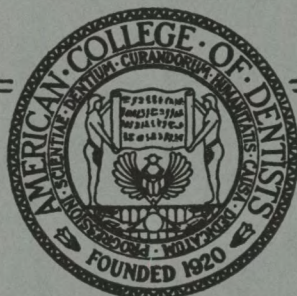


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Objects: The American College of Dentists "was established to promote the ideals of the dental profession; to advance the standards of efficiency of dentistry; to stimulate graduate study and effort by dentists; to confer Fellowship in recognition of meritorious achievement, especially in dental science, art, education and literature; and to improve public understanding and appreciation of oral health-service."—*Constitution, Article I.*

¹⁰² *Fellowships and awards in dental research.* The American College of Dentists, at its annual meeting in 1937 [*J. Am. Col. Den.*, 4, 100; Sept. and 256, Dec., 1937] inaugurated plans to promote research in dentistry. These plans include grants of funds (The William John Gies Fellowships) to applicants, in support of projected investigations; and also the formal recognition, through annual awards (The William John Gies Awards), of distinguished achievement in dental research. A standing committee of the International Association for Dental Research will actively cooperate with the College in the furtherance of these plans. Application for grants in aid of projected researches, and requests for information, may be sent to the Chairman of the Committee on Dental Research of the American College of Dentists, Dr. Albert L. Midgley, 1108 Union Trust Bldg., Providence, R. I. [See "The Gies Dental Research Fellowships and Awards for Achievement in Research," *J. Am. Col. Den.*, 5, 115; 1938, Sept.]

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RESEARCH STUDIES IN DENTAL HISTORY

IV. PETRUS HISPANUS (c. 1210-1277) ON THE TOOTHACHE¹

MILTON B. ASBELL²

Camden, N. J.

For European medicine the period of the early Middle Ages was an era of magic and mysticism. Miracles, not experiments, were the order of the day; demonology and exorcism prevailed. Science was held to be pagan and secular, and theology was the key to all knowledge. However, by the thirteenth century, Europe, realizing the wisdom of the past, put a premium on the learning of the ancient Greek and early Arabic physicians. Soon a host of translators spread this medical science to the intellectuals throughout Europe. Michael Scot gave to medieval Europe the Aristotelian commentaries of Avicenna and Averroes; Frederick II became the symbol of scientific enlightenment; Roger Bacon was a pioneer in comparative philology and an apostle of the experimental method.

The method of the scholastics was to consult with and accept the recognized authorities, as the Church Fathers or Aristotle, rather than make an approach to the scientific or experimental method. Only in medicine was there an exception. Here alone the student received his science not only from the library but also from the human laboratories. It is in the person of Petrus Hispanus that these divergent forces were united in a strange combination. For this man was to be Pope John XXI and at the same time a friend of Frederick II in the face of ecclesiastic opposition. He was a man of gross superstition but also a man of sharp intelligence; his careers in theology and medicine ran parallel and were crowned with great success. This extraordinary achievement may be explained by the fact that at this period there seemed to be a partial truce between theology and science.

Petrus Hispanus was born early in the thirteenth century (about 1210), the son of a physician, in Lisbon, Spain. He probably learned his medical art early from neighboring Arabic physicians. He completed his medical studies at Paris (under the famous Albertus Magnus) and at Montpellier, where he was one of the celebrated pupils. He then took the holy orders but continued to practice the art of medicine, succeeding in each calling. He became at once the Cardinal Bishop of Tusculum and the physician to Pope Gregory X. He is believed to have met his death in 1277 by a fall from the roof of the papal palace at Viterbo.

¹ With a Glossary of Terms by Edward C. Dobbs, D.D.S., Professor of Pharmacology, Baltimore College of Dental Surgery, Dental School, University of Maryland.

² The author expresses his indebtedness and appreciation to Dr. Arnold G. Reichenberger, of the Department of Romance Languages and Literatures, University of Pennsylvania, for his translation of the Italian text.

His medical writings include a book on eye diseases, *Liber de oculis*, and commentaries upon the dietetics and urology of Isaac Israeli and of Hippocrates and Galen. But the most famous is his *Thesaurus pauperum* or "Treasury of the Poor." This was the most popular of the medieval formularies in which treatment for various diseases are arranged and described, proceeding from the head to the foot. In it he tells the reader that he has collected all the works of ancient authors that he could procure and extracted whatever he deemed essential. However, he cautions: "I exhort and advise the reader of this book not to apply himself to the cure of the sick, till he has considered the nature of their diseases, and their constitutions. And also let him study diligently the properties of things, their substances, complexions and hidden powers and virtues; otherwise he will be like a blind man thrusting the blind patient into the ditch of death." The book was first published at Antwerp in 1476; subsequent editions appeared in 1486, 1487, 1490, 1494 and frequently in the sixteenth century. It was translated into Italian, English and German and gained a wide circulation.

It is to this volume that we turn to study the contributions of Petrus Hispanus to the dental art as practiced by the physician during the thirteenth century. This study is devoted to Chapter XII, "A guarire lo male de dente", wherein he describes the toothache and its remedies. Two texts have been used: the 1494 Italian edition, *Practica medicinal, quae thesaurus pauperum nuncupatur. Qui in comincia il libro chiamato tesoro de poveri compilato et facto per maestro piero spano*, and the *Treasury of Healthe*, edited and translated by Humfre Lloyde (Imprynted at London in Fletestrete at the sygne of the Rosegarland by Wyllyam Coplande), 1538.³ Both texts have been translated and collated to form a complete revision.

A study of this chapter reveals it to be a good sampling of the entire work. The authors on whom he based his text are Pliny (c.23-79 A.D.), Pedacius Dioscorides (40 A.D.-90 A.D.), Galen (130-200 A.D.), Sextus (either Empiricus, who flourished 193 A.D., or Placitus of Papyra, who flourished 370 A.D.), Avicenna (980-1037), Constatinus Africanus (c.1020-1081), Rogerius (either Roger II, 1093-1154, or Roger of Palermo [Ruggiero] c.1210), and Richardus (dates unknown). This chapter consists of a long list of remedies and prescriptions against the toothache, which is prefaced by a most interesting statement describing the cause of toothache to be "a great quantity of humors fallynge from the head to the gummes." Some of these remedies are purely magical in character, while others are purely empirical and irrational.

³ There are other English editions dated 1550?, 1558 and 1585. There are three known copies of this work in the United States, one each at the following libraries: Henry E. Huntington Library, San Marino, California; Newberry Library, Chicago, Illinois; Library of the College of Physicians, Philadelphia.

THE TEXT OF CHAPTER 12

Chapter 12. *How to heal toothache*

For the Toothache

The Causes: The synowes being very hote or cold or great quantity of humors, fallynge from the head to the gummes.

The Sygnes: The payne is knowen well ynoughe.

Remedies

If you wash your mouth once a month with wine of the decoction of *euphorbia*, you will be healed and you will not have toothache anymore.

Furthermore, salt mixed with dough [that has been] burned over a fire put on the aching tooth will heal perfectly.

Furthermore, for a severe ache take the juice of ground ivy and [put it] in the ear on that side where the tooth aches and [although] it will hurt a little it will pass and the toothache cease.

Furthermore, the juice of the sweet-flag (*acorus calamus*) put in the nose has a similar effect.

