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# MEDICAL

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## COLLECTORS

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## ASSOCIATION

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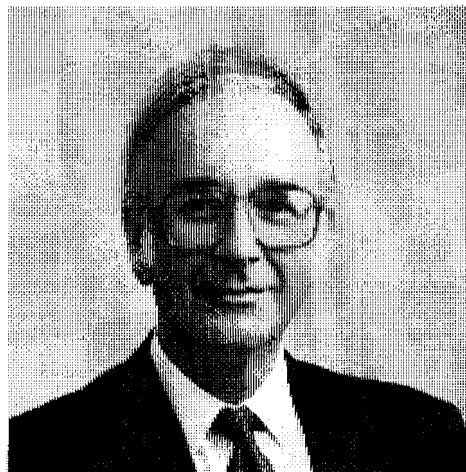
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### NEWSLETTER NO.30 December, 1996

This is the last Newsletter of this year and I am amazed to realize that it is number thirty. Although the membership of the group has varied from year to year with some individuals joining and others leaving, we continue to have a strong representation in the medical collectors and dealers community with a base membership of between 125-150 members.

The most important items to bring to your attention at this time are the great success of the meeting in Frankfurt am Main and our plans for a future meeting at the Medical History Museum of the Civil War in Frederick, Maryland. The meeting in Germany was attended by more than 30 individuals but the majority were from Europe including England and Germany. Only seven of us from the States attended the meeting but I can confidently report for all of us that we had an extremely enjoyable and profitable time, both socially and intellectually. Dr. And Mrs. Rugendorff accomplished a remarkable job in making all of us feel welcome and in providing a full calendar of activities. One of the highlights of the meeting was a visit to the Pharmacy Museum in Heidelberg Castle. For those of you who have not visited this remarkable display,



I commend it highly. The rest of the meeting included several local tours, visits to some interesting German restaurants, and an outstanding day of lectures and medical antique dealer exhibitions. The final group dinner at Schlosshotel Kronberg was an extraordinary gastronomic experience in an extraordinary setting. The Castle is a virtual museum and an ultra-luxurious hotel. Once again, thanks to Erwin and Karen Rugendorff for their extraordinary and successful effort.

The next meeting of the group will be in Frederick, Maryland. Efforts are well underway to set up this meeting headed by Dr. Gordon Dammann. Details can be found in the registration form.

Included with this Newsletter are the usual accompaniments of the last communication of the year, namely, a renewal of membership form and registration for the meeting. I would greatly appreciate it if all of you who are interested in remaining members could return the membership form promptly and if you are interested in the meeting, early registration would certainly help us greatly in planning. Space and housing will be somewhat limited in Frederick so book early.

I have chosen to include a patent of Fosgate's localizing stethoscope with this Newsletter. A number of similar type stethoscopes are frequently encountered by medical collectors and I think that this is interesting in that it gives some insight into the concept behind the localizing attachment.

The most commonly encountered one is the Biazzi-Bianci. I am running out of patents. Hopefully I will have a chance to get down to the New York Patent Library sometime this year but that is not a certainty. Any of you who have interesting patents of devices that you would like to share with the membership are asked to please send me photocopies of them so that I can include them in future Newsletters. We have finally achieved some activity in the "What Is It?" area. Rodney L. Harmic has submitted a very nicely detailed drawing of a device for which he would like some input. Please send your responses to me for inclusion in the next Newsletter.

One of Bill Helfand's "Historical Images of the Drug Market" is once again included to further our insight into this fascinating area of medical history. Bill has contributed to most of the Newsletters I have published. He has been elected recently as Chairman of the Section on Historical Medicine of the New York Academy of Medicine. Congratulations!

A highlight of this issue of the Newsletter is a photocopy of a portion of the doctoral thesis of Dr. Qaisar Siraj. Dr. Siraj's thesis was on the study of penile vascular physiology and pathology using radio-tracer techniques. This is of interest to us because of the very fine review of the history of impotence. I have, with his permission, reproduced that portion of his thesis which should be of great interest to medical antique collectors because of the frequency with which claims are made by medical quacks for the value of their devices, or potions in the treatment of impotence, which seems to have preoccupied people throughout history. Thanks to Dr. Siraj for allowing me to share this part of his thesis with the membership.

