

Chapter 5

Medical Words Linked to Places

Diseases named after places are **toponymous diseases**, from the Greek *topos*, meaning “place,” and *onoma*, “name.” Toponymous diseases may take their names from towns, rivers, islands, forests, mountains, valleys, countries, continents, and even trenches dug in the ground. Sometimes we can track the person who connected the place with the disease and created the name; more often what the disease was and is called simply arose within the local culture.

There are examples of **toponymous diseases** from virtually every part of the world. A group of enteroviruses first isolated from a patient in a small community in the Hudson Valley of New York State takes its name from the town—the **Coxsackie viruses**. **Tularemia** was named by American epidemiologist Edward Francis (1872–1957) in 1919 to memorialize Tulare County, in California, USA, combining the county name with the Greek *haima*, meaning “blood.” In 1928, the virus causing **Ross River Fever**, a disease affecting both humans and kangaroos, was discovered in a mosquito collected near the Ross River in New South Wales, Australia. A tick-borne disease hosted by muskrats and water voles was named for the city in southwestern Siberia, Russia, where it was first found in the 1940s—**Omsk hemorrhagic fever**. **Katayama fever**, formally known as acute systemic schistosomiasis, was named for the place where it was originally reported, the Katayama River Valley in Japan.

In 2015, the World Health Organization (WHO) declared what they called “best practices for naming new human infectious diseases.” Citing “unintended negative impacts by stigmatizing certain communities or economic sectors,” the WHO decried names such as swine flu, Rift Valley fever, and Middle East respiratory syndrome. They also condemn the use of people’s names, such as Creutzfeldt–Jakob disease and Chagas disease. The directive goes on to point out that the guidelines apply only to newly recognized diseases and syndromes, and not to disease names already described [1].

I can understand the sensitivities of Coxsackie town residents, the inhabitants of the Rift Valley, all who live in the Middle East, and maybe even swine. But to forbid

future disease nomenclature based on places will be one more loss of the richness of our amazing medical language.

In this chapter, I will begin with the current major concerns—the viral diseases causing today’s outbreaks, epidemics, and pandemics. I will then present disease names linked to a variety of places, ending with those in Europe and America.

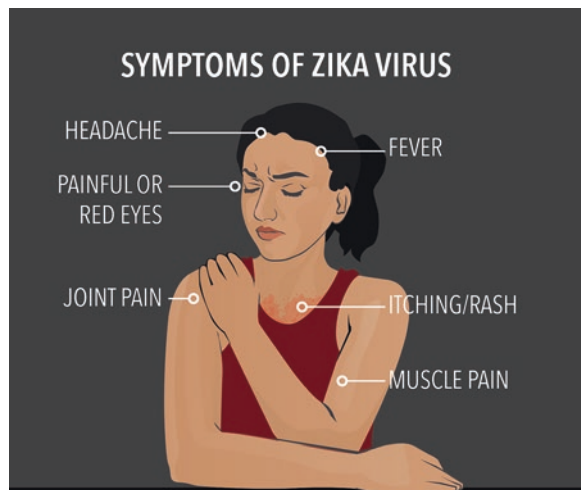
Cars and Forests and Summer Olympics

In 2016, Indian automobile manufacturer Tata Motors decided not to call its new hatchback car by its planned name Zica, derived from “Zippy Car.” This is just one more reaction to the epidemic of **Zika virus** infections that the World Health Organization has declared a global emergency (Fig. 5.1). In addition to causing fever and malaise, when the patient is pregnant, the Zika virus may also cause birth defects, notably **microcephaly** (from Greek words meaning “small” and “head”). Some adult Zika virus patients go on to develop the Guillain–Barré syndrome. The Zika virus has been a dark cloud over the fragile economy of Brazil in many ways, including its adverse impact on attendance at the 2016 Rio de Janeiro Summer Olympic Games.

The Zika virus is, for most of the world, a newcomer. On New Year’s Day 2015, for example, hardly anyone had heard of the infection. Now the disease is well known, but where did it arise and how did it get its unusual name?

In the 1940s, researchers identified a transmissible agent in the blood removed earlier from a rhesus macaque laboratory monkey sick with a fever. The monkey had come from a mosquito-infested jungle in Uganda called the Zika Forest, the name coming from the word for “overgrown” in the Luganda language of Uganda.

Fig. 5.1 Symptoms of Zika virus. Credit: Beth. herlin. Creative Commons. <https://commons.wikimedia.org/wiki/File:ZIKA.png>



From here, and only in the past few years, the virus has migrated across Asia and the Pacific to Central and South America, reaching pandemic proportions in some areas. In addition to mosquito-borne infection, we now have discovered sexually transmitted Zika virus disease and continue to learn more each year.