Furthermore, place the seed of henbane (*hyoscyamus niger*) on [burning] coals and inhale the fumes through a funnel and the worms [in the teeth] will be killed, and it will drive out the pain.

Likewise, spread an ointment of horse's bone marrow on the tooth and you will certainly recover, it has been tried.

Furthermore, place the powder of love-in-a-mist (*nigella damascena*) in the hollow of the tooth, it will soon heal.

Likewise if you wash the mouth with gall (*bedegar*, *bedeguar*) it takes the pain away.

Furthermore, fill the tooth with the root of radish (*raphanus*) and rub the tooth and gums, the pain will go away.

Likewise, boil the filings of hartshorn in water in an earthen pot and put some of this in the mouth and the toothache will cease.

Likewise, wine and water of the decoction of cucumber held in the mouth will drive away the toothache.

Furthermore, the juice of the chicory put in the nostril or ear on the contrary side of the aching tooth will put off the pain.

Likewise, put between the teeth the seed of the date [that has been] roasted and [the pain] will go away.

Furthermore, cook, until one-half done, the juice of feather-geranium (*cheno-*

podium botrys) on the vine and the bark of the root of the mulberry and wash the mouth and teeth with it, the toothache will be gone.

Likewise, every day rub the tooth with onion juice and it won't hurt.

Likewise, rub the tooth with the juice of parsnip (*pastinaca sativa*) and the severe pain will go away.

Furthermore, Bernardo in his "Summa" writes that if the person touches the painful tooth with a tooth of a dead man, undoubtedly it will heal.

Likewise, the root of dittany (*dictamnus albus*) drunk takes the toothache away.

Furthermore, the herb of dogtooth violet (*erythronium denscanis*) put on the tooth which hurts, drives the pain away. It has been proven.

Furthermore, the inside root of the nut-tree ground with oil and the juice [put] in the ear opposite the tooth which hurts and the toothache will go away.

Furthermore, holding between the teeth a double grain as an assuaging agent drives the pain away.

Furthermore, put on ground scabious (*s. arvensis*) and lettuce cooked lukewarm in oil.

Likewise, cook the root of henbane in vinegar. Keeping this mixture in the mouth and washing the gums will drive off the pain.

Furthermore, triturate between the teeth two kernels of garlic and bind them on the lateral surface of the arm near to the hand which is on the side of the aching tooth and the pain will go away.

Furthermore, put into the ear on the side of the aching tooth beetjuice and the juice of spurge (*tithymalus*).

Furthermore, wash the tooth which hurts with a decoction of dittany or rather put between the teeth a burnt splinter of it which is more useful than all the herbs.

Furthermore, putting *sagapenum* in the hollow tooth will take the pain away.

Furthermore, keep the vinegar of cucumber (*cucumis colocynthis*) in the mouth for a while because it is a very effective remedy. The milk of ground euphorbia with the flour of grain nut in the cavity of the tooth acts as an astringent.

Furthermore, fill the cavity of the tooth affected with the gum [resin] of ivy and it takes the pain away.

Furthermore, if a tooth is touched with a root of celery it takes the pain off immediately and assuages [the pain] of the tooth.

Furthermore, wash the mouth with a decoction of pulverized pomegranate and put it on the teeth. This dries and fastens loose teeth and drives away the rheum in the teeth and stops pain.

Likewise, make a gargism [using] garden sage (*salvia officinalis*) rue

(*rutagraveolens*), common feverfew (*chrysanthemum parthenium*), hyssop (*hyssopus officinalis*), christmas rose (*helleborus niger*), root of euphorbia, root of tumbleweed (*cycloloma europaeum*), stalks of dittany and mixed with oil put in the ear on the side of the tooth which hurts.

Furthermore, if the pain is very severe put on opium with diluted egg-yolk half cooked.

Also, there be also which make of the dregges of oyle, the lykness of silke threades the take the dregges of oyle that hath no grounds of dirt or sande and sethe it in a caudron of brasse till it be thicke and then they put it upon the teethache for it auencheth the payn and be that doth the same with the joyce of sower grapes till it be lyke hony and put thereof upon the teeth and be eaten hollow, it pulleth them out by the rote, or elles maketh a waye to the easier pulling out of them.

Likewise, if the tooth has a cavity, fill it with stag's dung and the tooth will break and it takes away the pain.

Likewise, cook five kernels of the seed of ivy in rose oil in the rind of the pomegranate and put it in the right ear and the tooth on the left side will heal.

Likewise, touch the tooth with the root of hyssop [which is] very well roasted by fire and it will soon fall out; but, carefully so that you do not touch the other teeth [for] they will fall out if you do.

Likewise, a mixture of the powder of *pyrethrum* with the milk of *euphorbia* and of *galbanum* is made and it is put on the tooth; it tightens the teeth and puts away the pain.

Likewise, the root of the hellebore rubbed on the teeth chases the pain away.

Likewise, put in the ear opposite to the side where the tooth hurts, the juice of *asphodel* and the pain will go away.

Likewise, the juice of the chicory has the same effect. The nasturtium put in the ear on the same side where the tooth hurts takes away the pain.

Likewise, dig up the root of the nasturtium with a non-ferrous [non-metallic] [instrument] and touch three times the spot where it hurts and put it back where you dug it up and it is a miraculous cure; the tooth will never hurt again.

Likewise, boil hyssop in vinegar and apply a fomentation to the tooth which hurts and the toothache will go away soon.

Likewise, the root of the cinquefoil (*potentilla*) [or the water of the decoction thereof] takes the pain away.

Likewise, the milk of dogtooth violet on the tooth which hurts takes the pain away.

Likewise, either wine or water wherein the leaves of the plum or prune tree, or part of the bark, or some of the root-tendrils are cooked; wash the mouth with it and it strengthens the teeth and gums.

Likewise, the brain of the partridge put in the hole of the tooth breakes it and takes away the pain.

Likewise, the root of hog's-fennel (*peucedanum officinale*) put in the cavity of the tooth, chases away any kind of pain. Will not permyte any worme to lyve therein.

Rue sod in wyne, and layed in forme
of a playster upon the payne in the gumes by
drieng up the humor it taketh awaye the payne.

Likewise, the root of asparagus (*asparagus officinalis*) ground with wool placed on the tooth extracts the pain.

Likewise, the leaves of garden sage (*salvia officinalis*) draws out the pain and strengthens the teeth which are sensitive to cold.

Likewise, fill the hollow tooth with the resin of the cedar tree; it breaks [the tooth] and makes it burst, and if one keeps it quite a while in the mouth, it takes the pain away.

Likewise, the mastic mollified with raw white of an egg put on chapped [or split] lips will contract them.

Likewise, the liver of the Egyptian lizard (*stellic vulgaris*) put on the teeth takes away the pain immediately.

Likewise, man's hair with rose oil put in the ear takes toothache away.

Likewise, the powder of red coral put in the cavity of the tooth exfoliates the entire tooth.

Likewise, the root of celery applied to the neck [of the tooth] takes off the pain.

Likewise, if you frequently wash the tooth with a concoction of gall the teeth will be strengthened and the corroded roots will heal.

Likewise, a concoction of powder of pomegranate put on has a similar effect.

