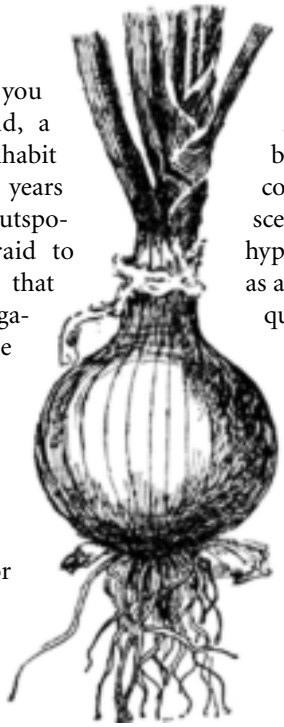
Milwaukee Academy of Medicine

Volume XXXI / September 2011

President's Remarks

By Daryl Melzer, M.D.
President 2011

Speaking my Onions…



I don't know how many of you remember Larry the Legend, a radio announcer who used to inhabit the former WZUU quite a few years ago. He was somewhat of an outspoken chap, and was never afraid to "speak his onions" on a topic that would catch his sometimes negative and biting attention. He (and the station) are now long gone, forgotten somewhere in the 1980's. I'm still here, and I'd like to "speak my onions" about a few things.

For many years, I've been doing disability examinations for the State of Wisconsin. I started doing these when I was a young internist, about the time Larry was in his prime, to supplement my independent practice income. My practice at that time was a 2 person practice (with my dear wife, Rita). Sadly, we had no "income guarantee", and nobody volunteered to give us free rent. I do digress…

Doing these exams has had a side benefit of exposing me to a wide variety of individuals that I would not otherwise have encountered. I have met many ex-convicts, for instance. I met "the Legend" there a few years ago. I also have seen first hand what our current health system can accomplish, and what it hasn't accomplished in its current state.

A common patient type I see is one who has suffered a catastrophic stroke. Although sometimes caused by self abuse in the form of cocaine, the more common scenario is the uncontrolled hypertensive. These cases serve as an indictment to the inadequacies of our current system.

I frequently see uncontrolled hypertensives who have not yet suffered such a catastrophe. Many have been on medications in the past, but stopped taking them due to lack of money. Another common type, are the seizure patients. Frequently the history they give is that they are seizure free on meds, run out for financial reasons, then have a seizure. They get another short supply from the emergency room and the cycle repeats.

I know that "health care reform" has been approved, and is to be implemented over the next few years. I also know that our government is under severe financial pressures. My fear is that the "reforms" could become a victim of cost cutting. The crowd that I see at disability, sadly, is not a "politically well connected" crowd. My plea is for you, the Academy members, to help where you can in this area.

Thank you for this opportunity to "speak my onions".

Fall 2011
Meeting Dates

September 20
Topic: Genetics and Ethics, A Decade after the Completion of the Human Genome Project
Nancy M.P. King, J.D.
Co-Director of the Center for Bioethics, Health & Society, and Professor, Department of Social Sciences & Health Policy
Wake Forest University School of Medicine

October 18
Distinguished Achievement Award – 2011 Recipient: Michael Dunn, MD

November 15
Topic: Vitamin D
Michael F. Holick, Ph.D., M.D., Professor of Medicine, Physiology and Biophysics; Director of the General Clinical Research Unit; Director of the Bone Health Care Clinic and the Director of the Heliotherapy, Light, and Skin Research Center at Boston University Medical Center

Contact the Academy office for reservations: amy@milwaukeeacademyofmedicine.org or phone 414/456-8249

Health Reform or Health Care Reform: You Can't Always Get What You Want

By David Shapiro, M.D.

Without resorting to partisan political polemics, such as the various biases that have built up over the ages and decades and times like excrescent barnacles on the outlying piers of my brain, we will discuss the rise and rise and rise and multiple falls of what has been called by some, otherwise quite bright, people, *health reform.*

What really does it mean to reform health? Do we mean health care reform as merely the provision of the care of the community in which we find ourselves, limited by local, state, or perhaps national boundaries? Do we, otherwise, and perhaps even more far fetchingly, mean health reform in some public health manner? Do we mean looking at the global resources available at the various different locations across our globe and somehow, through some moral, spiritual, religious or political visage, view our project as one of furthering the health of some larger community? Even more far, far fetchingly do we consider the changes in health habits of those we are said to serve as being the means wherein we will achieve the needed, as we all seem to agree,*is* needed, health reform?

