

Contents begins on the preceding page

Clinical Reports continued

**Oral management of the scleroderma patient** 814  
 W. P. Naylor, DDS, MPH *This case report illustrates a technique for the treatment of microstomia caused by scleroderma. Oral health care and mastication were improved despite severe sclerodactyly.*

**CURRENT CONFERENCE**

**Summary of Symposium on Diet and Dental Caries—changing perspectives** 818  
 E. C. Reynolds, PhD *The cariogenicity of particular foods has recently been found to have an influence on dental health. This symposium discusses the changing perspectives of this area.*

**SPECIAL CONTRIBUTION**

**Smokeless tobacco: the folklore and social history of snuffing, sneezing, dipping, and chewing** 821  
 A. G. Christen, DDS, MSD, MA; B. Z. Swanson, DDS; E. D. Glover, PhD; A. H. Henderson, PhD *The worldwide development and folklore of smokeless tobacco are traced with comments on modern popularity.*

**DIAGNOSING ORAL DISEASE**

**Asymptomatic red lesion in anterior floor of mouth: diagnosis and management** 841  
 A. H. Friedlander, DDS; R. W. Correll, DDS; W. B. Wescott, DMD, DDS

**ASSOCIATION REPORTS**

**State of the art and science of bonding in orthodontic treatment** 844  
 Council on Dental Materials, Instruments, and Equipment

**The use of ionizing radiation in the general practice of dentistry** 850  
 Council on Dental Education  
 Council on Dental Materials, Instruments, and Equipment

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# AMERICAN DENTAL ASSOCIATION

## SPECIAL SECTION

Lists of products Accepted / Certified by the Council on Dental Materials, Instruments, and Equipment and the Council on Dental Therapeutics 923  
These lists, which can be easily removed for future reference, contain the therapeutic agents and products that have been evaluated and approved by the two councils.

## LETTERS TO THE EDITOR

Perpetuation of a myth D. W. Schutte, DMD 766  
Bonded restorations L. R. Serich, DDS, MS / S. R. Slotnick, DDS  
Hair analysis queried G. L. Mellon, DDS; R. B. Mellon, MS  
To correct *Time* E. H. Ehrmann, BDS, DDS / R. H. Roach, MA  
Warm your Carpules W. B. Eames, DDS

## DEPARTMENTS

Association Directory 762  
The Presidents 770  
Advertising and Exhibiting Standards 772  
Information for Authors 779  
Publication Reviews 831  
People 852  
Meetings 874  
Deaths 886  
Classified Advertising 892  
Product Briefing 906  
Legislation and Litigation 910  
Washington Report 915  
Index to Advertisers 919

## EDITORIAL

One on One—  
You and the President 922

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## Smokeless tobacco: the folklore and social history of snuffing, sneezing, dipping, and chewing

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*Snuff dipping and tobacco chewing are known to adversely affect oral soft and hard tissues. This article traces the historical development and folklore of smokeless tobacco since the time of Columbus.*

**C**hewing tobacco is tobacco's body, smoke is its ghost and snuff is tobacco's soul".<sup>1</sup>

American Indians were apparently the first to use tobacco in all of its various forms. They smoked, chewed, and sniffed it through their nostrils (Fig 1).<sup>2,7</sup> According to an ancient North American Indian legend, after a prolonged famine in the lane of the Hurons, the Indians prayed to the Great Spirit for help. Shortly thereafter, a naked girl appeared, sitting on the dry land, placing her hands on the ground. Corn grew where she placed her left hand and potatoes where she placed her right hand; tobacco grew where she was sitting.<sup>8</sup>

In October and November of 1492, Christopher Columbus and his crew, in their travels through the West Indies (the Bahamas, Cuba, or perhaps Haiti or Santo Domingo), reported finding natives who "drank smoke." Friar Roman Paine, a Franciscan monk who accompanied Columbus on his second

voyage to the New World (1493), noted that the Carib Indians of the lesser Antilles (Leeward and Windward Islands, Trinidad, Tobago, and Barbados) sniffed finely powdered tobacco leaves as well as smoked. These natives smoked tobacco in pipes for ceremonial and medicinal purposes and as a symbol of goodwill, that is, the peace "calumet" or "peace pipe." These avid tobacco users even carried a supply of the "green herb" in a gourd around their necks, the precursor of the modern tobacco pouch.<sup>9</sup> Tobacco smoking was believed to provide visions of the afterworld by a type of psychic experience; ample evidence exists that they used tobacco to experience a "high." Sahahum, a priest who lived among the Mexicans from 1529 to 1590, wrote, "Placed in the mouth, it (tobacco) produces dizziness and stupefies."<sup>9</sup> It was used during ritual dances as a kind of ceremonial incense to combat weariness, hunger, and pain.<sup>8</sup> The Indians inhaled powdered

snuff through a hollow, Y-shaped piece of cane or a pipe by applying the forked ends into each nostril and placing the other end close to the powdered tobacco. Pipes used for snuffing or smoking were often artistically carved and constructed of baked clay, wood, or colorful rocks. The Indians called this instrument the "tobago" or "tobaca;" the Spaniards later slightly altered the name and applied it to the plant and its cured leaves. The word "tobacco" is said to come from several other sources, perhaps after the island of Tobago in the West Indies. The word "tobaco" also meant cigar, and in



Fig 1 • Twentieth-century urban cowboy takes "plach" of snuff to place between his cheek and gum.

modern Cuba a cigar is still called "un tabaco."<sup>9</sup>

Throughout the West Indies, Columbus found that the tobacco trade between Indian tribes had been prevalent for hundreds of years. Smoking, and other forms of tobacco use, had become a part of everyday life, and tobacco had real economic significance. In addition, it was used in the form of poultices and pastes for treating burns, sores, cancers, sciatica, diseases of the liver, spleen and womb, chills, convulsions, worms, colic, warts, corns, and mad dog bites.<sup>10</sup>

### Tobacco goes to Europe

Friar Paine carried a supply of tobacco back to Portugal, and the practice of sniffing the finely ground tobacco leaf (snuff) was thus spread to the Iberian peninsula. Instead of bringing the riches of India back to Spain, Columbus had inadvertently brought back tobacco!

