The "tbs" feature of ms

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Using "tbs" arguments

```
ms nsam nreps -t tbs -r tbs nsites
```

In some cases it is useful to generate samples, in which each sample is generated with the value of one or more parameters being drawn from a probability distribution. One could do this by using a separate program to generate many shell commands, each running ms to generate a single sample, with the random parameter values being specified. This can be inefficient and slow. With "tbs" arguments this can be accomplished more efficiently. This is done as follows. On the command line, instead of specifying a single value for a parameter, one simply types "tbs", without the quotes. The string "tbs" indicates that the parameter value is "to be specified" later. For each sample to be generated the program will read in the parameter values from stdin. This can be done for any number of numerical parameters on the command line (but not for nsam, howmany, the number of segregating sites specified with the -s switch, or the number of populations, specified after a -I switch.) In the above example, both theta and rho values are to be read in for each sample. For example, if file thetarho contains the two lines:

```
3.0 5.0
3.5 8.5
```

then the following command:

```
ms 5 2 -t tbs -r tbs 1000 <thetarho
```

results in the following output:

```
ms 5 2 -t tbs -r tbs 1000
32503 42481 21397
// 3.0 5.0
segsites: 5

positions: 0.2400 0.2434 0.8538 0.8825 0.9456
```

In this example, the first sample was produced with $\theta = 3.0$ and $\rho = 5.0$, while the second sample was produced with $\theta = 3.5$ and $\rho = 8.5$. The parameter values read in for each sample, are output after the "//". As noted above, any numeric parameter value on the command line, except nsam, howmany, the number of segregating sites, and the number of populations, can be replaced with "tbs". The numbers read in from stdin are sequentially used to replace the tbs arguments in command line. ms will stop producing samples when it runs out of parameter values for replacing the "tbs" arguments or when it has produced howmany samples, whichever happens first.