from yellow to red or deep brown; specific gravity is about 1. (4) A fraction which can be eluted by methyl-ethyl-ketone, which dissolves in most cases the rest of the adsorbed material from silica-gel. At normal temperature it is a solid substance of dark colour.

As might be expected from the usual relationship of adsorbability to molecular structure, the first fraction contains saturated hydrocarbons, the second fraction seems to contain partially hydrogenated aromatic rings, the third aromatics and the fourth resinous bodies. It must be borne in mind that hydrocarbons contained in the first fraction represent, according to the present state of the chemistry of lubricating oils, the most valuable part, consisting of lubricants of high quality. On the other hand, constituents contained in the third and fourth fraction belong to those compounds the removal of which is the main aim of commercial raffination processes (like solvent extraction or sulphuric acid treatment). My method thus permits of the quantitative estimation of both the most valuable and of the undesirable constituents contained in different lubricating oils.

The intermediate second fraction can be easily subdivided by the use of different indicators into many fractions, some of which presumably may be incorporated as valuable constituents into commercial lubricating oils.

This new analytical method may also be applied to distillates and residues, solvent extraction products, commercial lubricating oils and so on. It has evident value for many other purposes, as, for example, determining the efficiency of commercial and laboratory refining processes. It may be also easily applied for the rapid testing of the purity of some other hydrocarbons, such as those obtained from coal tar.

Apart from its technical significance, this method represents an important approach towards the separation and characterization of lubricating hydrocarbons according to chemical groups. In combination with distillation and fractional precipitation (for example, by the use of light hydrocarbons[6]) this method provides much sharper separation of very complicated lubricating hydrocarbon mixtures than has been possible up to now.

The work is being continued, and full technical details will be published later.

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Response of *Plasmodium berghei* to Antimalarial Drugs

THE discovery of *Plasmodium berghei* by Vincke and Lips[1] has provided a valuable new strain of malaria for the laboratory trials of chemotherapeutic drugs. We are grateful to Prof. H. E. Shortt for presenting us with a strain of this organism, which we have used for the investigation of the series of 2 : 4-diaminopyrimidines described by Falco *et al.*[2]. One of the compounds, 2 : 4 diamino-5-*p*-chlorophenoxy-6-methyl pyrimidine (48–210), was assayed simultaneously against *P. gallinaceum* in chicks and *P. berghei* in mice at the same dose-levels. The chick test was performed by the method of Curd, Davey and Rose[3], and the mouse test by a similar procedure. The mice were inoculated intraperitoneally with a suspension of infected blood in heparinized saline. Each mouse received about five million parasitized erythrocytes. Six doses of drug were given by stomach tube, night and morning, for the following three days. Blood smears were prepared on the fifth and seventh days of the disease, and the percentage of parasitized cells determined for each mouse.

Drug	Quinine equivalent	
	P. gallinaceum	*P. berghei*
48–210	4·3	4·7
'Mepacrine'	2·0	7·8
'Pamaquin'	18	2
'Chloroquin'	13	13
'Paludrine'	12	4·6

The results, using a set of standard antimalarials for comparison, are summarized in the accompanying table, and show that although the quinine equivalents of 48–210 and 'Chloroquine' are about equal upon the two species of *Plasmodium*, the figures for 'Pamaquin', 'Mepacrine' and 'Paludrine' are very different. The most striking difference is shown by 'Pamaquin' and 'Mepacrine', the relative activities of which are reversed; the low activity of 'Pamaquin' against *P. berghei* has been confirmed in further experiments. These variations may perhaps be explained by differences in the rate of absorption and excretion of the drugs in mice and chicks, or by differences in the susceptibility of the parasites.

Exoerythrocytic forms of *P. berghei* have not as yet been described, but it is likely that they exist, and may also differ from those of *P. gallinaceum* in their susceptibility to drugs.

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Melanin Solubility in Tissue Sections

QUANTITATIVE estimations of staining reactions and histochemical observations on melanomas are not readily made because cellular detail is often obscured by melanin granules. One of the most promising solvents for melanin is ethylene chlorohydrin[1]. This solvent, and others mentioned by Mason[2] (alcohol, pyridine and water), are said to be satisfactory only after melanin has been separated from its protein component. Neither ethylene chlorohydrin nor any of the other solvents removed melanin from tissue sections in the following experiments. Tissue blocks from a malignant melanoma and from negro skin were fixed in a variety of fixatives and were dehydrated and embedded in paraffin. Sections were treated with ethylene chlorohydrin (Eastman Kodak) and with pyridine, at 22° and at 60° C., for periods