In view of the wide difference of opinion on the subject, it would appear to be the part of wisdom to take all reasonable precautions against the possibility of danger from this source.

Preventible causes of crankcase dilution are to be found in the careless use of the choke on starting, and in the use of a fuel mixture which is too rich in gasoline. The remedies for these causes are obvious.

In addition to preventible causes, however, crankcase dilution is found in some cars to be due to imperfect vaporization in the manifold. This is particularly noticeable on starting and in cold weather. Changing the lubricating oil at reasonable intervals is the only remedy for this condition.

Crankcase dilution also occurs through the escape of the compressed fuel mixture from the cylinder-head to the crankcase, as a result of too much clearance between the piston and cylinder wall. While the use of a heavier lubricating oil may alleviate this condition, its cure must depend upon mechanical repairs. Needless to state this condition should not arise early in the life of a car.

But whatever the opinion as to the effect of crankcase dilution there can be only one opinion as to the damage resulting from corrosive adulteration of the lubricating oil, and the total loss through excessive depreciation of motor transport in this way alone is enormous.

The principle of lubrication is based on the necessity for maintaining a thin, frictionless lining or separator between moving parts. Corrosive agents enter the engine through the air in the fuel mixture, and, to a lesser extent, through the breather pipe, converting this protective film into a mixture not unlike that which is found on the surface of an oil-stone. Any person who has sharpened a chisel on that rather effective grinding tool will have a fair conception of what happens to pistons, piston-rings and cylinder walls when the oil has become loaded with foreign material.

For this reason, the length of the intervals between engine and chassis lubricant changes must depend not only upon the mileage covered but also upon the nature of the road over which the car has been driven, and, to some extent, upon climatic conditions. In districts where dust-free asphalt roads are the rule, a distance of one thousand miles between oil changes is not unreasonable, whereas operation over dry, dusty roads will produce a highly damaging condition in the oil after a few hundred miles.

Cars protected by oil filters or air-bath cleaners require oil changes less frequently than those which are not equipped in this respect, provided, of course, that these devices are, in turn, properly serviced, and that the inserts are not allowed to become so charged with dust as to be rendered useless.

Furthermore, it is imperative in changing oil that every effort be made to remove completely the dust and dirt accumulated by the old oil. It is an excellent practice, occasionally, to use a quart of clean oil to rinse out the lubricating system. The rinsing oil should, of course, be discarded immediately after use.

Provision for this cleansing operation is incorporated in the lubrication fixtures of the chassis, where an outlet for old grease is provided.