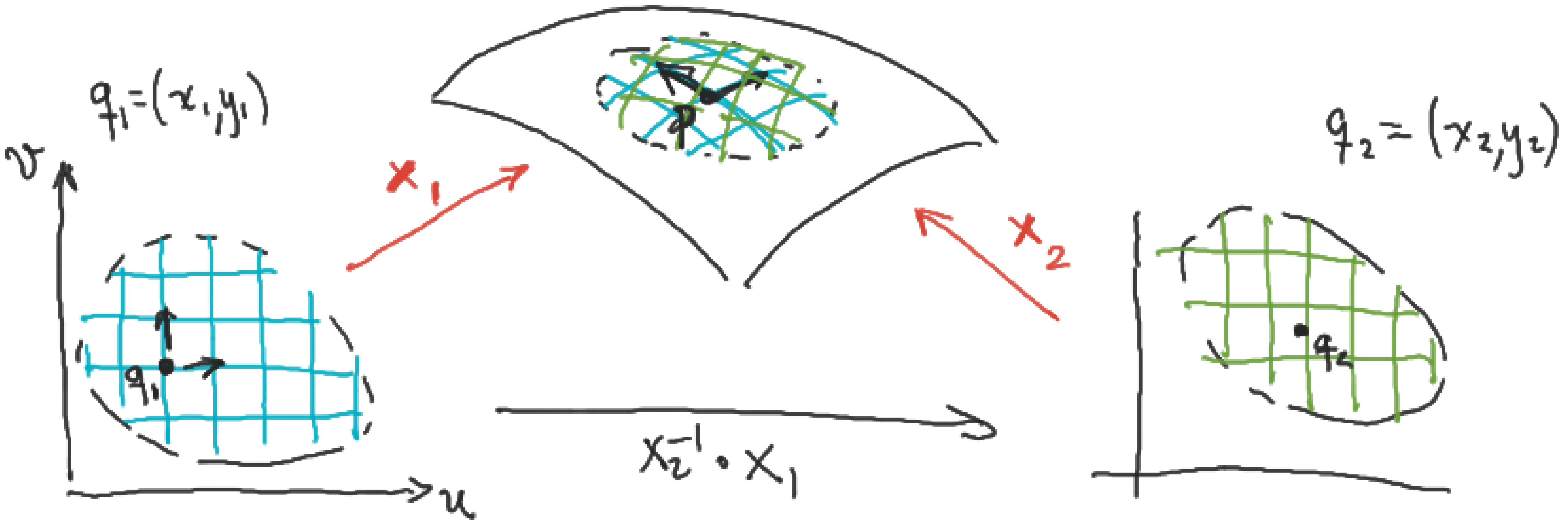
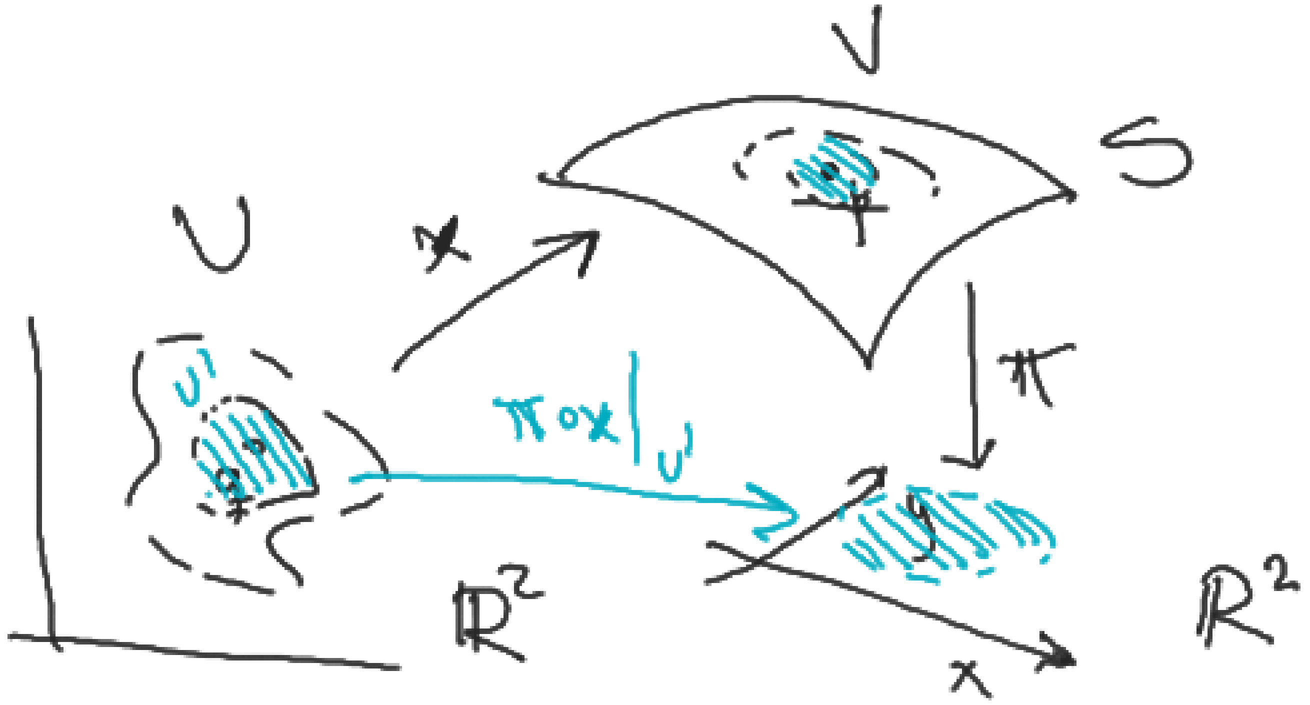