Old man Sisyphus had a large rock. Day in and day out, he toiled with this rock. Up the hill and up the hill and up the hill he went. And every up the hill that Sisyphus went, the rock never quite summitted and stayed put, but simply rolled down the hill, and Sisyphus, old as he was, never rested. So it goes. We may remember the tale, but not the reason for his punishment which was that he, through some Greek Funereal Finagling, cheated death and got a second shot at life…which he spent upon Hades insistence with the above mentioned protracted and intimate contact with said rock.

And as the ones whose job it has always been to, when possible, cheat Death, perhaps the Sisyphaen analogy's ironic ring, rings true.

In any case, health care reform certainly has taken on the Sisyphaen edge of complexity and chaos beyond the capability of mortal women or men to unravel. The reasons for these are multiple and interwoven, lying as they do deeply embedded in the various cultures that come together to give and to receive the care we know as health. Both those who provide care as well as those who receive the care are so entrenched in the belief that the status quo is so much more likely than any substantial change, that change itself is in any realistic way opposed and by so opposing ended. This with apologies to Hamlet whose outrageous fortunes were, at least from his perspective, of a far more personal nature.

There is right now no group that wants change except those who have to provide payment for it. There are no providers who want change except those who might get more payment. There are no receivers of health care who want change, period, except those that would like to pay less for it while expecting it to be better in both tangible and intangible ways. There is at the final bell no constituency for change. And this, with a bow to Keith Richards and Mick Jaeger is because we all want what we want and none of us want what we need. No patient wants one less MRI, and few one less round of chemotherapy. No specialist wants to get paid less for what they do, no pharmaceutical companies are lining up to make less profits, no non-profit hospitals for lower margins or smaller market-shares, no primary care physicians...well they are so far out of this

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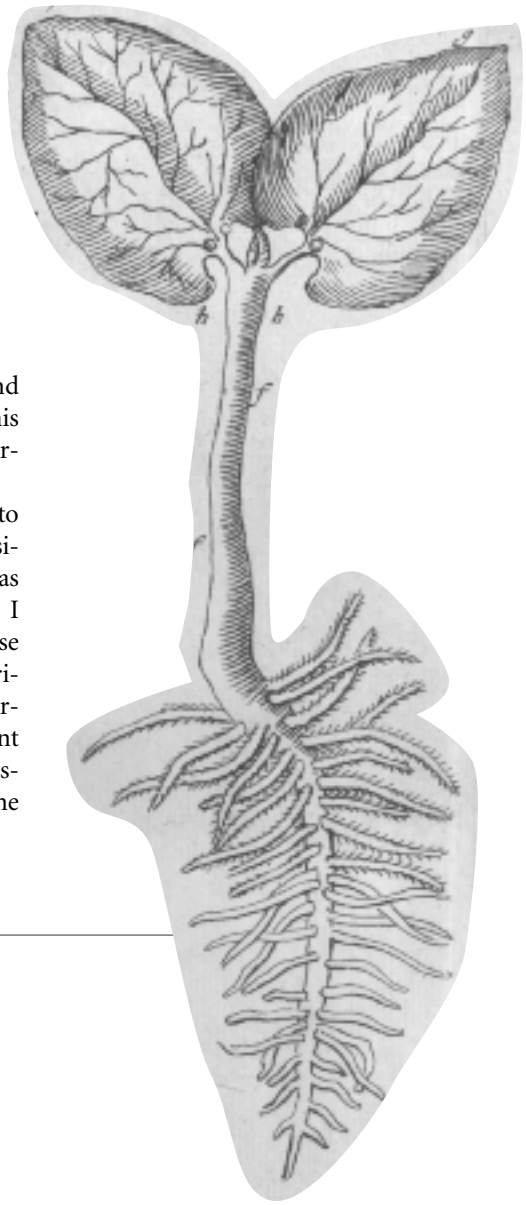
equation as to warrant no comment. Like dinosaurs after the Cretaceous Period, they had their time, they were big for awhile, cute after the fact, but gone, long gone.

