paramidophenol compounds, of which acetanilid, acetphenedin, antipyrine and amidopyrine are in common use by physicians and by purveyors of popular headache remedies and similar nostrums. Of these drugs, acetanilid is best known. It is the principal ingredient of certain effervescent headache remedies sold at drug-store fountains, and the very fact that such enormous amounts are consumed without observable ill effects is an indication of relative safety. Years ago, however, the Food and Drug Administration issued a warning against acetanilid, and it undoubtedly should be used with caution.

Amidopyrine has had a curious history. It was long regarded as one of the safest of the analgesic drugs. It is now extensively advertised to women (under trade names) for "regular" pain. As in the case of aspirin and acetanilid, enormous quantities have been consumed. Recent investigations have incriminated the drug as the cause of a somewhat rare, mysterious and fatal malady variously known as neutropenia, agranulocytosis, etc. Probably the fact is that a certain small percentage of individuals have an idiosyncrasy for the drug, but the high mortality associated

with the disease in question suggests that self-administration should be avoided.

The action of analgesic drugs may be compared to the cutting of a telephone line. This effectually prevents the transmission of messages and may temporarily be conducive to the comfort and well-being of subscribers who do not want to be disturbed; in the same way the typical pain killer interrupts the transmission of sensory impulses or renders them less urgent, and consequently lessens or abolishes the sensation which we feel as pain. The analogy is somewhat crude, but illustrates the highly artificial character of this kind of relief. Pain serves the function of calling our attention to a condition requiring constructive action; assuming we have heeded the warning and have done all that can be done to remedy the cause, then we are perhaps justified in putting up a barrier against the mere iteration of the pain.

External applications for the relief of pain are chiefly irritants which locally produce reddening of the skin and are sometimes efficacious, not merely for superficial aches but for lessening discomfort in underlying organs or structures. The use of irritants, even to the point of blistering, is one of great antiquity; they were once supposed to draw out pain and disease. With the advance of medical knowledge such theories had to be abandoned and the practice of applying poultices and plasters has been to a large extent abandoned. Nevertheless, in some fashion, not well understood, irritant applications, whether drugs or hot fomentations, are sometimes capable of acting at a distance. It is known, for example, that "counter-irritation is most effective when applied at a definite place for each internal inflammation." Sollmann, however, sums up the matter by saying that the relief experienced

"is partly explained by homologous reflexes, but largely by the diversion of the attention of the patient from the disease pain to the usually more bearable sensations of the counter-irritant."

Claims for analgesic balms, liniments and ointments to the effect that they are deeply penetrating may be interpreted in the light of this statement. Such preparations are primarily counter-irritants. They are virtually harmless, although, as in the case of mustard plasters, care must be taken not to damage the skin.

Fantus quotes the dictum that it is "far easier to rub a disease into a limb than to rub it out of the mind." This somewhat cryptic utterance is intended to suggest that often the best treatment for any given pain is neglect or contempt, a kind of primitive psychotherapy. Psychogenic pains and troubles cover a wide range; sometimes they have a certain amount of physical basis, sometimes not. Every miracle worker depends largely on his powers of psychic suggestion. Nearly all of us, even the most matter-of-fact, have known headaches to disappear under the influence of emotional excitement. Mere diversion or recreation will sometimes be more efficacious than any drug.

*Literature*—Analyses of many "nerve remedies" will be found in the pamphlet on *Epilepsy Cures* issued by the American Medical Association (535 North Dearborn Street, Chicago). In fact, the reports and publications of the Bureau of Investigation of this association, and specific information which can be obtained by personal correspondence with this bureau, will be interesting to the layman. There are practically no treatises on pain suitable for the general reader. For the action of individual drugs, see the medical textbooks of Sollman, Cushby, Bastedo, Fantus, and others.

# THE THEATER

BY PERCY HAMMOND

THE Drama, after a summer-time of gestation, is now in the throes of accouchement, giving birth to its annual litter. A fruitful art, it has the knack of diligent procreation and, like the poor, it spawns profusely. According to Mr. Zolotov, the Broadway theater's official censusman, a hundred plays, shows, and operas are already announced, with many more expected. They range from Mr. Billy Rose's Barnum-drama, by Messrs. MacArthur and Hecht, *Jumbo*, to the *Trojan Women* and the *Agamemnon* of Euripides. In between are all the items in the catalogue of Polonius, and other variations suitable to our extending scheme of entertainment. Ere the robins come again, the Drama will have added as usual to our family of lessons and experiences, rendering us more efficient than ever to live capably, with life's puzzles solved for us by Shakespearè, Sidney Howard, Clifford Odets, Ivor Novello, Eugene O'Neill, Russel Crouse, and similar teachers from all the ages.

The more ardent and anxious drama-lovers look, of course, to the Theater Guild for their passion's encouragement, hoping to find in its essays a satisfactory stimulant. Seldom does the Guild fail to justify this confidence in one way or another. It is rich, it is reasonably progressive, it is prudent, literate, daring, and addicted to cautious adventure on the Stage's perilous paths. Its achievements from its lowly genesis to its present prestige and affluence entitle it to be called

the First of the organized theaters, national or otherwise. There is nothing in its class in Paris, London, Berlin, Rome, or Dublin, despite reports from eager American pilgrims to the shabby shrines of those capitals. Governed by a flexible directorate of aesthetic lawyers, bankers, architects, playwrights, troupers, and actors, it does the best that can be done to reconcile life to the Drama. Impatient pioneers disagree with this conservative impression and belittle the Guild as out-of-fashion in its Tory radicalism. Its product, they say, is as passé as its sedate subscribers, of whom it is said that they flush bashfully and pleasantly whenever the laureate Mr. O'Neill mentions the word incest.

The Guild this year proposes a program that will include Miss Fontanne as Katherine and Mr. Lunt as Petruchio in *The Taming of the Shrew*, done as an antic as well as a lark with a cast containing "acrobats, midgets, and persons dressed as horses." With that extravaganza off its mind it will recreate *Porgy*, a drama of the Southern Negro by Dubose and Dorothy Heyward, set to music and verse by the rhythmic Gershwins, George and Ira, who have been steeping themselves in the subject by prolonged sojourn in the Carolinas. The Guild has also in mind a dramatization of James M. Cain's front-page murder study, *The Postman Always Rings Twice*, and a modernized Greek tragedy by Robert Turney about Atreus, the parent of Agamemnon and Menelaus,