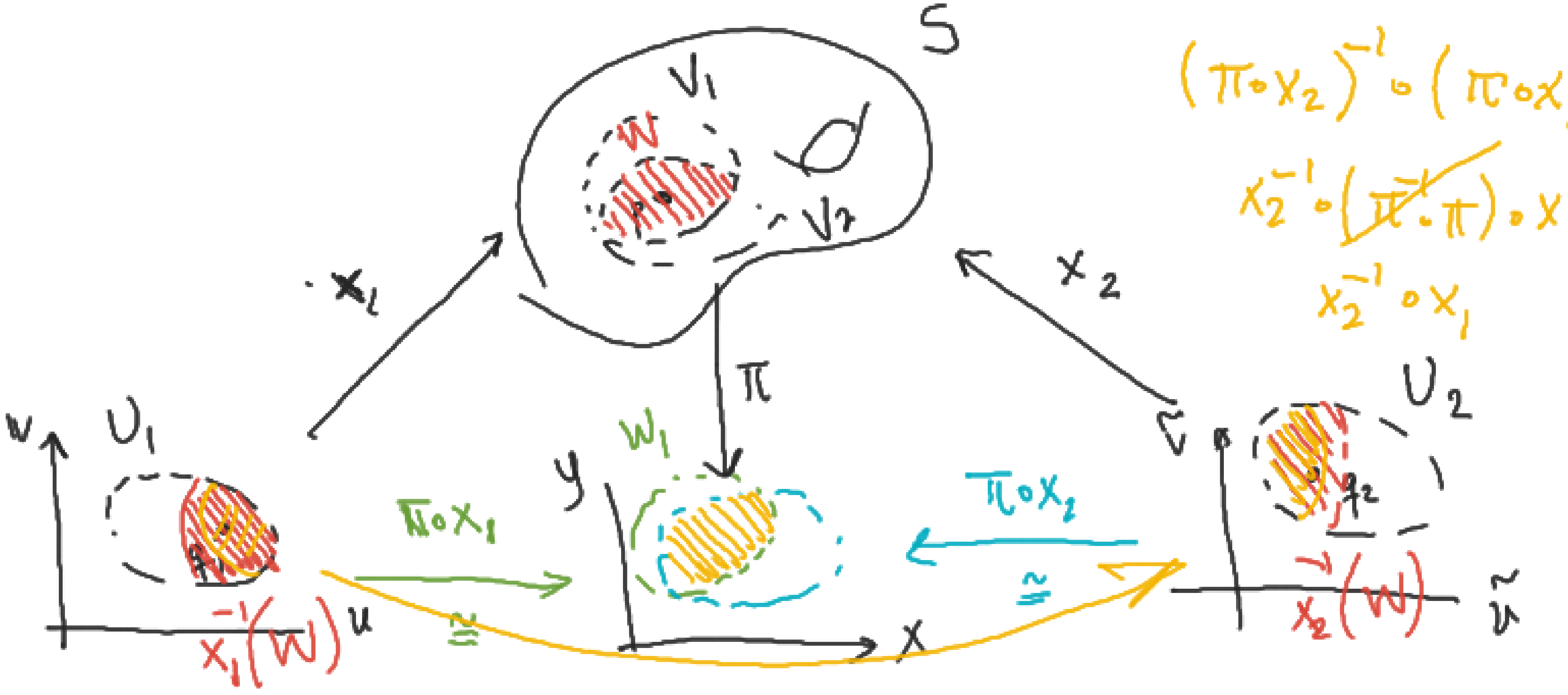
$$\pi \circ x : U \subseteq \mathbb{R}^2 \longrightarrow \mathbb{R}^2$$

