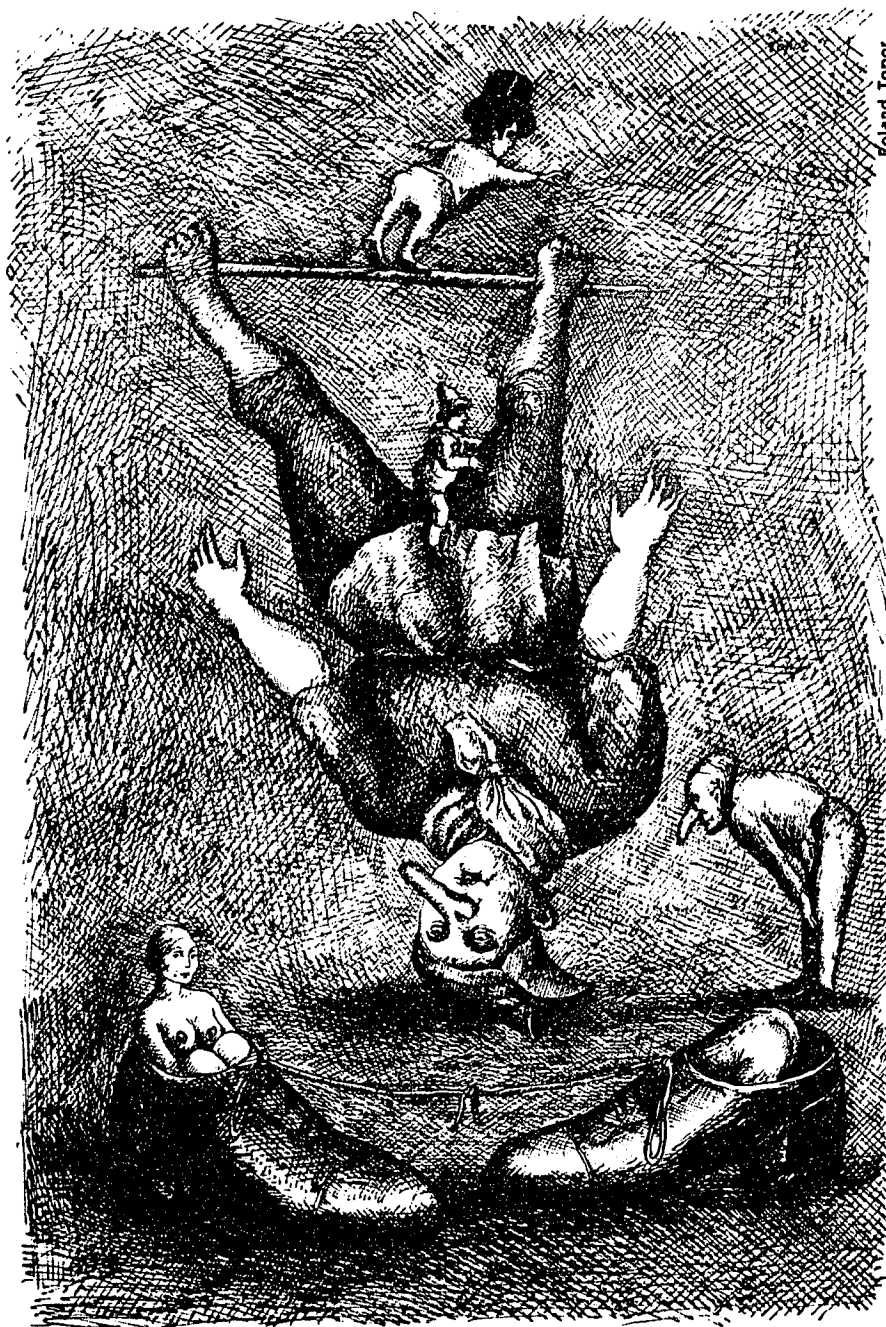


Hangover

By Maggie Scarf

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Is Scotch worse than vodka?
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Hangover

By Maggie Scarf

The hangover, when it happens to strike me, comes as a complete surprise. The misery of the morning after, like an insult from a close friend, is not something I really expect to have happen. There is injustice inherent in the situation. I am, for one thing, a light and circumspect drinker; and, for another, my liquor consumption is altruistically motivated. Like Jackie Gleason, who once said, "I drink to remove warts and pimples from the people I'm looking at," I drink to render those I don't like likable, and those I do care for even

more lovable than they naturally are. Why should such socially constructive behavior be punished, on occasion, by my awakening to the ravages of the four horsemen of the inner apocalypse—Head-ache, Heartburn, Thirst and Stomach Distress?