It is certainly possible that the political and social climates could change enough to melt the polar ice cap of glacial stolidity around this issue. Anything, more or less, is possible; the Brewers could win the pennant and more, the Packers could repeat, the US men's soccer team could make it to the Quarter Finals in the 2012 World Cup. On the other hand health reform and health care reform compared to this particular trifecta seem a bit farfetched.

While we are called upon to treat the individual, our responsibility to a larger community has perhaps been underappreciated. I think we should all think on these things and somehow make contributions to the discussion that perhaps could lift it from its current morass. Absent our own bias; present our own clarity. Not letting one pass for the other this time.



The 1,285th Meeting

May 17, 2011

by H.D. Kerr, M.D.

The 1,285th Meeting of the Milwaukee Academy of Medicine was called to order at the University Club by President Daryl Melzer. The membership application of Dr. Richard London was noted and will be voted on at our next meeting Tuesday, September 20th. That meeting will include the annual bioethics program and feature our guest speaker, Nancy King, JD who is Professor, Department of Social Sciences & Health Policy School of Medicine and Co-Director, Center for Bioethics, Health, & Society at Wake Forest University. Her subject will be "Genetics and Ethics, A Decade after the Completion of the Human Genome Project."

President Melzer then introduced our old friend and loyal Academy member, Jeffrey Jentzen, MD, PhD, formerly Milwaukee County Medical Examiner, and presently Director, Autopsy and Forensic Services at the University of Michigan. He spoke on the topic "Death Investigation in America". He began with a brief introduction reviewing the usual though broadly varied official investigations that follow deaths in America. He followed with illustrative reviews of the Kennedy assassination, the killing of Bobby Kennedy, the events surrounding the death of Mary Jo Kopechne at Chappaquiddick, the death of Fred Hampton in Chicago, and the deaths at the Attica prison riots. Each review illustrated deficiencies and conflicts related to death investigations. Personal wishes, politics, convenience, expediency, and medical protocols all compete in this free-for-all area of law. Controversy continues, and despite science and the examples of the best and worst of protocols, creating the best of systems for America has remained elusive. Dr. Jentzen's talk was fascinating and much appreciated by the audience. His recent very well written book, "Death Investigation in America", contains information useful to every physician and important to every citizen.

From the Academy's Rare Book Collection

Review by H.D. Kerr, M.D.

Marcello Malpighi (1628-1694)

Marcello Malpighi was one of the earliest microscopists and a founder of several new areas of medicine. When Galileo (1564-1642) described the shapes of planets by being able to enlarge them, others too wondered what could be seen with arrangements of lenses. Eye glasses had been used in Europe since the fourteenth century. Early microscopes and telescopes were developed about 1590 by eyeglass makers in the Netherlands . In addition to his own telescope, Galileo applied the principles of the compound microscope in making his own, patented in 1609. The lack of proper lighting, imperfections of design, and lack of intellectual leadership impaired advancement in the use of the instrument for the next fifty years.

Malpighi, an only child, was born and raised in a rural area near Bologna, began his university education there at age 17 and graduated with a degrees in medicine and philosophy. His graduation thesis defended the Hippocratic method of unprejudiced observation against the dogmatism of Galen. He practiced medicine until 1656, and then worked in a series of faculty positions as Professor of Medicine at Pisa, then Bologna, Messina, then back to Bologna in 1660 where he remained until 1691. He became personal physician to Pope Innocent XII and moved to Rome. He died there in 1694 soon after his wife. They had no children (1).

Opera Posthuma:
In Quibus
Excellentissimi Authoris Vita
Continetur, Ac Pleraque
Quae Ab Ipso Prius
Scripta Aut Inventa Sunt
Confirmantur,
& Ab Adversariorum
Objectionibus Vindicantur.../
Marcello Malpighii..
Amstelodami:
Apud D. Donati, 1698.
Much of the work is in double columns of Latin and Italian.
(Bibliotheca Osleriana #987).

