Many philosophers believe there are essential properties, and that it is the job of science to reveal just what these important properties are (without scientists necessarily taking a stand on essentialism). A widely cited example is that of Socrates being essentially a man. I wish to challenge the claim that Socrates is essentially a man. This is part of a larger project aimed at showing that we have no biologically interesting properties essentially. By “we” I mean “we organisms”. We can take as our model the Putnam/Kripke examples of water as essentially H\textsubscript{2}O, and gold as essentially having atomic number 79. These are necessary and sufficient conditions for something to be water/gold, so far as we know.

Although there is a staggering amount of disagreement about what counts as an essential property, most of it centers on what conditions are sufficient for a property to count as essential to an individual.\textsuperscript{1} There is widespread (although not universal) agreement that a necessary condition for a property \(P\) to be had essentially by individual \(a\) is that \(a\) have \(P\) necessarily.\textsuperscript{2} Therefore, for Socrates to be essentially a man, he must necessarily be a man. I will argue that it is dubious that Socrates is essentially a man, mainly on the grounds that it is dubious that he is necessarily a man. I assume that Socrates is representative of all men, so that what is being claimed is, at least, that all actual men are essentially men. The word ‘man’ however, is ambiguous between “human male” and “human.” We will explore both alternatives, since being male is considered an essential property on many essentialist accounts anyhow.\textsuperscript{3} In Section I, we will consider whether Socrates (and every other male human) is essentially a male human.\textsuperscript{4} In Section II, we will consider whether Socrates (and every other human) is essentially human.
Socrates (and every other male human) is essentially a male human. This would be true if either (a) there are two properties, maleness and humaness, both of which Socrates has essentially; or (b) there is a property, human-maleness let us call it, which Socrates has essentially – in which case he would also be essentially human according to the essentialist. So either way, Socrates would have to be essentially human to be essentially a male human. Whether he is will be discussed later, in Section II. In this section, we will discuss whether (i) there is a property maleness which Socrates and every male has essentially; or (ii) there is a property human-maleness which Socrates and every male human has essentially.

Case (i). To determine whether maleness is an essential property, we need to know what it is to be male. Taking our cue from Putnam (1975) and Kripke (1972), we look to science for illumination. For Putnam, water, gold, lemons, tigers, acids, aluminum, molybdenum, and elms are natural kinds – that is, classes of things that we regard as of explanatory importance; classes whose normal distinguishing characteristics are ‘held together’ or even explained by deep-lying mechanisms (p. 139).

If I describe something as a lemon, or as an acid, I indicate that it is likely to have certain characteristics (yellow peel, or sour taste in dilute water solution, as the case may be); but I also indicate that the presence of these characteristics, if they are present, is likely to be accounted for by some ‘essential nature’ which the thing shares with other members of the natural kind. What the essential nature is is not a matter of language analysis but of scientific theory construction; today we would say it was chromosome structure, in the case of lemons, and being a proton-donor, in the case of acids (pp. 140–141).

Water is essentially H₂O. Lemons and tigers essentially have a certain “chromosome structure”. Now Putnam may just mean that this is usually the case, and if so, I have no quarrel with him. But insofar as he is claiming that members of the kinds, e.g. Socrates, themselves have such properties essentially, then I disagree. With respect to maleness, there is no phenotypic feature like having a penis that all males have, since males of many species don’t have penises. Nor can one say that males are the larger sex, since often they are not. In general, no phenotypic feature will do since species