In Example 18, it is mistakenly stated that for Hilbert spaces the topologies $\mathcal{T}_c$ and $\mathcal{T}_w$ both coincide with the weak topology; in an email, Miroslav Bačák pointed out to me that this cannot be the case. Here is a copy of my reply clarifying the situation (August 2011).

The topologies $\mathcal{T}_c$ and $\mathcal{T}_w$ both collapse to the ordinary topologies: *respectively the weak and norm* topology:

Let X be a Hilbert space. Then the weakest topology making all the functions

$$z \longmapsto d(z,x) - d(z,y) \qquad\qquad (x,y \in X)$$

continuous is the norm topology. Indeed, it suffices to provide neighbourhoods of $0 \in X$ in that topology that are contained in balls of arbitrarily small radius around 0. Let x be any unit vector and $0 < \epsilon < 1/2$. Then $V_+ \cap V_-$ is the requested set, where

$$V_\pm = \Big\{ z : d(z,0) - d(z, \pm x) < 1 - 2\epsilon \Big\}.$$

Indeed, $V_\pm$ is bounded by a hyperboloid with point of maximal curvature at $\pm\epsilon x$ and crossing $x^\perp$ along a sphere of radius $2\epsilon(1-\epsilon)/(1-2\epsilon) \to 0$ as $\epsilon \to 0$. Thus $V_+ \cap V_-$ is completely contained in the closed ball of that radius in X.

NM