In the early 1500s, two major varieties of tobacco were used by the Indians. They were *picitel*, a harsh, coarse species grown in colder latitudes, later named *Nicotiana Rustica*, and *yietl* (*Nicotiana Tabacum*), its milder, sweeter, subtropical cousin, which eventually became more popular. In 1556, Andre de Thevet, a French member of a colonizing expedition to Brazil, obtained some seeds of the *yietl* and took them back to France, planting them in his garden at Angoulême. Some have given him credit for introducing tobacco to mainland Europe.

The name of Jean Nicot (1530-1600) has become synonymous with tobacco.<sup>9,11</sup> Linnaeus gave the botanical name of "*nicotiana tabacum*" for the tobacco plant genus in 1753. In 1828, the active ingredient of tobacco was isolated and called *nicotine*.

### Snuff accepted by royalty

In 1559, Jean Nicot, then French Ambassador to Sebastian, King of Portugal, discovered that tobacco plants were being cultivated in the Portuguese Royal Gardens. He obtained some of the seeds and, fascinated with this botanical oddity, grew some in his own garden. Soon, Nicot heard of miraculous "cures" ascribed to applied poultices consisting of mashed tobacco leaves. He began to believe that these stories were true. For

example, a cook nearly severed his thumb with a kitchen knife, but it healed in only several days with a tobacco poultice treatment. In another case, a woman with a severe, generalized ringworm infection on her face healed within a few days of treatment. Nicot presented snuff to Catherine de Medici, Queen Mother of France, as treatment for asthma and migraines headaches for her son, 16-year-old King Francis II.<sup>2,3,11,15</sup> Catherine was a highly superstitious woman, eager to listen to magicians, soothsayers, and astrologers; she also relied heavily on alchemists' prescriptions in time of illness. However, Nicot's magic tobacco cure failed and Francis II died, leaving her as regent for his sickly brother Charles.<sup>11</sup>

By the late 1500s, tobacco thus pa-

quantities of tobacco. By 1560, it was being grown in Europe as an ornamental plant and being used for its medicinal properties.<sup>5</sup> The Dutch also promoted the use of snuff about this time and actually gave the name to snuff.

Tobacco's commercial use extended to Cuba and Venezuela (1580), Brazil (1600), and to China, Japan, and South Africa by 1605. The European use of tobacco exceeded the supply and prices soared. Snuff became an expensive pleasure because, as early as 1600,<sup>5</sup> tobacco sold for its weight in silver shillings; that would amount to approximately \$3 an ounce today.<sup>9</sup> It was reported in the contemporary literature that, for some, tobacco had become more important than food! In Africa, people sold land, valuables, and slaves for tobacco, embracing "the

**The Carib Indians believed that smoking tobacco provided psychic experiences and a view of the afterworld.**

tronized by royalty became popularized in Europe for its supposed curative powers. Tobacco in various vehicles such as ointments, pastes, and poultices became heralded as a medical marvel. For example, in 1570, the Parisian Liebault advocated an extract of mortar-ground dried tobacco leaves for the treatment of all sorts of ulcers and skin diseases.<sup>8</sup> In the late 1500s, Nicholas Nomartes of Sevilla, Spain, gave a long list of disorders, including toothache, cured by tobacco syrups, enemas, or inhaled smoke. In Gerard's classic text *The Herbal: Or General History of Plants* (1633),<sup>14</sup> "tabaco," called the Henbane of Peru, was recommended as a remedy for many maladies.

### Worldwide spread of tobacco

The use of tobacco in various forms spread quickly throughout Europe and the world by the early 17th century.<sup>3</sup> Portuguese and Spanish sailing crews, addicted to tobacco, carried tobacco seeds, planting them at their ports of call. The Spaniards commercially cultivated tobacco in the West Indies by 1531, and had a virtual monopoly of the European markets until 1575 when the Portuguese began to grow large

new sedative to which they had wholly succumbed."<sup>17</sup>

Snuff became fashionable at the Chinese Court (Ching Dynasty) in the mid-1600s, coming by way of Japan, and palace artisans in the workshops of Peking produced extraordinarily carved, inlaid, enameled, or painted snuff bottles made of porcelain, ivory, brass, jade, coral, bone, cinnabar, quartz, turquoise, amethyst, amber, horn, and bamboo.<sup>1,18,19</sup> The Chinese used a tiny spoon attached to the bottle stopper to remove a small portion of snuff, placing it on the left thumbnail and inhaling it into the nostrils. The Chinese attributed medicinal properties to snuff, believing it beneficial in dispelling colds, provoking sweating, curing pains in the eyes and teeth, and easing throat ailments, asthma, and even constipation.

### British Isles succumb to snuff

How tobacco was introduced into England is debatable. Some have said this was done by Sir John Hawkins in 1565, when he brought seeds for *Nicotiana Rustica*.<sup>8,20</sup> Although *Nicotiana Tabacum*, a better flavored, larger-leaved variety was brought to England from the West Indies by Sir Francis

Drake in 1573. Sir Walter Raleigh is generally credited for introducing and popularizing smoking in England in 1565. The custom of snuffing tobacco soon spread from France to the British Isles.