Also included in this Newsletter are a number of announcements which should be of interest to the membership. Dr. Gerald L. Zeitlin has asked me to inform you of the existence of the Anesthesia History Association. Anyone who is interested in this area of medical history is encouraged to contact Dr. Zeitlin at 104 Plainfield Street, Newton, Mass. 02168, for information about this organization and to obtain a membership application.

We recently included in our mailing a guide to searching for historical medical artifacts provided by the Dittrick Museum. Some problems have arisen with the use of this program on the Internet. The Ohio link is now on the World Wide Web. Any of the members who have access to the Web can reach Ohio link at the following address: <http://olc@ohiolink.edu/search>. Once you reach the Ohio link you should follow the directions in the guide to find historical medical artifacts. Anybody having trouble making contact with Ohio link should contact either Pat Gerstner or Jim Edmondson at (216)368-3648 or e-mail them at [PAG 4 at: po.cwru.edu](mailto:PAG 4 at: po.cwru.edu) or JME 3 at the same e-mail address.

The Society of Civil War Surgeons which is an extremely active group is planning a meeting during March, 1997 at Richmond, Virginia. Announcements concerning this group and its activities can be found at the end of the Newsletter.

Also included with the Newsletter is a copy of the New York Academy of Medicine Newsletter which has a fascinating article on Numismatics written by Dr. Ira Rezak. The Academy has published a reprint of a report on, "Public Health and Legal Medicine," from 1852 in connection with its 150th Anniversary which should be interesting reading to everyone. Another society which may be of interest to the membership is the International Society for the History of the Neurosciences. Information about this group can be obtained by writing to Dr. D.E. Haines, Secretary ISHN, Department of Anatomy, The University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216-4505.

Yet another publication related to our interests is the "Drug Store Collector". Information about this can be obtained by writing to the Drug Store Collector, 3851 Gable Lane Drive, #513, Indianapolis, Indiana 46208.

I hope that many more of you will be able to attend the 12th Annual Meeting of the Medical Collectors Association in Frederick, Maryland which offers to be an outstanding program.

If any of you have any items you would like included in the Newsletter, please send them to me or if you have items for the "Can You Identify" column, these should be either drawings or black and white photographs. I am particularly in need of patents for the Patent Column.

Best wishes to all for a Happy Holiday and a prosperous New Year.

Sincerely,  
M. Donald Blaufox, M.D., Ph.D.

# Museum Explores Civil War's Impact On Modern Medicine

By Lowell E. Sunderland

THE BALTIMORE SUN

**A** BULLET ripped into Richard Brown's left thigh, and as the 21-year-old Confederate cavalryman struggled to stay mounted, his horse fell on him, snapping the same leg's thigh bone.

Medically, even with the compound fracture, the bullet would likely not be life-threatening today.

But this was in September, 1862. For nearly two months, Brown suffered in a Union hospital in the old Hessian barracks that still stand at the Maryland School for the Deaf. On Nov. 7, he died.

Private Brown's black and white photograph stares out at visitors from a wall in the new National Museum of Civil War Medicine in Frederick, Md. His story is a newly recognized footnote in American medical history, told in a Civil War museum unlike any other.

Rather than concentrating on battles, or slavery, this museum is about an unheralded result of that war that former Surgeon General C. Everett Koop calls "a watershed in the history of medicine."

Many museums focus on the Civil War and its battles, but what happened to its 620,000 dead and even more wounded gets only passing mention.

"What we take for granted in medicine today started then," says Gordon Dammann, a dentist in Lena, Ill., who came up with the idea for the museum. "Before the war, American medicine was looked down on by the rest of the world. After the war, we quickly became the leader."