$$D(\pi \circ x) = D\pi \circ Dx$$

$$= \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix} \begin{bmatrix} \partial_u x & \partial_v x \\ \partial_u y & \partial_v y \\ \cancel{\partial_u z} & \cancel{\partial_v z} \end{bmatrix}$$

$$= \begin{bmatrix} \frac{\partial x}{\partial u} & \frac{\partial x}{\partial v} \\ \frac{\partial y}{\partial u} & \frac{\partial y}{\partial v} \end{bmatrix}$$

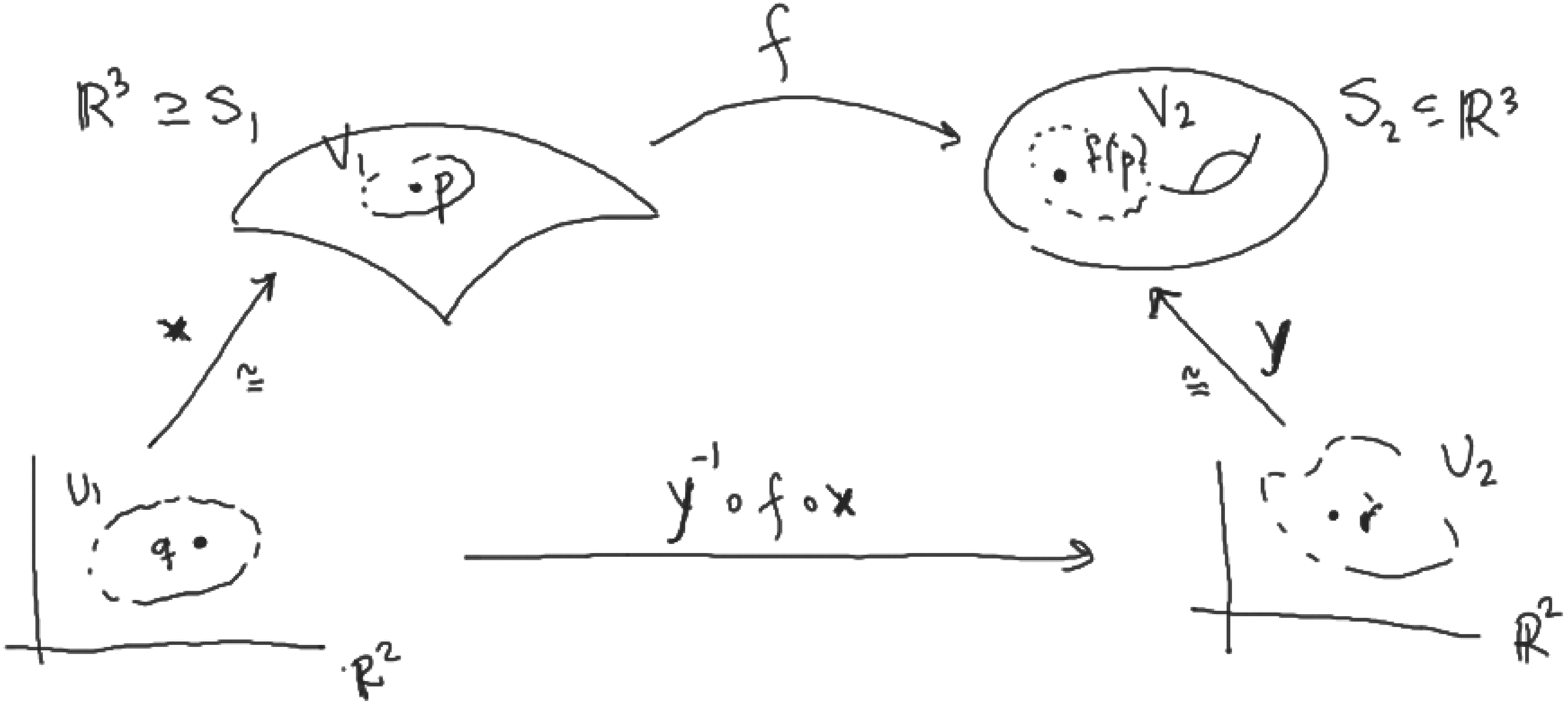
$$\Rightarrow \det(D(\pi \circ x)) \neq 0$$

