Why does the medical establishment ignore a century of research pointing to tuberculosis-type "acid-fast" bacteria as the cause of cancer? TB-type bacteria can be seen in specially-stained tissue sections of cancer tumors and viewed under the highest magnification of the light microscope at a magnification of 1000 times, under oil immersion. So why isn't this simple microscopic procedure performed in cancer?

As long ago as 1890, Scottish pathologist William Russell discovered "a characteristic organism of cancer" in every cancer he examined; and other pathologists of that era confirmed his findings. Yet, a century ago, the powers-that-be in medical science ignored this research and declared emphatically that bacteria were not the cause of cancer. The reasoning behind this dictum was that cancer did not act like an infectious disease, nor was it communicable. We know now this reasoning was false. Many scientists believe viruses cause cancer; and sexually-transmitted cancer-causing viruses can be passed from person-to-person as well.

For more than a half-century, the cancer microbe has been reported as a pleomorphic, intermittently acid-fast bacterium closely related to the acid-fast mycobacteria and to Mycobacterium tuberculosis, the acid-fast microbe that causes tuberculosis (TB). The acid-fast stain is a time-honored laboratory stain specifically used to detect TB-type mycobacteria in tissue and in culture. Virginia Livingston M.D. (1906-1990) was the foremost proponent of the bacterial cause of cancer. She was the first to discover that the acid-fast stain was the key to the detection of the cancer germ, both in tissue (in vivo) and in laboratory culture (in vitro). Livingston, along with microbiologist Eleanor Alexander-Jackson, cell cytologist Irene Diller, and chemist and TB expert Florence Seibert, all reported that the cancer germ was pleomorphic (meaning it has various appearing growth forms) and was filterable, indicating that in certain stages of its life cycle the microbe was virus-like and submicroscopic. Bacteria can be seen with the light
microscope; the much smaller viruses cannot. (For more information on the acid-fast stain, mycobacteria, and pleomorphism, simply Google those key words.)

What do the bacteria in cancer look like? Cancer microbes in vivo are primarily in the cell-wall-deficient (CWD) form. As a result of the loss of a cell wall, the bacteria appear as round, coccus-like, granular forms that are found both within the cell (intracellular) and outside the cell (extracellular). Various types of bacteria may all look similar when in the CWD form. In the body and in the laboratory CWD bacteria (also known as "mycoplasma") have the amazing capacity to enlarge in size. These so-called round "large bodies" can attain the size of red blood cells and even larger. When seen in cancerous tissue these large bodies of bacteria can resemble large spore forms of yeasts and fungi, perhaps explaining why some researchers claim Candida and other fungi are the cause of cancer.

Russell's nineteenth century "parasite of cancer" is now recognized by pathologists as "Russell bodies." Pathologists generally believe these large forms are "immunoglobulins" and they do not accept them as microbial in origin. It is my contention that Russell bodies represent large, variably-sized CWD forms of bacteria in vivo; and that is why both coccic forms of CWD bacteria, as well as Russell bodies, can both be identified in cancerous tissue. (For more details and microphotographs, see my paper "The Russell body: The forgotten clue to the bacterial cause of cancer," posted on the joimr.org and the rensê.com websites; and view my video lecture "The cancer microbe and the Russell body," currently available on Youtube.com.)

Why aren't cancer bacteria recognized by pathologists and oncologists? As mentioned, bacteria were excluded a century ago, and medical science never looked back. The result was that any physician who persisted in cancer microbe research was never taken seriously and was often viewed as a medical pariah. There are less than a handful of living physicians in the world who actively promote cancer microbe research. Erik Enby is a 70 year-old Swedish physician, whose accomplishments are cited in the Wikipedia. Nevertheless, his medical license has recently been revoked by the government for his belief in cancer-causing bacteria. I am currently regarded by the Wikipedia as a "conspiracy theorist in the field of cancer microbiology."

Although largely ignored, the microbiology of cancer has a rich history. Details of this research can be found in my books, The Cancer Microbe, and Four Women Against Cancer: Bacteria, Cancer, and the Origin of Life. At present, doctors generally regard cancer-associated bacteria as laboratory "contaminants" of no consequence, or as "secondary invaders" of diseased tissue. However, cancer bacteria can be observed in precancerous conditions and in areas distant from the tumor. In general, microbiologists have been silent regarding bacteria in cancer and some remain skeptical about bacterial pleomorphism. Over the past decade British microbiologist Milton Wainwright has written extensively about the history of the cancer microbe
and his reports are easily accessible on the Net. In Current Trends in Microbiology in 2006, he wrote: "There are signs that more consideration is being given towards the potential role of non-virus microorganisms in cancer, a fact reflected in the recent appearance of major reviews on the subject, and the consideration of novel approaches such as the possible role of nanobacteria in carcinogenesis. It remains probable however, that until the potential role of non-virus microorganisms in carcinogenesis is taken seriously, and a massive research effort is directed towards determining their role in carcinogenesis, we will face another century when the solution to the enigma of cancer may be staring us in the face, only to remain ignored."

