WANTED: A TALL BLOND DUTCHMAN.  
DOES THE NETHERLANDS SET THE STAGE IN REGULATING FORENSIC DNA PHENOTYPING?*  

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INTRODUCTION  

Traditionally, DNA investigation in criminal matters is used to create, store, and compare DNA profiles, which is called ‘DNA profiling’. By comparing a profile derived from DNA material found at a crime scene to DNA profiles in a database, it is possible to link the DNA stain to a suspect or to material from another crime.1 DNA profiles do not contain information about the person from whom the DNA originates;2 they only serve identification purposes.3

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2 This may not be entirely true. If a gene that codes for a certain characteristic of a person (a phenotype) is located in the vicinity of a non-coding locus (Short Tandem Repeats, STRs) that is used as a marker for a DNA profile, there is some likelihood that it passes down together with the STRs. Hence, it is possible that there is a correlation between the DNA profile (a STR with a certain value) and certain phenotypical characteristics. This is, however, theoretical biology and is not used in forensic reality.

3 In this article we focus on forensic applications of DNA. Determination of family relations such as parenthood are left aside.
Recently, an entirely new method of DNA investigation has come into view: deriving personal characteristics from DNA material. Certain genes or manifestations of genes—called genotypes—code for how the person will develop, such as body features or behavioural characteristics—called phenotypes. This enables 'DNA phenotyping': studying DNA to determine personal characteristics that, with a certain likelihood, are present in the person to whom the DNA belongs. A related possibility is to determine the geographic background from the DNA, which is an indirect way of getting phenotypical information because geographic origin often relates to how a person looks.

In forensic applications, this opens up an exciting new field. Crime-scene material could be used to assist in tracing an unknown suspect, for example, by narrowing the investigation down to a tall, blond Dutchman or to a slender, curly-haired woman from Central Africa. To enable this kind of investigation, in 2003 the Netherlands passed an act that allows law enforcement to derive externally visible characteristics from crime-scene DNA. At present, the Dutch law only allows to derive gender and geographic origin, so the police are only allowed to make a composition drawing of a 'man from the north of the Netherlands' or of a 'woman from South-East Asia'. In practice, this will be of little use. It is expected, however, that the scope of the provisions will gradually expand as the technical capabilities for phenotyping evolve, and the law will include more personal characteristics as amenable to DNA investigation.

The aim of this article is to draw attention to the Dutch act and its details, not because Dutch law as such is so important to know about, but rather because the Dutch act is—as far as we know—the first of its kind. Not only is there an absence of legislative action or parliamentary debate in other countries, but there is also remarkably little academic legal literature on the subject. This is not to say

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4 Of course, genes alone do not determine what a person is or does; nurture as well as nature play a role. However, numerous characteristics—not only physical characteristics such as hair colour, but also behavioural characteristics such as left-handedness—have a large genetic component. Therefore, if the person has a certain type of gene, there will be a certain likelihood that he or she will develop the characteristic coded for by this gene.

5 See infra, section 2.1.

6 Act of 8 May 2003 on Adapting the Regulation of Forensic DNA Investigation in Relation to Determining Externally Perceptible Personal Characteristics from Cell Material (Wet van 8 mei 2003 tot wijziging van de regeling van het DNA-onderzoek in strafzaken in verband met het vaststellen van uiterlijk waarnembare persoonskenmerken uit celmateriaal), Stb. 2003, 201, in force since 1 September 2003.

7 An extensive discussion of DNA phenotyping is given by L.A. Elkins, Five Foot Two With Eyes of Blue: Physical Profiling and the Prospect of a Genetics-Based Criminal Justice System, 17 Notre Dame Journal of Law, Ethics & Public Policy 269 (2003), but few if any other substantive discussions exist. The issue is cursorily treated in literature that largely discusses