Forced to cope with rampant illness and horrible wounds numbering in the tens of thousands, doctors with little in the way of modern knowledge or technology experimented, improvised and invented. The list of advances taken for granted today is impressive. Better sanitation practices, modern hospitals, nursing as a profession, wide use of anesthetics, the triage system of treating the injured, mobile surgical units — all have Civil War roots.

In the process, doctors saved many like Carlton Burgan, whose photograph hangs next to Brown's.

Burgan was a Union foot soldier, just 18, when a cold turned into pneumonia in Winchester, Va. Today, antibiotics, nourishment and rest would quickly return him to normal. But he survived this Civil War reality: For every soldier that bullets and shrapnel killed on the battlefields, two died of disease.

Burgan's doctor, who knew nothing about germs or antibiotics, treated him with "calomel," a mercury-based potion intended to make him salivate and, thus, flush his body of "bad humors."

It was common practice 134 years ago. No one knew that mercury was a toxin. So the "remedy" ate away much of the soft tissue inside the young soldier's mouth, not to mention his jawbone, right cheekbone and eye, and part of his nose.

A "before" photo of Burgan's disease-eroded face reminds you of a grotesque Popeye in extremis. "After" is where his story surprises.

His face has been restored to near-normal dimensions and features, though thickly scarred with Frankensteinian seams where live tissue was stitched to cover a reconstructed jaw, cheek and nose. Gurdon Buck, the New York doctor who did the work, is regarded as the father of modern plastic surgery.

Add a happy ending: Burgan was discharged from the army, married and had "many" children before dying at age 71 in 1915.

Stories that personalize the war this way — for soldiers and doctors alike — accompany many of the 3,000 medical tools, devices, kits, packages, medicines, accoutrements, and rare documents collected by Dammann. This material constitutes the private, nonprofit museum's starting point.

Frederick was chosen for its location because the city was a major wartime medical center — central to major battles at Gettysburg, Antietam, Harper's Ferry, on the Monocacy River, all along South Mountain, and south into the Shenandoah Valley.

Go ahead, cynics, call a positive spin on a time better known for medical practices bordering on the barbaric reconstructive history. Everyone has read about or has seen in movies the Civil War's "surgeons,"

who left behind more than 50,000 legs and arms amputated at battlegrounds. But even with only a few of Dammann's items on display, the museum's exhibits reshape such skepticism without sugarcoating the obvious. In fact, the museum's goriest element, discreetly played over and over on videotape next to a reconstructed field hospital, is a chillingly realistic leg amputation concocted by Civil War re-enactors.

But, you learn that even under the best of conditions, those "sawbones" doctors could not beat infections, including deadly gangrene. Europeans such as Joseph Lister were only on the verge of discovering germs. So amputation was quick — three to five minutes in many cases — and while not without risk, a much better wager on life than leaving the patient to die, almost certainly, from infection or blood loss.

You also learn quickly in touring just the one floor (out of three planned) what other medical changes that are taken for granted in the 1990s grew out of the war.

Not least was public sanitation — systematized cleanliness, separating latrines from water and food in campsites, for example. Early in the war, chronic diarrhea was a major killer.

"The concept of hospitals as places to cure patients, not to just let them die, was another major development," says Burton Kummerow, the museum's executive director. "We've given that gift to the world." •

*The National Museum of Civil War Medicine is at 48 E. Patrick St. in Frederick, Md. Hours are 10 a.m.-5 p.m. Tuesdays through Fridays, noon-5 p.m. Saturdays and Sundays. Free admission, but donations are welcomed. (301) 695-1864.*

D13

TRAVEL

# UNITED STATES PATENT OFFICE.

DANIEL O. FOSGATE, OF CHICAGO, ILLINOIS.

## LOCALIZING-STETHOSCOPE.

1,015,163.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed July 12, 1911. Serial No. 638,191.

*To all whom it may concern:*

Be it known that I, DANIEL O. FOSGATE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Localizing-Stethoscope, of which the following is a specification.

