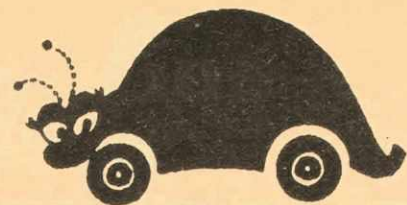




Wheelin' around



by Charlie Moore

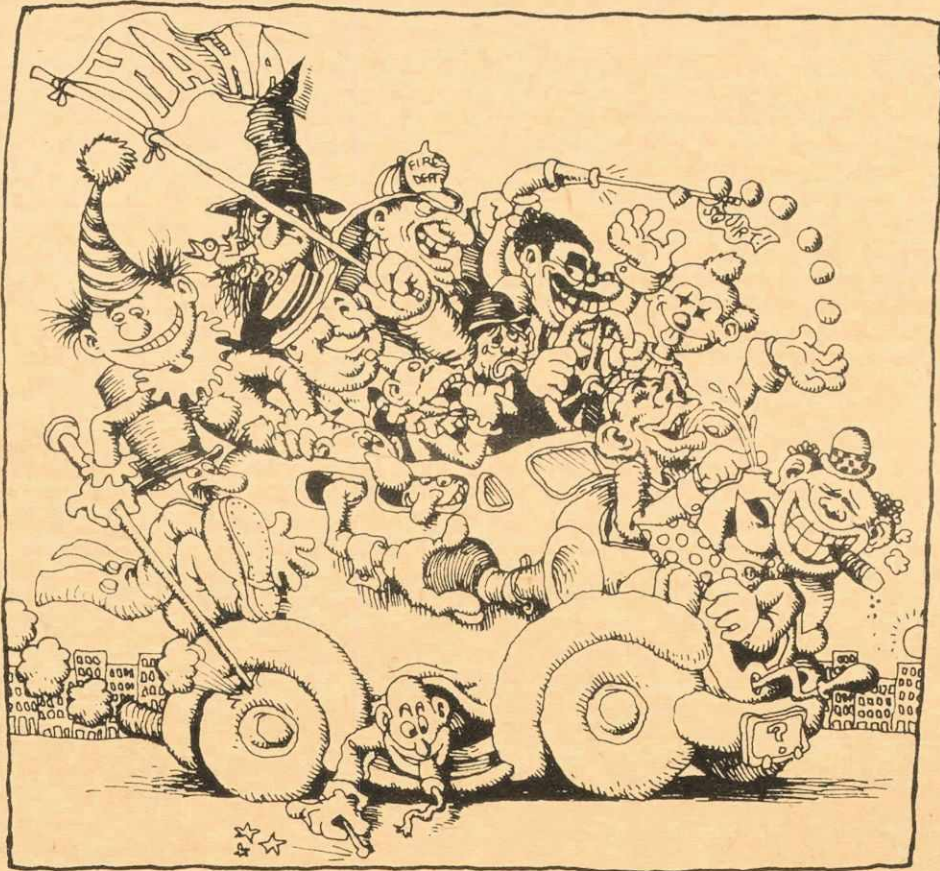
In last week's column I put forth the idea that although automobiles are admittedly polluters of the air, perhaps they are being blamed for a lot of air pollution that they are not contributing. Even so, if we could eliminate the 10 per cent or so of toxic pollutants that cars do produce via their internal combustion engines, it would be a very definite positive step forward in getting rid of air pollution. Also, world oil reserves are not going to hold out forever at the rate that we are presently using them up. With oil being so valuable a lubricant, it is very questionable that we should keep wantonly burning it up in such vast quantities for fuel.

If we are to replace the internal combustion engine, a viable alternative power source must be found. So far no other power source known to man has proved itself as cheap, dependable, convenient and compact as the good old I.C.E. However, there are a few alternative power plants which may be reaching a practical

stage of development in the foreseeable future.

1. **FUEL CELLS:** These use the principle of electrolysis in reverse to produce electricity by a chemical reaction. They are much more practical to power an electric car than conventional lead-acid batteries because they are more compact and do not need to be periodically recharged.

They are also very reliable. One demonstration unit built by Shell Oil ran continuously for 5,000 hours. This would be equivalent to 150,000 miles or more in a car. The snags with the fuel cell are cost and specific output in relation to size. Firstly, fuel cells only produce electricity in minute amounts unless helped along by an expensive catalyst such as platinum or gold. Secondly, nobody has yet produced a fuel cell unit compact enough to be practical in a car which puts out anywhere near enough power to comfortably propel an automobile. Prototypes have been built but they have been heavy and slow, with little or no luggage space. Fuel cells may



ultimately be the answer but they are probably years away as a practical contender.

2. **GAS TURBINES:** A company in Michigan, called Williams Research has recently built a running prototype gas turbine car. Another one is being built which will be sold to the city of New York for their evaluation. This car will cost Fun City 240,000 dollars.

The turbine is probably closer than anything else to being a practical alternative to the I. C. E. It's problems are noise, a bad power to weight ratio, the relatively short life of some components, and of course — cost. Advantages are low emissions, easy installation into the automobile as we know it today, and the fact that the gas turbine is quite an old concept and has been developed over a relatively long period. Anyone got 240,000 bucks?