By the mid-1600s, the Irish were well addicted to snuff, which they called "powder" or "smutchin." "The Irish," said one writer, "are altogether for snuff to purge their brains."<sup>2</sup>

The Scottish accepted snuffing so enthusiastically, consuming such large quantities of "sneeshin" (one of their words for snuff) that a wooden figure of a Highlander still signifies a Scottish snuff-shop.<sup>3,4</sup> One author had his own theory as to why the Scots accepted the habit so readily when he wrote, "The cheapness of snuff compared with smoking was probably no small recommendation to the canny Scot."<sup>5</sup> Throughout the years, individuals addicted to Scottish snuff remain especially loyal snuffers. Mrs.

the Great Plague of 1665 when it acquired the reputation as a powerful disinfectant and prophylactic agent against the disease. Snuff and smoking helped to overcome the unpleasant odor of dead and decaying bodies.<sup>14</sup> Physicians who visited the sick took it freely; the men who were employed on the dead carts snuffed or chewed or had their pipes continually alight. Even small children were expected to smoke and were whipped for not doing so. Samuel Pepys (1633-1703), the English diarist, wrote the following entry on June 7, 1665<sup>23</sup>:

The hottest day that ever I felt in my life. This day much against my will, I did in Drury Lane see two or three houses marked with a red cross upon the doors, and "Lord have mercy upon us!" writ there; which was a sad sight to me, being first of the kind, that to my remembrance, I ever saw. It put me into an ill conception of myself and my smell, so that I was forced to buy some roll tobacco to smell and chew, which took away the apprehension.

Van Lancker<sup>6</sup> supplied an impressive list of queens, kings, emperors, generals, playwrights, philosophers, diplomats, and bishops of those times who all claimed that tobacco, smoked or snuffed, had aided their professional activities.

### *Snuffer's paraphernalia*

During the 17th and early 18th centuries, most everyone made his own snuff, grinding up dried and tightly rolled tobacco leaves, called a "carotte," by means of an iron hand grater or rasp. The tobacco leaves were often steeped in cinnamon, lavender, or almond oils.<sup>2,20,21,23</sup> This do-it-yourself snuff was typically placed on the back of the hand from which it was inhaled. The rasps resembled a modern cheese grater and were carried in the waistcoat pocket. They soon became articles of luxury; many were ornate and festooned with ivory or inlaid wood. Tobacco thus grated into snuff was known as *tabac rapé*. Although the common English citizenry couldn't afford to buy a French-made snuff grater, they occasionally got a break. In 1702, Sir George Rooke captured the Spanish snuff fleet in Vigo Bay, and returned with booty consisting of thousands of barrels of prepared snuff which his sailors sold in England for a fraction of its real value.<sup>21</sup> It was not long before ready-made snuffs appeared on the domestic market, and snuffboxes became popular throughout England.

By the 18th century, British sailors, forbidden to smoke on their wooden ships, became avid snuffers. The first edition of the *Encyclopedia Britannica* (1771) indicated the extent of snuffing with the following entry: "Snuff, a powder chiefly made of tobacco, the use of which is too well known to need any description here."<sup>7</sup>

Ornate, bejeweled gold and silver snuffboxes became the gauge of friendship and admiration. Valuable snuffboxes were given to foreign ministers and other governmental dignitaries as means of maintaining friendly relations.<sup>8</sup> In 1823, there was a great debate in the House of Commons when it was noted that expenditures on snuffboxes totaled £7,000 a year. (Complaints were also raised that nearly £15,000 had been spent on secretaries of state and foreign ministers for the signing of any treaty.<sup>15</sup>)

**The Spanish commercially cultivated tobacco in the West Indies by 1531 and had a virtual monopoly of European markets until 1575 when the Portuguese began to grow tobacco.**

Margaret Thompson of Westminster (near London), who died in 1776, ordered in her will that "my coffin shall contain a sufficient quantity of the best Scotch snuff—in which I have always had great delight—to cover my body, and the coffin shall be carried by the six greatest snuff-takers in the parish of St. James, who must wear snuff-colored beaver hats instead of the usual black." Mrs. Thompson's maid was directed to distribute "a large handful of snuff every 20 yards on the ground and to the crowd" at the funeral procession. According to newspaper reports, the old lady's wish was respected and there was an overflow crowd of mourners!<sup>21</sup>

During the 17th and 18th centuries, snuff became the favored way of using tobacco in England.<sup>6</sup> The only time that the British were to give up smoking was during the 1700s when, for almost a century, they switched to almost exclusively snuffing.<sup>22</sup>

Interestingly, snuff first became popular in Britain during the time of

The golden age of snuffing in England, however, really began during the reign of Queen Anne, (1702-1714). French ideas and manners concerning snuff-taking came from continental travel and were then responsible for the habit spreading to British society.<sup>3</sup> English physicians highly praised its medicinal virtues for:

... sneezing, consuming, and spending away grosse and slimle humours from the ventricles of the brains," and curing, "a lethargy or vertigny, in all long griefes, paines, and aches of the head, in continued senseleses or benumbing of the brains, and for a hicket that proceedeth of repletion."<sup>24</sup>

Physicians also used tobacco in all of its various forms as an antidote for the various "pockes."