This invention relates to improvements in localizing stethoscopes, the primary object of the invention being the provision of an attachment or localizer adapted to be connected upon and inserted through the opening in a supplemental diaphragm of a stethoscope and have its inner end disposed in such relation to the main diaphragm, as to confine the vibrations within the localizer and thereby intensify the reproduction of the sound at the ear trumpet end of the stethoscope.

A further object of this invention is the provision of an attachment adapted to be connected to a stethoscope to centralize or intensify the sound waves acting upon the main diaphragm so that such sound may be minutely and particularly located, the said localizer being so formed and constructed as to cover a very small space and accentuate the vibrations at such point so as to magnify the same when conveyed to the diaphragm and finally to the ear trumpet.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a perspective view of the complete stethoscope and localizer. Fig. 2 is a central sectional view taken through the transmitter thereof with the localizer in operable relation thereto. Fig. 3 is a rear plan view of the localizer detached. Fig. 4 is a section taken on line 4-4 of Fig. 3. Fig. 5 is a front elevation of the localizer.

Referring to the drawings, the numeral 1 designates the tubes carrying the ear trumpet 1', the flexible terminals of said tubes being connected to the transmitter body 3, which has connected to the threaded portions 4 the clamping ring 5 of the transmitter body. Disposed within the transmitter body is the main diaphragm 6 held in

proper adjustment at a central point by means of adjusting screws 7, while co-acting with the main diaphragm 6 is a supplemental diaphragm 8 provided as shown with the concentric outwardly projecting cylindrical casing 9 having the concaved outer face 9' provided with the central orifice or aperture 10 which is concentric with the periphery of the transmitter body. Substantially this construction is covered by the applicant's former Patent No. 875,795 granted to him January 7, 1908, but in order to localize the vibrations and thereby intensify the undulations thereof upon the respective diaphragms, a localizer attachment is adapted to be mounted upon the casing 9 and this, as shown, comprises the disk or plate 11 provided with the oppositely extending right angled spring arms 12, which when the device is in operable relation assumes the position as shown in Figs. 1 and 2. The disk 11 is provided with the central orifice or aperture 13 and as the disk is made of a flexible material, the same is snapped in place between the circumferential ribs or rims 14 of the localizing and sound conveying tube 15 whose inner end 16 is adapted to lie in contact with the outer face of the main diaphragm 6 centrally thereof as clearly shown in Fig. 2. The outer portion as at 17 of the localizer tube 15 is flared so as to provide thicker surrounding walls to the same and provide a better contacting surface to engage the point or portion of the body, and thereby confine the sounds better so that the vibrations caused thereby will be transmitted through the central bore of the localizing tube 15 and act upon the diaphragm 6.

From the foregoing description taken in connection with the drawings, it will be evident that this localizing device may be attached to many forms of stethoscopes, and that by the use of the same with the shaped portion 9 of the supplemental diaphragm 8 will provide a proper supporting means for the said localizer and permit the tube thereof to project through the central orifice of the supplemental diaphragm 8 and have its inner end 16 about the central point of the main diaphragm 6, thus being placed quickly and readily in operable position so that a stethoscope with the localizer may be changed at will and produce an exceedingly delicate instrument and at the same time so confine sound vibrations at a given point

as to intensify the same upon the respective diaphragms of the stethoscope and finally permit the transmission through the tube to the ear trumpet.

If so desired the stethoscope may be provided with an integral localizing means without departing from the spirit of this invention, but it is preferred to make the device an attachment, whereby the stethoscope may be used with or without the same, as desired.

What is claimed is:

1. In a stethoscope, a transmitter embodying a main diaphragm, a supplemental diaphragm provided with an outwardly projecting casing having a central orifice, and a localizer and sound intensifier removably attached to the supplemental diaphragm and

in contact with the main diaphragm through said central orifice.

2. In a stethoscope, a transmitter embodying a main diaphragm, a supplemental diaphragm, provided with an outwardly projecting casing having a central orifice, and a localizer and sound intensifier detachably connected to the casing of the supplemental diaphragm and provided with a tube adapted to enter the central orifice thereof and engage the main diaphragm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DANIEL O. FOSGATE.