Another Virus from Uganda

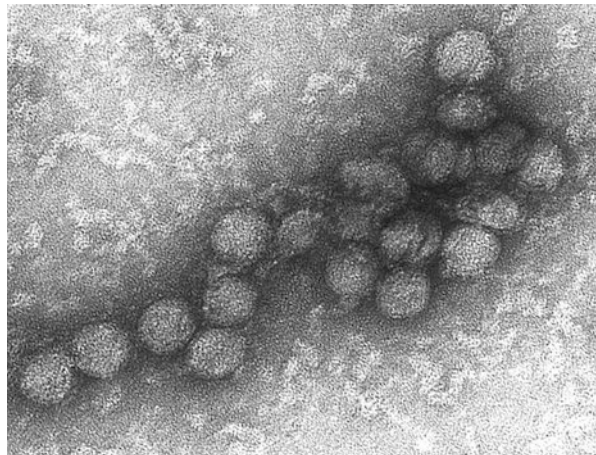
One might assume that the **West Nile virus** came from Egypt, but in fact, the organism was first discovered in the West Nile district of Uganda in 1937. This mosquito-transmitted arbovirus was considered a problem only for birds and horses until the 1990s, when human infections began to be reported. Most West Nile viral infections are subclinical, but a few are complicated by meningoencephalitis and a flaccid paralysis reminiscent of polio.

The West Nile virus is a member of the family *Flaviviridae*, from the Latin *flavus*, meaning “yellow.” The family was named for the **yellow fever virus**, which tends to cause liver damage, giving its victims a yellow jaundiced appearance (Fig. 5.2).

Other Viral Causes of Encephalitis

Viruses of the *Flaviviridae* family have turned up in various places and have often acquired the names of those locations. **Japanese encephalitis** is a disease of domestic pigs and birds, notably herons, that can be spread to humans by mosquitoes. It is the chief cause of viral encephalitis in Asia.

Fig. 5.2 Electron micrograph of the West Nile virus. Centers for disease control and prevention. Public Domain. https://commons.wikimedia.org/wiki/File:West_Nile_virus_EM_PHIL_2290_lores.jpg



Another member of the *Flaviviridae* family is *Mansonia pseudotitillans*, the cause of **Saint Louis encephalitis**. The mosquito-borne disease harkens to 1933 in St. Louis, Missouri, when more than a thousand cases were reported.

La Crosse encephalitis is caused by a virus from the family *Bunyaviridae*, the same family that causes **Crimean–Congo hemorrhagic fever**. Discovered in the early 1960s in La Crosse, Wisconsin, the mosquito-transmitted disease is found chiefly in the Midwestern and Appalachian regions of the United States.

Homes of the Hemorrhagic Fevers

Several families of RNA virus can cause hemorrhagic fevers. The **hantavirus** takes its name from the place where the virus was first isolated in the late 1970s: the Hantaan River valley in South Korea. Rodents, such as the cotton rat, spread the hantavirus, and humans acquire the virus through contact with rodent feces, urine, or saliva. The hantavirus belongs to the family *Bunyaviridae*.

Lassa virus, a member of the *Arenaviridae* family, causes **Lassa hemorrhagic fever**. The disease was initially described in 1969 in Lassa, a town in Borno State, Nigeria. A zoonotic disease, the reservoir is rodents, notably multimammate mice (*Mastomys natalensis*), whose excreta—feces and urine—can be aerosolized, and the disease can be spread by inhalation of these tiny particles.

Two members of the family *Filoviridae* are the **Ebola virus** and the **Marburg virus**. **Ebola hemorrhagic fever**, spread among humans by direct contact with body fluids, such as blood, semen, or breast milk, of an infected individual, causes death by internal and external bleeding in approximately half of infected persons. The name Ebola comes from the Ebola River, which flows near the village of Yambuku in the Democratic Republic of the Congo (previously Zaire), where the disease was identified in 1976 (Fig. 5.3).

The name Marburg virus did not originate in Africa, but in Germany. In the 1960s, several monkeys were sent from Uganda to Europe for use in laboratory experiments. Unknown to the scientists involved, these monkeys carried a *Filoviridae* virus, resulting in infections in several dozen researchers in three cities, including the university town of Marburg, giving the organism the name it carries today.

Of Coughs and Camels

One of the disease names specifically criticized by the WHO is the **Middle East respiratory syndrome (MERS)**. The term “Middle East” may not have the exotic flavor of a river in South Korea or a forest in Uganda, but it does give a good indication of where the disease began, and a hint as to why it was first noted in this part of the world.