In retrospect, it was premature and irrational a century ago to discard bacteria in cancer because the science of bacteriology was in its infancy. Nothing was known about CWD forms and filterable virus-like forms of bacteria. The recent acceptance (after a century) of bacteria (Helicobacter pylori) as the cause of most stomach ulcers is a case in point. For several decades after his 1940 discovery of peculiar S-shaped bacteria in stomach ulcers, A. Stone Freedberg MD stood alone. His research was totally ignored because doctors believed that bacteria could not exist in the acid environment of the stomach. A half century later, these same bacteria were finally accepted and are now a major factor in the development of stomach cancer. Two Australian scientists (Barry Marshall and Robin Warren) received a Nobel Prize in Medicine in 2005 for proving this. Interestingly, in 1998, a new tumor-like stomach lesion was discovered called "Russell body gastritis."

In order to recognize CWD bacteria in cancer in vivo, one must know what they look like. Physicians are taught that bacteria have a certain fixed type of appearance. Most know little about the pleomorphism of CWD bacteria, particularly the acid-fast mycobacteria. In TB the microscopic appearance of the typical red- staining "acid-fast" rod-shaped bacillus of M. tuberculosis is well-known. However, the pleomorphic CWD forms of M. tuberculosis and mycobacteria look entirely different from the typical rod form. CWD forms in vivo appear primarily as small, round coccal and granular forms. They stain poorly, if at all, with the time-honored Gram stain for bacteria. In addition, the routine stain (hematoxylin-eosin stain) used by pathologists to diagnose cancer is not suitable to demonstrate CWD bacteria. To demonstrate the typical red-staining rods of M. tuberculosis, an "acid-fast" stain is required.

Likewise, in cancer an acid-fast stain is necessary. However, in cancer it is almost impossible to find acid-fast rods typical of mycobacteria. As a result of all this, CWD bacteria in cancer are not recognized; and the large body forms are passed over as Russell bodies of dubious significance. Examples of the microscopic appearance of intra- and extracellular cancer microbes in acid-fast stained tissue sections (viewed at a magnification of 1000 times, in oil) are shown in breast cancer, lung cancer, Hodgkin's disease (lymphoma), Kaposi's sarcoma, AIDS-related immunoblastic sarcoma, and prostate
cancer in Figures 1-7. Note that the microscopic appearance of CWD bacteria in vivo appears similar in various types of cancer, and consists primarily of small coccoid forms, resembling the size and shape of ordinary staphylococci.
Can the cancer microbe be seen in diseases other than cancer? Further complicating the bacteriology of cancer is the observation that similar-appearing microbes can be seen in vivo in certain chronic diseases, such as lupus, scleroderma, sarcoidosis, and others. Livingston claimed that all human beings carried cancer microbes; and she postulated these microbes were closely connected with the origin of life. In the healthy state these microbes caused no harm and were beneficial. However, when the immune system was weakened, these bacteria were capable of inducing a variety of human illnesses, including cancer. CWD bacteria may prove to be the cause of many illnesses currently regarded as "of unknown etiology." Because submicroscopic forms of CWD bacteria are virus-sized, they may be confused with ordinary viruses. CWD bacteria are also resistant to antibiotics and are difficult (if not impossible) to eradicate or subdue, at least in the current state of our knowledge.

Are these microbes the true cause of cancer? Although bacteria can be identified in cancer, there are obviously other well-known factors that can
induce cancer, such as sunlight in skin cancer, smoking in lung cancer, radiation-induced cancer, etc. But in each case it may require these ever-present bacteria to induce the cellular changes of cancer. The demonstration that these microbes are found within the cell and even within the nucleus (as shown by Irene Diller) indicates that these agents may access the genetic material of the cell, thereby transforming the cell to a cancerous state. In this respect, CWD forms may act like viruses. Studies by Douglas Robinson MD show that bacteria (like viruses) may swap genes back and forth between the infected cell and the microbe.

If cancer is finally accepted as an infection with bacteria it could explain why some people develop two or more different kinds of cancer in their lifetime. At present, physicians believe each type of cancer is different, each requiring its own special type of treatment. Because physicians do not believe in the existence of a cancer microbe, there has been no therapy devised to treat this infection. In my view, Virginia Livingston’s greatest contribution was her observation that the microbe could be detected in all cancers in vivo with an acid-fast stain. Only when physicians learn to recognize and accept these infectious bacteria in cancer can we begin to design appropriate therapies against them.

(Dr. Cantwell is a retired dermatologist. A full list of his published scientific reports can be found at the PubMed website. His books are available through Aries Rising Press (www.ariesrisingpress.com) and also through Amazon.com and Book Clearing House @ 1-800-431-1579. E-mail: alancantwell@sbcglobal.net.)

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LEGEND FOR PHOTOGRAPHS (7)

Figure 1. Tissue section of breast cancer showing (in center) tightly-packed intracellular coccoid forms with some forms loosely attached to the cell.
Figure 2. Additional view of breast cancer showing two areas (one below center and the other on the right) of intracellular coccoid forms.
Figure 3. Tissue section of lung cancer showing tightly-packed intracellular coccoid forms.
Figure 4. Tissue section of Hodgkin's disease showing intracellular and extracellular coccoid forms in the connective tissue at autopsy.
Figure 5. Tissue section of fatal AIDS-related Kaposi's sarcoma of the skin showing two foci of coccoid forms.
Figure 6. Tissue section of fatal case of AIDS-related immunoblastic sarcoma of the face. Three red-stained typical acid- fast rods are seen in the center. These forms are extremely rare in cancer. Mycobacterium avium-intracellulare was cultured from the tumor.
Figure 7. Tissue section from prostate cancer showing a focus of closely-knit coccoid forms as well as scattered forms.