

Science in culture

Great, not gruesome

Pat York's photographs of dissected humans represent a fine body of work.

Martin Kemp

The notable eighteenth-century German anatomist Bernhard Siegfried Albinus demonstrated that skin colour — the characteristic we use most readily to judge someone's ethnic origins — was literally a superficial matter. He also disclosed, not least through the stylish illustrations he commissioned from Jan Wandelaar for his grand *Tabulae sceleti et musculorum corporos humani* in 1747, that the inner topography of the dissected body was no less wondrous and beautiful than its exterior. How could it be otherwise, as anatomists had long claimed that the human frame was God's greatest achievement as divine engineer?

These themes are reincarnated in Pat York's remarkable photographs of dissections performed by the Los Angeles anatomist Marc Pick. Over the course of seven years, York has been granted regular access to the products of Pick's manual, intellectual and creative skills. She describes what she has witnessed as "one of the most awesome experiences of my life" and adds: "I feel an unwonted affinity for these still, complex bodies."

On the face of it, such ostensibly gruesome subjects could hardly represent a sharper contrast to the images that first gained her fame, namely her portraits of celebrities, mostly from the Hollywood world of film. Yet when we look back on how she has presented the famous, and also at her suites of photographs of workers in the nude and of vibrant people over 75 years old, we can see that she has always been interested in what lies below the surface. The body, the face and the eyes have

always acted for her as a "window to the soul".

Now, in a work such as *Universal Self-Portrait*, shown here, she is re-examining our relationship with our own bodies. Superbly executed, direct and starkly compelling, the image challenges us to look again at what we all have inside ourselves but



prefer not to confront visually or emotionally. We find it more comfortable to live our lives on the surface of who we are defined as being. In her image, the brain, folded like some complex product of vast geological torsions, is the seat of much of what makes us individual, yet she emphasizes that "the body, when the skin is peeled away, has no distinctions of colour, race or religion".

The strange wonder of our inner selves draws York into the biggest issues that have confronted humanity over the ages. "We all have souls, we all have hopes and dreams, both fulfilled and

otherwise, and we all have loves and passions. Where are those souls now? Have they been reincarnated? Are they in heaven? Is there just a void?" She continues: "We all share this miraculous, complex interior — far more complicated than any technological advances we have made in our society. I am constantly mesmerized at the complexity of the human experience, and baffled by the existence of hatred and violence. If only in life we could see our similarities — differences do not apply. It seems ironic that the only thing we are sure about in life is that we shall die, the one fact we all seem to wish to escape. *Universal Self-Portrait* is all of us."

Albinus subscribed to the traditional notion that the justification for dissection was to "know thyself". Pat York's work stands centrally in this tradition in a way that the flashy, opportunistic and exploitative displays of Gunther von Hagens do not. Von Hagens poses beautifully dissected bodies in irrelevantly rhetorical poses. The great anatomists knew that presentation, pose, significance and communication should be totally integrated if they were to do their momentous job with the highest levels of integrity. York's pictures of the dissected body similarly allow no compromise in allying form and meaning.

York's photographs went on display this week at the Galerie Gmurzynska in Cologne, Germany, where they can be seen until 23 October.

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human. The piece on the physiology of the camel in the section on salt and water is masterly, and there are fascinating descriptions of the interaction between primitive life and Earth's early atmosphere. There is also a beautifully worked analysis of why you should never drink sea water.

The chapter on nutrition and survival, although generally excellent, does perpetuate some rather outdated views. For example, it states that the main difference between the forms of malnutrition known as marasmus and kwashiorkor is in the level of protein intake; elsewhere in the book, the author mentions the more current idea that kwashiorkor and its accompanying oedema are more a product of free-radical membrane damage than low protein ingestion. There is also misleading information about the

subsequent reintroduction of normal nutrition (refeeding), and there are some rather simplistic views on vitamin deficiency. These include the idea that the main problem with vitamin A depletion is ocular, whereas we now know that vitamin A deficiency also impairs responses to infections of the gut and respiratory tract, leading to deaths in people who have very little or no eye damage.

Biology and engineering are mixed even more freely in the second half of the book than in the first. Descriptions of the technical engineering solutions to the high pressures of the deep sea and low pressures of the high mountains are balanced excellently with descriptions of pressure physiology and the illnesses that can stem from pressure change. Just as in the earlier part of the book, in which problems caused by the cold are illustrated

by compelling tales including those of Scott of the Antarctic and the *Titanic*, the author uses famous disasters to bring the issues in this section to life. The sinking of the Russian submarine *Kursk* is used to great effect.

Towards the end of the book there is a surprising but topical diversion into survival in the face of nuclear, biological and chemical weapons of mass destruction. This is a rather depressing digression, but it is both interesting and relevant.

The book ends with a section lifting us away from Earth's limitations to describe the exciting physiology and engineering of high-performance aircraft and space flight. The final chapter even speculates on the requirements for and limitations to future human colonization of other planets, and so ends on a positive note, as will I. There is no doubt