In England, the snuff-taking reached its zenith during the long reign of George III and his wife Charlotte (1760 to 1820). The queen was nicknamed "Snuffy Charlotte," because of her addiction; she had an entire room in Windsor Castle stocked with snuff.<sup>21</sup>

In England, the dandy Lord Petersham had a different snuffbox for every day in the year! When he was congratulated on a particular fine blue, Sèvres snuffbox from his collection, Lord Petersham responded that "It was a nice summer box, but would never do for winter wear."<sup>23</sup> At a fashionable dinner party the snuffbox of another English dandy, Beau Brummel (1778-1840), was admired by a guest. Because the lid was hard to open, the guest tried to pry it apart with a dessert knife. The horrified Brummel said to his host, "Will you be good enough to tell your friend that my snuffbox is not an oyster!"<sup>24</sup> A snuffbox was even constructed from a hoof of Napoleon's famous charger Marengo!

### The "sneezing" cure

For hundreds of years, sneezing was deliberately induced by inhaling aromatic and sneezing powders into the nostrils for religious and medicinal purposes.<sup>14</sup> These substances, called sternutatories, had been employed since the time of Hippocrates.

Snuff was thought to have medicinal value when used in this manner and it was prescribed throughout the Middle Ages and beyond. Nasally used snuff is levigated tobacco—that is, tobacco ground to form an extremely fine, smooth powder. As such, it is superb for inducing sneezing. From the very beginning, snuff came in a variety of colors ranging from apple color, duck green, and shades of brown and black. Spices and herbs have been added to enhance its aroma and flavor. Besides causing the sneeze reflex, it creates a mild sensation of exhilaration, cleans congestion of the nasal passages, and eases breathing.<sup>1</sup>

Sneezing became a part of the communication process and, for a time, it was considered a form of conversation. According to Stevens,<sup>1</sup> sneezing became a "kind of blasé counterpoint, so to speak, or a bored man's punctuation—and was indulged in whenever one desired to show disapproval of, or lack of interest in the subject under discussion." As a result, "not to be sneezed at" indicated something worthwhile.

### Fashions among English snuffers

Snuff-taking became an integral part of the fashionable life in England and it

was openly practiced by both sexes.<sup>2</sup> The use of tobacco ranked with dancing, hunting, and card playing as a fashionable extravagance especially among the wealthy. Typically, a small quantity of snuff was put on the back of the hand, and this was snuffed up the nostrils with the intention of produc-

used tobacco leaf from his chest for medicinal reasons. In an interesting passage from this book we read the following<sup>25</sup>:

What use to make of the tobacco, I knew not, as to my distemper, or whether it was good for it or so; but I tried several experiments with it, as if I was resolved it should hit one

**In Britain, snuff replaced smoking in the 1700s and was called the "final reason for the human nose."**

ing a sneeze.<sup>23</sup> Some snuffers preferred to "dip"—moistening a stick or twig, dipping it in the snuff, and chewing it; a few placed a small amount of snuff in their mouths, dissolving it between the gum and cheek.<sup>9</sup> In England, snuff used in this manner completely displaced smoking in society. By the mid-1700s, a gentleman who did not take snuff was a contradiction in terms. Hundreds of brands of snuff were marketed in England, but to be a gentleman in London without Taddy's "37" Snuff was considered a sign of "social degeneration and perdition."<sup>2</sup>

Snuff was called "the final reason for the human nose."<sup>21</sup> Ladies snuffed as artistically, vigorously, and conspicuously as men, and the method of taking snuff and the ritual of opening and tapping the box were reduced to a fine art. The "true artistic" method of taking a pinch of snuff was said to consist of 12 detailed operations.<sup>23</sup>

Unless the utmost care was exercised, it was easy for the habitual snuffer to become slovenly in appearance. Snuff-coated clothing and smeared faces were common, exciting disgust and satire among the journalists and pamphleteering Puritans of the day. In modern England, the correct way to take snuff is to "take the box in the left hand, tap the lid thrice (to shake down the grains), take a pinch between the thumb and forefinger of the right hand and inhale it briskly."<sup>21</sup> Sneezing is frowned on, but considered inevitable in the beginner. Spitting is likewise out, because of the lack of spittoons in England.

### Literary views of snuff

The virtues of snuff have been celebrated by poets and writers since the early 1700s. The shipwrecked Robinson Crusoe, in a famous book written by Daniel DeFoe in 1719, successfully

way or other. I first took a piece of leaf, and chewed it in my mouth, which, indeed, at first almost stupified my brain, the tobacco being green and strong, and I had not been much used to it; then I took some and steeped it an hour or two in some rum, and resolved to take a dose of it when I lay down; and lastly, I burnt some upon a pan of coals, and held my nose close over the smoke of it as long as I could bear it, as well for the heat as the virtue of it, and I held out almost to suffocation.

In 1813, the Swiss author, Johann David Wyss wrote the popular children's book *The Swiss Family Robinson*.<sup>26</sup> The family is shipwrecked on a deserted island and they must learn to adapt to primitive, unfamiliar, and dangerous conditions to survive. In one episode, the father revisits the partially sunken shipwreck and rescues a number of useful household items, including several snuff graters. After his return, his wife complains, "I do not half like the appearance of those snuff graters you have brought. Is it possible you are going to make snuff? Do, pray, let us make sure of abundance of food for our mouths before we think of our noses!" The resourceful father, however, has something else in mind. He obtains a supply of well-washed manioc roots and, using the snuff graters, he shreds the roots, producing flour, from which life-sustaining bread is baked!