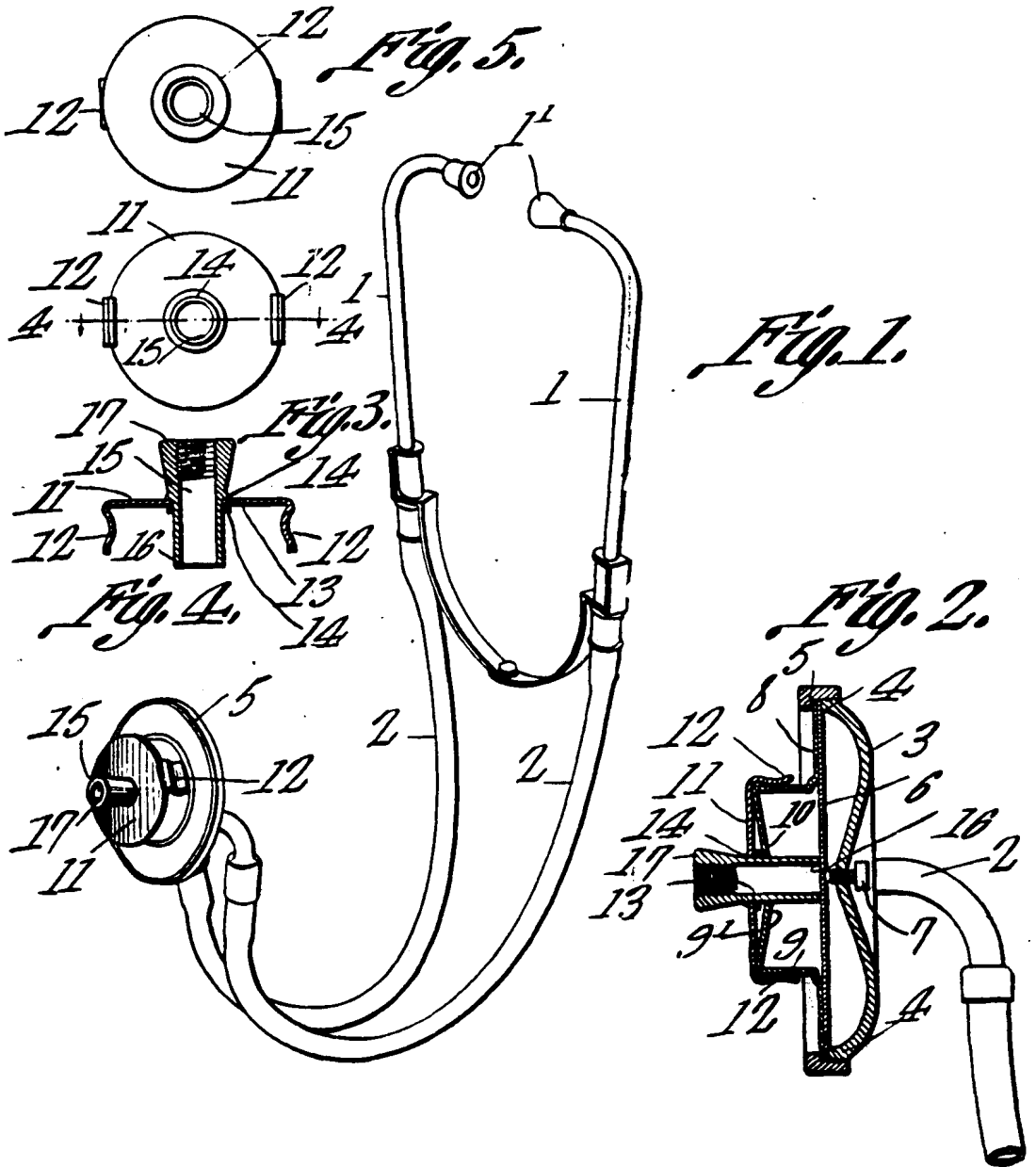
Witnesses:

H. A. EDGERTON.

ROBERT WESTON.