Why indeed? Early this month, with the season of wassail rapidly approaching, I decided to seek answers to this troubling and perennial riddle. My first question seemed simple enough: What causes hangovers, anyhow?

Unfortunately, no one seems to be certain. Among experts in the field of alcohol studies the subject appears to arouse a certain amount of controversy and disagreement. Some researchers link the Morning After syndrome to the individual's

physical and mental state just prior to his partaking of alcohol, as well as to the social circumstances in which he happens to be doing his imbibing. Others tend to emphasize the purely physiological reactions which the drug is known to bring about. Still other experts stress the possible "placebo effects"—i.e., some people who drink may expect to have a hangover afterwards, and therefore get one—while yet others believe the hangover to be in the nature of a mild withdrawal

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W.C. Fields suffered through some of the epic hangovers of the 20th century. On one memorable Morning After, he heard an Alka-Seltzer tablet fizzing in a glass and snarled, 'Can't anyone do something about that racket?'

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phenomenon. (This latter suggestion was dismissed with a shrug by one pharmacologist I spoke to: "You can get a hangover the first time you ever drink alcohol," he observed. "It's hard to believe that any kind of physical dependence and withdrawal can be induced that fast.")

I asked Dr. Henry B. Murphree, professor of psychiatry and pharmacology at the Rutgers Medical School, to define a hangover. "I would describe it," he answered carefully, "as a disagreeable feeling the morning after you've had something to drink the night before." Murphree hastened to add that he was being deliberately vague because a hangover can only be characterized in terms of a very loosely recognizable set of symptoms. "I suppose one can lump these together and call the whole thing 'a syndrome,'" he said with a shrug. "But in reality two people who describe themselves as having 'hangovers' can have quite different symptoms. And even if they have the same ones, the symptoms can still stem from different sources."

One individual, for instance, may awaken with dizziness and nausea (the nausea may be so severe as to cause vomiting). Another may have just a headache, or feel intensely thirsty, or experience heartburn. A third may arise with every one of these problems, or with none: This person may just be suffering from depression, with feelings of dullness and fatigue. In some cases the complaint may include diarrhea; in

others, the hangover may consist of a general sense of jitteriness, which is an indirect effect of the diuresis, or overly large outpourings of urine, that is often brought on by drinking.

Diuresis tends to occur during that period of liquor intake when the drinker's blood alcohol level is rising. The urge to eliminate water comes about because the drug affects a chemical substance produced in the pituitary gland, a substance called "antidiuretic hormone." As the name suggests, this hormone normally acts upon the kidney to inhibit the release, and promote the conservation of, water. What happens when a person imbibes alcohol is thus in the nature of a double negative: The drug suppresses release of the antidiuretic hormone, which in turn stops stopping the kidneys from letting go of water. "Booze makes the kidneys more prone to release urine," observes Murphree. "And they do."

This loss of water may, in turn, result in the excessive loss of magnesium. Ordinarily, mechanisms within the kidney act to conserve magnesium and other ions normally present in the body. However, along with the water loss which often results from the drinking of alcohol, there may be wastage of magnesium: "A person who is magnesium-depleted is going to get tremulous, irritable; he or she will have a lot of those edgy, jumpy feelings that people say they have when they are hung over... And the point is, you know, that you do tend to end up with a magnesium loss every time you drink." This did not mean, continued Murphree, that the

loss would affect every drinker—a person might have plenty of magnesium stored within his or her body, and therefore remain unaffected by elimination of magnesium ions usually conserved in the kidneys.

However, he added, the same symptoms—jumpiness, jitters, feelings of being spent—could still be present for totally different reasons. They could stem from the loss of REM ("rapid eye movement" or "dreaming") sleep. Alcohol is known to suppress normal REM sleep. "If," suggests Murphree, "the amount the individual has drunk has been small, then the alcohol can be metabolized during the night's sleep. However, since the REM-suppression has taken place during the first half of the night, the individual is going to get a sudden spate of dream activity during the latter part; he'll get that REM-rebound."

