and pedagogues. The last is already happening. The management of these cases calls for the closest observation and the most accurate study of the personality, but also of physical, metabolic and endocrine defects. It is, therefore, to trained neurologists conscious of their responsibilities and familiar with the best technical methods that the care, and I would add the prevention, of psychoneuroses belongs.

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THE PHYSICIAN AND PROHIBITION

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The question now before us is not whether prohibition of the use of intoxicating liquors as beverages is right or wrong—though most of us are convinced that it is one of the most beneficent acts ever passed by a legislature—but, it being the law of the land, how we can aid in its enforcement not merely passively, by obeying the rules and regulations formulated by the authorities, but actively as well by devising ways and means of making easier the establishment of the new order. As the medical and pharmaceutic uses of alcohol offer, at present, some of the most perplexing problems in the administration of prohibition, it behooves us to formulate principles for guidance in our use of alcoholic liquids, most especially to determine to what extent we can dispense with the use of wine, whisky and brandy: for although alcohol prescribed under any other name is just as intoxicating—when it is less pleasant, it is less liable to cause addiction, especially when safeguarded by the regulations of the prohibition law.

USE AS SOLVENT AND VEHICLE

The employment of alcohol as a solvent, vehicle and preservative would be much reduced, and, with this, the chances of the abuse of medicines as intoxicating liquors greatly diminished, if some of the principles here outlined were incorporated in practice.

The solid form should be preferred to liquid medication, not only for this but also for other reasons. Solid medicine is smaller in bulk, and hence more portable. This is the reason traveling men often request that their medicine be prescribed in capsules. Disguising is much more readily accomplished, especially by encapsulation. In view of the fact that, for instance, the horrible taste of the iron, quinin and strychnin combination can be completely disguised by prescribing it in the form of capsules, it is poor technic, to say the least, to inflict the elixir "I. Q. and S." on a patient's palate. Danger from incompatibilities, as, for example, from formation of a poisonous sediment, is also done away with by prescribing in solid form. Furthermore, dosage is more accurate, as variations in the size of teaspoonfuls is eliminated. The chief reason for administration in liquid form is the necessity of minimizing gastric irritation by such agents as soluble iodids, bromids, salicylates or chloral.

The popularity of proprietary medicines, it has well been said, is directly proportionate to the amount of alcohol they contain and the inoffensiveness of their other ingredients. A principle which, it seems, if incorporated in legal regulations regarding proprietary

medicines might save the authorities much difficulty in eliminating the use of these nostrums as intoxicating beverages is this: Proprietary medicines must be put up in solid dosage form, unless the dry residue is so highly irritant as to be injurious to the stomach when given in this manner. Thus, the generally specious claim of the necessity of alcohol as a solvent and "preservative" might be done away with, and the use of these tipples ended. It will then be found that, for many proprietary medicines, alcohol was indeed the essential preservative of popularity.

In case of extractive preparations, the coming pharmacopeial revision might do away with tinctures of harmless drugs. The fluidextract of such drugs, being much more concentrated and active, is less likely to be used as a beverage. With poisonous drugs, on the other hand, there is no danger of their tinctures being put to such use.

The entire class of spirits, with the exceptions of the aromatic spirit of ammonia, the spirit of nitrous ether and the spirit of nitroglycerin—all of which are sufficiently medicated—might be deleted from the pharmacopeia, if formulas were devised for flavoring emulsions to take the place of the flavoring spirits. In point of fact, spirit of peppermint or other volatile oil containing spirits, when employed as carminatives or as flavors, are always used in the form of an emulsion, that is, the spirit added to an aqueous medium. Then why not dispense these oils in the emulsified form, which would detract naught from their medical or flavoring value, and eliminate their spirits from the list of possible intoxicants? Spirit of ether, spirit of chloroform and spirit of camphor, being simple, easily prepared solutions, are as superfluous in the pharmacopeia as would be aqueous solutions of iodid or of bromid.

As aromatic elixir is useful for the administration of alcohol-soluble drugs, it might be retained in the pharmacopeia. Until medicated, it is properly classed as an intoxicating beverage and subject to the regulations governing the sale of these. The elixir of glycyrrhiza, being merely aromatic elixir with the addition of 12.5 per cent. of fluidextract of glycyrrhiza, ought to be deleted. The aqueous elixir of glycyrrhiza of the National Formulary, being a valuable vehicle of very low alcohol percentage (4.5 per cent.), might, with advantage, be introduced into the pharmacopeia in its stead. Many of the feebly medicated elixirs of the National Formulary might well be deleted, especially if an "equalalcoholic vehicle elixir" were introduced, that is, one whose alcohol percentage would be subject to adjustment by the pharmacist so as to make it equal to the strength of the menstruum used in the preparation of the tincture or fluidextract, for which the elixir is employed as a vehicle. The physician cannot possibly be asked to carry in his mind the strength of all the various menstrua; and, if the alcohol percentage is not correct, a turbid liquid is the result liable to dangerous sedimentation. The pharmacist, on the other hand, with the aid of a tabulation, could readily adjust the vehicle to the medication. This new "equalalcoholic vehicle elixir" might even take the place of the aromatic elixir, now official.