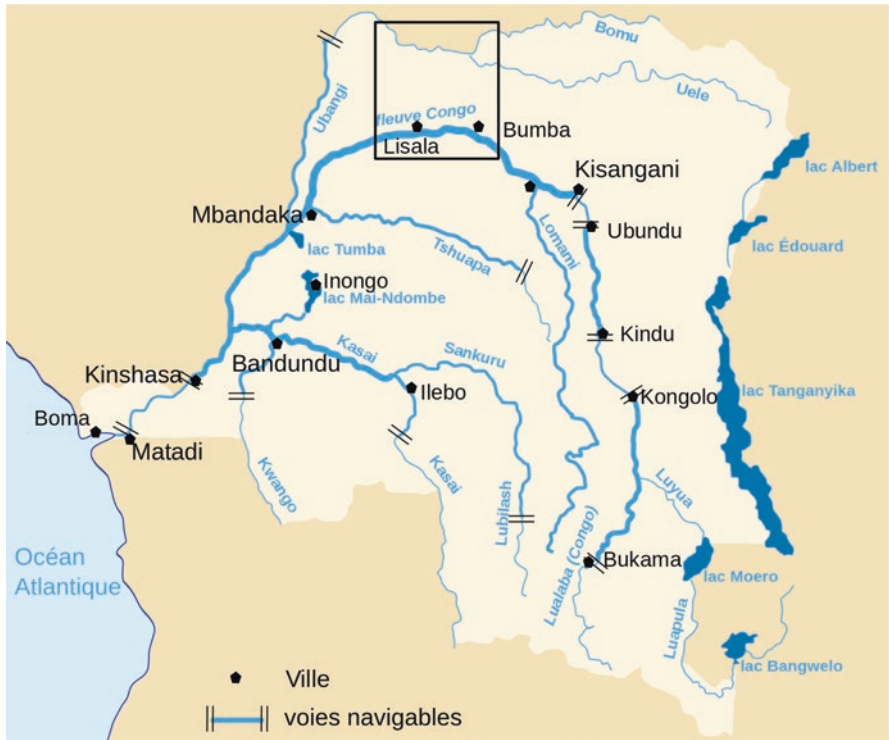


Fig. 5.3 The Congo River basin with the Ebola River region indicated by the square. Credit: Flueve rdc.svg; Aliesin; Derivative work: Miguelferig. Creative Commons. https://commons.wikimedia.org/wiki/File:Flueve_rdc_with_Ebola_region_indicated.svg

MERS, first reported in Saudi Arabia in 2012, is a viral disease of the respiratory tract causing cough, fever, dyspnea, and sometimes death. Only a few cases have been reported in the United States, and, so far, these have been contracted during travel in the Middle East and imported by returning travelers. Other cases have been reported in more than two dozen countries including Great Britain, Germany, Greece, Korea, China, Malaysia, and the Philippines.

The intriguing aspect of MERS is the likely connection to camels. The causative virus (MERS-CoV) has been found in camels, and some patients with the disease have told of contact with camels. The WHO warns against drinking raw camel milk or camel urine or eating undercooked camel meat. So perhaps the “Middle East” part of the disease name is on target. Where else but the Middle East do humans live in close communion with camels? And drinking camel urine? Yes, some in the region believe that drinking camel urine has medicinal value.

The Middle Eastern Origin of the Word Vitamin

What could be the connection between the **vitamins** essential to our health, a Polish biochemist, and camel dung in the Middle East? The story goes back more than three millennia.

As early as the Eighteenth Dynasty (c. 1543–1292 BCE and the time of King Tutankhamun), the early Egyptians worshiped the god *Amun*, also called *Amun-Ra* or *Ammon*, as the leading god of the Empire, later to be identified with the Greek god Zeus (Fig. 5.4). In what is now Libya, they built a temple to Ammon where Egyptians came to worship their god; while they did so, their camels fertilized the nearby sand with urine and feces. It was from this sand that *sal ammoniac*, the “salt of Ammon,” was first derived. In fact, the ancient Greek word for “sand” is *amos*, probably related to the name of the god (Shipley, p. 20).

From *sal ammoniac* comes **ammonia** (NH₃), a pungent-smelling, colorless gas, so named in 1782 by Swedish Chemist Torbern Bergman (1735–1784), and from ammonia comes our word **amine**. **Amines** are derived from ammonia by chemical substitution of one or more of the hydrogen atoms with other radicals.

