SARF Proposal – Tracy Hicks

I propose to search the Smithsonian's collections and research centers for information about and correlations between human skin and frog skin – from cultural and historical as well as scientific perspectives. What I learn will help me create art that connects people viscerally to environmental change by connecting them to the frog species whose disappearance dramatically and tragically illustrates our mutual vulnerability.

So: Why frogs? Why skin?

In the center of my studio, where I sit and think and write, I am surrounded by dozens of glass tanks that hold hundreds of living frogs, mostly of the Dendrobatidae family. Show any 12-year-old kid a photo of one of these creatures, and he or she will likely identify it as a "poison dart frog" by the brilliant colors and intricate patterns on its skin. In the wild, where they selectively eat insects containing certain alkaloids, these frogs manufacture, store and transmit potent toxins through their skin. Their vivid coloration is a warning to predators to stay away.

Yet despite this brilliant (in all senses) adaptation, some of the species I breed are now presumed extinct in the wild. They have been wiped out in the course of just a few years by a fungus that has long been present in their environment – which, for reasons only partially understood, has suddenly become fatal to them. Ironically, this fungus, Batrachochytrium dendrobatidis, is absorbed through and primarily damages the skin. Thus their strongest means of defense – and defensive posturing – has become their point of greatest vulnerability.

Whatever environmental change has spelled doom for these frogs – and climate change appears to have some relevance – their virtually instantaneous extinction is an ominous portent for humans as well.

Which brings me to the matter of human skin. Biologically speaking, skin is the largest

human organ. Although its function is primarily protective, it is semi-permeable, blocking many substances from entering the body while letting others pass. It is also a remarkably transient organ, with new cells constantly being born below the surface, migrating upward, dying, being shed and replaced by new ones.

By virtue of being exposed to the view of others, skin has also acquired a potent and complicated cultural significance. The concept of "race," based primarily on skin color was taken as a scientific fact for centuries if not millennia, but is, in fact, a cultural artifact. In addition, humans across the globe use cosmetics, bleaches, paints, tattoos, scarification and other media to alter their skin or decorate it with patterns that rival the dart frogs' and often incorporate motifs from the animal kingdom.

"Skin is not only crucial to our health; it is also an important vehicle for self-expression. The eyes maybe the mirror of the soul, but the skin is the mirror of everything else," Nina Jablonski wrote in *Skin a Natural History* (University of California Press, 2006).

Humans also create elaborate second skins, again often using animal pelts, which serve not just to provide protection from the elements but to signal sexual prowess and availability (or unavailability), wealth, status, and tribal affiliations (from military insignia to gang colors).

Conversely, nakedness as a metaphor for vulnerability resonates emotionally and spiritually far beyond the actual physical vulnerability of being unclothed. Having clothing is the mark of a civilized being – at least in the eyes of cultures that consider themselves civilized.

Hence Charles Darwin's description, 150 years ago in *The Voyage of the Beagle,* of the "uncivilized" Fuegians: "At night five or six human beings, naked and scarcely protected from the wind and rain of this tempestuous climate, sleep on the wet ground coiled up like animals."

Skin, as the organ of touch, also represents our most visceral point of connection to the

external world, especially to other living creatures. From the baby at the breast to our erotic and sexual encounters, the touch of skin on skin is central to human bonding and intimacy.

The experience of holding a frog in one's hand also evokes a powerful response in most people – a response I see again and again among visitors to my studio. You feel the frog's moisture, you feel its life. Most adults can remember catching and holding a frog in the back yard or on a nature hike. In the future my grandchildren may have that experience only in zoos.

The Smithsonian itself, on a vastly different scale and level of scholarship, is a perfect mirror of my studio. I have spent most of my life creating collections, interpreting and then reinterpreting them while always collecting more. My studio walls and windows are covered with thousands of created and found artifacts. In the past dozen years my collecting trips have taken me to Guatemala with leading herpetologists and into the vaults of the Field Museum and the University of Kansas natural history collection.

The Smithsonian's collections and researchers encompass a wealth of resources germane to my explorations, spanning a host of disciplines. To date I am in conversation with: Roy McDiarmid, an anuran larvae researcher at the National Zoo; Christine Mullen Kreamer, deputy director and chief curator at the National Museum of African Art; Dennis Stanford, an anthropologist at the National Museum of Natural History; and Ron Heyer, a herpetologist at the National Museum of Natural History. In addition, the Mütter Museum of the College of Physicians of Philadelphia has relevant resources, which Curator Anna Dhody has agreed to make available.

These connections are merely a starting point. As I continue to plumb the Smithsonian's unparalleled resources, roving across museums, centers and disciplines, I expect to find even deeper and richer veins of correlations to be mined.