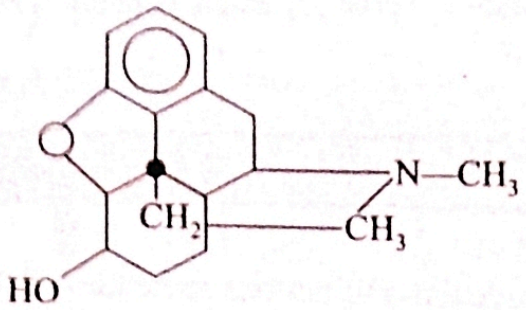
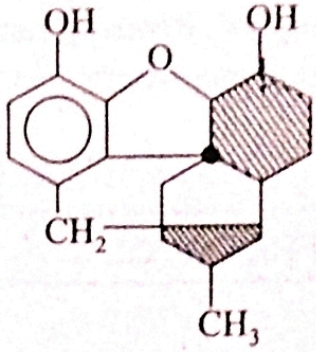
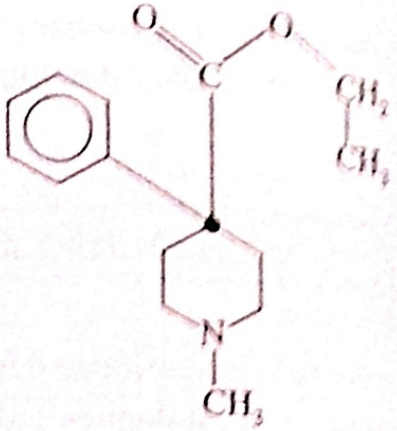


Morphine

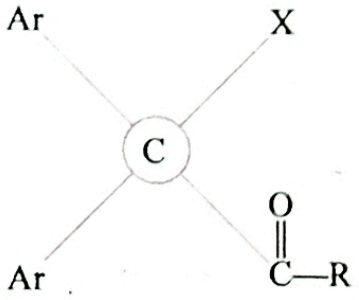


Morphine
(Schaumann's Model)



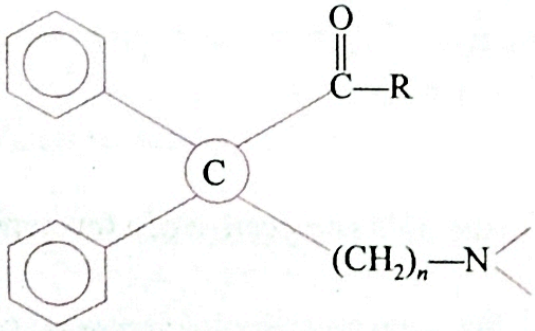
Pethidine
(Meperidine)

Ehrhardt suggested a **general formula** relevant to the analgesic activity in 1949 as stated below :



where, Ar is the aromatic ring, X the basic side chain and (—C—) carbonyl function in the form of an ester, ketone or an amide.

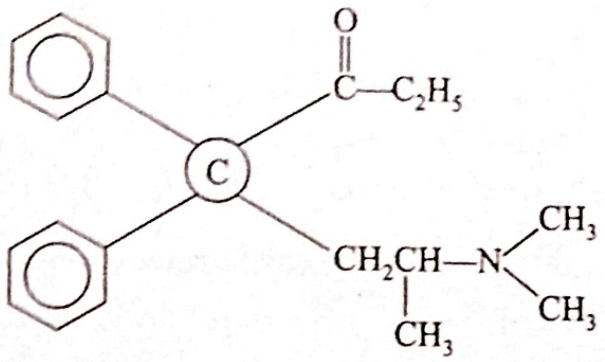
Later on, the above general formula was modified slightly as follows :



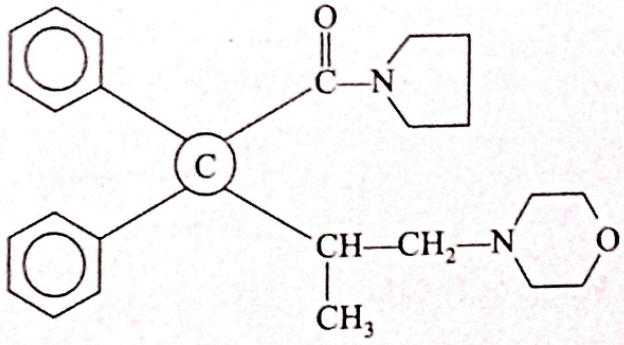
which successfully led to the development of the following *three* **narcotic analgesics,** namely : **methadone, dextromoramid** and **dextropropoxyphen.**

(*ii*) Antipyretic Analgesics

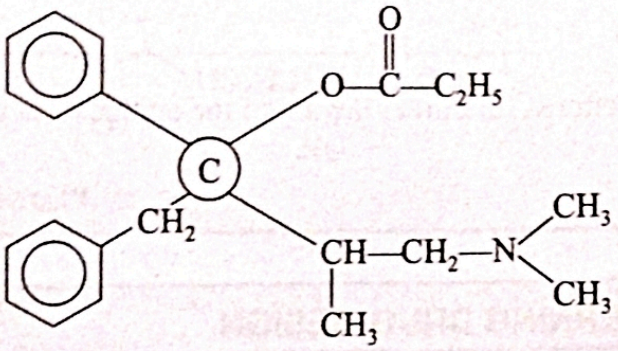
Another fruitful approach in **drug design** is the meticulous screening of the metabolite for probable pharmacological activity. The most interesting example is the bio-oxidation of acetanilide into *para*-aminophenol which subsequently on **chemical manipulation** has yielded better tolerated antipyretic-analgesics like **paracetamol** and **phenacetine.**



Methadone

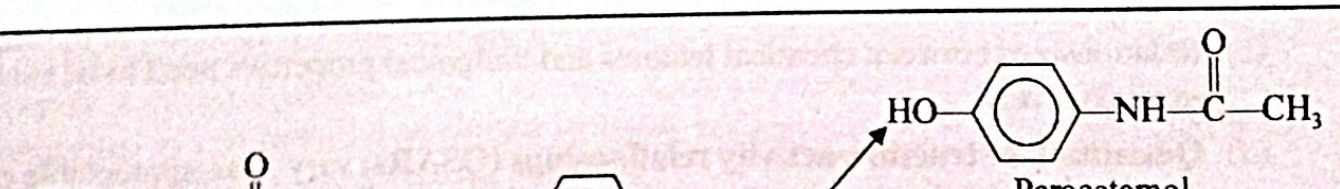


Dextromoramid



Dextropropoxyphen

Quite recently **phenacetine** has been withdrawn completely because of its toxic after effects, though it dominated the therapeutic field for over 30 years as a potent antipyretic analgesics.



(*iii*) Antirheumatic Drugs

The study of the metabolite conversion of the antirheumatic drug phenylbutazone resulted in the introduction of a better tolerated drug **oxyphenylbutazone** as an **antirheumatic drug** and **phenylbutazone** alcohol as an **uricosuric agent.**