1,015,163.

Patented Jan. 16, 1912.



*Daniel O. Fosgate,*  
Inventor  
by *Cashmore,*  
Attorneys

Witnesses

*J. P. Tomlin*  
*L. A. Wilson*

# Historical Images of the Drug Market—XXII

by William H. Helfand

THE Joseph T. Brown pharmacy began its activities in 1831 and for more than sixty years occupied the same premises at Washington and Bedford streets in Boston. Its 1894 price list included a woodcut of the interior at the time it opened, and also illustrated the extensive alterations made in 1852 when it was “modernized” to keep abreast of then current design concepts. Differences between the two styles were startling. The 1831 pharmacy was simple, spacious, bright, and professional with long rows of uniformly sized bottles along one wall, and low uncluttered counters with scales for weigh-

ing crude drugs and other products. Boxes, labeled for export, stressed the wholesale business that Brown’s “Chemical Store” conducted. In contrast, the more elaborate fixtures installed in 1852 reflected the somber, serious sensibility of the Victorian age. Merchandise that could provide improved sales replaced the rows of uniform medicines. The elevated prescription department and gallery were added still later, in 1888, stressing the focus of activity in the pharmacy. Further architectural changes were necessary in the 1890s, but the building that housed the pharmacy was demolished in 1894.

1831.  
JOSEPH T. BROWN.

1869.  
JOSEPH T. BROWN,  
G. F. H. MARKOE  
JOSEPH T. BROWN, JR.

1872.  
JOSEPH T. BROWN,  
G. F. H. MARKOE,  
JOSEPH T. BROWN, JR.,  
CHARLES H. BASSETT.

1873.  
JOSEPH T. BROWN,  
JOSEPH T. BROWN, JR.,  
CHARLES H. BASSETT.

1888.  
JOSEPH T. BROWN, JR.,  
CHARLES H. BASSETT.

1889-1892.  
CHARLES H. BASSETT.



Interior view of Joseph T. Brown's Drug Store, corner Washington and Bedford Streets, built in 1832, demolished in 1894; showing Elevated Prescription Department and Gallery added Feb., 1888.





**TITLE**

THE STUDY OF PENILE VASCULAR PHYSIOLOGY  
AND PATHOLOGY USING RADIOTRACER  
TECHNIQUES.

**AUTHOR**

Qaisar Hussain  
SIRAJ

**DEGREE**

Ph.D

**AWARDING  
BODY**

London University

**DATE**

1993

**THESIS  
NUMBER**

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## 1.1 MYTHOLOGY AND ANCIENT HISTORY

That the fear of impotence has been a major concern of man is borne out by the recurrent mention of various recipes for improving potency and multiple remedies for its cure in the ancient medical references. The Egyptian papyri are the earliest known medical records dating back to 2000 B.C. They were compiled from the Sacred Book, supposed to have been written by Thoth, the god of wisdom. The Kahun papyrus, the earliest surviving medical work (which dates from about 1900 B.C.) mentions man's perennial problem of impotence and describes medical cases where a man was "incapable of doing his duty" (Tannahil, 1980). A papyrus from the end of the Middle Kingdom (c.1700 B.C.) prescribes the following poultice for impotence: 'Leaves of Christ thorn, leaves of acacia, honey; grind the leaves in this honey and apply as a bandage (von Deines *et al.*, 1958). Another papyrus written around 1000 B.C. includes recipes for love potions; since medical treatment was often accompanied by magic formulas, one of the remedies was to be applied while a spell was being recited alluding to the Khnum, one of the gods of creation: "Hail to thee, great god, thou Khnum....be erect, be not soft, be strong, be not weak.... To be recited over...the member to be anointed with it" (Gardiner, 1935). The scroll of a papyrus, currently in the British Museum (No. 10070), which was written as late as the 3rd century A.D., contains multiple prescriptions for aphrodisiacs of various kinds (Lexa, 1925).

