Did the Biologists Get a Gut Feeling?
M. Delgado et al., a team of cell biologists from Madrid, has discovered the remarkable effect of a vasoactive intestinal peptide (VIP) on experimental arthritis (Nat Med. 2001; 7:563-568). VIP is a neuropeptide present in lymphoid tissues that elicits a broad spectrum of biological functions including the modulation of immunity and an anti-inflammatory action.

An inflammatory arthritis with bone and cartilage destruction, similar to rheumatoid arthritis, was induced in mice using type II collagen immunization and Freund’s adjuvant. A single dose of VIP delayed the onset of arthritis in these mice and reduced its severity. Doses administered daily or every other day protected the mice against the disease.

After VIP treatment, histopathology showed complete abrogation of the synovial inflammation, pannus formation, cartilage destruction, and bone erosion. Furthermore, there was no remission 2 weeks after cessation of treatment, leading the authors to believe VIP may be a viable candidate in the future for treating rheumatoid arthritis.

C-Reactive Protein
C-reactive protein (CRP) has been a friend of the rheumatologist for 50 years. It is a key component of the innate immune system. Adherence and phagocytosis are enhanced through leukocyte receptors by CRP bonding to bacterial polysaccharides.

CRP concentration increases in many types of inflammatory conditions and falls after their resolution. Hence, its value as a monitor in rheumatoid arthritis (RA). Perhaps one of its most significant functions is complement activation in the serum and synovial fluid of patients with RA (Arthritis Rheum. 2001; 44:997-1002). It has been shown to concentrate in pannus and ischemic heart muscle, leading to speculation that it assists in removal of tissue debris and dying and dead cells. However, its presence in ischemia and autoimmunity could be detrimental depending on its concentration and effect on already damaged cells.

C-reactive protein’s role in complement activation may move it from its traditional role as a simple reflection of the inflammatory process in RA. This explains current interest in the outcome of a clinical trial using a complement inhibitor.

Pinching Patents Permitted?
While courts are gearing up for monumental battles on the right to patent bits of us that have been in existence since nature fashioned living creatures, the sanctity of patents already granted is being attacked.

At the center of the first controversy is accepting the right to obtain patents on segments of our genes. That right poses the question, “Should anyone be allowed to patent that which is not new?” Gene-based patents currently require a demonstrable “specific, substantial, and credible” use for the gene to be patented. Patenting of genes also may reduce, if not actually exclude, access to developments from these genes.

The second controversy is not related to genes. The patenting process and the protection it has afforded in the past, applied to inventions, is about to be challenged. Gary Stix (Scientific American. 2001:86) alerts us to the possibility of minor, even insignificant, alterations to a patented product being granted a new patent for a copycat inventor.

The Federal Circuit Court of Appeals decision in Festo v. SMC (November 29, 2000) was a blow against the doctrine of equivalents, which protects inventors against a different but functionally equivalent product. Currently, inventors amend their patent applications in back and forth negotiations with the patent examiners. A copycat can now look at any of these amendments and design a “new” invention with only minimal alterations.

Whatever Happened to Virchow?
Dr John Goodfellow gave an address to the American Academy of Orthopaedic Surgeons several years ago entitled, “Whatever Happened to Virchow?” Those of us whose medical education included reference to that huge body of 19th century European medical pioneers can remember names such as Virchow, Charcot, Koch, and many others.

Dr Goodfellow filled a lecture hall with thousands eager to know about Virchow. But having cleverly used our curiosity to get us there, he gave an important talk on postgraduate education without revealing what happened to Virchow.

Blue Notes can bring to you, at least, the bond we share with him in the form of “A Report to the Kaiser”:

To Whom It May Concern.

In the past year, we have been so extensively authorized, approved, inspected, renovated, elevated, visited, consulted, circularized, informed; and have completed so many forms, orders, questionnaires, and reports that no medical progress has been made.

Rudolf Virchow
Berlin 1865