### Tobacco is attacked by church, state, and science

Not everyone tolerated the use of tobacco products. In 1590, the first governmental edict against tobacco use was decreed in Japan. Users were penalized by having their property confiscated or were jailed.<sup>27</sup>

In 1604, the Scottish King James I assumed the British throne, and became the patron saint of the anti-

tobacco forces, anonymously publishing his *Counterblaste to Tobacco*.<sup>24</sup> On Oct 17, 1604, he raised the tax on tobacco products by 4,000% to decrease the quantity of tobacco brought back to England and to moderate its use,<sup>25</sup> and in 1605, at Oxford, organized the first public debate concerning the effects of tobacco. To everyone's horror and disgust, the King exhibited black brains and viscera, supposedly obtained from the dead bodies of inveterate smokers. However, a Dr. Cheynell impudently appeared on the podium with a lit pipe, stoutly defending the healing properties of tobacco.<sup>8</sup> Certainly, King James' statement that smoking is "a custome lothsome to the eye, hatefull to the nose, harmefull to the braine, dangerous to the lungs"<sup>24</sup> left the door open to the more acceptable practice of using smokeless forms of tobacco. Although James regarded the Indians and their customs with disdain and disgust, even he eventually came to appreciate the monetary value of tobacco.

In 1633 in Turkey, Sultan Murad IV made the use of tobacco a capital offense on the grounds that it caused infertility and reduced the fighting qualities of soldiers.<sup>26-27</sup> Turkish smokers lived under the threat of death by "hanging, beheading, quartering between four, strong horses or being incarcerated in a public cage without food or water until they died."<sup>27</sup>

The Russian Czar Michael Federovich Romanov (r. 1613-1645) forbade the sale of tobacco, decreeing, in 1634, that tobacco users were to be punished by cutting off their noses, castration, beating the soles of their bare feet bloody, or simply flogging them with a weighted knout. The penalty for persistent violators was death.<sup>3,7,27</sup> A further decree of 1641 mentioned exile as a possible punishment. The Russian Orthodox Church forbade the taking of tobacco in any form, stating that it was "an abomination to Godd" on the Biblical grounds that "It is not that which entereth into a man that defileth him, but that which proceedeth from him".<sup>3</sup> However, in the early 1700s, Peter the Great abolished these drastic punishments in order to open a window on the West. He was also a pipe smoker.<sup>8</sup>

A Chinese law of 1638 threatened decapitation for anyone who trafficked in any form of tobacco.<sup>4</sup>

Smoked and smokeless tobacco be-

### The Russian Czar Michael Romanov forbade the sale of tobacco and threatened users with dire punishments, including castration.

came so popular, that, in 1642, Pope Urban VIII found it necessary to ban its use in churches. He published a Bull which reads:

Our temples, by virtue of the divine sacrifice which is celebrated in them, are called houses of prayer; they must therefore be held in the greatest respect. Having received from God the sure keeping of all the Churches in the Catholic world, it is our duty to banish every profane and indecent act from these churches. We have recently learned that the bad habit of taking the herb commonly called tobacco, by the mouth or nose, has spread to such a degree in some dioceses that persons of both sexes, even the priests and clerks, both secular and regular, forgetting that decorum which is due to their rank, take tobacco everywhere, principally in the churches of the town and dioceses of Seville; nay, even—and we blush for very shame—whilst celebrating the most holy sacrifice of the mass. They soil the sacred linen with the disgusting humours provoked by tobacco, they poison our temples with a repulsive odour, to the great scandal of their brethren who persevere in well-doing, nor do they seem to dread their want to respect for all sacred objects . . . we interdict and forbid all generally and each one in particular, persons of either sex, seculars, ecclesiastics, every religious order, and all those forming a portion of any religious institution whatsoever, to take tobacco in the future in the porches or interiors of the churches, whether by chewing, smoking or inhaling it in the form of powder, in short to use it in any shape or form whatsoever. If any one contravene these provisions, let him be excommunicated.<sup>23</sup>

In 1650, the Catholic Church again thundered at the use of snuff in holy places. Pope Innocent X complained that priests openly took snuff during the mass, keeping snuffboxes on the altar.<sup>2</sup>

In Bavaria, tobacco was available only on a doctor's prescription in 1652; for all others, tobacco use was strictly forbidden. Frederick the Great, King of Prussia, at his coronation ceremony in 1790, prevented his mother, the Dowager Queen of Prussia, from taking snuff. Louis XV (1710-1774) who ruled in France from 1723 to 1774, was against the use of tobacco and banished snuff users from the Court of France. However, his rebellious

daughters borrowed pipes from the Swiss guards and organized clandestine smoking parties in their private apartments.<sup>8</sup>

According to Van Lancker, religious groups throughout the ages banned the use of tobacco in any form. John Wesley (1703-1791), the English evangelical preacher and founder of Methodism, noted and censured the general use of snuff in Ireland. Others opposing tobacco include Mormons, Seventh-Day Adventists, Parsees of India, Sikhs of India, monks of middle Korea, Tsai Li sect of China, some Ethiopian Christian sects, Wahabi followers in Saudi Arabia, certain Bedouin tribes and followers of Mahdi in Sudan.