A whole series of surviving clay tablets from the Tigris-Euphrates valley, designated the potency incantations, primarily dealt with the problems of the flaccid penis. Impotent men were advised to rub their penis, or if possible have it rubbed by a woman with a special pūru-oil mixed with pulverized, magnetic iron particles, probably to provide additional friction. While their penis was being

rubbed, their therapist was to make such statements as "Let his penis be a stick of martu-wood" and request of the man that they were rubbing "Let a horse make love to me" (Biggs, 1967). A recipe for impotence composed of dried lizard and cantharides is also mentioned in the Assyrian cuneiform tablets (Herman, 1969).

In the Hindu civilisation, which probably predates the Egyptian, medical science was traditionally passed from father to son in long poems called Vedas. The Ayurvedas or poems of the science of life were probably inscribed in about 2000-1000 B.C. (Herman, 1969). The Samhita of Sushruta is one of the best known among the Vedas and describes six different types of impotence. It also describes the various aphrodisiacs as well as remedies for impotence; many of the remedies containing animal testes as the essential ingredient. The use of testis tissue as a drug for sexual debility goes back far in medical history and may well have benefitted a proportion of impotent subjects with androgen deficiency. It has a mention in the Hippocratic corpus and in Dioscorides (Gunther, 1933; Brooks *et al.*, 1962). Nicander, as early as 135 B.C., recommended the use of the testes of hippopotamus (Berendes, 1891).

Causes and cures for impotence are mentioned in the ancient Chinese historical works. The *Huang Ti Nei Ching Se Wen* or the Yellow Empress Classics of Medicine, one of the earliest recorded Chinese medical text, probably dating back to the second or third millennium B.C., discusses this issue. It ascribes strong passions and excesses to be the root cause of the problem and advises moderation (Liang Po-Chhiang, 1933). An ancient Taoist art was the use of urine as a medicament for sexual debility. This custom dates far back in Chinese history, probably to the second century B.C. (Gwei-Djen and Needham, 1964). The *Hou Han Shu* (History of the Later Han Dynasty) mentions this practice in the second century A.D. (van Gulik, 1961). Love potions to cure impotence were concocted.

