The property of being a mixture, the concept of mixture, the predicate ‘is a mixture’, and the physical mixtures themselves present complicated and confusing mixtures of conflicting linguistic data, conflicting conceptual intuitions, and conflicting physical analyses of the stuffs. For example, we can find question-begging definitions in chemistry texts such as “A solution of x in y has x uniformly distributed in a continuous medium of y”, we find Quine and H. Cartwright have different intuitions on whether ‘furniture’ and ‘luggage’ are mass terms, and we find that people divide on whether the one cc. of water we add to a cup of coffee becomes coffee, or is coffee, or is a part of a quantity of coffee, etc. Sharvy also has no qualms about holding that two empirically distinct predicates can pick out the same region of space-time.

There is, says Sharvy, something special about mass terms in the way the following conclusions of his paper hold. (1) Predicates with different extensions might have identical mereological fusions, (2) Predicates with distinct extensions might pick out the same region of space-time.

Conclusion (1) is perhaps ambiguous. It might mean that, in the actual world, our two predicates with distinct extensions have identical fusions. This we should not find surprising: any predicate which describes something which can be broken into parts will yield cases of predicates with this feature, regardless of whether the predicate in question is mass or count, whether it indicates a mixture or not. Let $F_1:x$ is a physical part of Richard Sharvy; $F_2:x$ is Richard Sharvy. The fusion of $F_1$ and $F_2$ are identical, at least in the actual world. (In some world we might want to say that $F_2$ is true of a certain amputee, but not of that amputee plus his ex-limbs; and we might also want to say that those limbs satisfy $F_1$).

We can invoke mass terms and construct easier examples than ones involving succotash. Let $F_1:$ is a 1 cc. quantity of water; $F_2:$ is a 2 cc. quantity of water. Both fusions are all the world’s water. (But in some possible world there is only one cc of water, and hence $F_1$ and $F_2$ would have different fusions there). And perhaps more naturally: $F_1:x$ is one of the (continental + Alaska) United States or $x$ is the District of Columbia or $x$ is a Canadian province or $x$ is a Canadian territory; $F_2:$
are identical, viz., all the land in North America; but F_2 is true of various patches of land that F_1 isn’t. The fusions of F_1 and F_3 are identical, viz., a certain continent; but F_1 is true of some parts of the continent whereas F_3 is true of it only as a whole.\(^1\) I therefore conclude that if this is what is meant by Sharvy’s conclusion (1), it is without interest, for there is nothing special here about mass terms: all the examples constructed use at least one count term (even the ones which “invoke” mass terms are not themselves mass terms, since they are not cumulative in their reference). The crucial feature is rather that we can construct different ways of describing objects – and this means only that we need have some physical object so that it has parts.

So perhaps we should consider whether (1) means that there could be predicates which have distinct extensions in some worlds but for each possible world their fusions are identical. It is obvious that no two independent, empirical predicates have this property. For, if they were independent and empirical, there would be some possible world in which the extension of one predicate but not the other is empty, and so the fusions would be distinct.

Relaxing the requirement that the predicates be empirical will allow cases where the denotations of the predicates exist in all possible worlds. Let F_1 : x = \{1\} or x = \{2\}; F_2 : x = \{1, 2\}. Their extensions are different: the extension of F_1 is a set containing the two singletons, \{1\} and \{2\}; that of F_2 is a set containing the doubleton \{1, 2\}. Yet the fusions are the same, namely \{1, 2\}. So once again we see that there is nothing special here about mass terms. What is important for these kinds of cases is the property of empiricalness.

Relaxing the requirement of independentness, we can have cases like F_1 : x is either the first half of a book or x is the second half of a book; F_2 : x is a book. Or again, F_1 : x is a husband or x is a wife; F_2 : x is a married couple. Note that the extensions of the F_1’s and F_2’s are different: a half a book will satisfy F_1 but not F_2. A whole book will satisfy F_2, but the sense in which it satisfies F_1 is that “there are two of them”. The notion of “independent” is not perfectly defined, but its general intent is clear: Whenever the one predicate’s being true of something entails (in some suitable vague “relevance” sense) that the other predicate is true of something and vice versa, they are not independent.\(^2\) In the examples given, the existence of something which is F_1 entails the existence of something which is F_2 and conversely. Furthermore,