### Medical pros and cons

Snuff was condemned by a small group of physicians, one of whom claimed that it reduced the brain to a "sooty, dry condition," which eventually led to apoplexy and cancer.<sup>2</sup> In 1789, an anonymous "Gentleman of the University of Cambridge," wrote a scathing 63-page treatise exposing the evils and dangers of snuffing and tobacco chewing.<sup>28</sup> (To a lesser degree he also condemned smoking.) He gave case histories where snuff produced: greatly impaired if not totally destroyed nerves lining the nostrils that led to the inability to taste or smell; loss of appetite and digestive powers leading to an "obstinate" flatulence; an impaired vision or blindness caused by the decay of the humours that flattened the eyes; a fleshy tumor of the esophagus and cancer of the nostrils; mental retardation "to such a degree that he (a Master of a College at Cambridge) became a mere driveller, quite stupid, the ridicule of the society he belonged to;" skin wrinkling in the face and color changes leading to a complexion having a fallow, cadaverous color; convulsions and death in an individual who took snuff for a bowel disorder; and a nasal type of pronunciation, rather than a clear, melodious, engaging voice.

Nevertheless, the same "Gentle-

man" also recognized the value of snuff as a preventive for the plague, curing mange in dogs and horses, and destroying small destructive insects that attack fruit trees and house plants.

On the other hand, medicated snuffs abounded and served as cure-all-ills of the body and mind including tooth decay, stomach ills, and stuffed up nostrils. A well-known saying declared, "My nose is all blocked up I fear, it needs a dose of snuff to clear."

### *Snuff poisoning*

In France, scented snuffs were used as instruments of revenge and intrigue. For example, the Dauphiness, the wife of the oldest son of the King of France, died in 1712 from inhaling poisoned Spanish snuff.<sup>2,23</sup> It became a general belief that such poisoned snuff was used in Spain and by Spanish emissaries to dispose of political opponents. The Jesuits were also accused of adopting it for the purpose of secretly poisoning their enemies. Hence it became known as "Jesuits' " snuff and, for a while, users became extremely wary of accepting a gift of snuff. In the late 1600s, the poet Santeuil was said to have died from the effects of snuff-laced wine at the dinner table of the Prince of Conde.<sup>14</sup> This produced a violent fever of which the poet was said to have died within 14 hours, amid excruciating agonies.<sup>23</sup> In this century, several fatal poisonings caused by the accidental swallowing of snuff have been reported.<sup>14</sup>

### *Tobacco survives the onslaughts*

Despite the various onslaughts and propagandizing by governments, religions, scientists, and physicians, and the high prices and poor quality of tobacco during its early days, tobacco usage in all of its forms continued to increase and flourish throughout the world. Apparently, many people could not resist the novelty, fashionable appeal, and social pressures connected with the customs of tobacco use. And, perhaps more importantly, the individual soon became addicted to nicotine. Certainly, as the 20th century approached, tobacco users throughout the world could "now enjoy their habit with the tacit approval of their governments, vigorous encouragement of the tobacco industry, absolution of their church and the

resigned silence of their physicians."<sup>23</sup>

## Smokeless tobacco returns to America

In 1611, John Rolfe, a young member of an honored old English family, and an ardent smoker, helped develop tobacco growing as America's oldest industry, thus ensuring the survival of the Jamestown Colony in Virginia. He accomplished this by replacing the inferior native tobacco with Spanish leaf from the prized tobacco plants of Trinidad and Caracas.<sup>9</sup> The Spanish tobacco plants thrived in the sandy soil of Virginia, producing plants with an excellent aroma. His romance with Pocahontas, daughter of the powerful Indian chief, Powhatan, flowered in these tobacco fields. From 1613, Virginia tobacco products became popular in the English market, and tobacco became one of the major exports of the American Colonies at the time of the American Revolution. In Colonial Virginia, tobacco was given the name the "golden weed," and was worth its weight in wives. In 1619, eager bachelors paid 120 pounds each of tobacco for a shipload of English maidens, "ninety agreeable persons, young and incorrupt."<sup>9</sup>

Tobacco also had an important role in the American Revolution. In 1758, Patrick Henry became a popular hero in Virginia when he won a case over the farm price of tobacco.<sup>9</sup> George Washington, appealing to his countrymen during the early stages of the war exclaimed, "I say, if you can't send money, send tobacco." The Continental Congress built foreign credit with tobacco; in 1777, Benjamin Franklin drew 2,000,000 livres in Paris against a contract to deliver 5,000 casks of Virginia tobacco.

Many of the Colonists in America never really accepted English-style snuffing and tea drinking because these practices reminded them of their tyrannical rulers from the old country.<sup>4,7</sup> However, a number of the Colonial aristocrats who were busily organizing the new government continued to enjoy snuff. Even Dolly

Madison passed out samples of snuff to White House guests and was known to carry a lace handkerchief to wipe the telltale tobacco grains from her nose. Several small snuff mills were built in America, the most notable started by an 18-year-old French Huguenot emigré Pierre Lorillard in New York City (1760). Young Pierre's snuff recipes were closely guarded secrets, and competitors tried in vain to guess their ingredients. When the Revolution swept through New York, the Hessian soldiers killed Pierre, but the family business was eventually rebuilt by his sons Peter and George. In 1789, the Lorillards published the first known American advertisement for tobacco. Their copy featured the American Indian theme, and it was used to advertise the various Lorillard products including cut tobacco plug and snuff.<sup>9</sup> In the mid-1800s, they were also the first company to use direct mail advertising to sell tobacco. Eventually the "Red Man" became a symbol for tobacco and the life size, vividly painted, wooden Indian statues began to appear everywhere. In the 1890s, these symbols began to disappear, and are now collected by museums and private parties. P. Lorillard's original native field stone snuff mill was restored in 1954 and can now be viewed in the New York Botanical Garden in Bronx Park.

