~~5~~ X set, Y uniform space, $Z \subseteq Y^X$.

The subspace uniformity of the product uniformity on Y^X is the pointwise uniformity (or $\mathcal{P}$ uniformity).

If $A \subseteq X$, we have $\mathcal{P}_A$ uniformity: smallest uniformity on Z that makes $Z \to Y^A$ uniformly continuous.

Propn: ① $\{(f,g) \mid (f(a), g(a)) \in V\}$ as a varies over A and V over $\mathcal{V}$ (the uniformity of Y) is a subbase for the $\mathcal{P}_A$ uniformity.

② The topology of the $\mathcal{P}_A$ uniformity is topology of ptwise conv on A.

③ A net $\{f_n, n \in D\}$ is Cauchy iff $\{f_n(a), n \in D\}$ is Cauchy $\forall a \in A$.

④ If $(Y, \mathcal{V})$ is complete and the image of Z under R in Y^A is closed relative to pointwise convergence on A, then Z is complete relative to the $\mathcal{P}_A$ uniformity.