**proposed move to System F**

At the Manticore meeting on 11/7/07, we discussed moving BOM in the direction of System F.

The following summarize the proposed changes to the `<code>BOM</code>` module:

### New syntactic forms:
- `let x : tau = y [tauVec]`
- `apply f [tauVec] (...) / (...)`
- `let x : tau = CONS [tauVec] (...)`
- `let x : tau = CONST [tauVec]`
- `throw k [tau] (...)`

### New types:
- `alpha (* type variables *)`
- `forall alphaVec . tau`
- `T [tauVec]`
- `tau + tau`

Here are the changes to the datatypes in the `<code>BOM</code>` module:

**datatype term**

```plaintext
| E_Apply of (var * ty list * var list * var list) |
| E_Throw of (var * ty list * var list)            |
| E_HLOp of (hlop * ty list * var list * var list) |
```

and `rhs`

```plaintext
| E_TyApply of (var * ty list)                          |
| E_DCon of (data_con * ty list * ty list)             |
```

and `lambda = FB of`

```plaintext
Unknown macro: { f }
```

and `pat`

```plaintext
| P_DCon of (data_con * ty list * var list)           |
| P_DConst of (data_con * ty list)                   |
```

and the changes to the BOMTy module:

**datatype ty**

```plaintext
| T_Var of ty_var                                   |
| T_Forall of (ty_var list * ty)                    |
| T_TyCon of (tyc * ty list)                        |
```

We'll also need to add the `<code>ty_var</code>` type and make changes to the representation of `<code>tyc</code>`s.