WHAT ARE OCCURRENCES OF EXPRESSIONS?

The term ‘Macavity’ occurs three times in the line:

* Macavity, Macavity, there’s no one like Macavity,

("He’s broken every human law, he breaks the law of gravity"). The line itself occurs thrice in T. S. Eliot’s poem “Macavity: The Mystery Cat”. ([1], p. 163.) Equivalently, we might say that there are three occurrences of ‘Macavity’ in * and three occurrences of * in “Macavity: The Mystery Cat”. So far, so good. The trouble arises when we inquire into just what an occurrence is. In On Universals Wolterstorff says that “occurrences of sentences [words or sequences of words] are Peirce’s tokens” ([2], p. 17). Peirce says that tokens are “one time happenings or spatio-temporal objects ([3], p. 423); they are to be contrasted with types. Nowadays types are usually construed as being abstract and unique; there is only one type ‘Macavity’, one type * and one poem by Eliot “Macavity: The Mystery Cat”, although there are many concrete tokens of each of them. (We assume that the term, the line and the poem are types, not tokens.) Since * contains three occurrences of ‘Macavity’ it contains three tokens of ‘Macavity’. But this is impossible, since * is an abstract type.

It might appear that we can circumvent the difficulty by postulating a higher, second-order type ‘Macavity’, but this violates the proviso that ‘Macavity’ is unique.

Something like the above argument was given by Peter Simons in [4], who claims, in addition, that second-order types would not be sufficient anyway, because in Eliot’s poem “Macavity: The Mystery Cat” the type * itself “would have to occur [thrice], so we need third-order types, and so on. The regress thus started is both uneconomical and vicious, because there is no point at which we reach unique types which account for the multiplicity of like tokens” ([4], p. 196).

An even simpler way to pose the problem is as follows. Assume that every word is a word type or a word token, and that * is a line
type. It consists of seven words. Seven word types, or seven word tokens? Not seven word tokens, since tokens are concrete and * is abstract. Then it must consist of seven word types. But this too is impossible because there are only five word types of which it might consist.

The thing to do apparently, (and it is not a new idea), is to jettison the belief that occurrences are tokens. For then we can say that * consists of, not seven distinct word types or seven distinct word tokens, but seven distinct word occurrences. But then the problem is to state just what an occurrence is, if it is not a type or a token. A related (or perhaps the same) problem is to explain how it is possible for something to occur more than once — the same numerically identical something, and not two tokens or instances of it.

Quine, of course, was aware of the need for an account of what an occurrence of expression \(x\) in expression \(y\) is, and he proposed what he called an “artificial but convenient and adequate” definition: “an occurrence of \(x\) in \(y\) is an initial segment of \(y\) ending in \(x\)” ([5], p. 297). Unfortunately, as Peter Simons points out ([4], pp. 196f), this is not adequate, because, for instance, it incorrectly identifies the second occurrence of ‘Macavity’ in * with the first occurrence of ‘Macavity, Macavity’ in *; nor is identifying an occurrence of \(x\) in \(y\) with \(<\text{the initial segment of } y \text{ ending in } x, \text{ the final segment of } y \text{ beginning with } x\>\) because it would incorrectly identify the second occurrence of ‘Macavity’ in ‘Macavity Macavity Macavity’, for instance, with the first occurrence of ‘Macavity Macavity’ in itself. Simons also considers amending Quine's proposal so that an occurrence of \(x\) in \(y\) is \(<y, \text{ the initial segment of } y \text{ ending in } x, \text{ the final segment of } y \text{ beginning with } x\>\) — so that the first occurrence of ‘Macavity’ in * would be \(<*, \text{ ‘Macavity’, }*,\>\) — but rejects it on the grounds that “these objects are themselves no longer expressions” and “the qualitative equality of different occurrences of the same expression remains unrespected.” ([4], p. 197.)

This first ground for rejecting Quine’s amended proposal assumes that occurrences of expressions are themselves expressions. However it is not clear that the occurrence of a word, for example, is a word. It is true that if it were, then the puzzle mentioned three paragraphs above would easily be solved: * consists of seven words; the words themselves