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ANATOMY IN ACTION

(Summary of Honors Project)

Submitted to
SIU Honors Program

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Around 3400 B.C., Menes, a king-physician during the first Egyptian dynasty, wrote what many believe to be the first anatomy manual. Since that time, countless others have studied human anatomy. Although it began as a simple naming of anatomical structures, the study of anatomy has evolved into an attempt to fully understand organ system function and apply that understanding in clinical situations. By studying anatomy, one can better appreciate how remarkable the human body actually is. Shakespeare once wrote, "What a piece of work is a man! How noble in reason! How infinite in faculty! In form and moving how express and admirable! In action how like an angel!" (Hamlet 2.2.315-319). Similarly, I find the human body beautiful while in motion and have adopted Anatomy in Action as the title of my Honors Project. The following is an account of what my project consists of, why I did it, and how I went about the process.

My project is composed of a series of anatomical drawings, or more properly, medical illustrations. Each illustration features a different physical activity and highlights a specific aspect of anatomy. For example, one illustration features a pole vaulter with the skull blown up and labelled in detail. My goal was to illustrate each major organ system of the body at least once.

Why did I choose to do this project? There are many answers to this question. As a Pre-Med student, I wanted to do something that would benefit me once I entered medical

school. This semester, I have been taking my first human anatomy course and lab. At the SIU School of Medicine, (where I will be attending school beginning this fall), anatomy is one of the first subjects that is taught. I thought that by learning anatomy well this semester, my entry into medical school would be less stressful initially. In addition, I enjoy drawing and have taken an art and a design class while a student at SIU-C. I thought that this was an excellent way to improve my artistic abilities as well as express the scientific knowledge that I acquired during my studies as an undergraduate in the College of Science. Moreover, I believe that by actually drawing the structures I see in my anatomy lab, I gain a better, longer lasting knowledge of them.

I started this project unsure of exactly how it would be conducted. My project advisor, Dr. Russ Wright, suggested looking at various anatomy books that were done by, Frank Netter, a famous medical illustrator. These drawings gave me a better understanding of what the anatomical aspect of my drawings should look like. Continuing my research, I read through several art books to learn more artistic techniques that would help me with the actual drawing of my illustrations.

At this point, I began to sketch and draw the human body, bones, skulls, and muscles to develop my own style and techniques. Once my practice drawings appeared unmistakably human, I began my first official medical illustration. I

decided that pencil should be my main medium because any mistakes are extremely easy to correct.

I began by thumbing through back issues of Sports Illustrated to give me a good feeling for the action aspect of my project. After some preliminary sketches, I began working on my first few drawings. As I worked, I rapidly discovered that these drawings were not as quick and simple to draw as I initially thought they would be. One problem I encountered was how best to draw the fine detail of extremely tiny structures in my drawings. I decided to use a blow-up technique. For instance, I would circle an object, extend lines from it, and draw a larger circle within which I would make a detailed illustration of that object. This technique allowed me to show the minute aspects of the anatomy without disturbing the action portion of my drawing.

Once I finished a few illustrations, I thought about how I could present these to the Honors Program in a final form. My black and white drawings did not look impressive, so I decided to use colored pencils to add some excitement to them. Unfortunately, I did not want to color my originals and turn them in, leaving me empty handed for all of my hours of work. Therefore, I decided to make photocopies of the originals and color them. This worked beautifully, and the photocopies came out looking even better than the originals. (This seems to be due to the increased black and white contrast in the photocopies.)

During the following weeks, I attempted to make my illustrations coincide with the topics that were covered in my anatomy lab. I tried to complete one drawing per week, as time allowed, which helped me keep up-to-date on our lab material. Although my drawings represented only a small fraction of the information presented in class, my work on them kept me constantly thinking about anatomy and helped me to perform well on the midterm laboratory examination.

During this year's spring break, I went to Estes Park, Colorado. When I returned to school, the beauty of the Rocky Mountains inspired me to do a few drawings based upon this theme. Unfortunately, as the semester continued I ran into another problem. How was I to represent all of the human systems in action? For instance, I thought that a drawing of the human reproductive system in action would be in poor taste. Therefore, with my Thesis Director's approval, I decided to limit my project to those systems that are involved with movement of the human body. As my drawing continued, I noticed that the quality of the illustrations improved. Obviously, there is some truth to the famous statement, "Practice makes perfect."

This project has taught me many things. First, the medical illustrations themselves have helped to increase my understanding of human anatomy and many of the fundamentals have been permanently ingrained into my brain. Second, I have gained an increased respect for those that pursue medical illustration as a career. I spent many tedious

hours drawing, erasing, and redrawing until structures were as anatomically correct as I could make them. It is much more difficult to represent the internal aspects of human anatomy in a pleasing form than I had imagined. Anyone who can do this on a daily basis, for a lifetime, definitely deserves my respect. In addition, my artistic ability has improved, and I have added several new art techniques to my repertoire.

Lastly, along with this project summary, I have presented a collection of the best illustrations I created this semester. Each drawing is titled and various structures are labelled with the correct scientific terminology. In all, I attempted to present a basic collection of the anatomy that I have studied this semester which is involved with human movement. Although many times anatomy students get carried away with looking closely at human anatomy, my drawings can be appreciated from a distance as merely the beauty of Anatomy in Action.

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