The end of the proof is rushed only because the details are in the text.

*The induced orientation of ∂M is the restriction of all coord. patches of M to $\partial\mathbb{H}^k$, reflected with $r:\mathbb{R}^k \ni \begin{pmatrix} x_1 \\ \vdots \\ x_k \end{pmatrix} \mapsto \begin{pmatrix} x_1 \\ x_2 \\ \vdots \\ x_k \end{pmatrix}$ if k is odd. The corresponding Dror orientation is such that prepending the vector pointing out of M to a basis in the orientation of a point in ∂M will make that basis in the orientation of that point in M.

We didn't exactly prove this but it's extremely obvious from the preceding proof.

These are only a few results left, without much to do with Dror orientations, their proofs are summarized:

*Let M be an oriented n-1-manifold in $\mathbb{R}^n$

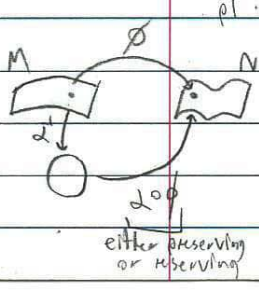
$\exists!$ bijection $\phi: \{\text{orientations of } M\} \to \{\text{continuous vectorfields on } M\}$

s.t. $\forall$ orientation of M, $\mathcal{O}$, $\forall p \in M$, $\|\phi(\mathcal{O})(p)\|=1 \wedge \phi(\mathcal{O})(p) \in \mathcal{T}_p(M)^\perp \wedge (\phi(\mathcal{O})(p), v_1, \dots, v_{n-1})$ is of the natural orientation of $\mathbb{R}^n$ where $(v_1, \dots, v_{n-1})$ are a basis of $\mathcal{T}_p(M)$ of the orientation $\mathcal{O}$

"pf": $\forall p \in M$, $\mathcal{T}_p(M)$ is n-1 dimensional so, $\mathcal{T}_p(M)^\perp$ is 1 dimensional. The fact that $\phi(\mathcal{O})(p)$ sits on a line & is of length 1 uniquely determines it to a sign, which the last condition takes care of. Given a continuous vectorfield on M that satisfies these conditions, we can apply ϕ^{-1} to it easily by just choosing at each $p \in M$, the unique orientation that satisfies the last property. As ϕ is determined by its conditions, it is unique.

For existance, the conditions define a unique value at every point, the difficulty is continuity. We can prove local continuity at every point $p \in M$ by looking at a coordinate patch $\alpha: U \to V$ of $p \mid \exists I \in \binom{n}{n-1}: \pi_I$ is a diffeomorphism on V. Then, at each $x \in V$, consider $(\zeta, \alpha_*(\alpha^{-1}(x); e_1), \dots, \alpha_*(\alpha^{-1}(x); e_{n-1}))$ where ζ has 1s on its Ith positions & 0s everywhere else. Let $F_i: (\mathcal{T}_x(\mathbb{R}^n))^n \ni$ be the ith step of the graham-schmitt process, as in, all but the n-i^{th} vector are unchanged while the n-i^{th} input is made orthogonal to the n-$i+1^{th}$ to n^{th} vectors. Each F_i is obviously continuous so, we can define our desired vector field to be $f(F_{n-1}, F_{n-2}, \dots, F_1(\zeta, \alpha_*(\alpha^{-1}(x); e_1), \dots, \alpha_*(\alpha^{-1}(x); e_{n-1})))$ where f normalizes the 1st input, & drops the rest. This function is continuous on V & satisfies all properties, as can be verified ∎

*Let M & N be oriented compact k-manifolds

; if $\phi: M \to N$ is C^r with max rank differential, it's either orientation preserving or reserving

"pf": In the proof that a manifold is Dror orientable $\Leftrightarrow$ it's Munkres orientable, we showed that a parameterization over an open set of a manifold must agree with the manifolds orientation over the entire open set if they agree with it at one point & must either agree or disagree at every point. This fact, along with the fact that at every point, ϕ_* is either orientation preserving or reserving allows us to prove this by considering $\{\phi \circ \alpha_i\}_i$ where α_i are coordinate patches on M. The idea is in the picture ∎