3. **STEAM POWER:** William Lear of LEAR JET fame has recently spent over ten million dollars trying to develop a practical steam car. He has yet to produce a working prototype which is up to his standards. British Leyland Motor Corporation in Britain has been working on steam power with similar results. The problem with steam engines is that they are heavy and bulky, have long warmup periods, and the fact that water which is essential to produce the steam freezes in the winter. The advantages are ample power, relative cheapness, and low exhaust emissions. Although impractical at this time, steam power bears watching in the future. Maybe a steam turbine?

4. **ELECTRIC POWER:** Conventional electric cars are probably the least practical of any of the alternatives I have mentioned. Their advantages are mainly quietness, cheapness, reliability, and no emissions at all. Problems are a low power output in relation to size, short range between re-

chargings, and most important, where is the electricity going to come from to power all these electric cars? One of New York city's biggest pollution problems is emissions from their electric power generating plants. Thousands of electric cars would only compound this problem. If a way can somehow be found to produce electricity without polluting the atmosphere, we may someday see conventional electric cars as short range city transportation, but I doubt if they will ever be feasible for long distance travel.

So there you have it. Like it or not, the I. C. E. will probably be around for a few years. Eventually any solution to the problem of air pollution from cars is likely to be expensive. The question is how much can we afford?

Changing the subject slightly, you may have noticed that winter is coming on. By the time you read this the white stuff may already be on the ground. Most of you who own cars will have already installed your snow tires or if not, will be doing so soon. I would just like to give a word of warning about the proper fitment of winter tires.

If you have radial ply tires on the front of your car, DO NOT fit cross ply (conventional) tires to the rear wheels. This mixture of different types of tires on the same car can cause very dangerous handling difficulties. I have noticed a few cars with the aforementioned combination parked around campus. I would advise the owners to these vehicles to either get another set of cross-plys for the front or to get a set of radials for the back. Radials on the back with cross-plys on the front is permissible if you don't do much fast driving, but I don't recommend it in any case.

While on the subject of winter, some of you carowners may not

be too enthused about taking your pride and joy out in the salt this winter. The alternative is to lay the car up for the winter. There is very sound reasoning behind this idea. Winter is the hardest season of all on cars. Road salt rusts the bodywork, frequent cold starting causes strain on the battery and starter mechanism, long warmup periods cause engine wear, and bad driving conditions increase the chance of an accident.

If you plan to lay your car up for the winter, here are five tips to follow.

1. Remove the spark plugs and squirt a small amount (about 1/2 oz.) of light engine oil into each cylinder. Replace the plugs but don't put the plug wires back on. Now grind the engine over on the starter a few times to sort of slosh the oil around inside the bores. This will prevent the rings from sticking during the periods of inactivity. Remember to remove the plugs again and clean the oil off the electrodes before you try to re-start the engine.

2. Remove the battery and have it charged periodically throughout the winter. Once a month is fine. This precaution will prevent sulphation of the lead plates in the battery.

3. If you have any great love for your tires, jack the car up and put blocks under the axles so that each tire clears the ground by 1/2 inch or so.

4. Dirty oil contains acids and other contaminants which could harm your engine while it is not being used, so change the oil and do a grease job for good measure.

5. If the car is to be left outdoors, it might be a good idea to apply a heavy coat of wax. Do not buff the wax. Leave it dull so that it will be thicker and protect better. Use some car polish to remove it in the spring. 'Till next week, keep a' wheelin'.

Gesundheit!

by Uncle Walt

Continued drug use of any kind saps health, strength, and finances.

—Uncle Walt

Even if you don't use illegal drugs, you are in all likelihood a regular user of some of the legal varieties. These include caffeine products, tobacco, alcohol, and various prescription and non-prescription "medicines" such as pain killers, diet pills, tranquilizers, and sleeping pills.

The term "drug" as used here means any substance which directly affects the nervous system and which tends to be used regularly in sublethal doses.

Our society starts children off early on their road to daily drug use by giving them "soft" drinks, many of which contain the stimulant caffeine. Later they drink the "grown-up" beverages, tea and coffee, each of which contains about 1/10 grain of caffeine per cup.

Youngsters also imitate their elders' example by smoking cigarettes, and soon find that the nicotine and tar counteract their caffeine-induced nervousness. Thus a mutually reinforcing addiction begins. The practice is institutionalized by employers in the coffee-and-cigarette break.

Cigarette smoke is itself a combination of numerous chemicals from the burning paper and tobacco. To buy cigarettes, light them, and inhale the fumes is as stupid as breathing in the smoke from a backyard fire of paper and leaves — and as unhealthy. Tobacco use not only contributes to lung cancer, emphysema, heart disease, and digestive ailments, but also undermines general health and physical ability, as every athlete knows.

Alcohol use is also a serious public health problem which most "adults" consider socially acceptable. Alcohol strains the liver and kidneys and indirectly accounts for many automobile wrecks and other mishaps. Users often smoke tobacco while drinking.

Non-users of the legal drugs are continually being offered cigarettes, caffeine drinks, and alcoholic beverages by users. The air in public places is filled with tobacco smoke, and streets are rendered dangerous by inebriated drivers.

University students are just as heavy users as other people. Drugs are pushed, for example, on the main floor of the SUB by two prominent cigarette machines and several coffee and "soft" drinks machines. As with every other worthless product, however, you don't have to buy.

It would probably be easier to quit smoking if you also cut out tea, coffee, and cola at the same time. In addition, change your lifestyle by getting out of the middle-class (or upper-class or lower-class) rat race. Find activities more meaningful and enjoyable than chasing after money or grades and perhaps you won't need those expensive self-destructive drugs any more.