Furthermore, coral powdered put on is the best means to hold firm and strengthen the teeth and gums.

Furthermore, mastic chewed on an empty stomach takes the pain away.

Likewise, horehound (*marrubium vulgare*) chewed or sucked takes the pain away immediately.

Furthermore, the leaves of the strawberry chewed takes the pain away.

Likewise, light up a piece of used ash wood and when it burns put it close to the hollow tooth; but, before fill it with theriac; it helps very much.

Likewise, the carcass of a frog and particularly its fat lets the teeth fall out painlessly whereon it is put. And so, animals will loose their teeth.

Furthermore, if you rub the tooth with the ashes of ass' tooth, it helps very much.

Likewise, the brain of the partridge put on the tooth cavity, breaks it and sends the pain away.

Let the gumes be rubbed with the ashes of a dolphin tooth, the teeth are therby greatly holpen, or if they be touched only with the tooth itself.

The rote of mouse eare, put in the hollownes of the tooth taketh away the toothache, this hath been proved.

Stamp the inner rotes of nut trees and mixe it with woyle, and put the juice into the eare on the contrary part that the tooth ache and he shal be delivered out of paines.

Let the skynne of a serpent be sod in vinegar and hold same vinegar a good whyle in your mouthe.

Sip up (so that ther be nothyng therof swallowed but gargared) a cuppeful (at tymes one upon another) of the joyce of yarow fasting thou shalt be ryd of they toothe ache thereby.

Seeth the scrapinges of the rote of a mulbery tree in wyne, which wyne hold in thy mouth it ceaseth the grefe incontynent.

Of the same operacion is wine of the decoction of yuy rotes.

If you take one corne of salte and wrap it in fayne whyt cobweb and put it into thy hollow tooth it will heale it.

GLOSSARY OF TERMS

A brief perusal of the herbs used as dental remedies brings one thing sharply to mind. Nearly all are aromatic, astringent, acrid, or, in some cases, narcotic (henbane, hellebore). In only one case is the treatment purely ritualistic—nasturtium; the other herbs mentioned are for local application.

Acorus Calamus

Calamus (sweet flag, calamus root) is a plant of the Arum Family [Araceae] found by swamps, streams and ponds in Europe, Asia and North America. It was used by the ancients as a remedy for diseases of the eye and to clear the voice. Its present use is as a carminative, aromatic bitter and stimulant and as a flavoring agent. It has also been used for relief of atonic dyspepsia and colic and as a "breath sweetener."

Asparagus Officinalis

Asparagus, of the Lily Family, is a European plant with mild diuretic properties. Throughout the days of herbal medicine it was employed as a decoction of the roots boiled with wine to clear the sight, relieve rheumatism, sciatica, kidney stone, dropsy and as a laxative. As a dental remedy the decoction was held in the mouth to relieve toothache.

Asphodel

Asphodel is a name applied to any one of several herbs. The term among the French and English commonly referred to the daffodil; among the Greeks, to the narcissus or jonquil. The plants have been hybridized to such an extent

that in modern times they are arbitrarily distinguished only by the length of the floral tube. The plants are common throughout Europe, and, as the Greek name implies, were prized by the herbalists for their narcotic properties.

Bedeguar

Bedeguar (bedegar) is a gummy excrecence formed on sweetbriar and other roses by several species of gall flies. Herbalists used it as an ingredient of a mouthwash.

Chenopodium Botrys

The Jerusalem oak, or feather geranium, is a European plant of the Goose-foot Family (Chenopodiaceae). It was a lesser ingredient of mouthwashes.

Chrysanthemum Parthenium

Feverfew (or *Leucanthemum parthenium*) is a European herb of the Composite Family (genus *Chrysanthemum*) used as an antipyretic.

Cinquefoil

Potentilla (or Argentina) Anserina, commonly known as silverweed, five-finger, or wild tansy, is found in Europe and Asia. It is a member of the Rose Family and was used for the relief of pain, diarrhea and dysmenorrhea, as an extract.

Cucumis Colocynthis

The bitter, or colocynth, apple is a native of Asia and Africa employed as a hydragogue cathartic and mouthwash. It is a member of the Gourd Family (Cucurbitaceae), of which the cucumber is also a member.

Cycloloma Europaeum

Tumbleweed, or pigweed, (of the Goosefoot Family) was frequently used as a potherb. Medicinally, the roots were used in mouthwashes and eardrops.

Dictamnus Albus

The dittany of the herbals was a perennial of Southern Europe whose root was considered an especially potent toothache remedy. It is prized in American gardens today for its handsome foliage and flowers, its resistance to insects and disease, and for the novelty of the inflammable gas given off during the blooming season.

Erythronium Denscanis

A European representative of the dogtooth violet (Lily Family), its juice

was used as an dental obtundent. The commonest American variety is known as the yellow adder's-tongue.

Euphorbia

The euphorbia, spurge, or tithymalus of the herbals may be any one of seven or more species of the Spurge Family. The acrid milky juice was employed dentally either as eardrops or as an astringent applied directly to the affected tooth. A decoction of the root was used as a mouth wash. In more modern materia medicas it was considered solely for its properties as a cholagogue or expectorant.

Galbanum

Galbanum (albetad) is a bitter odorous gum obtained from the plant *Ferula galbaniflua*, native to Persia and Afghanistan. It resembles asafetida and has similar uses. The herbalists used it in combination with pyrethrum and euphorbia to combat "pyorrhea" and as a dental obtundent.

Helleborus Niger

Black hellebore, or Christmas rose, of the Crowfoot Family, is cathartic but also acrid and violently narcotic. Dentally its uses were limited to topical use as a mouthwash in combination with other herbs or, as the fresh root, rubbed on the sore teeth.

Hyoscyamus Niger

Black henbane is a European member of the Nightshade Family. Because of its analgesic properties it was incinerated and the fumes inhaled for the relief of toothache. It also has narcotic and mydriatic properties. Its action is similar to that of atropine.

Hyssopus Officinalis

Hyssop, a common European plant of the Mint Family, was frequently used by the herbalists as an ingredient in gargles and mouthwashes. Its roasted roots were credited with the power to perform painless exodontia. Boiled in vinegar and applied, it was said to relieve toothache.

Nasturtium

The nasturtium of the herbals was a European member of the Mustard Family frequently used medicinally and as a potherb. *Nasturtium officinale* (true watercress) was the most commonly used member of the genus. Employed ritually, *Nasturtium officinale* was considered a permanent cure for odontalgia.

Nigella Damascena

Love-in-a-mist is a member of the Crowfoot Family. The plant was powdered and placed in the dental cavity.

Pastinaca Sativa

The common parsnip is a member of the Parsley Family. Its aromatic juice was assigned analgesic properties.

Peucedanum Officinale

This second member of the Parsley Family was also credited with analgesic properties.

Pyrethrum

The "pellitory of Spain" was used as a sialagogue, an ingredient of dentifrices, and as an irritant for the relief of toothache.

Raphanus Raphanistrum

Wild radish, or jointed charlock, is a European member of the Mustard Family. Its root was considered an analgesic for cavity filling and gingival massage.

