3-VARIETÀ $\Rightarrow$ TEORIA NODI

- classificazione

RAPPRES. INVARIANTI

(M^3, X_1)

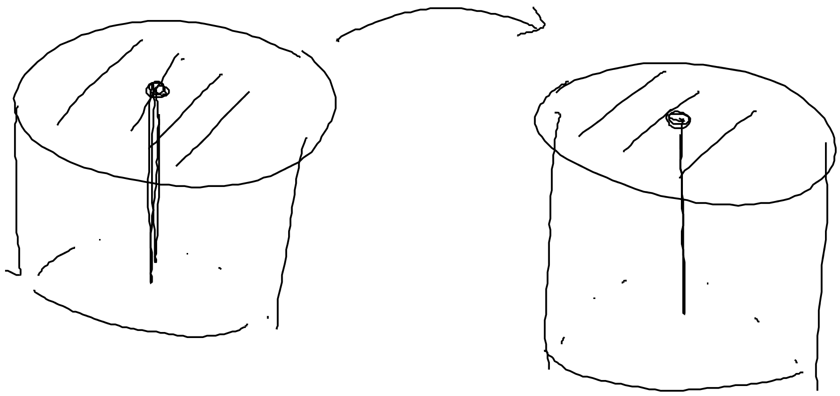
$S^1 \hookrightarrow M^3$

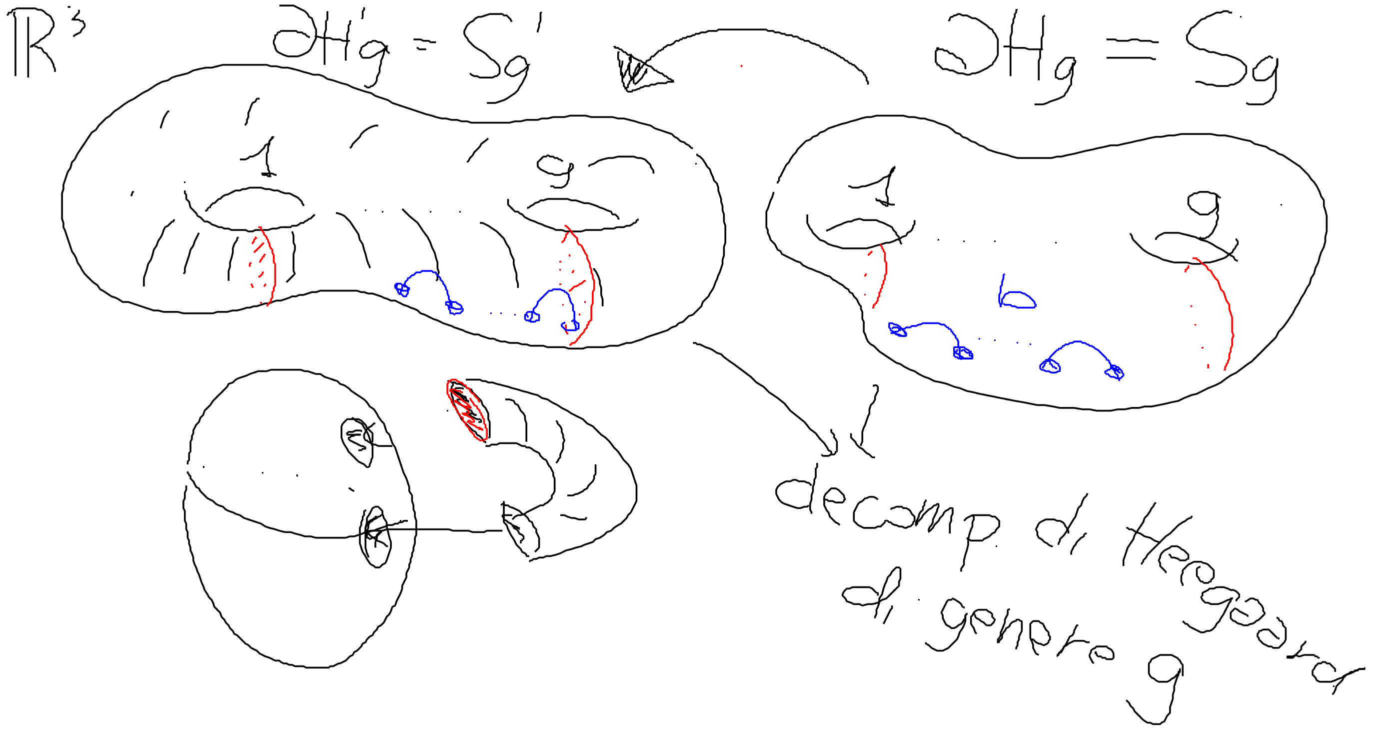
RIVESTIMENTI RAMIFICATI

$$\begin{array}{c} M^3 \setminus p^{-1}(L) \\ p \big\downarrow \\ S^3 \setminus \supseteq L \end{array}$$