The next etymologic landmark in the story of the word vitamin came in 1912 when Polish biochemist Casimir Funk (1884–1967) introduced the concept of **amines** as being vital to life. He postulated that there were at least four necessary

Fig. 5.4 Amun statuette with shuti feathers, from Thebes. 19th–20th dynasty. Credit: Einsamer Schütze. Creative Commons. https://commons.wikimedia.org/wiki/File:Statuette_of_Amun_Hildesheim.jpg



amines and that without them patients would develop beriberi, scurvy, rickets, and/or pellagra. To form his word, Funk combined *-amine* with the Latin word for life, *vita* (recall the 1960 Fellini movie, *La Dolce Vita*—the “sweet life”). Funk’s original word *vitamine* was later shortened to *vitamin* when it was learned that not all vitamins contained amines [2].

Casimir Funk was nominated for a Nobel Prize in 1914, 1925, 1926, and 1946. He never received the award.

Today we have vitamins A, B (a number of these), C, D, E, and K, the latter so designated because of its action in coagulation (originally named *koagulationsvitamin* in German). There are also vitamin wannabes, such as the bogus cancer drug amygdalin (Laetrile), a cyanogenic substance found in apricot kernels and dubbed **vitamin B17**, perhaps alluding to the World War II Flying Fortress.

We have come a long way from camel urine to drugstore shelves full of colorful vitamin bottles and a few misbegotten imitators.

The Skull from the Mountains

In Chap. 2, I told of Prometheus chained by Zeus for giving humans the gift of fire; the location where he was restrained was the Caucasus Mountains near what are now Iran and Turkey (Fig. 5.5). It was in these mountains that German scientist Johann Friedrich Blumenbach (1752–1840) discovered a skull. Blumenbach,



Fig. 5.5 The Caucasus Mountains. Oil on canvas, by Ivan Aivazovsky (1817–1900). Public Domain. https://commons.wikimedia.org/wiki/File:Aivasovsky_Ivan_Constantinovich_The_Caucasus.jpg

considered the father of physical anthropology, suggested that the various human subspecies (“races”) could be classified by the study of their skulls.

Based on his anthropometric comparisons, in 1781, he proposed five families of humans: yellow (Mongolians), black (Ethiopians), red (American Indians), brown (Malaysians), and white. For the name of this last category, he used the location of the finest skull of all, the Caucasus Mountains, and from that moment on, white persons became **Caucasian** (Gershen, p. 113).

The Island of Female Homosexuality

It started with the Greek lyric poet Sappho (ca. 620–570 BCE). She was born on the island of **Lesbos**, located in the Aegean Sea off the west coast of Turkey and a center of civilization even before the Golden Age of Greece in the fifth century BCE. She was the most renowned poetess of her day, and her lines had a distinctive “Sapphic meter.” Sappho shared her poetry with a cohort of young women, and probably because of the erotic passion of some of her poems, the tale has evolved regarding homosexual relationships between the poetess and her students. Thus female homosexuality came to be named for the island, Lesbos, and a female homosexual, wherever she lived, became a **lesbian**.

A word less often used to describe women who love other women is **Sapphism**, a synonym for **lesbianism**. In fact, according to Hendrickson (p. 120), Sappho was probably married and had a son, although many will argue that this would not be solid evidence of her sexual preferences.

Malta Fever in the Crimean War

The Crimean War was fought in the mid-1850s between Russia and an alliance of the United Kingdom, France, and Turkey. It was the war that gave us Florence Nightingale and the Charge of the Light Brigade. During this war British medical officers on the island of Malta noticed a disease characterized by sweating, joint and muscle pains, and a fluctuating fever. A logical name for the mysterious malady was **Malta fever**.

In 1861, British medical officer Jeffrey Allen Marston (1831–1911) described his personal experience with the disease, and in 1887, Scottish microbiologist David Bruce (1855–1931) linked the disease to an organism that came to be called *Brucella abortus*. The “Bruce” in the name of the genus honored Bruce; the species designation *abortus* reflects the tendency of the disease to cause abortions in cattle.

The disease was briefly called **Bang’s disease**, after Danish veterinarian Bernhard Bang identified *B. abortus* as the agent causing cattle to abort. Because of the wave-like nature of the fever, the disease acquired the name **undulant fever**. Other names enjoyed popularity in various settings: **Scottish delight**, **milk sickness**, **goat fever**,

Cyprus fever, Gibraltar fever, and mountain fever. In the end, the medical and scientific communities have come to favor the name **brucellosis**, honoring the man who discerned the cause of the disease.