Ruta Graveolens

Garden rue (Family Rutaceae), a native of Southern Europe, was truly an herb-of-grace to herbalists ancient and modern. A large genus of Eurasian strong-scented and bitter-tasting herbs. Whereas Peter of Spain employed it dentally in gargles and plasters for the treatment of toothache, it is listed in Grieve and Lyell's *Modern Herbal* as useful for the treatment of epilepsy, vertigo, dim eyesight, a flea eradicator, a preventive of contagion, for the easing of sciatica, joint pains and earache. Youngken's *Pharmacognosy* relegates its use as a calmative in colic and amenorrhea.

Sagapenum

This brittle resin was obtained from the plant *Ferula persica*. It has antispasmodic properties, but in early times it was used to plug dental cavities.

Salvia Officinalis

Garden sage was one of many members of the Mint Family used by herbalists. At present used merely as a condiment, earlier it was assigned medicinal value—*vide* the derivation from *salvo*, to save.

Scabiosa Arvensis

This member of the Teasel Family (Dyssacaceae) was used primarily in the

treatment of the itch. Boiled with lettuce in oil it was supposed to relieve odontalgia.

Tithymalus

This is a widely distributed genus of herbs of the spurge family—a general term designating any spurge. Its dental uses included eardrops. See Euphorbia.

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ADALBERT VOLCK, DENTIST AND ARTIST

GARDNER P. H. FOLEY*

In studying the history of the dental profession in the United States one is impressed by the versatility exhibited by the large number of dentists who have matched or excelled their professional work by their accomplishments outside the dental office. These "truants" have achieved fame in the public eye as athletes, poets, painters, writers, sculptors, scientists and inventors. In the cases of many of these dentists who were able to effect a fortunate combination of vocational and avocational activities, their non-professional accomplishments have caused the public to remember them not as dentists but as men who achieved prominence in fields other than dentistry.

Notable in the long list of dental "truants" are Doc White, Doc Prothro, Dick Hoblitzell, Eddie Farrell and Dave Danforth (baseball); Leach Cross (boxing); Jock Sutherland, Lou Little, Bill Osmanski, Johnny Siegal, and Joe Alexander (football); Maurice William (history); Rodrigues Ottolengui and Zane Grey (fiction); Norman Kingsley (sculpture); Thomas Parsons and Anderson Scruggs (poetry); William Bonwill, Edward Maynard and Mahlon Loomis (invention); and G. V. Black (science).

Ranking high among those few dentists who have achieved fame both in and out of their profession is Adalbert J. Volck, who earned national recognition as a dentist and as an artist. As described by his contemporaries he was a highly colorful person with an amazing versatility of interest and an exceptional creative capacity. Although there are several widely scattered notes on Volck in the literature of dentistry, this article is the first effort to portray Volck as one of the most picturesque and interesting figures in American dentistry.

Volck was born in Augsburg, Bavaria, on April 14, 1828, the son of Andrew Von Volzsck, a prominent and prosperous manufacturing chemist and landowner. Most of his youth was spent in Nuremberg, where he attended the Polytechnic Institute. During these formative years he became interested in art; this interest was developed and sustained by visits to the studios of many of the famous artists residing in Nuremberg. His training in art was further strengthened by summer residence in artist colonies situated in the nearby mountains. When his family moved to Munich, Adalbert entered the University of Munich, where he majored in chemistry.

While a student in Munich, he became affiliated with a liberal group whose members were devoted to the cause of liberty. In March of 1848 the nineteen-year old Volck joined his comrades in the march on Berlin, where they partic-

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ipated in the abortive siege of the capital city of Prussia. When King Ludwig of Bavaria decreed that all Bavarians who had participated in the siege of Berlin would be conscripted for four years' service in the army, Volck fled to Bremen. In November of 1848 he sailed for the United States, a member of the great army of immigrants who came to this country from Europe as a result of the ineffective revolutions of 1848.

Soon after his arrival in this country, Volck dropped the *Von*, *z* and *s* from his family name. Penniless and prevented from securing financial help from



THE SHIELD TO CONFEDERATE WOMEN, EXECUTED IN SILVER

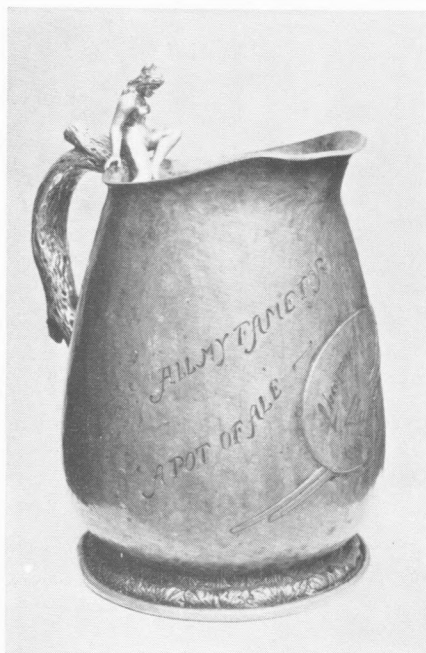
his wealthy father because the revelation of his whereabouts would have brought trouble to the family, he made his way to St. Louis, where his brother-in-law, a Lutheran minister, had established a church. Responding to the great urge that swept the country in 1849, Volck went to California in quest of gold.

After a brief sojourn with the argonauts, he went to Boston, in 1850. In Boston he experienced difficulty in making a living until Dr. Nathan C. Keep, having become interested in the young German's abilities in chemistry, invited him to assist in his office. While working with Dr. Keep, one of the finest figures in American dentistry, Volck attended Harvard University and engaged in experiments in the coloring of porcelains.

The turning point of Volck's career came when Dr. Chapin A. Harris, one of the founders of the Baltimore College of Dental Surgery, offered him attractive inducements to come to Baltimore. In 1851 Dr. Volck—he had assumed the title by reason of his association with Dr. Keep—came to the Baltimore College. At the College he assisted Dr. Harris in chemistry and



THE SILVER TANKARD, WITH GERMAN LEGEND MOTIF



COPPER GROWLER, WITH THE INSCRIPTION
"ALL MY FAME FOR A POT OF ALE"

completed his requirements in course for the D.D.S. degree. He was also associated with Drs. Harris, Cone and Blandy in the practice of dentistry.

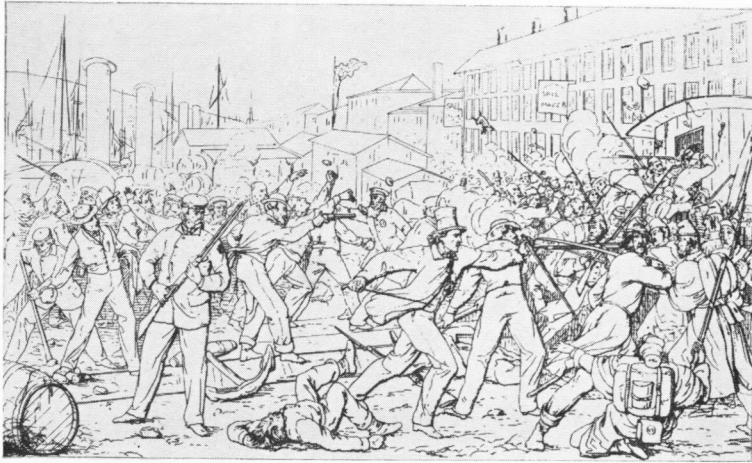
After his graduation in 1852, Volck opened an office in Baltimore, where he soon established a lucrative practice. His training in chemistry and his experimental work with porcelain had an important bearing on the development of his professional reputation. A fine technician, he was a pioneer in the use of porcelain in the filling of teeth. In the field of dental anatomy Volck, collaborating with Christopher Johnson, did some excellent work in the microscopy of dental tissues. In the field of metallurgy he made an important con-