EXTERNAL USES

When alcohol is wanted as a disinfectant, the addition of 1 per cent. or more of iodine, phenol, cresol, or formaldehyd renders it, at one and the same time, more

efficient as a germicide and unfit for use as a beverage. Especially should the addition of iodine to alcohol increase its utility, when it is used for the production of hyperemia as well as for its disinfectant value under an occlusive dressing in the treatment of felons, boils and other subcutaneous inflammations. When, on the other hand, rubefaction is not desired, as in the treatment of infectious dermatoses, then the addition of boric acid to saturation (5 per cent.) cannot but enhance the antiseptic action. The same thing is true of its use in chronic otorrhea. In both conditions, the alcohol is to be used in as great a concentration as can be tolerated—from 25 to 95 per cent. When the astringent action of alcohol is chiefly aimed at, as when it is used for a backrub in a bed patient, a saturated solution of alum in diluted alcohol is preferable to plain alcohol. For antipyretic sponging of the fever patient, the use of alcohol is entirely unnecessary. Cool water will do as well and is much cheaper.

It is only when alcohol is to be used in the mouth as an astringent and possibly as a disinfectant that palatability must not be lost sight of. Even then the lotion may be made much more efficient as well as unsuitable as a tippie by synergistic additions, as for instance in the following prescription, which yields a mouth disinfectant, if such a thing is possible.

	Gm.	or	C.c.
R Phenyl salicylate	1.0		
Menthol	1.0		
Methyl salicylate	1.0		
Alcohol	75.0		
Water	to make	100.0	

Mix. Label: Teaspoonful to tablespoonful as mouth wash.

This may be used without dilution or diluted with water, according to the potency of the effect desired.

INTERNAL USES

When pure reflex stimulation of the heart and the blood vessels is aimed at, the aromatic spirit of ammonia is as efficient, though not as pleasant to take, as whisky or brandy. If narcotic effect is required, in addition, as in the treatment of shock, the admixture of ether (up to 30 per cent.) makes alcohol at least as efficient as when it is given in the form of whisky or brandy and probably more efficient. It is, however, chiefly because of its value in gastric and other colics, that such solution has earned the name of "anodyne" ("Hoffman's Anodyne"). The diaphoretic and diuretic value of alcohol is enhanced by the presence of nitrous ether in the spirit of nitrous ether, which therefore ought to be superior to whisky for "breaking up a cold."

When desired for its stomachic action, whisky or brandy might find in an aromatic fluidextract of gentian a less intoxicant succedaneum. When wanted for its food value in a fever patient, alcohol in pure form, properly diluted as in milk punch—a teaspoonful to a tablespoonful per cup of milk—may be prescribed, though, of course, whisky or brandy might be employed here, if desired. Prohibition has done nothing to interfere with the use of these; it has merely surrounded it with certain formalities to safeguard the patient against the danger of becoming an addict.

PHARMACOPŒIAL RECOGNITION

An attempt will be made, perhaps without any sinister motive whatever, to restore wine, whisky and brandy to the pharmacopœia. This would be a move in the wrong direction. The most that can be said for those liquors is that they are pleasant administration

forms for alcohol. However, their very pleasantness has endowed them with such seductiveness and destructiveness that they have become outlaws among us. To restore them to the pharmacopœia would be heralded by the liquor interests as an indication that alcoholic beverages are wholesome and important medicaments, indispensable in medical practice and that the medical profession is now acknowledging the mistake it made regarding them. Prohibition, as now constituted, would be distorted into the appearance of a medical monopoly. "Why should the ordinary man," people would be asked, "have to pay for a medical consultation every time he wants a little whisky to cure a common cold?" "If liquor is a good tonic for the sick, why should it not be a good energizer for the well?" Such and other considerations might start a political landslide into the wet abyss.

In point of fact, as has just been shown, whisky and brandy are entirely unnecessary in medical practice. Quite a number of hospitals of Chicago, such as the Presbyterian Hospital and the Cook County Hospital, as well as, of course, the Frances Willard Hospital, do not dispense any of these liquors; and yet their patients, so far as is known, are none the worse for it. As alcohol is the main active principle of the ardent spirits and of practically equivalent therapeutic activity, why burden the pharmacopœia with them? We might as well introduce pyroligneous acid, coal tar and crude petroleum, because it is claimed by some that these native mixtures have a therapeutic value superior to any one of their pure active principles. And, if we were to introduce whisky and brandy, why stop there? Why not also introduce into the pharmacopœia a dry white and red wine, port or sherry, gin and champagne, beer and stout, each of which has, under certain circumstances, special therapeutic virtues perhaps not possessed to the same extent by alcohol. The chief plea that can be made in favor of the reintroduction of liquors into the pharmacopœia is that, now that they are recognized as medicines, a standard for them is required. This standard may, however, just as well and much better be furnished by the authorities entrusted with the enforcement of the prohibition act.

CONCLUSIONS

The medical profession has every reason to welcome the advent of prohibition. It will protect the physician from the danger of causing inebriety in a case in which the patient might be benefited by the medicinal use of alcohol.

For most purposes for which alcohol is required in treatment, it may with advantage be medicated so as to render it unfit for use as a beverage.

The therapeutic employment of liquor, especially in the form of wine, whisky or brandy, ought to be minimized, so as to eliminate the possibility or even the suspicion of abuse. The authorities entrusted with the enforcement of the prohibition law ought, therefore, to have no difficulty in distinguishing between the *bona fide* and the *mala fide* prescriber of alcoholics.

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Good Health and Good Government.—Good health and good government are the two essentials of a great and permanent civilization. These conditions are reciprocal and complementary. Neither can exist without the other.—W. S. Rankin, *Tr. Assn. Life Ins. Presidents*, 1919.