From a Small Town in Thessaly, Three Words

This story begins in the town of Magnesia, named for an ancient Greek tribe, the Magnetes. The town lies in the Thessaly district of Greece, an area conquered by the Romans following their victory in the Battle of Magnesia in 190 BCE, ending the Roman–Seleucid War. In this conquered area, the Romans discovered a white mineral that, applying the name of the town, they called **magnesia**. When a different substance with a dark color was found, the white substance became *Magnesia alba*, from the Latin word for “white,” and the darker substance became *Magnesia nigra*, Latin for “black.” In 1831, French chemist Antoine Bussy (1794–1882) found that the *Magnesia alba* yielded an element, which he named **magnesium**. *Magnesia nigra* came to be called **manganese**.

There is another twist to the **magnesium** story. In the early seventeenth century, in the town of Epsom in Surrey, England, a farmer offered his cows water from a nearby well. But the cows refused to drink. The farmer learned why when he tasted the bitter water. He also observed, however, the water seemed to heal skin abrasions and sores. The bitter-tasting substance in water came to be identified as hydrated **magnesium sulfate**, better known as **Epsom salt**. Epsom wells became a destination spa, visited by diarist and Member of Parliament Samuel Pepys; Nell Gwyn, mistress of King Charles II of England; and other seventeenth-century notables (Evans, p. 380). In the United States, there is a Magnesia Temple at the town of Sharon Springs in Schoharie County, New York (Fig. 5.6).

In addition to **Epsom salt**, **magnesium** has other medical uses: a water solution of magnesium oxide is **Milk of Magnesia**, popular as a laxative. **Magnesium** has had a role in treating ventricular arrhythmias of the heart and preeclampsia/eclampsia. It is sometimes prescribed for management of migraine or of the restless leg syndrome. And the white powder that gymnasts and weight lifters use to improve their grips is **magnesium carbonate**.

Returning to the town of Magnesia, in this region was found an iron oxide stone that had the apparently magical quality of attracting iron to itself. It was called the “Magnesian stone” and served as the source of our word **magnet** (Haubrich, p. 130).

The Little Dragon from Medina

The **Guinea worm** is a parasitic nematode that is spread when a person drinks water containing the Guinea worm larvae. The cause of the disease in humans is *Dracunculus medinensis*, and the disease is properly called **dracunculiasis**.

Fig. 5.6 The Magnesia Temple at Sharon Springs, New York, 2008. Credit: Doug Kerr. Creative Commons. https://commons.wikimedia.org/wiki/File:Magnesia_Temple_Nov_08.jpg



Approximately a year following ingestion of the larvae, the female Guinea worm finds its way to the skin, where it forms a blister. A little later the blister breaks and the worm begins to emerge. An adult female Guinea worm can be two to three feet long and as thick as a strand of spaghetti. Affected persons sometimes facilitate extraction of the worm by winding it around a small stick.

The name Guinea worm arose when European explorers first encountered the disease on the Guinea coast of West Africa in the seventeenth century. In Latin *Dracunculus* means “little dragon; *Dracunculus medinensis* means the “little dragon from Medina,” so named because the disease was once rampant in the Muslim holy city of Medina in Saudi Arabia. Dracunculiasis is no longer endemic in either location.

The prevention of dracunculiasis requires nothing more than drinking filtered water, and the disease is on the threshold of being exterminated.

Colchicine

The source of the drug **colchicine** is the autumn crocus, *Colchicum autumnale*, so named because it was first discovered in the Colchicum region of the Republic of Georgia on the Black Sea. The plant’s nickname “naked lady” refers to the

Fig. 5.7 *Colchicum autumnale* in the Kőszeg Mountains, Hungary. Credit: Várkonyi Tibor. Creative Commons. https://commons.wikimedia.org/wiki/File:Colchicum_autumnale2.jpg



appearance of the flower without surrounding leaves. The extract of the plant can be highly toxic, and severe accidental poisonings have occurred, several involving cases in which the autumn crocus was mistaken for wild garlic (Fig. 5.7).

Use of the drug to treat joint pains can be traced to early Egyptian writings, circa 1500 BCE, found in the *Ebers Papyrus*. Therapeutic use of **colchicum extract** is mentioned in the writings of Persian physician Avicenna (980–1037) and French surgeon Ambroise Paré (1510–1590). American statesman Benjamin Franklin (1706–1790) brought the colchicum root to America from France and used it to treat his own attacks of gout.

In addition to its use in the treatment of gout, colchicine is sometimes used to treat **Behçet disease**, **pericarditis**, and **familial Mediterranean fever**; the latter is a hereditary disorder also known as **Armenian disease**.