Thus, the carouser—who might have slept soddenly but well enough during the first half of the night—is likely to sleep restlessly, perhaps even horribly, toward morning. This unquiet slumber can in itself cause fatigue and grouchiness. If, on the other hand, a person has quaffed the cup so deeply that he remains REM-suppressed throughout the night, he is still likely to wake up with all of the standard, predictable symptoms of REM loss: irritability, anxiety and increased aggressiveness.

Chronic alcoholics who steadily ingest the drug do "adapt" to it: They eventually cease to suppress REM sleep, after an initial period of adjustment. But, whenever the alcohol is withdrawn (be it six weeks, six months or six years later), there is an attempt on the body's part to make up for the initial deficit. The resulting upshoot in dreaming activity serves to frighten many an alcoholic straight back to the bottle. There is currently some speculation that the hallucinations of delirium tremens—those well-known pink elephants—actually represent an intrusion of the long-suppressed "dream system" of sleep into the "wakefulness system" of conscious mental activity.

And what, I asked Murphree, is known about the cause of the Great Hangover Headache? Again, he replied, there may be quite different histories in different instances. In some cases the headache might come about as the result of vasodilation, or swelling of the

blood vessels in the brain. "This is the same phenomenon as that which occurs in migraine," said Murphee. "The vessels expand, and there is just so much space for them to expand in—after all, the skull is there, enclosing the tissues. And so the inside of the head throbs and hurts. And every time you move, it seems as if there is a big drum bonging somewhere inside.

"There is another kind of headache as well," he went on remorselessly, "the tension kind. You feel a tight band across the brow or a tight band at the back of the skull, or both. That kind of headache is often related to an anxiety a person might be having about something he or she had done the night before—especially if it were in circumstances where misbehavior might be threatening. For example, suppose you'd been at a company cocktail party, and your drinking had gotten out of hand, and you'd told your boss all of the things you'd been wanting to say for the past several months? You might find yourself waking up the next morning and thinking: 'God, what have I done!'; and that in itself could be the source of a hell of a tension headache."

"Does smoking while one is drinking tend to enhance the magnitude of a hangover?" I asked, noting that many people (including some experts I had already spoken to) believed that it did.

"As far as the headache aspect of the hangover is concerned," Murphee said, "the smoking might—in some cases—be helpful. Nicotine is a vasoconstrictor; it shrinks the blood vessels. And if your headache happened to be the kind related to the vasodilation which is caused by alcohol, then the smoking could conceivably be having an antidoting effect."

On the other hand, both alcohol and nicotine cause release of epinephrine, one of the "stress" hormones prominently involved in the emergency "fight or flight" reaction. Epinephrine, in turn, produces an increase in blood-sugar production—and this may eventually result in a depletion of sugar in the blood (hypoglycemia). "This condition," said Murphee, "can cause symptoms like shakes and tremors."

Therefore, he said, the answer to the whole question of whether smoking amplifies hangovers is actually both yes and no: "My own opinion is that you are probably better

off if you don't smoke—during drinking, or at any other time."

Our conversation turned, then, to nausea, stomach upset and heartburn—problems which all, it seems, can be traced to alcohol's irritant effect upon the mucous membrane lining of the stomach. To minimize any aftereffects which might stem from this source, therefore, Murphee suggests having food—preferably fatty proteins such as cheese or other milk products—inside the stomach before drinking. The food acts as a kind of blotter, soaking up the alcohol and reducing its impact on the stomach lining. "Another good thing to do is to be sure to sip your drink slowly. This gives the gastric tissues a chance to handle the alcohol in manageable doses. It will also minimize that 'jolt' you're likely to get if a lot of liquor is absorbed into the bloodstream and goes up to the brain very fast."

Development of a hangover may, however, noted Murphee, relate to none of the above-mentioned causes at all. "Becoming very drunk, and then feeling miserable the next day, may simply have to do with a person's expectations of what ought to happen. One finds that there are placebo effects arising from this kind of situation. For example, when I was in college I happened to be at a party where everyone was drinking Manhattans. One of the girls didn't drink; but she went around happily eating all the cherries from everyone else's Manhattan—and got roaring drunk. She even had a hangover the next morning. Now that wasn't pharmacology at work; she couldn't have had more than a couple of drops of the alcohol. That was placebo effect—the power of belief."

Indeed, some fascinating studies of placebos have documented the way in which "expectations" can alter or override normal physiological functioning. In one study a nauseous patient was given a dose of syrup of ipecac, which usually induces retching and vomiting. However, the person was told that it was a fine new medicine that would be sure to cure his symptoms without delay. And, sure enough, the patient's symptoms all had disappeared within a quarter of an hour. Not only did he feel better subjectively, but objective recordings of his gastric activity demonstrated a complete return to normal functioning.