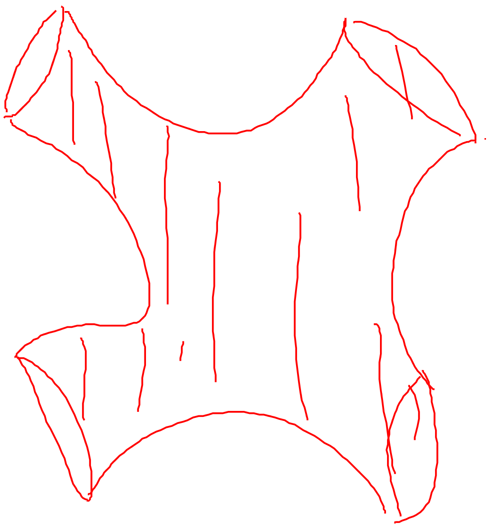
link Unod.

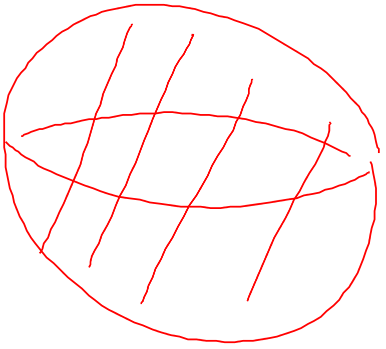
$$z \longrightarrow z^n \qquad n > 1$$

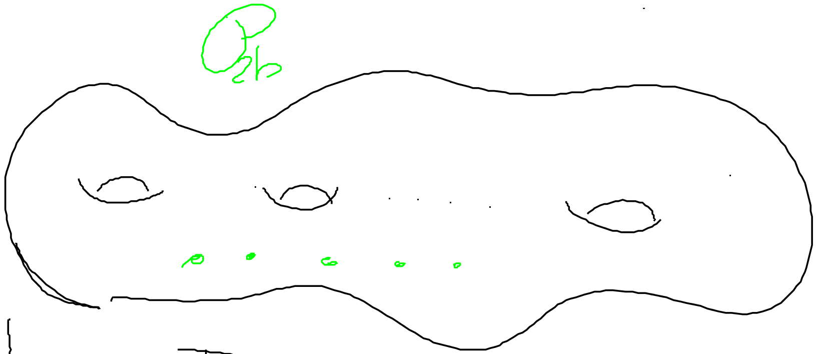




$\mathbb{R}^3$
$\partial H_g' = S_g'$
$\partial H_g = S_g$
1
g
decomp di Heegaard
di genere g





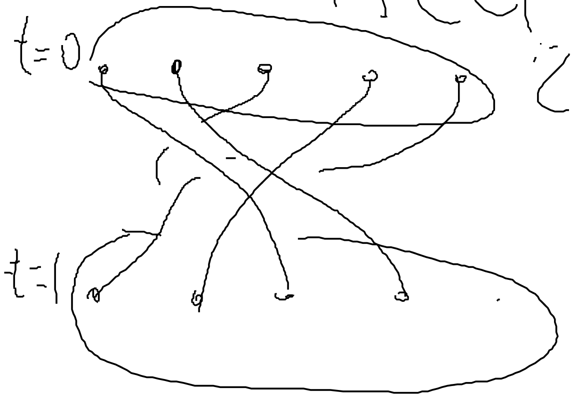


MAPPING CLASS GROUP $= \{ \varphi : T_g \circlearrowleft \} / \text{ISOTOPIA}$ GRUPPO

$\varphi(C_{2b}) = C_{2b}$

$g=0 \qquad T_0 = S^2 \sim D^2$

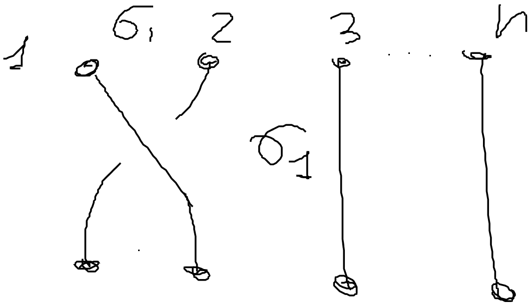
$MCG(D^2)_{2b} = B_{2g}$

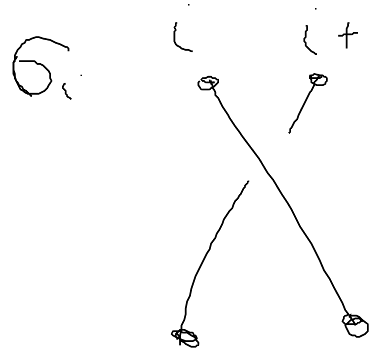


$MCG_{2b}(T_g)$ (linear)