Plaster of Paris

The word “plaster” in **plaster of Paris** came from Greek *emplastron*, to Latin *emplastrum*, to French *plastre*. But what about Paris?

Throughout history, various products had been used to bind wounds. French surgeon Guy de Chauliac (1300–1368), author of the seven-volume *Chirurgia Magna* in 1363, introduced the use of egg white to stiffen bandages [3]. However, the “Paris connection” came in 1852 when Dutch army surgeon Antonius Mathijsen (1805–1878) began incorporating gypsum into dressings used to immobilize fractures (Fig. 5.8). Mathijsen was not French, but the gypsum was quarried in the Montmartre section of Paris, hence the name plaster of Paris.

Fig. 5.8 Antonius Mathijsen, who first used what we now call plaster of Paris. Public Domain. https://commons.wikimedia.org/wiki/File:Antonius_Mathijsen_1805-1878.jpg



From Another Section of Paris

Although the word is probably never seen today in medical records, **clap** remains a vulgar term for gonorrhea. The common Old French term for brothel was *clapier*. The term technically translated to “rabbit burrow,” and perhaps this image had something to do with the “red light” section Paris, where a number of brothels were located, being called, in the Middle Ages, *Le Clapier*. As language moved across the English Channel in the sixteenth century, *clapier* in French became clapper in English. Eventually the word was shortened to clap, generally expressed with an article as “the clap” [4].

The French had another word for this distressingly common malady, *chaude-pisse*, describing a frequent manifestation of gonorrhea. *Chaude* means “hot” in French. And *pisse*? Is translation really needed?

From a Small Danish Island

It was first called **Bramble disease** by a Norwegian physician who reported a cluster of cases of “acute muscular rheumatism” occurring in the village of Bramble in Norway. But alas, the original report and a few others that followed using the term “Bramble disease” were published only in Norwegian, and the name failed to catch on.

Then in 1933, doctoral candidate Ejnar Sylvest (1880–1972) published his thesis describing a disease outbreak on the picturesque Danish Island of **Bornholm**, in the Baltic Sea, that he termed “Bornholm disease-myalgia epidemica.” Today we know this as **Bornholm disease**, as well as **epidemic pleurodynia**, **epidemic myalgia**, **devil’s grip**, and **the grasp of the phantom**.

The disease causes the usual viral symptoms of fever and headache. An additional and distinguishing feature is severe pain in the lower chest, giving rise to the more colorful names of the disease. Fortunately for those with the devil’s grip, the disease is self-limited and rarely fatal.

Little Red Spots and Liberty Measles

It was an American, not a German, who gave **rubella** its everyday name: **German measles**. The disease has been well known to health-care professionals and parents since first described by German physician Friedrich Hoffmann (1660–1742) in 1740. It was given the name rubella, from the Latin word meaning “little red,” by English military surgeon Henry Veale in his 1866 description of an outbreak in India.

American physician J. Louis Smith coined the term “German measles” in 1874. Working at New York’s Bellevue Hospital, Smith described an outbreak of the disease and, reading of similar outbreaks in Germany, he named the disease “German measles” (Bordley and Harvey, p. 657) (Fig. 5.9).

Then, amid the anti-German fervor of World War I, rubella was briefly renamed **liberty measles** (Fortuine, p. 250).

Trench Fever, Foot, and Mouth

This chapter is about diseases named for places. Is a trench a “place”? It certainly was to the World War I soldiers who spent weeks and months slogging shoulder to shoulder in deep ditches filled with icy cold water and filth. From these barely habitable ditches came the “trench” in the names of three different diseases.

The first is **trench fever**, with an estimated one million cases occurring in Western Europe during the First World War. It was first noted in an infantry private in 1915, and by 1918, the Allied General Headquarters stated: “Trench fever is a matter of national importance... and it merits the attention of every physician and pathologist who has the opportunity of working among the troops” [5].

Trench fever, caused by *Bartonella quintana* and spread by the human body louse, causes fever, prostration, a macular rash, and bone pain. Despite these manifestations, some doughboys welcomed the infection because a stay in the medical facility offered respite from the trenches. Trench fever has also been called **five-day fever**, **shin bone fever**, and **Meuse fever**; the latter is a reference to the WWI Meuse-Argonne battle of 1918. Today, we no longer have trench warfare, but we do have **urban trench fever** occurring in demented, homeless, and alcoholic persons.