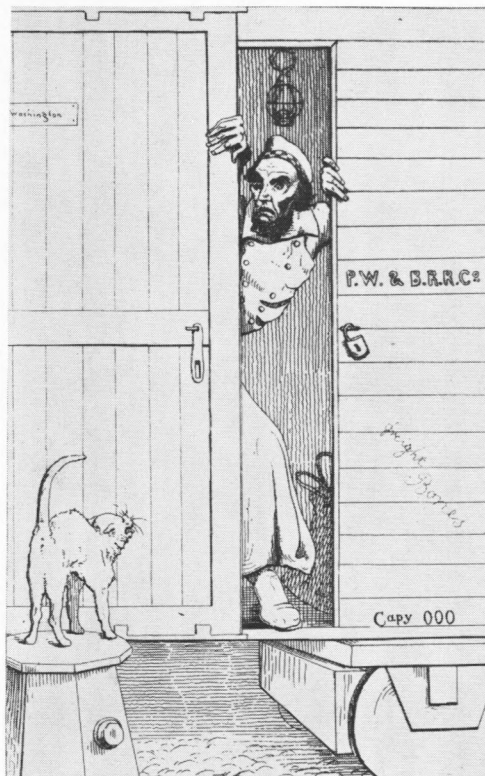
SELF PORTRAIT IN COPPER



A PORTRAIT OF MYSELF,
IN COLORS, AN EXAMPLE
OF VOLCK'S WORK IN
PORCELAIN



THE BALTIMORE RIOT OF APRIL 19, 1861, ONE OF THE CIVIL WAR SKETCHES



VOLCK'S FAMOUS CARICATURE OF LINCOLN'S SECRET JOURNEY TO WASHINGTON

tribution to his profession by conducting a series of assays on the gold foils supplied to dentists by the manufacturers.

True to his high professional ideals, Volck gave staunch support to both the spirit and the force of organized dentistry. A founding member of the Association of Dental Surgeons, he was one of its most active supporters throughout his professional career. He was a charter member of the Maryland State Dental Association, formed in 1883. Until his retirement in 1902 Volck devoted himself ceaselessly to the best interests of dentistry. He earned a national reputation not only as a highly capable practitioner but also as a valuable contributor to the great progress in the art and science of dentistry accomplished during the period of his half century of practice.

The predilection for creative art that Volck had actively demonstrated during his youth in Munich lay dormant for many years after his coming to the United States. Restricted in his activities by the demands of a large practice and the expanding needs of a family that eventually included five children, Volck applied his artistic bent to his purely professional work. His place as a prominent figure in American art was not achieved until the Civil War, when his caricatures in support of the Southern cause brought him wide recognition.

Volck rendered great assistance to the Confederacy. Appointed a special agent by Jefferson Davis, a personal friend, he conducted artisans, mechanics, and recruits across the Potomac and into the Southern lines. Several times he ran the blockade into Virginia in order to convey desperately needed medical supplies. On one of these trips he made his now famous sketch of General Jackson, drawn in camp while the general sat chatting with his staff officers unaware of the artist's presence. Volck's home on North Charles Street served as a place of refuge for Confederate soldiers and agents. Because of his openly expressed Southern sympathies and his blockade-running activities he was imprisoned at Fort McHenry on several occasions.

The cartoons of the great Thomas Nast, caricaturing the leaders and the efforts of the Confederacy, inspired Volck to the execution of the drawings that are the most important medium of his fame. To counteract the work of Nast, he began to make the series of drawings generically called "Civil War Sketches". The first of these were issued as "The Life and Adventures of Bombastes Furioso Buncombe." The chief subject of Volck's caricature was the megalomaniacal General Benjamin F. Butler, whose comic opera exploits while in command of the Union forces in and near Baltimore supplied the artist with ideal materials for lampooning. Later in the course of the war, Volck caricatured the vanity and stupidity of Butler in "The American Cyclops, the Hero of New Orleans, and the Spoiler of Spoons." The most important series of his sketches is the group depicting war scenes and incidents. Another series, titled "Comedians of the North", included caricatures of

President Lincoln. After the war Volck expressed his altered judgment of the martyred President: "I feel great regret ever to have aimed ridicule at the great and good Lincoln." Volck's etchings, all signed by the pseudonym "V. Blada," are now highly regarded and eagerly sought after by collectors.

Over the years Volck developed astonishing versatility and achieved expert craftsmanship in several fields of art. In 1872 he founded the Maryland Academy of Fine Arts. Through his school he contributed much to art in Maryland. The school existed for only three years, but in those few years Volck trained several of Baltimore's leading artists. The most remarkable feature about the school was that Volck served as the entire faculty, giving capable instruction, based upon his own training and experience, in oils and water colors, modeling, etching, and repousse work in copper and silver.

In 1870 Volck painted an oil portrait of Robert E. Lee. The last posed portrait of the great Confederate leader, who died a few months later, it is now in the Valentine Museum in Richmond. Volck also painted portraits of President Gilman of Johns Hopkins, Dr. Gildersleeve and other prominent contemporaries.

Among the best known works of Volck are "The Elaine Shield", a bronze shield depicting characters from the King Arthur mythology; "The Silver Tankard", the motif of which is the German legend of Siegfried and Brunhilde; "The Shield to Confederate Women", executed in silver "to record the bravery and the patient endurance, the pluck of the finest women in the world". Volck also did some exquisite work in the media of ivory and porcelain.

A bon vivant, Volck was one of the organizers of the Wednesday Club, founded in 1872, whose members "represent the cream of fashion and culture in Baltimore." He carved an oak mantle for the main lounge of the clubhouse. The famous Charcoal Club was founded by Volck. At the New Year's Eve parties of the Club each member traditionally drank from the beautiful copper growler that Volck made for the Club.

From his retirement from practice in 1902 till his death in 1912 Volck devoted his time to his art work. Cardinal Gibbons said of Volck: "He was the most universally learned man I ever knew." MacGill James, evaluating Volck and his work from our time, described him as "the Benvenuto Cellini of Baltimore". Meredith Janvier, in his *Baltimore in the Eighties and Nineties*, paid tribute to Volck as "an artist of great gifts and immense technical skill." Among the most highly prized possessions of the University of Maryland's School of Dentistry are several of the best works of its protean alumnus.

Adalbert Volck is one of the twenty-four dentists included in the *Dictionary of American Biography*. The biographical sketch in that excellent work was written by Dr. George M. Anderson, of Baltimore, a member of the American College of Dentists and formerly Professor of Orthodontics at the Baltimore College of Dental Surgery, Dental School, University of Maryland.

COMPULSORY HEALTH INSURANCE*

For the affirmative: Maurice William, D.D.S., F.A.C.D.

This is a very important subject not only for the dental and medical professions, but for the entire country. It will affect all of the American people. We should make an intensive study of this subject so that if we are opposed to it, we shall express our opposition not merely because we resent it, but because we have something better to offer.