The relevance of placebo studies to hangover phenomena has to do with the many legends and folk-beliefs about the big drinking spree and its sickly sequel that we, as a culture, share. Everyone knows that the "high" of alcohol will be followed by the "low" of a hangover—and believing this to be true may have a great deal to do with actually bringing it about. The Morning After may be, in a great many cases, the ultimate self-fulfilling prophecy.

"A woman drove me to drink," W. C. Fields once confessed, "and I never even wrote to thank her." Fields always traveled with three trunks — one containing clothes, two containing liquor. He had this advice for fellow travelers: "Always carry a flagon of whisky in case of snakebite and furthermore always carry a small snake." Despite a lifetime spent in celebration of the joys of the bottle, Fields did, however, suffer through some of the epic hangovers of the 20th century. On one occasion, the morning after some overindulgence in his favorite drink, the martini, his nerves were in such a tenuous condition that he objected to the fizzing noise an Alka-Seltzer made as it dissolved in a glass of water. "Can't anyone," he snarled, "do something about that racket?"

What is it that makes a hangover more severe, or less so? Is it the kind of liquor one drinks, the amount one consumes—or what? The search for some answers brought me to Rockville, Md., the site of the National Institute of Alcohol Abuse and Alcoholism Prevention. There I spoke to psychiatrist Morris E. Chafetz, director of the organization, and a person so eminent in the field of alcohol studies that I had heard him referred to as "The King of Alcohol."

"The particular type of liquor you choose to drink won't have a determining effect on whether or not you develop a hangover afterwards," Chafetz told me. "But a highly congeneric drink will probably add something to the intensity of those symptoms, should they develop." The congeners in alcohol are small molecules—actually chemical agents other than ethyl alcohol—which are produced during the processes of fermentation, distillation and aging of liquors and wines. These "by-products," more complex alcohols, acids and oils for the most part, come primarily from the barrels in which alcohol is

aged: "You tend to find them in your better whiskies—good bourbon, for example—because aging is one of the marks of fine whisky," he explained. "And, the longer that whisky is in the wood, the more of the congeners it is going to take on. They give the alcohol flavor: They give it that smoothness of taste which we associate with good liquor. But the suggestion remains, nevertheless, that there are minuscule aftereffects from these congeners. They are toxic substances; if you had them in large doses, they would be absolutely deadly."

One kind of alcohol which is especially low in the congeners is vodka (particularly charcoal-filtered vodka); this liquor is simply a mixture of pure grain alcohol and distilled water. Whiskies that are stored, however, such as bourbon and Scotch, contain more of these other-than-ethyl-alcohol substances. Nevertheless, any liquor produced by the distilling process will contain less congeners than will those beverages produced by fermentation—which include all wines. "I am not saying," stressed Chafetz, "that the congeners are in any sense of the word *causative* in bringing about hangover. But they probably do heighten the misery."

The volume of liquor one drinks, like the particular type one chooses to drink, will have something to do with the quality and severity of the Morning After syndrome. Again, however, the *amount* one drinks is not seen as being directly correlated with whether or not a hangover does develop. "I've seen peo-

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ple who have reported all the signs and symptoms of hangover after having partaken of very small doses of alcohol. And then, on the other hand, I've seen people who can put away a great deal of liquor which is high in the congeners, and still wake up feeling perfectly fit and able the following morning," he said.

Neither "type" nor "amount" of alcohol consumed serves, in his view, to truly explain the gruesome Morning After problem: The real key to an understanding of the hangover lies in an understanding of the drug itself. Alcohol is an anesthetic. It is the pharmacological equivalent of drugs used in the operating room. Like ether, which is another central-nervous-system depressant, alcohol produces a second-stage excitement, or "high" (in the operating room, anesthesiologists use certain drugs to phase patients through the ether "high" very rapidly). "The reason we drink alcohol," pointed out the psychiatrist, "is, very frankly, in order to anesthetize certain parts of the brain. The parts where the liquor goes first are the 'newer,' phylogenetically speaking, areas of the cortex—those brain

areas concerned with new learning, control, judgment, the regulation of behavior. And these become anesthetized; it's a release phenomenon. Many of the inhibitory factors—all of those patterns of response, those controlling factors which make it possible for us to comport ourselves adequately within a civilization—are put out of commission. And so it takes the edge off things, somehow; it's a relaxant."