Fig. 5.9 Rash of rubella/German measles on a child's back. Centers for disease control and prevention. Public Domain. https://commons.wikimedia.org/wiki/File:Rash_of_rubella_on_skin_of_child%27s_back.JPG



From the muddy ditches of WWI, we also get the disease name **trench foot**, describing damage to the tissues that occurs with prolonged exposure of the extremity to moist cold (Fig. 5.10). Dominique Jean Larrey (1766–1842), a surgeon in Napoleon's *Grande Armée*, noted the prevalence of what we now call **trench foot** in the French troops during their ill-fated invasion of Russia in 1812. **Trench foot** was seen not only in WWI but also in World War II and in the Vietnam War; it was called **immersion foot** or **paddy foot** in the latter jungle-based campaign.

Then there is **trench mouth**, also known as **acute necrotizing ulcerative gingivitis**, caused by a mixed bacterial infection. Recognized in Greek soldiers in the fourth century BCE, the disease was described by Scottish surgeon John Hunter (1728–1793) in 1778. At the Pasteur Institute in Paris in 1904, French physician Jean Hyacinthe Vincent (1862–1950) identified the fusospirochetal cause; one of the other names for acute necrotizing ulcerative gingivitis is **Vincent angina** [6]. In this term, *angina* reflects its true Latin meaning, “infection of the throat.” The disease did not acquire the name trench mouth until World War I, when it occurred in men spending weeks and months in trenches under physical and psychological stress, receiving a poor diet, and with scant options for oral hygiene.

A Protozoan Parasite in a Popular Resort

Nantucket is a small island off Cape Cod, Massachusetts, USA. In April of 2015, the *Cape Cod Times*, in a story titled “Cape Cod a Hot Spot for Babesiosis from Ticks,” reported health officials calling for “hospitals to screen blood transfusion products for babesiosis or Nantucket fever.” In the article, Dr. Al DeMaria, state epidemiologist with the Massachusetts Department of Public Health, declared **Nantucket fever**



Fig. 5.10 The muddy trenches of World War I. Public Domain. <https://commons.wikimedia.org/wiki/File:FrenchTrenchInMudWWI--nsillustratedwar04londonoft.jpg>

to be the “No. 1 transfusion-transmitted infection” in the United States [7]. What is this toponymous disease that many health professionals have never heard of?

Nantucket fever, caused by a tick-borne protozoan parasite called *Babesia microti*, causes manifestations not unlike malaria, including fever, arthralgia, lymphadenopathy, and hemolytic anemia. The formal name for the febrile illness is **babesiosis**, first described by Romanian scientist Victor Babeş (1854–2926) as a disease of cattle and sheep. The first human case of babesiosis was reported in 1957.

In cattle, babesiosis is sometimes called **Texas cattle fever**, **tick fever**, or **red-water fever**, the latter referring to the appearance of blood in the urine. In the United States, human babesiosis has been reported chiefly in Northeastern and Midwestern states and occurs most often during warm weather.

The Dangers of the Deer Tick

If a young physician today were asked to identify a disease named for a place, the answer might well be **Lyme disease**, also called **Lyme borreliosis**. Although the disease had been recognized in Europe since the eighteenth century and documented

Fig. 5.11 Erythema migrans, the bulls-eye rash of Lyme disease. Centers for disease control and prevention. Public Domain. https://commons.wikimedia.org/wiki/File:Erythema_migrans.jpg



in Wisconsin in 1970, the full spectrum of the disease was not recognized until 1975, in connection with a series of cases in southeastern Connecticut, including the small towns of Lyme and Old Lyme.

The disease is caused by *Borrelia* bacteria, notably *Borrelia burgdorferi*, and is spread by the same vector as Nantucket fever/babesiosis: the *Ixodes* **tick**, also called the **deer tick**. A curious, perhaps pathognomonic, feature of the disease is the early appearance of a “bull’s-eye” rash, called **erythema migrans**, although this helpful diagnostic clue is not seen in all patients (Fig. 5.11). Later manifestations may include fatigue, neurocognitive manifestations, disorders of heart rhythm, polyneuropathy, and arthritis.

Lyme disease is the most commonly occurring tick-borne disease in Europe and North America. In the United States, the areas of greatest prevalence are the Northeast and Middle Atlantic states and western Wisconsin. In these locations, woodsmen and woodswomen, beware of the deer tick.

Rocky Mountain Spotted Fever, Not Always in the Mountains

Another malady, along with Lyme disease, well known for its geographic label is **Rocky Mountain spotted fever**. Also sometimes called **tick typhus** or **blue disease**, Rocky Mountain spotted fever was first recognized in 1896 in the Snake River Valley in the Rocky Mountains of the Western United States. The disease is spread by ticks carrying the causative organism, *Rickettsia rickettsii*, a name that seems

unnecessarily repetitive, like the name of the common black rat, *Rattus rattus*; the latter is an animal reservoir for fleas carrying the bacteria causing bubonic plague. The name of the organism redundantly honors American pathologist Howard Taylor Ricketts (1871–1910), who first isolated the pathogen that causes the disease.