Frontiersmen busy carving out the wilderness on the windy plains found it more convenient to chew tobacco. Chewing tobacco progressed from being sold in loose-leaf, bulky packages, to long, pressed rectangles called "plug" tobacco.<sup>9</sup> Plug tobacco got its name from small, family-operated factories in North Carolina in the mid-1850s. Operators bored auger holes in green birch, elm, maple, and poplar containing a sweet sap. They then "plugged" the holes with leaf tobacco, and after a month or two, the log was split open. These hunks of sap-sweetened tobacco were used by the family or sent to market. Plug tobacco produced a "swollen" cheek appearance in the user. The Lorillards established an excellent reputation in the

Pierre Lorillard established the first snuff mill in America and in 1789 his sons published the first printed advertising for tobacco products.

**The review of the medical and dental literature has shown  
646 cases of cancer directly associated with smokeless tobacco.**

plug market field. Unscrupulous dealers, however, began to sell inferior plugs by slipping them into a Lorillard wrapper or box. In 1870, Pierre Lorillard III developed a way to identify a genuine Lorillard plug by clamping a unique tin tag marked with the Lorillard name into each plug. He called the first plug to wear this novel identification "Tin Tab." Other companies began offering premiums to customers for the tags from their own brands. The gimmick backfired when a group of small boys discovered that one company disposed of the tags by throwing them in an abandoned well. The youth fished 25,000 tags out of the well and, before their supply was exhausted, had acquired every prize in the catalog.<sup>9</sup> During the 1800s, three forms of oral smokeless tobacco became popular: moist snuff, loose-leaf chewing, and block or plug tobacco. A communal snuff-box and cuspidors were installed for members of Congress, a practice which continued until the mid-1930s.<sup>29</sup> It was during this time that tobacco chewing became known as "The American Habit."<sup>13</sup> In the northern cities, especially New York, hundreds of tobacco factories produced chewing tobacco that was given a variety of colorful trade names such as The People's Choice, Horse Shoe, Star, Daniel Webster, and Cherry Ripe.<sup>5</sup> Plug tobaccos had especially whimsical names—Lic Quid, Lucky Strike, Monkey Wrench Plug, Darling Fanny Pan Cake, Old Slug, Jaw Bone, Mule Ear, Alligator, Grit, and Plank Road.<sup>9</sup> As a rule, the more expensive the plug the more repulsive the names.

Charles Dickens, in his *American Notes* (1842), described in unflattering terms, the profuse and careless practices of chewing and spitting he observed in America.<sup>23</sup> He called the city of Washington the "headquarters of tobacco-tinctured saliva." He wrote:

In the courts of law the judge has his spittoon, the crier his, the warder his, and the prisoner his; while the jurymen and spectators are provided for as so many men who, in the course of nature, must desire to spit incessantly. In the hospitals, the students of medicine are requested by notices upon the

wall to eject their tobacco-juice into the boxes provided for that purpose, and not to discolour the stairs. In public buildings, visitors are implored through the same agency to squirt the essence of their quids, or "plugs", as I have heard them called by gentlemen learned in this kind of sweetmeat, into the national spittoons, and not about the bases of the marble columns. In some parts, this custom is inseparably mixed up with every meal and morning call, and with all the transactions of social life.

#### *Decline in the use of smokeless tobacco*

In 1882, Robert Koch, a German physician and bacteriologist, discovered and isolated the *Bacillus tuberculosis* organism. At about this time, the "germ" theory was being proved by scientists such as Koch, Louis Pasteur, Ignaz Semmelweis, Joseph Lister, Emile Roux, Paul Ehrlich, and others. It was soon discovered that the dormant tuberculosis organisms and other harmful germs, in the dried state, could survive and spread by air. Almost immediately, it was realized that spitting on the floor or into a brass cuspidor was unsanitary and could spread disease by means of contaminated dust aerosols. By the end of the

19th century, public outcry against such unsanitary practices in our country caused tobacco spitting to become socially unacceptable behavior and unlawful, especially in certain public places. In the 1880s, James Bonsack, a Virginian, invented a cigarette-making machine that greatly reduced manufacturing costs of cigarettes. In 1885, a staggering total of 1 billion cigarettes were produced. (More than that amount is now smoked daily!)<sup>9</sup> However, smokeless tobacco remained popular in America until approximately 1913, when Camel cigarettes were inexpensively mass-produced and skillfully advertised.<sup>30</sup> It wasn't until 1921 that cigarette consumption surpassed all other forms. For a number of years, smokeless tobacco usage went "underground", used by quaint, "back-woods" rural men and women in Southeastern and Southwestern United States. Its use was popular among people who worked where smoking was unfeasible, in coal mines, silk mills, or around petroleum products.

#### **Dental snuff**

In 19th and 20th century America, a new phenomenon arose—dental snuff.

— THE —

## DENTAL SNUFF!

**Is the BEST!**  **For Many Reasons!**

Those who use it say the Snuff itself is the best; besides it will relieve Toothache, cure Neuralgia, Scurvy; prevent decay, preserve and whiten the Teeth. Dentists and Doctors say it is the only Snuff that can be used without injury to the teeth.

A copy of written letters testifying to the above facts will be furnished on application.

Some who do not dip use the DENTAL SNUFF on their teeth, night and morning, and are greatly benefitted. Use it; you will never regret it.

**ASK FOR THE DENTAL SNUFF.  
TAKE NO OTHER.**

Fig 2 = Advertising card extolling virtues of dental snuff as manufactured by Ivey, Owen Co of Lynchburg, Va, circa 1886 (81 x 127 mm).