Opera Posthuma:
Figuris Aeneis Illustrata,
Quibus Praefixa
Est Ejusdem
Vita A Seipso Scripta.
Londini: Churchill, 1697.

At Pisa he was befriended by G.A. Borelli (1608-1679), a professor of anatomy who had formed an anatomy society, "Corus anatomicus", that met at his home and carried out dissections of humans and animals. Malpighi married his sister. For much of their professional lives Borelli was his friend and sounding board. Malpighi had been fascinated first with anatomy and then with the concept of microscopic anatomy. His work with the microscope entered uncharted and unnamed territory. In 1661 four years after Harvey's death, he discovered capillaries in the frog's lung and urinary bladder, the last link in Harvey's model of blood circulation. He spent several years proving that the blood flowed within the tiny vessels, was always contained within them, and did not pour into empty spaces and then into blood vessels. (2) He announced these findings in a letter to Borelli, De Pulmonibus, which was published in Bologna and later in Leiden.

In De Renibus Malpighi presented the first description of the histology of the renal glomeruli. What he found contradicted the widely held view that the kidneys were "fibrous and nothing but blood vessels." Instead they contained "tiny corpuscles...(revealed).. by injecting the artery of the kidney with a black liquid mixed with spirit of wine until the whole kidney swells and the most external part turns black. Once the capsule is removed, one can see even by the naked eye...the small corpuscles which have turned black, hanging from the black vessels; by sectioning the kidney longitudinally one can see among the tubules and the interstitium a large number of these corpuscles hanging like apples from the blood vessels which, when swollen with black liquid, look like a beautiful tree." (3) In many and various

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MARCELLI
MALPIGHII
PHILOSOPHI ET MEDICI
BONONIENSIS
E
SOCIETATE REGIA LONDINENSI
OPERA POSTHUMA.
In quibus Excellentissimi Authoris vita continetur, ac plerasque quæ ab ipso prius scripta aut inventa sunt confirmantur, & ab adversantium objectionibus vindicantur.
Supplementa necessaria, & Præfationem addidit, innumerisque in locis emendavit PETRUS REGIS Monspelliensis, in Academiâ patriâ Medicinæ Doctor.
Editio ultima figuris æneis illustrata, priori longè præferenda.
AMSTELODAMI,
Apud DONATUM DONATI.
M. DC. XCVIII.

inquiries Malpighi endeavored to make the minute visible and to clarify and define function. His difficulties in defining these aspects of the spleen required the use of various experimental materials for injection: air, mercury, water, and ink. (4). He also began to compare normal histology with pathological.

Malpighi described and wrote reports of his findings, usually including the details of his methods. His correspondence on the vertebrate tongue published in the Philosophical Transactions of the Royal Society in London led to an invitation by Henry Oldenberg (1615-1677), secretary of the society, to send further work for publication. He replied enthusiastically that he was already "investigating the internal anatomy of animals (the larval silkworm and the butterfly) whose parts are made with such skill and such wonderful minuteness that they escape the senses and the dull understanding of my mind (5)". Heretofore, since Aristotle, insects were thought to have no internal structures except the gut. In his "Dissertation Epistolica de Bombyce" (1669) he reported on his investigations of silkworm reproduction, respiration, circulation, digestion, and metamorphosis. He proved, for example, how the silkworm breathes and noted that the work was far from easy. Difficult elements included the novelty of the task, the minuteness and fragility of the material, and in puzzling the correct alignment of the parts. For these problems he had to create entirely new methods, invent new instruments, maximize lighting, and develop new techniques in order to do the dissections and clarify function. He expected that the study of insects and lower animals would reveal truths about higher animals. In the spirit of Francis Bacon he reported "...only facts established by the witness of the senses." (5)

His correspondence with Jan Swammerdam (1637-1680), a fellow microscopist and researcher via a mutual friend, Nicolaus Steno (1638-1686), describes the needs that formed the basis for modern methods of scientific investigation and reporting. They studied the unknown about which there had been no prior work, only confusing theories. Swammerdam felt that he needed to replicate Malpighi's "profoundly novel" work with the larval silkworm in order to understand his results and acquire the skill required to do this work (5). They both realized that the quality and capacities of their respective microscopes affected their perceptions and conclusions. Therefore, they developed methods and techniques to minimize or identify distortions or errors. The descriptive terminology

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Book Reviews

by Nick Owen, M.D.