A potentially fatal disease, Rocky Mountain spotted fever is the most commonly reported Rickettsial disease in the United States. Curiously, because of the epidemiologic distribution of the disease in America, you and I are at more risk of contracting Rocky Mountain spotted fever in North Carolina than we are in Colorado.

On an Island in Chesapeake Bay

First found in 1959 in a 5-year-old boy living on Tangier Island in Virginia's Chesapeake Bay, **Tangier disease** is also known as familial alpha-lipoprotein deficiency. It is a congenital disorder causing a severe deficiency of high-density lipoprotein (HDL) in the blood. In addition to abnormal serum lipids found on laboratory analysis, patients with Tangier disease may have splenomegaly, hepatomegaly, neuropathy, atherosclerosis, and cloudiness of the corneas of the eyes (Fig. 5.12).

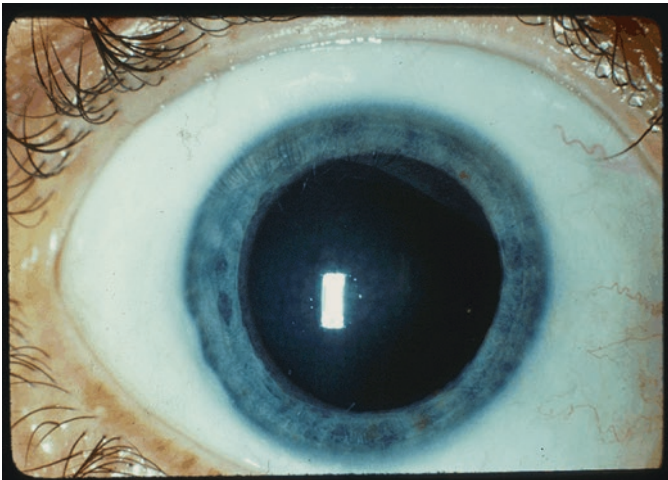


Fig. 5.12 Diffuse hazy opacity of the right cornea in the patient with Tangier disease. National Eye Institute. Public Domain. <https://commons.wikimedia.org/wiki/File:Tanger.gif>

Names from Cities, Countries, and Continents

There is a long list of other medical entities that came from cities, countries, and even continents. In 1960, scientists working in the city of Philadelphia, Pennsylvania, discovered the **Philadelphia chromosome**, an abnormality of chromosome 22 associated with chronic myelogenous leukemia.

Milltown, New Jersey, originally named for a local gristmill, was the manufacturing site of the anxiolytic drug **meprobamate (Miltown)**. In the 1950s, Wallace laboratories, in an effort to maintain secrecy about their new drug, applied the code name **Miltown**, after the New Jersey borough. When the drug went to market in 1955, the company decided to keep the town name as the trade name.

Named originally for the peoples of the nation of Mongolia, the **Mongolian spot** is a melanocytic birthmark that may appear blue, or some shade of gray, black, or brown. The term was coined in 1883 by German anthropologist Erwin Bälz (1849–1913), who was actually working in Japan and not in Mongolia. In Mexico, the birthmark is called *rabo verde*, “green butt,” and in Spanish the term sometimes used is *mancha* (“stain”) *de Baelz* (Bälz), eponymously honoring the man who first described it. Mongolian spots generally disappear during later childhood.

The influenza pandemic of 1918–1920 is sometimes called the **Spanish flu**. Caused by the H1N1 virus, the disease affected 500 million people worldwide and resulted in more than 20 million deaths (Fig. 5.13). It seems ironic that Spain has



Fig. 5.13 The Spanish influenza. Emergency military hospital during influenza epidemic, Camp Funston, Kansas, USA. Source: *Pandemic Influenza: The Inside Story*. Nicholls H, PLoS Biology Vol. 4/2/2006, e50. Creative Commons. https://commons.wikimedia.org/wiki/File:Spanish_flu_hospital.png

had its name attached to a flu that has been traced to a single index case in a wholly different country: a US army cook at Fort Riley, Kansas.

Situated on the **hepatitis B virus (HBV)** is the surface antigen, a.k.a. the **Australia antigen (HBsAg)**. Its presence upon laboratory testing indicates current infection with the HBV. The name Australia antigen was suggested when American physician Baruch Blumberg (1925–2011) discovered its presence in the blood of a member of the Australian aboriginal population.

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