

# ***The Art of Cytology***

*An Illustrative Study Guide  
with Micronutrient Discussions*

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## DEDICATIONS

### **\*Susan Dingler, BFA, CT (ASCP), (IAC)\***

*My former cytotechnology teacher at William Beaumont Hospital who taught me how to screen thoroughly and decipher fine cellular detail. She also critiqued all of my cell drawings and criteria, and edited the manuscript.*

### **\*Edward G. Bernacki Jr, MD\***

*My former teaching cytopathologist from William Beaumont Hospital who examined my illustrations and criteria and reviewed the manuscript.*

### **\*George N. Papanicolaou, MD (1883-1962)\***

*Pathologist and founder of the “Pap” smear or “Pap” Test  
He studied the cyclical hormonal patterns of vaginal and cervical cells, and “he described the importance of a distinct cellular pattern corresponding to cervical intra-epithelial neoplastic lesions. The value of this pattern, expressing evolutionary steps in the development of cancer at individual cell levels, was not appreciated” (Broso PR, 1993).*

### **\*Dr. Charles Butterworth, Jr., MD (1923-1996)\***

*Tireless hematologist and pathologist who spent much of his life researching folic acid, and he was first to witness its miraculous effects on curing megaloblastic anemia during pregnancy and tropical sprue. He was also instrumental in improving patient nutrition in hospitals and for years fought an uphill battle with established medicine to include nutrition in patient care as well as in physician education programs.*

### **\*Dr. Van Niekerk, Ruth Graham, and Dr. Klaus\***

*They observed that folic acid deficiency cell changes could be detected in squamous cells on Pap smears, and that these cell changes occurred well ahead (8-10 weeks) of any blood cell changes observed on blood smears. They also helped establish the cytological criteria for folic acid deficiency's early detection.*

### **\*Roger Williams, PhD (1893-1988)\***

*Discoverer of more vitamins than any other person, including the B vitamins folic acid, thiamin, and pantothenic acid. Author of four textbooks on organic and biochemistry.*

### **\*Dr. Kilmer McCully\***

*A Harvard and VA Hospital research pathologist and biochemist who discovered the “homocysteine theory” in 1969 which proved how too little folic acid, B12, and/or B6 coupled with too much methionine from protein raises homocysteine blood levels, and how high homocysteine blood levels is a potent independent risk factor for arteriosclerosis. Dr. McCully was ostracized by his colleagues for believing that something other than cholesterol could cause heart disease.*

### **\*Linus Pauling, PhD (1901-1994)\***

*The only person to have ever won two unshared Nobel Prizes—in 1954 for Chemistry and in 1962 for Peace. Founded the theory of Orthomolecular Medicine which tries to restore the optimum ecological environment for the body's cells by correcting imbalances or deficiencies on the molecular level, based on individual biochemistry, using natural substances such as vitamins and minerals. Dr. Pauling's theory was rejected by established allopathic medicine.*

*(“Great Spirits have always encountered violent opposition from mediocre minds” -Albert Einstein)*

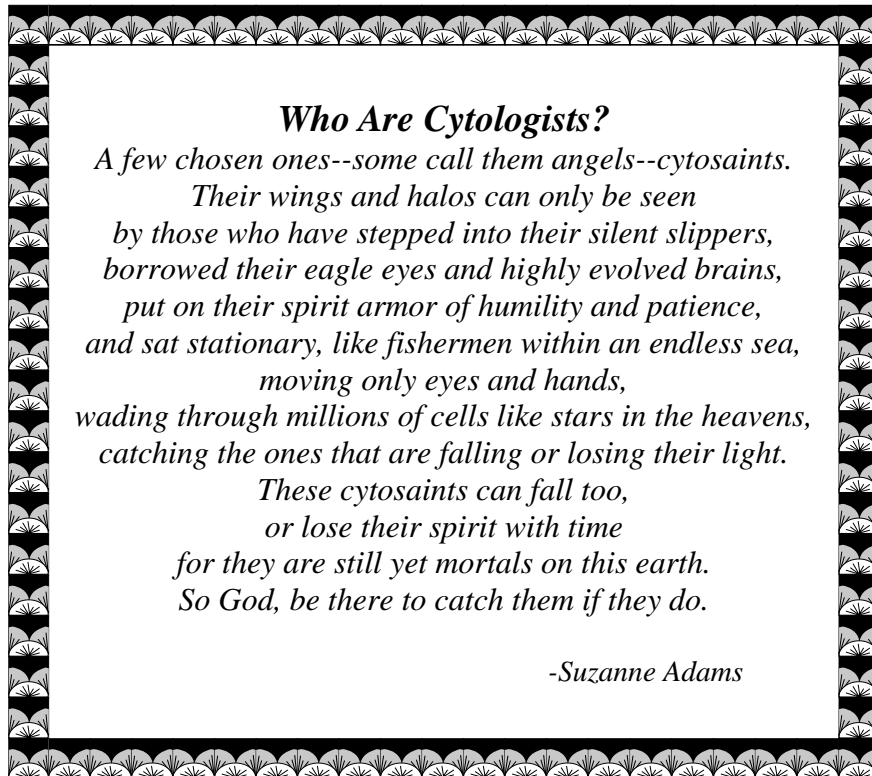
### **\*The Vitamin Angel Alliance\***

*Whose work bringing vitamins and minerals to impoverished nations around the world is saving innumerable lives—[www.vitaminangelalliance.com](http://www.vitaminangelalliance.com)*

## **DEDICATIONS**

***\*And to all the Cytosaints of the World\*  
who carefully screen and evaluate cells for cancer  
and related diseases, and do it on a daily basis!***

***Thank You Cytologists!***



***....all good works are done in the absence of a caress.***

*-Leonard Cohan*