The End of my Addiction

Olivier Ameisen, M.D.,
Farrar, Straus & Girox,
New York, 2009

This is the story of how Dr. Ameisen, after years of serious binge drinking, discovered that both his craving for alcohol and the underlying anxiety disoder, which he feels caused his alcoholism, could be controlled by high dose baclofen. This was followed by his frustration at the failure of the world to adopt his discovery.

Those members of the Academy who attended joint meetings of the Academy and the Columbia History of Medicine Club may recall a presentation by Professor Judith Leavitt of the University of Wisconsin-Madison relating the serial rejection of such significant medical discoveries as immunization against smallpox and chlorination / fluorination of the water supply after their introduction in Wisconsin and the crusades to get them adopted. This sets the scene for Amiesen's number one problem: non-acceptance of his baclofen regimen. As for problem number two: failure of the marketplace. Baclofen's status as a generic eliminated interest on the part of drug companies for exploitation.

Thus, despite his self-centered presentation augmented by inclusion of data from other workers interested in exploring the role of baclofen in repressing "craving" for alcohol and other addictive substances, Amiesen has documented its utility and safety in small numbers of patients. Hopefully his story and accumulated knowledge will encourage others to continue to explore this breakthrough against the hitherto unmanageable destructive curse of addiction in general, and alcoholism in particular.

by Nick Owen, M.D.

The $1,000 Genome: The Revolution in DNA Sequencing and the New Era of Personalized Medicine

Kevin Davies,
Simon and Schuster Free Press,
New York, 2010

The $1,000 Genome is a delightful review of the saga of the evolution of DNA sequencing. The author, himself a PhD geneticist, is not only knowledgeable but seems to know everyone in the field and has a good sense of humor. His story is dramatic both chronicling the brilliant ingenuity of competing developers and the rapidly diminishing costs and duration of the sequencing task.

As each of us has thousands of genes, if we proceed to investigate everyone's genome, what will the unveiling of all this data mean to healthcare?

Two familiar battles: first, should subjects be given the responsibility of knowing the fate their genes have decreed for them. Davies reviewing the opinions of others in the field cites more yeas than nays. Second, which group of professionals should convey the results and their interpretation? Davies opines that most physicians know too little genetics to advise wisely. And finally, what is the value of the information obtained? Teleologically any clinical finding is or may be of some value to the individual and accumulating a database and studying it is an appropriate way to deal with new information. Most of the genomes studied, however, show no significant abnormalities and since we have no remedy for many of the abnormalities found our ability to respond is limited.

General categories include:
1. Single gene, mendelian, usually rare, variants – one has it or not; although some when discovered are modifiable or correctable.

2. Complex diseases, multigene/mixed environmental such as diabetes, heart disease, alzheimers, breast/prostate cancer, rheumatoid arthritis, baldness, heroin addiction, and glaucoma. A positive result indicates increased risk but is only relative. The appropriate response is continued screening for overt manifestations of the condition and appropriate prophylaxis (often only general health measures) with occasional exceptions such as prophylactic mastectomy in the increased risk of breast cancer.

3. About a hundred high or low metabolizers of such substances as caffeine, warfarin, plavix, beta blockers, codeine and antidepressants require dosage adjustment or avoidance. Falling in this general category are the variants, the presence or absence of which determine susceptibilities to chemotherapy.

4. Obviously knowing ones genome has utility for the individual involved. Even at the reduced cost now possible, the expense of doing a large population is unlikely to decrease the cost of healthcare now. On the other hand, if by establishing a database, clarifying individual risks, and doing effectiveness studies, with the rapid progress of clinical research we may produce a population whose defects can be managed early, thus optimizing health and decreasing costs and risks of multiple genetic conditions.

by H.D. Kerr, M.D.