At first it was advertised as being a dental panacea. One brand had a trade mark symbol of a somewhat misshapen, though recognizable, maxillary molar tooth (Fig 2). This form of snuff was said to relieve toothache, to cure neuralgia, scurvy, and bleeding gums, to preserve and whiten teeth, and to prevent decay (Fig 3). It claimed to be the only snuff produced that could be used without injuring the teeth. In the mid-1940s, the American Snuff Company, Memphis, produced dental snuff and claimed to be the largest snuff manufacturer in the world (Fig 4). Their advertisement proudly proclaimed that they had been producing snuff continuously in America for the past 162 years (since 1782). Their



Fig 3 • Lithographed advertising card in full color with therapeutic claims of dental snuff. Printed in Detroit (obverse side of Fig 2).



Fig 4 • Front and back cover of 16-page memo-book advertising dental snuff. Each page measures 7.5 by 14.0 cm and is yellow, black, and dark blue in color. Produced by American Snuff Co, Memphis, dated 1944-1945.

product, a mild Scotch Snuff, was sweetened. However, by this time earlier therapeutic claims were dropped and they emphasized other qualities of their snuff, such as mildness, wonderful tobacco flavor, satisfaction, and low cost.

### Rediscovery of smokeless tobacco

Since the early 1970s, there has been a great resurgence in the use of all forms of smokeless tobacco in the United States. The sales of smokeless tobacco has increased about 11% each year since 1974, with an estimated 22 million users in the United States.<sup>30</sup> Today's users are more sophisticated than those of yesteryear, and apparently more considerate than those old-timers who were not overly concerned about where they expectorated. The advent of the Styrofoam or plastic cup has provided a handy, disposable cuspidor.

Smokeless tobacco is being heavily promoted through the mass media advertising using well-known sports personalities and entertainers to act as spokespersons for smokeless tobacco. Despite the esthetic problems associated with these habits, chewing and dipping are gaining widespread social acceptance. This is accomplished, at least in part, through the skillful manipulation of the public by the tobacco industry. Use of smokeless tobacco is rapidly increasing, especially among young, male (macho-type) athletes and students in high school and college.<sup>31</sup>

Advertising implies that smokeless tobacco habits are innocuous and safe. I have recently reviewed<sup>30</sup> the literature concerning smokeless tobacco products concluding that they have shown the potential for causing cancer of the oral cavity, pharynx, larynx, and esophagus. The review of the medical and dental literature has shown 646 cases of cancer directly associated with smokeless tobacco. (There has even been one case of cancer of the ear reported in a 58-year-old farmer who had used snuff in his left ear daily to weekly since the age of 16!)<sup>32</sup>

Smokeless tobacco can produce significant effects on the soft and hard tissues of the mouth, including bad breath, discolored teeth and fillings, excessive wear (abrasion) of the incisal and occlusal surfaces of the teeth, de-

creased ability to taste and smell, gum recession, advanced periodontal destruction of the soft and hard tissues, leukoedema and erythema of the soft tissues, leukoplakia, and cancer.<sup>30</sup>

Recent preliminary research findings from Baylor College of Medicine and Texas Lutheran College have shown that oral use of smokeless tobacco can produce significant effects on the heart and blood vessels in both animals and humans. According to Squires and co-workers,<sup>33</sup> in men younger than 20 years of age, within 20 minutes of oral snuff usage, heart rates increased from 69 to an average of 88 beats a minute. Average blood pressure readings increased significantly (118/72 to 128/78) during the same period. They concluded that oral tobacco usage may pose a health hazard in certain medically compromised individuals, especially among those who already have high blood pressure.

These findings are of special interest because Russell and co-workers<sup>34</sup> have recently suggested that nasal snuff could be an acceptable and less harmful substitute for cigarette smoking. They point out that, because snuff has an absence of certain tars and gases such as carbon monoxide, oxides of nitrogen and other toxic combustion by-products, smoking-related cancers, chronic bronchitis, and emphysema, and possibly heart disease risks, would be greatly reduced. This issue remains unresolved.

### Summary

This article explores the folklore and history of smokeless tobacco from the 1490s to the present. Columbus, in his search for the New World in 1492, observed natives of the West Indies who "drank smoke." The natives also used this mysterious herb in the form of tobacco poultices and paste for treating burns, sores, back ailments, diseases of the skin and womb, chills, convulsions, worms, colic, mad dog bites and many other health problems. On his return, Columbus introduced tobacco to the Europeans.

The usage of tobacco in the form of snuff by royalty in Europe during the 16th, 17th, and 18th centuries gave tobacco respectability and increased its popularity. Smokeless tobacco became so popular that snuff users began to develop their own paraphernalia and fashion. During this time, the popular-

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Today, smokeless tobacco is heavily promoted in the mass media, and, despite esthetic problems associated with chewing, dipping, and snuffing, it is once again enjoying a widespread popularity.

ity of smokeless tobacco as a social habit survived attempts by the church, state, and even science to discourage its usage.

In 1611, European settlers brought smokeless tobacco back to North America where it flourished as a social habit until the 19th century. By the end of the 19th century, the popularity of smokeless tobacco began to decline. Its decline is attributed to the unsanitary practice of spitting which was suspected of spreading tuberculosis. Smokeless tobacco use remained unsociable until its resurgence in the 1970s.

The continuing popularity of smokeless tobacco in the 1980s is primarily attributed to its association with the western "macho" image which has become stylish. The revival of smokeless tobacco as a popular social habit among large numbers of Americans, both adolescents and adults, has aroused renewed interest in the health controversies surrounding its use. Current research is examining the health hazards associated with smokeless tobacco.

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