Exposure to Dust - Generalized Additive Models

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For GAMs the package "mgcv" is used.

```
library(mgcv)
library(catdata)
data(dust)
```

The first model uses bivariate smoothing for the covariates "dust" and "years" from the "dust"–data. By the option "pers=TRUE" the bivariate effect can be plotted three–dimensional.

```
gamdust1 <- gam(bronch ~ s(dust,years), family=binomial,
                data=dust[(dust$dust<10) & (dust$smoke==1),])

plot(gamdust1, pers=TRUE)
```

Now each covariate is fitted separately, afterwards both effects are plotted.

```
gamdust2<- gam(bronch ~ s(dust) + s(years), family=binomial,
                data=dust[(dust$dust<10) & (dust$smoke==1),])


plot(gamdust2, select=1)


plot(gamdust2, select=2)
```