Since the American Medical Association is the spearhead in the opposition to what our government is seeking to do, we must keep abreast of its actions so as to make our own position clear in relation to what our attitude should be. The American Medical Association publicly proclaimed its decision to urge war against compulsory health insurance. It seems to me that for a great national organization representing a highly respected scientific profession to announce publicly that it interprets its differences with the government in terms of war must be a matter of serious concern to every loyal American.

Do the leaders of the medical and dental professions realize the full implications of the war they are urging their members to wage against their government? Our leaders have demonstrated an unbelievable blindness to the dangerous ideology they are asking physicians and dentists as loyal Americans to accept. We must not remain blind to the ominous fact that the war we are asked to urge is nothing less than a class war based upon class interests. You need no reminder from me that a class war is un-American. Are organized medicine and organized dentistry prepared to assume the responsibility for unleashing a class war in our own democracy?

The class war justifies physicians and dentists, though a minority, in dictating to the majority. The class war implies that the American people exist for physicians and dentists and not that physicians and dentists exist for the American people. It implies that medicine and dentistry as servants of the people have the right to dictate to the people. Would we want dictatorship in America? We don't want to be ruled by a minority. The people must remain master in this country. That is democracy.

In a democracy all who are gainfully employed are privileged to play a dual role in society, as workers and as citizens. As workers we render a single service, and as citizens we command innumerable services. Because of the multiplicity of our citizen needs, our interests as citizens are paramount to our interests as workers. We do not live to work; we work to live.

Let us try to understand rather than merely resent the why of compulsory health insurance. What is responsible for the insistent and persistent demand

* Abstracts of the presentations of the main speakers in a symposium given before the annual meeting of the New York Section of the American College of Dentists, June 9.

for its adoption as a basic principle of our government? All who have studied the figures of health and disease in this country, the greatest country in the world, the richest country in the world, realize that one half of the people of this country are unable to obtain proper dental and medical services. That is a tragic situation, and one for which we have every reason to hang our heads in shame. It is because of this condition and because of the determination of the people who are the victims of this condition that their representatives in Congress should do something about it, that you have this proposed law for compulsory health insurance. Are we going to put ourselves in the position of opposing the ministrations of our two professions for those people merely because they are not in a position to pay for them? Both the medical and the dental professions will have to explain to these people why it is that instead of opposing they did not actually take the initiative in supporting a measure whereby all of the American people would get the benefit of the services of our two professions.

Is it conceivable that if we broaden the base of our services to include a larger portion of the American population, we shall be economic losers thereby? Who will render those services, if not the medical and dental professions? Let me draw your attention to a very ominous situation in our own country. The last registration of the young men liable for military service between the ages of 18 through 25 yielded a total of over 8,000,000. Principally because of physical handicaps only 2,000,000, or 25 per cent, have been found fit for service. There is where the responsibility comes to you and to me.

We all have a grave responsibility and that responsibility must take the form of our making a complete and thorough study of this subject of compulsory health insurance. I have been practicing dentistry for 42 years. And I make this statement: When my friends and colleagues will make a thorough study of this subject, and recognize their responsibility and their own interest in this field, they will join forces with their government and aid their government in bringing to all of the American people that measure of health to which every one of them is entitled.

For the Negative: Samuel B. Burk, M.D., F.A.C.S.

I am going to treat this matter directly as it appertains to the carrying out of the functions as they appear in the bill before Congress. You are asked to approve a plan which barely outlines its basic tenets. This is in many respects quite nebulous when it depends upon such phrases as "in so far as possible", "when facilities permit" and "when funds are available."

Whoever heard of a prepaid personal health insurance plan without a sound actuarial basis?

We, as experts in our chosen fields, are asked to subscribe to a program

which will be controlled and administered by a lay majority. Bureaucratic Washington will direct the practice of the healing arts according to the 163 pages of Senate Bill No. 1679. Please write your Congressman, obtain a copy, and convince yourself.

Compulsory Health Insurance based upon payroll tax has been a part of every bill, and it is only in recent years that the bill has been in the hands of a committee empowered to obtain appropriations.

If the smallest concession is passed by Congress, complete control of health protection will positively follow in a few years. Tax assessments will always increase but never decrease. No matter how harmless it may seem at first the system will expand until we suffer the effects comparable with those in Germany, France and England. For many years the medical and dental professions have fought bitterly to keep medical and dental care out of the hands of politicians.

The proposed legislation is composed of seven titles but we are mainly interested in Title VII, which refers to "Prepaid Personal Health Insurance Benefits."

The proponents hope that all services "from the cradle to the grave" will be included. There are very limited provisions for the mental and tuberculous patients. Various agencies may study and may make recommendations for their care. Those on relief will not receive benefits unless city, county, state or other agencies reimburse the fund.

Physicians, dentists and accessory services would have to sign a contract, and may withdraw on notice, but individuals can never withdraw from the system because of payroll deductions. Furthermore, not every physician or dentist must join, but after a time unless the professions join they will starve or else go into some other form of endeavor. If you do not sign, the governmental agency may send someone into your area.

Furthermore, the Government wants to control your income by paying you according to one of these methods:

- (1) A fee for service basis;
- (2) A per capita panel basis;
- (3) Whole or part-time salaries; or
- (4) Any combination of these.

To vividly amplify the foregoing contention: the English Government had to reduce the monetary value of various methods of payment when new taxes were necessary to cover the advances over initial estimates.

Among important factors in the excellent results obtained by the American way of treating patients have been these:

- (1) Free choice of doctors, dentists, nurses, hospitals, etc.;
- (2) Confidential relationship between the various parties; and
- (3) High quality of professional care.

To discuss any of these in a comprehensive manner would take more than my allotted time. I am, therefore, going to discuss only a few of the significant features which should be emphasized.

Stop to consider that, according to the bill, there will be eight agencies with advisory or regulatory powers which can come between you and your patient. The bill speaks for itself.

The Federal Security Administrator is invested with the control of local and federal boards, the control of cash allotments to states, medical schools, and research laboratories; he also has the power to rule on who are eligible for benefits. He has the power to decide appeals against the rulings of the Federal Administration. What a catastrophe for our American way of living!

The variations in the costs according to recognized authorities are much higher than the figures given by those who are considered "prophets" in the Government. The initial tax rate would be progressively higher and higher each year; as a matter of fact, the bill recognizes such increases. The terrific drain on the national economy that would result from paying the price of the welfare state would eventually bankrupt the nation. And what about the additional cost of the salaries of a million or more to carry out the provisions of the law?

To press my contention about the lack of sound actuarial bases, I point out the following appropriations provided in the bill:

(1) Sums amounting to 3 per cent of wages up to \$4800—or up to \$144 a year for every wage earner in a household. If the percentage increases to 8 per cent, 10 per cent, or 12 per cent, imagine the cost.

(2) Sums equal to the estimated cost of furnishing dental and home nursing care.

(3) Any further sums to meet the expenditures to carry out the title (in the bill). For the first year, 1952, 10 billions is the expected appropriation, with 15 billions for 1953, etc., etc., without limit.