$t=0$

$t=2$





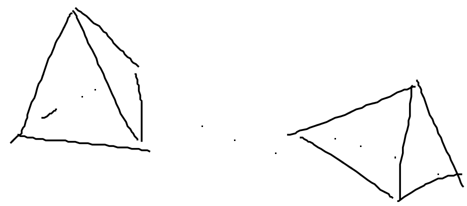
$$B_n = \langle \sigma_1, \ldots, \sigma_{n-1} \mid \sigma_i \sigma_j = \sigma_j \sigma_i \ \ |i-j|>2, \quad \sigma_i \sigma_{i+1} \sigma_i = \sigma_{i+1} \sigma_i \sigma_{i+1} \rangle$$

$$\sigma_i^2 = 1$$

$$B_n \xleftrightarrow[\text{iniettivo}]{} GL_n(A)$$

omomorfismo iniettivo

VERO $\forall n$

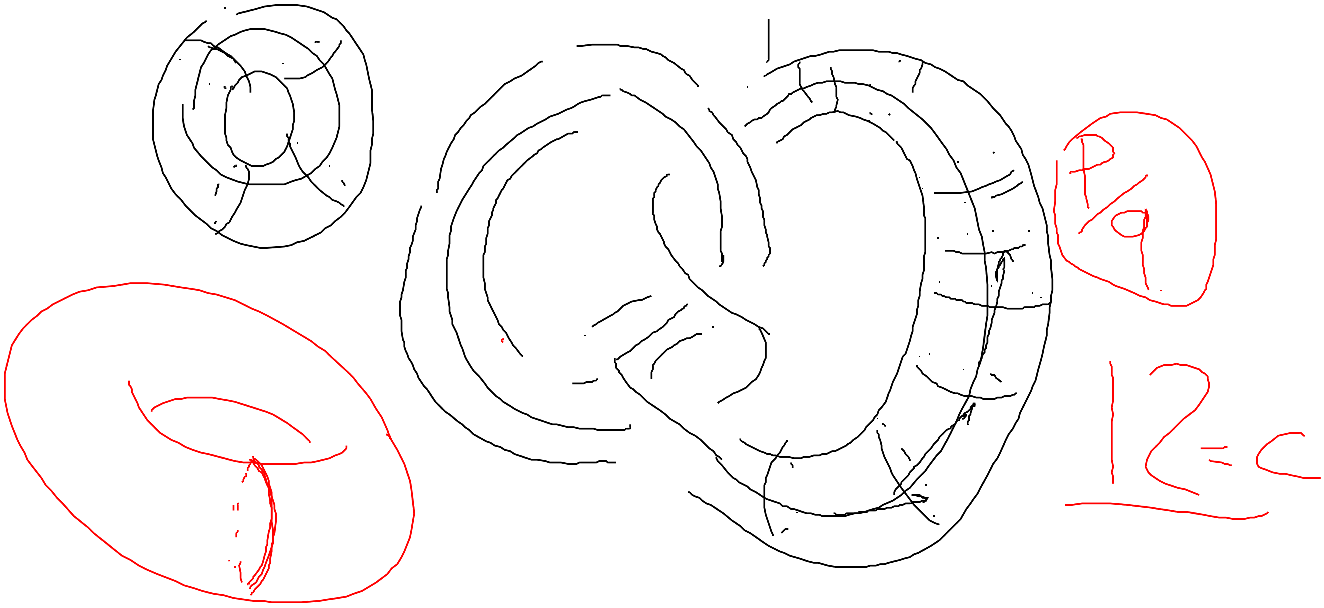


$\| c(M^3) =$ MINIMO NUMERO DI TETRAEDI CHE SERVONO PER COSTRUIRE M^3

CATALOGHI

$c = 1$,

$c = 2$ # finito di 3 varietà


p/q
12 = c

$$\partial(S^1 \times D^3) = \left(\cancel{(\partial S^1) \times D^3} \cup S^1 \times (\partial D^3)\right) =$$

$$= S^1 \times S^2$$

$$\partial(S^2 \times D^2) = \left(\cancel{(\partial S^2) \times D^2} \cup \left(S^2 \times \partial D^2\right)\right) =$$

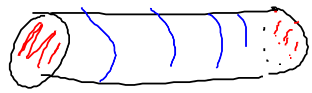
$$= S^2 \times S^1$$

manici solidi

$$h_r = D^r \times D^{n-r}$$

$$\partial h_r = \left(\partial D^r \times D^{n-r}\right) \cup \left(D^r \times \partial D^{n-r}\right)$$

$n = 3$



$$h_1 = D^1 \times D^2$$

$$\partial h_1 = \left(\underline{\partial D^1 \times D^2}\right) \cup \left(\underline{D^1 \times \partial D^2}\right)$$

---

altri manici

m

$$H_q = D^q \times S^{m-q}$$

$$\partial H_q = \left(\partial D^q \times S^{m-q}\right) \cup \left(\cancel{D^q \times \partial S^{m-q}}\right) =$$

$$= S^{q-1} \times S^{m-q}$$

S^2

$$\partial\left(D^2 \times S^0\right) = S^1 \times S^0$$

H^2

H^1

$$\partial\left(D^1 \times S^1\right) = S^0 \times S^1$$