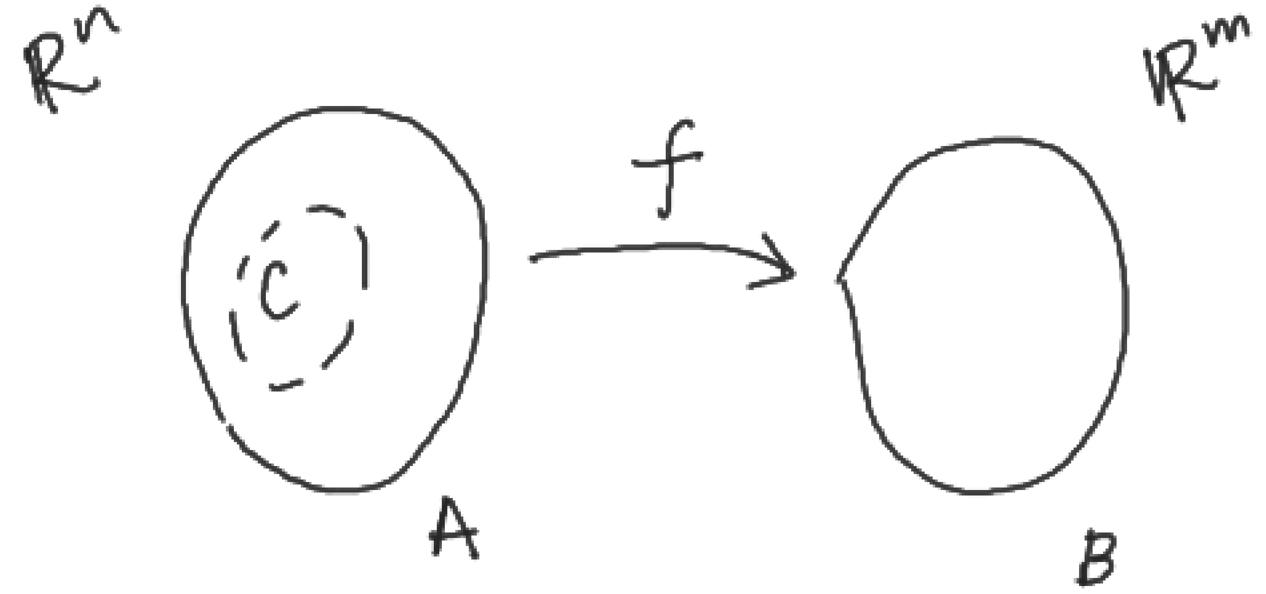


$(\pi\circ X_2)^{-1}\circ(\pi\circ X_1)$ difeo.

$X_2^{-1}\circ(\cancel{\pi^{-1}\circ\pi})\circ X_1$

$X_2^{-1}\circ X_1$


$\mathbb{R}^3 \supseteq S_1$
V_1
p
f
V_2
$f(p)$
$S_2 \subseteq \mathbb{R}^3$
x
$\cong$
y
$\cong$
U_1
q
$\mathbb{R}^2$
$y^{-1} \circ f \circ x$
U_2
r
$\mathbb{R}^2$



$\underline{C \subseteq A}$ tenemos un mapa de inclusión $\underline{i: C \longrightarrow A}$

