

# UK to set up DNA database of criminals . . .

**Paris.** Britain is to set up the world's first national database of DNA profiles from convicted criminals, putting DNA alongside fingerprints among the forensic scientist's frontline tools. The United States is expected to follow suit by the end of the year.

The decision reflects an emerging consensus that the controversies over the reliability of DNA profiling are little different from those of other forensic tests, and that they will be quickly resolved, not through public debate, but by defence lawyers.

Most observers also agree that a database of limited DNA profiles of convicted offenders poses no new ethical problems. They point out that it would be little different from databases of fingerprints or mugshots, and may provide a major new 'deterrent' against violent crimes.

The UK civil rights group Liberty says it opposes a national database for offenders, because it would "be open to abuse", but it accepts a database limited to DNA from sex offenders and murderers. It also wants guarantees that individuals would have the right

to check their stored profiles, and that courts would not convict individuals on DNA evidence alone.

Under the British scheme — announced last week by Michael Howard, the Home Secretary — police could take DNA samples from anyone charged with an offence punishable by imprisonment. Their profiles would be digitalized on optical discs, and be routinely screened against samples of DNA taken from crime scenes. The database would cost around £28 million in the first year.

One area of uncertainty is whether the police will keep DNA profiles from acquitted suspects on file. According to Howard, removing such profiles may be technically difficult because they would be stored on the same disc as other samples from a case.

Senior police officials are also concerned that DNA samples will not be taken from those previously convicted of serious crimes, unless they offend again following their release. This means the database will be ineffective until it has been in operation for

several years. But introducing retrospective legislation would pose legal problems, said Howard.

The forensic science service is expected to provide Howard with full details of how the database will operate within the next few weeks. The final plans will be opened to consultation for three months, before becoming law under the Criminal Justice and Public Order Bill, which is expected to pass through parliament before the end of the year.

The US Federal Bureau of Investigation (FBI) is also about to launch a national database of DNA profiles. Eight states have already begun, and between them hold 24,000 DNA records of convicted offenders, according to an FBI spokesperson. Several suspects have already been identified and convicted of serious crimes using the state databases.

Some scientists, however, remain concerned over the reliability of forensic DNA profiling techniques in general, and the use of databases in particular. Daniel Hartl, a population geneticist at Harvard ▶

## . . . while US may regulate DNA testing laboratories

**San Francisco.** As analysts examine DNA evidence in the O. J. Simpson murder case, US legislators are considering regulating the laboratories performing such tests. A crime bill now being debated in Congress would place forensic DNA testing under the regulatory authority of the Federal Bureau of Investigation (FBI) and set standards for licensing of laboratories. It would require proficiency testing twice a year by an accredited company and would set aside \$250,000 for a feasibility study of national blind proficiency testing.

Some forensic DNA experts believe that laboratory error is underestimated in courtroom debates over the technology (see above). Defence lawyers for Simpson, who has been charged with murdering his ex-wife and another man, have already begun homing in on the performance record of Cellmark Diagnostics, which is analysing DNA evidence in the case.

Cellmark has been accused of sloppy analysis because of two false matches the Maryland company made during a 100-sample proficiency study administered by the California Association of Crime Laboratory Directors (CACL D) in the late 1980s. Critics point out additional errors made in a report to the CACL D that were later corrected. Cellmark admits that the first report was confusing but says it was not in error.

Industry-wide results from that study and a later analysis by Collaborative Testing Service suggest an overall false-positive

rate of one per cent to four per cent of reported matches, estimates Jonathan Koehler, assistant professor at the University of Texas at Austin.

But Cellmark argues that its error rate is a mere 0.5 per cent on the basis of the original proficiency test plus another 300 samples analysed in the intervening years. The company now conducts its own tests as well as subscribing to several testing programmes, said Mark Stolorow, director of operations for Cellmark. "In the last five years there have been no documented errors either in our proficiency tests or in our case work," he said.

Defence lawyers, however, criticize Cellmark's tests for lack of scientific rigour. In general, errors result from misinterpretation of data, ambiguous data and mixing of samples, says William Thompson, associate professor at the University of California at Irvine.

The crime bill would ask the FBI to develop standards for performance and for proficiency testing. This would result in greater acceptance of the technology in the courtroom, says Stolorow.

The majority of courts in the United States do accept DNA evidence, but a few states, including Arizona, Massachusetts and Minnesota, continue to express concern. In California, where the Simpson case is being tried, appellate courts have been backing away from their original enthusiasm.

In November 1992, the California Su-

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### O. J. Simpson: his DNA may decide trial.

preme Court upheld an appellate panel's ruling in a San Francisco case, *People versus Barney/People versus Howard*, that statistical methods for evaluating DNA evidence remained in scientific dispute. Therefore, the court said, such statistical procedures were inadmissible, as was the DNA evidence itself.

While appellate courts have followed the Barney decision, lower courts generally continue to admit DNA typing. A newer method based on PCR technology is being tested for the first time at the appeals court level in a sexual assault case scheduled for a decision very soon.

The high-profile Simpson case is certain to influence acceptance of DNA analysis by the public and in the courtroom, both prosecution and defence lawyers say. This comes at a time when the National Research Council is preparing to re-examine the use of DNA typing (see *Nature* 367, 101; 1994).

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