The Evolution of Surgical Instruments: An Illustrated History from Ancient Times to the Twentieth Century

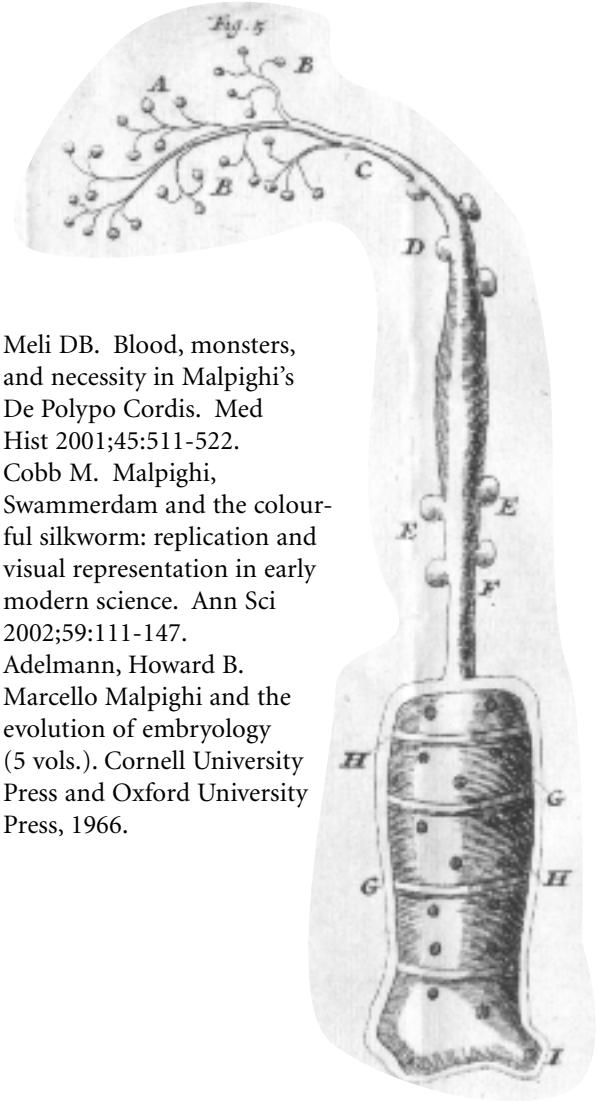
John Kirkup, MD, FRCS
historyofscience.com
Novato, California 2006

The author has written an all encompassing text organized into four sections: historical, materials, structure and form, and applied instrumentation. The three appendices consist of an annotated list of surgical instrument collections and catalogues, a table listing the contents of copper alloys used in the 19th century (such as electrum), and a world list of museums and collections. This is a book for browsing. One finds "factoids" and fascinations on every page. For example, in the plates section is a Roman wall painting from Pompeii showing a missile being extracted from the thigh of Aeneas using a pivoting clamp forceps. A twelfth century manuscript miniature shows excision of nasal polyps using a knife and a tube through which astringent powder is blown on the wound. The chapter on "Gum, Rubber, and Plastic" describes and illustrates the search for a better catheter. Bernard of Paris in 1779 produced a flexible catheter by dissolving layer upon layer of plant gums onto a tube made of woven silk. This stiffened the silk and led to a very smooth surface improving the ease of introduction. Wandering through this book broadens one's view of medicine and our predecessors. Strongly recommended. ~

Marcello Malpighi (1628-1694) *continued from page 5*

employed was new and developing. Written communications were in Latin. They used the method of illustration developed by Vesalius in his 1543 book of anatomy where the animal was abstracted from its environment and the specific organ of interest abstracted from the animal. Their color illustrations did not explain but rather indicated what had to be explained. Their publications were startling and invited criticism. Malpighi's biographer noted that Malpighi interpreted what he observed "with the mind of a seventeenth century scholar" and "in the intellectual context of his times" (6).