The foregoing must be considered in the light of a government agency's fallacious estimate that the initial cost would be about 6 billions. When such a governmental authority as the United States Department of Commerce estimated that in 1947 the expenditures for medical care amounted to 6 billions 600 millions, you can imagine that the years, 1948, 1949 and 1950 would be progressively higher.

To these sums add payroll deductions in connection with the bill, the old age pension taxes, income taxes, and withholding taxes, and then let your imagination stretch itself to the point where you consider what an employed person would have left to pay for necessary food, fuel, clothing, etc.

If we consider the causes for deterioration of the quality of care, we find a tremendous increase in the demands on doctors and dentists. Office visits to physicians in England have increased from 35 to as much as 100 per cent.

The amount of paper work is of such great proportions that there are daily, weekly and monthly surveys, questionnaires, abstracts, certificates, diagnoses, statistics and case reports for local, state and national agencies. Imagine the amount of paper work there can be under such circumstances! In the care of 80 patients in 4 hours many English doctors can sparingly give only part of three minutes for each patient. The patients are segregated and receive similar medication, irrespective of the underlying causes of the subjective complaints; in other words, the patients are treated symptomatically, initiation is destroyed, and incentive is gone. Certainty of income and lack of competition are followed by lack of scientific interest.

American medicine and dentistry have a better program for self-respecting, individualistic America than the Government offers. It will accomplish much more than the Government promises to do, without destroying the social and economic structure of the nation, reducing its people to the level of charity recipients, and enslaving or confiscating doctors, dentists, nurses, hospitals and clinics. It makes the Government program unnecessary and futile.

The proposed programs of the American Medical Association and the American Dental Association, while no panaceas, have much to offer. The long record of achievement of American medicine and dentistry is positive proof of the ability of medicine and dentistry to improve the quantity and quality of medical and dental care. Medicine and dentistry have been doing just that for many decades. Against that proved record, the Government offers only the promises of politicians.

In thus urging that America maintain the identity of its purposes and procedures, the medical and dental professions are progressive. Scientific medicine and dentistry must progress through constant study, open-mindedness to new ideas, and adoption of every tested technique that will control disease and preserve life.

That open-mindedness exists in the social and economic spheres as well as in the scientific. Medicine and dentistry do not object to changes. These professions are not reactionary or standpat. They welcome new ideas, but insist that they be:

- (1) Carefully judged beforehand;
- (2) Thoroughly tested;
- (3) Better than what we now have;
- (4) Necessary; and
- (5) Sound in purpose, motivation and implication.

Treated by these criteria which have made American medicine and dentistry the best in the world, Government medicine and dentistry fail completely.

The American Way of Life is progressive, dynamic, and adaptable, and in continual evolution. Freedom of enterprise, the profit motive and individual rewards are integral parts of it. Under this system the United States has be-

come the greatest nation in the world. Its people are the healthiest and happiest, even including all our bad spots such as slums and indigence. The ordinary process of evolution is eliminating these items. Compare Europe with America today to see which is the better—the American way or the European way. American medicine and dentistry believe in the American way. They believe that our system must be retained and allowed to take its proper course of evolution, and that the “welfare state” is not evolutionary but revolutionary.

The American Medical Association and the American Dental Association programs are old ones, proving that medicine and dentistry sought progress long before the Roosevelt and Truman administrations discovered the political advantages in advocating “free” medicine.

The programs of the American Medical Association and the American Dental Association would be under the supervision of doctors of medicine and doctors of dentistry, not laymen who would have only a political interest in their work. These programs would keep medical and dental costs within reason, without a huge federal bureaucracy, yet produce a lightening of the burden of catastrophic illness for the individual through voluntary prepayment insurance.

I have some notations on voluntary prepaid medical insurance that I am quite sure most of you are familiar with. At the present time there are over 33,000,000 people in this country enrolled in the voluntary non-profit Blue Cross Hospital Plans and 11,000,000 in the voluntary non-profit Blue Shield Plans. In addition, there are 20,000,000 persons covered by commercial insurance plans for the cost of hospital protection, making a total of 53,000,000 who have provided in advance on a voluntary basis for the cost of hospital care. There are also 17,000,000 additional people covered in commercial plans for medical care, so you see that these plans are making great strides.

Protection now in force against wage loss due to accident and sickness is an important part of the existing types of coverage. The latest estimates indicate that over 31,000,000 have some form of protection of this kind under group and individual policies, mutual benefit associations, sick-leave pay plans, and union plans. This volume of protection is striking, especially in view of the fact that the total employed population nationally is about 60,000,000.

These voluntary programs have made phenomenal strides in the state of New York, and they are making wonderful progress. Under the present voluntary plans in New York an individual subscriber can protect himself for both surgical and hospital costs for an average monthly premium of \$1.60, or \$19.20 annually: for a man with a family the average cost would be \$4.25 a month, or \$51 annually. For general medical and hospital costs, an individual would pay an average monthly premium of \$2.72, or \$32.64 annually: for a man with a family the average cost would be \$6.58, or \$78.96 annually.

I want to develop a thought about what steps we, as individuals, in our various professions should undertake in order to educate the public towards acceptance of the fact that we, as doctors, are their servants and are anxious to help them, because in helping them we participate in the benefits.

A number of years ago I was Chairman of the Committee of Legislation of the Medical Society of the County of New York. Every legislator who was approached had the peculiar notion that we were trying to get what is most and best for the medical profession; but when they were told that what we were trying to do was to help their people, their voters, they all took a sudden turn and listened with great interest to what we had to say.

To inform the public it is necessary that dentists, medical men, and those who are in the allied professions take an active part and not sit by and let someone else do it.

How can that be done? You will have to go to your social organizations, to your church organizations, to your business conferences, to your local chambers of commerce, and a host of other lay organizations, in order to get the people to realize that what you are doing is for their good, and that compulsory health insurance is not the solution.

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EDITORIALLY EXPRESSED

The esteem in which dental health care and the functions of the dentist are held by the public is being constantly reflected upon if not seriously impaired by recurrent proposals coming from members of the dental profession which suggest that it is not necessary for those who give oral health instruction to the child, and who provide corrective and reparative dental care for children, to possess the quality of training indicated by the scientific and technical character of the conventional dental curriculum. And it has been argued by some dentists that restorative dental operations that are required in the treatment of diseases of the crowns of children's teeth may be undertaken with safety and assurance of competent treatment by persons with limited basic education and with restricted clinical training.

This concept of substandard dental care for children was probably first proposed formally in a footnote included in the *Final Report of the Committee on the Costs of Medical Care*: "We commend the growing tendency in the practice of dentistry toward a division of labor in which a dentist who is also a physician assumes larger responsibilities for the diagnosis and treatment of conditions arising from or related to the teeth, while much of the routine performed by the dentist in the past is delegated to dental hygienists and other technicians working under his direction."¹ The now famous "footnote" was conceived by and consummated under the leadership of Dr. Alfred Owre, a member of the Committee and a representative of "institutions and special interests." He

¹ *Medical Care for the American People*. Chicago: University of Chicago Press, 1932, pp. 112-113.

was supported in the statement by six other members of the Committee, three representing "public health" and three representing "the public", who signed it; but it was opposed by the two dental members on the Committee, Drs. Herbert E. Phillips and Charles E. Rudolph, who represented "private [dental] practice."