By anesthetizing certain portions of the brain, however, we cut ourselves off from those inner stimuli which generally control our behavior: We stop responding to those signals which might make a person say to himself: "Hey, I'm getting tired," or "Hey, I'm overdoing things." We overstrain muscles, make unrealistic demands upon both our physical and mental supplies of energy. The result is crushing fatigue and/or bodily dysfunctioning, which begin to make themselves felt the following morning, once the masking effects of the alcohol have worn off.

What goes under the rubric of "The Morning After" is, according to Chafetz, largely the result of simple overexertion on a physical, psychological or social level (or some combination of these factors). If, he explained, an individual is tired or strained—either mentally or physically—before he takes alcohol, the drug will offer him temporary anesthesia and analgesia: He will be able to stop responding to the true state of his inner affairs. This may mean that, should he be physically exhausted, he will be able to stretch himself imprudently beyond his resources; or, should he be emotionally distressed, he will be able to avoid his problem by "killing the pain"—until it appears the following morning, in the guise of a hangover.

"And even if a person feels in good mental and physical shape before he begins his drinking," said the psychiatrist, "the particular social circumstances in which he

partakes of the alcohol may have an enormous impact on the way the drug affects him. I'm not referring to circumstances which are necessarily psychological; they can even be physical. A lot of bodily tension (which you may not feel at the time, because you're anesthetizing those brain cells with alcohol) can result from the way you are forced to hold your body—I mean simply to *stand*—because you happen to be doing your drinking in a very crowded room."

"Then why is it," I asked, "that a person can go to a very small dinner party, drink very little, be somewhat bored, interact very little, and still wake up with a raging hangover the following morning?"

"I've just explained that to you," he replied. "I think that when you are bored, when you are at a place where you really can't stand being, you tend to hold yourself with a certain degree of tenseness. And, however much alcohol you happen to drink, it suppresses your own sense of that tension—for the time being. You do experience it later on, however, in the form of a hangover."

This "postponement model" of the hangover didn't quite, I suggested, explain why it was possible, on certain occasions, to drink a great deal, have a marvelous time at a splendid party, waken the next morning feeling completely on top of things—and then experience a massive slump in spirits and energy later on in the day. "It's the same fatigue phenomenon, simply hitting you belatedly," he shrugged. "We have all—at least everyone has, I hope—had those moments when things all seem to come together. It has to do with a special occasion, a face, a figure, a moment. Life seems as lovely as it is humanly possible for it to feel, and the use of the alcohol certainly enhances the experience. Every sensation is heightened: There's a special feeling of the whole struggle, you know, being past. And one might waken after such an evening with the sense that everything is wonderful and beautiful, that one is still somehow 'aloft'—but then, all of a sudden, find himself or herself simply and totally exhausted."

Once an individual has managed to achieve a hangover, is there any known "cure"?

"After the fact—no," said

Chafetz. "There are, of course, thousands of placebo measures — and these may help somewhat because they contain that most powerful of ingredients, belief. And a shot of sauerkraut juice or a voodoo ritual certainly can't hurt a person. However, realistically speaking, the best friend of hangover is really rest. And quiet . . . isolation . . . a dark room . . . patience. Some aspirins would also be useful; that is, if the individual's stomach can tolerate them."

But was rest alone the best thing he could suggest? "After the fact, yes," he said. "But before, there are preventative measures that can certainly be taken. For one thing, be sure to have food—protein — in your stomach before drinking. Don't drink water *before* alcohol; it will promote rapid absorption. Water is, however, a good mixer to have along with the alcohol; it's better than the fizzy carbonated beverages, which also hasten absorption (that's why champagne goes to your head so quickly). And then, relax or, if possible, nap before the party—and don't take that drink if you happen to be feeling physically exhausted, or perhaps distressed for some reason."

The latter suggestion was, I reflected, a wise one but thoroughly impracticable. I rolled my eyes heavenwards and then asked one last question: "What about a little of the old 'hair of the dog' as an antidote?"

"Well, again, you'd obtain some temporary relief because you would, of course, be anesthetizing those brain cells anew. And that might take care of some of the symptoms—for the moment. But it would be only for the moment, because the effects of that added dose would eventually become dissipated too. . . ." His voice trailed off, and Chafetz fell silent.

So did I, and began thinking about my New Year's resolutions. ■

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