Marcello Malpighi was one of the great Renaissance scientists. He detailed the microscopic structures of a vast array of areas including the skin, lung, heart, brain, liver, kidney, the embryo, plants, and insects. He not only investigated the unknown in a methodical fashion but also left to posterity his example of Bacon's principles applied practically. At his burial place in the Church of the Santi Gregorio e Siro in Bologna his monument reads "Great genius, honest life, strong and tough mind, daring love for the medical art." ~



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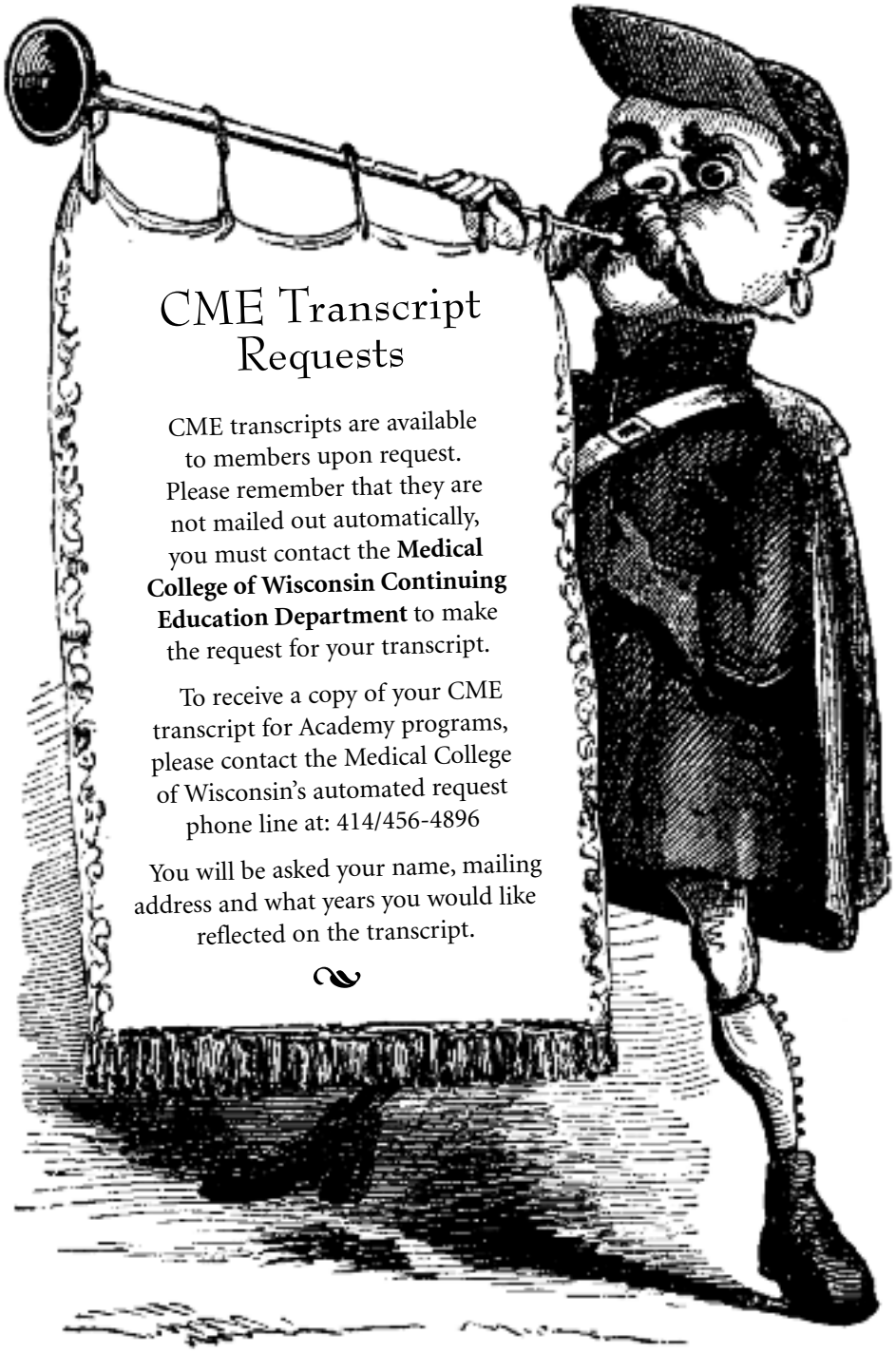

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