It is important to note that when Dr. Owre was asked later for evidence to support the claim made in the footnote, he stated that the "growing tendency" was to be observed in developments in Europe rather than in dental practice in the United States and that the European situation was in the minds of those who sponsored the proposal.

Speaking to the point of improving oral health conditions in the United States before a section of the American Public Health Association, Dr. Guy S. Millberry, after discussing the need for child dental health care, concluded: "Does it not seem possible to you that we should be able to train persons to do these simple operations for children [cleaning teeth, filling small cavities, and extracting temporary teeth for children] in two years time? One phase of this service is now being rendered by dental hygienists with only one year of training in some states and the results have been good."²

More recently Dr. John Oppie McCall gave support to the theory of conducting the practice of restorative dentistry for children on a mechanical rather than a biological base when he made a proposal to "train and license dental hygienists . . . to prepare and fill cavities that do not involve the pulp."³

In the summer of 1948 the Dental Research Group of the School of Medicine and Dentistry, University of Rochester, made a survey of dental needs in Puerto Rico among children between the ages of six and sixteen years. In reporting on the findings of the Rochester Group, the Acting Director of the Social Science Center, University of Puerto Rico, made this startling statement: "They have suggested that the only solution to the oral health problem existing in Puerto Rico lies in adapting a procedure that has operated successfully in New Zealand for 30 years. Under this procedure, school dental nurses (dental hygienists) are trained in two years after high school to perform the dental services required by children (including filling decayed teeth and performing dental surgery)."⁴

Apparently inspired by the suggestion of the Rochester Group an officer of the United States Public Health Service attached to the Bureau of Indian Affairs wrote to the deans of two leading dental schools, stating that "we are de-

² Millberry, Guy S.: Possibilities and Means of Improving Dental Conditions in the United States. *Am. J. of P. Health*, 29: 324, 1939.

³ McCall, John Oppie: The Dental Hygienist and Dentistry for Children. *J. Den. Children*, 11: 94, 1944.

⁴ Rottenberg, Simon (Acting Director): Memorandum from the University of Puerto Rico Social Science Research Center, p. 1.

sirous of establishing at least a limited dental service for Indian children whose health and welfare are our responsibility . . . this letter is to inquire as to whether your School of Dentistry . . . might consider the establishment of a training school which will provide persons competent to render limited dental corrective service to Indian children . . . such a course of training should be for a period of about two years. . . . I have been furnished with suggestions as to the sort of curriculum, the satisfactory completion of which should be required of those who would be employed to do limited corrective work among Indian children."⁵ Attached to this letter was a description of the New Zealand plan. A comparison of its contents with the proposal made for oral health care for children in Puerto Rico indicates that the letter was inspired by the Rochester Group, or some one of its members, who is zealous in his purpose to introduce into the United States the so-called New Zealand plan.

It is apparent that the proponents of the plan design to separate the education of the pedodontist from the pattern of conventional dental education now approved by the Council on Dental Education and sanctioned by the Dental laws of all the states; it is possible that they are ready to test their case and that they are using their influence to secure its adoption by the United States Public Health Service whose administration heads have not yet repudiated the Foard letter. With the progress that has been made in planting the dental nurse concept in the thinking of some influential groups, including government agencies, it is conceivable that a vulnerable spot may be found in some one of the states where the proponents of this scheme may insert a wedge that will bring about a separation of a part of dental health service from the main stem of dental practice as the first step toward the partition of dentistry along lines suggested by the "master-servant" theory promulgated by Dr. Owre.

The reasoning that brings the proponents of this project to their conclusion seems to be based on the exploded theory that because children are immature the values to them of health and education do not appear as important or significant as they do in the case of adults. This attitude toward child needs is primitive, and such attitudes in education are now archaic. For many years boards of education and school administrators arranged a graduated salary scale that placed the elementary teacher at the bottom of the scale on the assumption that teachers in the elementary grades, *having to do only with children*, should be paid less for their services than teachers in the high schools. The utter folly of this practice has been recognized, regretted and abandoned. During the past decade almost every strong public school system in this country has adopted a single salary standard which requires that elementary

⁵ Identical letters containing this material were addressed to Dr. R. W. Bunting, Dean, Dental School, University of Michigan, and to Dr. W. H. Crawford, Dean, Dental School, University of Minnesota. They were signed by Fred T. Foard, Director of Health, U. S. Indian Service.

teachers present evidence of formal education and training for their tasks on a high level of quality, and provides compensation for the kindergarten and primary teachers on the same level as that of the most advanced high school teacher. In fact, the argument is often made by parents, teachers and school administrators that the *best qualified and best paid teachers* should be assigned to the primary and elementary grades of school systems in order that the effective development of the child may be begun competently early in his school experience.

A grave oral health situation confronts the people of the United States. The conditions that exist are indicated by the tremendous backlog of dental needs which has accumulated among the population over the years as a result of neglect. This situation must be corrected in the interest of a healthier, happier people. Those who have thoughtfully studied the problem of oral health deficits recognize the futility of any attempt at immediate correction of all the dental defects that exist; they realize that an acceptable level of oral health can be attained only by beginning with a plan for adequate oral health care for the child in his very early years, and that it can be maintained only by continuing care provided by competent persons who understand the nature of health and disease in relation to child growth. A combination program of health education, physical education, and competent comprehensive health care for the children of today is necessary to achieve a high state of health among the people of the future. If a comprehensive program of health education, physical education and early dental care is provided the child under the administration of competent personnel, the problem of oral health care can be solved. Such a program of health service should be made an integral part of every school system in the United States.

In this age education for the child means his complete development—mentally, emotionally, morally, socially and physically. The teachers in the schools of the nation must be highly educated academically and well trained technically in order to direct the total development of the child; the dentist and the physician who are made responsible for the health of the child must be just as well educated, must be just as skillful in their fields of service as the class-room teacher, and, in addition, they must understand scientifically the meaning of the relationships of health and disease to total child development. It is fair to assert that the dentist who serves the child must be as well educated and as skillful as the dentist who serves the adult. To introduce into a school system an empirical agent to assume the responsibility for a program of oral health care is a disservice to the child and a reproach to the dental profession. The treatment of a deciduous tooth is just as important in the life of the child as the insertion of a partial denture is in the life of the adult. Those dentists who desire to isolate children's dentistry and treat it as of minor importance

are thoughtlessly planning to injure permanently both the child and the dental profession.

The suggestion that a special class of dentists for children, either dental hygienists or dental nurses, may with safety and usefulness be created, can lead only to the fractionization of dentistry as recommended by Dr. Owre. If this proposal to set up a special substandard group to care for the oral ills of the child should become a reality, a next step and a logical step would be to create a group in geriodontics and turn over to dental mechanics all full denture and removable partial denture work. It is not clear just how the promoters of substandard oral health care for children can justify their positions without carrying their reasoning to the logical conclusion that the several types of restorative dentistry that constitute the art of dental practice may be segregated as mechanical entities and surrendered into the hands of limitedly trained artisans. Under such an arrangement the public would suffer from cheap and harmful dental services and the dental profession would lose caste as a scientific body. The influences in America that favor the shoddy New Zealand plan of cheap dental care for children should be repudiated promptly and decisively by the action of the official representatives of organized dentistry.

J. B. R.