$\underline{x \longmapsto x}$

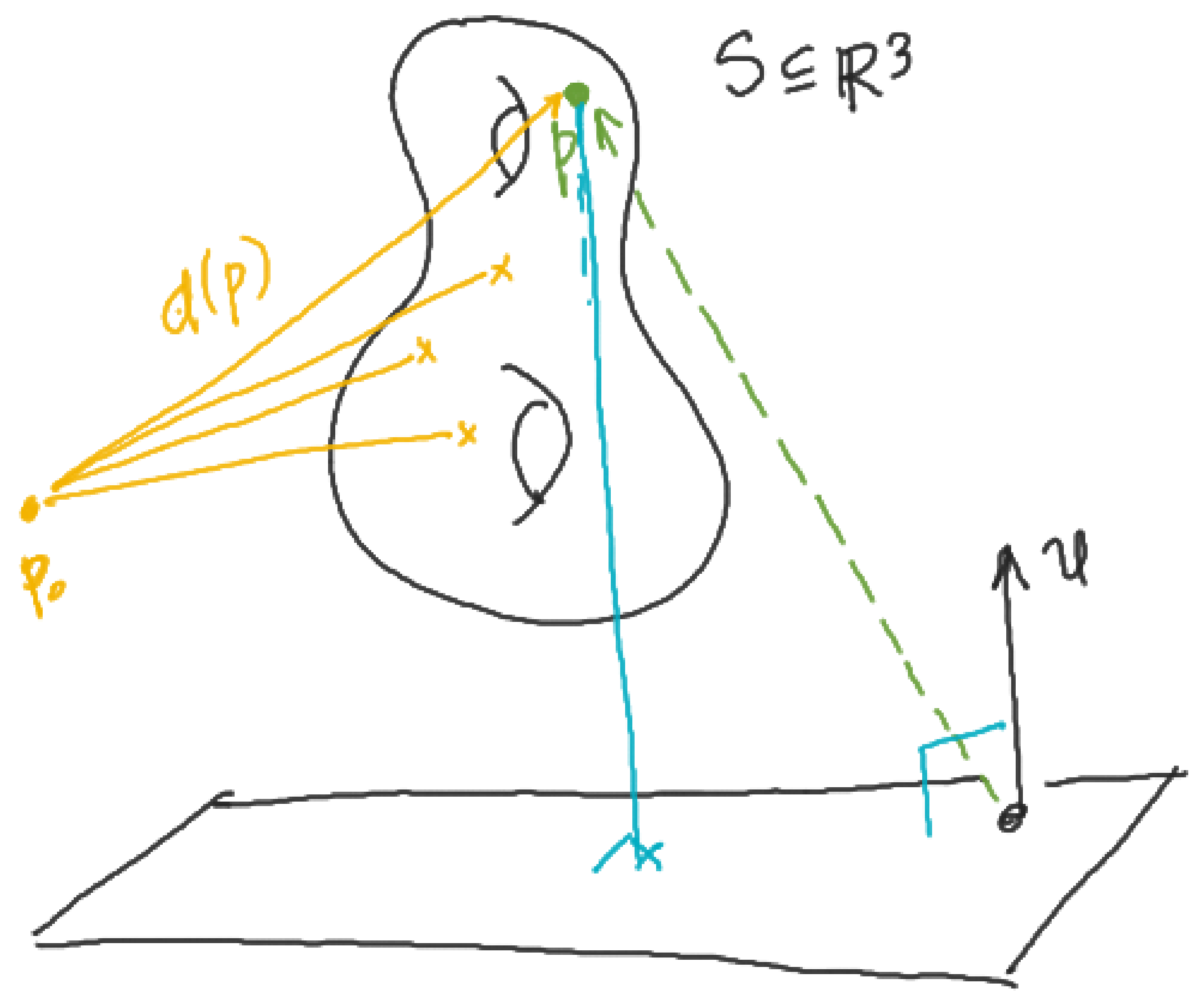
<u>Propiedades</u>: i inyectiva

i diferenciable con $Di(p) = Id$.

$f: V \subseteq \mathbb{R}^3 \longrightarrow \mathbb{R}$, f diferenciable $S \subseteq V$

$\boxed{f|_S = f \circ i}$ $\quad i: S \longrightarrow V \quad f: V \to \mathbb{R}$

Importante!!



$h: \mathbb{R}^3 \longrightarrow \mathbb{R}$

$h(p) = u \cdot p$

"altura de p respecto de u"

$h: S \longrightarrow \mathbb{R}$