Latent Change Extraversion Model

```
ExtraModelT12<-mxModel("Extraversion Model",
                type="RAM",
                mxData(
                  observed=EVolSPAN,
                  type="raw"
                  ),
                manifestVars=c("pneoE1", "pneoE2", "pneoE3", "pneoE4", "pneoE5", "pneoE6",
                          "pfu5neoE1","pfu5neoE2", "pfu5neoE3", "pfu5neoE4", "pfu5neoE5",
"pfu5neoE6"),
                latentVars=c("ExtraT1","ExtraT2","ExtraIntercept", "ExtraSlope"),
                #residual variances
                mxPath(
                  from=c("pneoE1", "pneoE2", "pneoE3", "pneoE4", "pneoE5", "pneoE6",
                       "pfu5neoE1","pfu5neoE2", "pfu5neoE3", "pfu5neoE4", "pfu5neoE5",
"pfu5neoE6"),
                  arrows=2,
                  free=T,
                  values=c(1,1,1,1,1,1,1,1,1,1,1,1),
                  labels=c("r1", "r2", "r3", "r4", "r5", "r6", "r7", "r8", "r9", "r10", "r11", "r12")
                  ),
                #latent variance
                mxPath(
                  from=c("ExtraT1","ExtraT2"),
                  arrows=2,
                  free=TRUE,
                  values=c(1,1),
                  labels=c("varET1", "varET2")
                  ),
                mxPath(
                  from=c("ExtraIntercept", "ExtraSlope"),
                  arrows=2,
                  connect="unique.pairs",
                  free=TRUE,
                  values=c(1,.5,1),
                  labels=c("varE1", "covE1E2", "varE2")
                  ),
                #factor loadings for ET1
                mxPath(
                  from="ExtraT1",
                  to=c("pneoE1", "pneoE2", "pneoE3", "pneoE4", "pneoE5", "pneoE6"),
                  arrows=1,
                  free=c(T,F,T,T,T,T),
                  values=c(1,1,1,1,1,1),
                  labels=c("e11", "e12", "e13", "e14", "e15", "e16"),
                ),
```

```
                #factor loadings for ET2
                  mxPath(
                   from="ExtraT2",
                   to=c("pfu5neoE1","pfu5neoE2", "pfu5neoE3", "pfu5neoE4", "pfu5neoE5",
"pfu5neoE6"),
                   arrows=1,
                   free=c(T,F,T,T,T,T),
                   values=c(1,1,1,1,1,1),
                   labels=c("e21", "e22", "e23", "e24", "e25", "e26")
                   ),
                   #factor loadings for intercept
                   mxPath(
                    from="ExtraIntercept",
                    to=c("ExtraT1", "ExtraT2"),
                    arrows=1,
                    free=F,
                    values=c(1,1)
                   ),
                   #factor loadings for slope
                   mxPath(
                    from="ExtraSlope",
                    to=c("ExtraT1", "ExtraT2"),
                    arrows=1,
                    free=F,
                    values=c(0,1)
                    ),
                #means
                  mxPath(
                   from="one",
                   to=c("pneoE1", "pneoE2", "pneoE3", "pneoE4", "pneoE5", "pneoE6",
                        "pfu5neoE1","pfu5neoE2", "pfu5neoE3", "pfu5neoE4", "pfu5neoE5",
"pfu5neoE6"),
                   arrows=1,
                   free=F,
                   values=c(0,0,0,0,0,0,0,0,0,0,0,0)
                  ),
                   #means ET1, ET2
                mxPath(
                  from="one",
                  to=c("ExtraT1", "ExtraT2"),
                  arrows=1,
                  free=T,
                  values=c(1,1),
                  labels=c("ET1mean", "ET2mean")
                ),
                   #means intercept and slope
```

```
                mxPath(
                  from="one",
                  to=c("ExtraIntercept", "ExtraSlope"),
                  arrows=1,
                  free=T,
                  values=c(1,1),
                  labels=c("meanEi", "meanEs")
                  ),
                #correlated errors
                mxPath(
                  from=c("pneoE1", "pneoE2", "pneoE3", "pneoE4", "pneoE5", "pneoE6"),
                  to=c("pfu5neoE1","pfu5neoE2", "pfu5neoE3", "pfu5neoE4", "pfu5neoE5",
"pfu5neoE6"),
                  arrows=2,
                  free=T,
                  values=c(.5,.5,.5,.5,.5,.5),
                  labels=c("cov17", "cov28", "cov39", "cov410", "cov511", "cov612")
                )
)
```

Later I'll want to add in something like this in (an additional manifest variable, to regress Extraversion intercept and slope on to):

```
        manifestVars="pvol",
        mxPath(
                from="pvol",
                arrows=2,
                free=T,
                values=1,
                labels= "varvol"),
        mxPath(
                from="pvol",
                to=c("ExtraIntercept", "ExtraSlope"),
                arrows=1,
                free=T,
                values=c(1,1),
                labels=c("volEi", "volEs")
                )
```