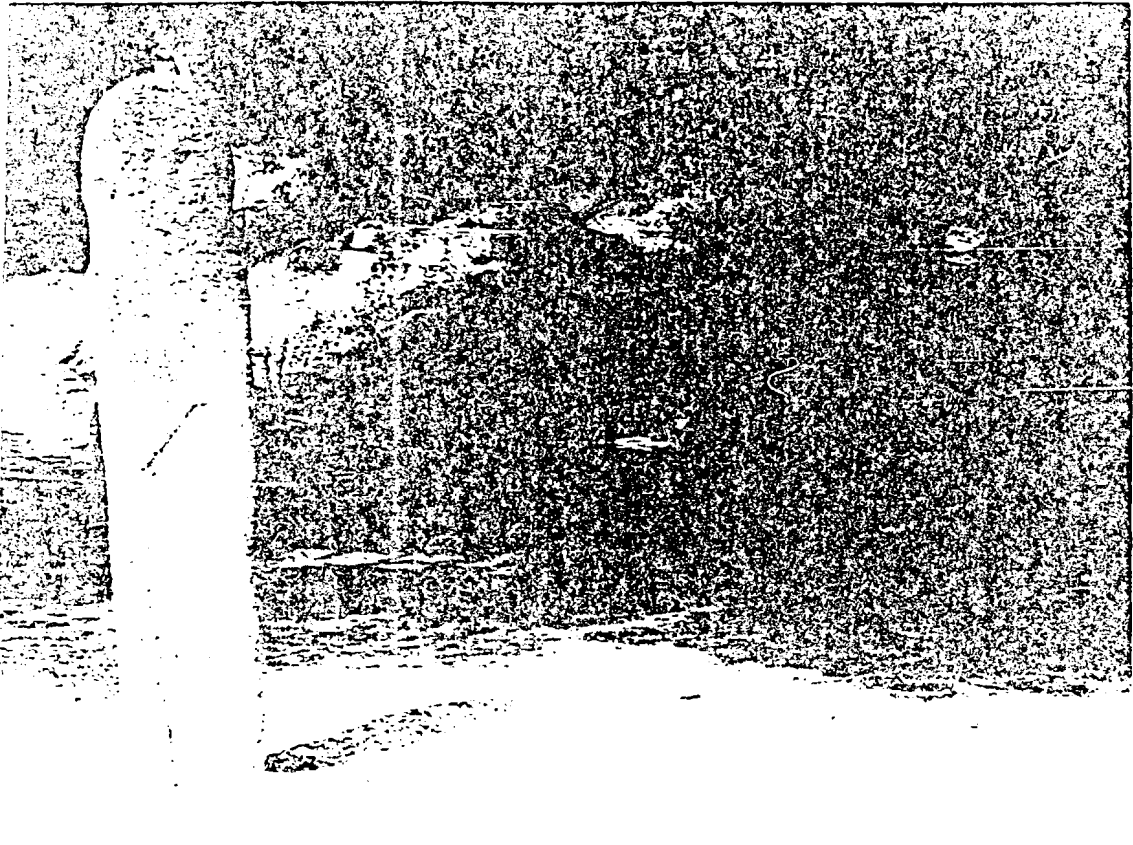
*Tung-hsuan-tzu*, one of the ancient Chinese handbooks of sex in the Sui Dynasty (590-618 A.D.) attributed to Master Tung-hsuan provides a recipe for making a 'bald chicken potion' as well as a 'deer horn potion' for impotence (van Gulik, 1961).

The literature of many different civilisations contains some works on the subject of love-making. The standard books on sex in the ancient Sanskrit language are the famous Kama Sutra of Vatsayana and the lesser known, Ananga Ranga of Kaliyana. The Kama Sutra or Aphorism of Love by Vatsyayana cannot be accurately dated but must have been written sometime between the first and sixth centuries. This book was translated by Sir Richard Burton in 1883. Sexual inadequacy is touched upon in Part 7, where advice is given on various medications for enhancing sexual vigour and an account is given of the sexual aids, which could be used in connection with or in place of the penis (Burton, 1883).

The ancient peoples looked upon the erect phallus as a symbol of the creative force of nature and from the Babylonian period we have stone and clay models of erect penises (Figure 1.1). Phallus worship formed the basis of some ancient religious sects of Hindu as well as the Greco-Roman religions. Among Hindus several related sects worshipped Lord Sheva, the Phallus God (Figure 1.2.A). The greatest body of phallus-worshippers were the virile, Veereh Sheyveh dedicated to the procreation of mankind. The other extreme was to be found in groups of celibates who either dismembered themselves in laudation of Shiva, or by affixing heavy stones to their members destroyed their erectile powers (Edwardes, 1959).

In Greco-Roman religion, the worship of Dionysus or Bacchus (Figure 1.2.B), the god of wine and ecstasy flourished in Asia Minor, particularly in Phrygia and

Lydia. Lavish rites in his honour displaying large artificial phalli were widely instituted. Legend has it that the Athenians were punished with impotence for dishonouring the God's cult.



**FIGURE 1.1.** *The Menhir Phallus, dating back to 400 B.C., from the prehistoric site of Filitosa in Corsica, which boasts a fascinating collection of decorated Menhirs, the work of Megalithic artists.*

Priapus, also known as Priepos or Priipos, the son of Dionysus and Aphrodite, personified the idea of birth and the productive energy of nature in humans and in the animal and plant kingdom. He was first worshipped in Lampsacus (Asia Minor) and then by the ancient Greek (Papadopoulos and Kelami, 1988). The phallus was the symbol of the genital power of Priapus and he was always portrayed with his genital organs out of proportion to his body (Figure 1.2.C).

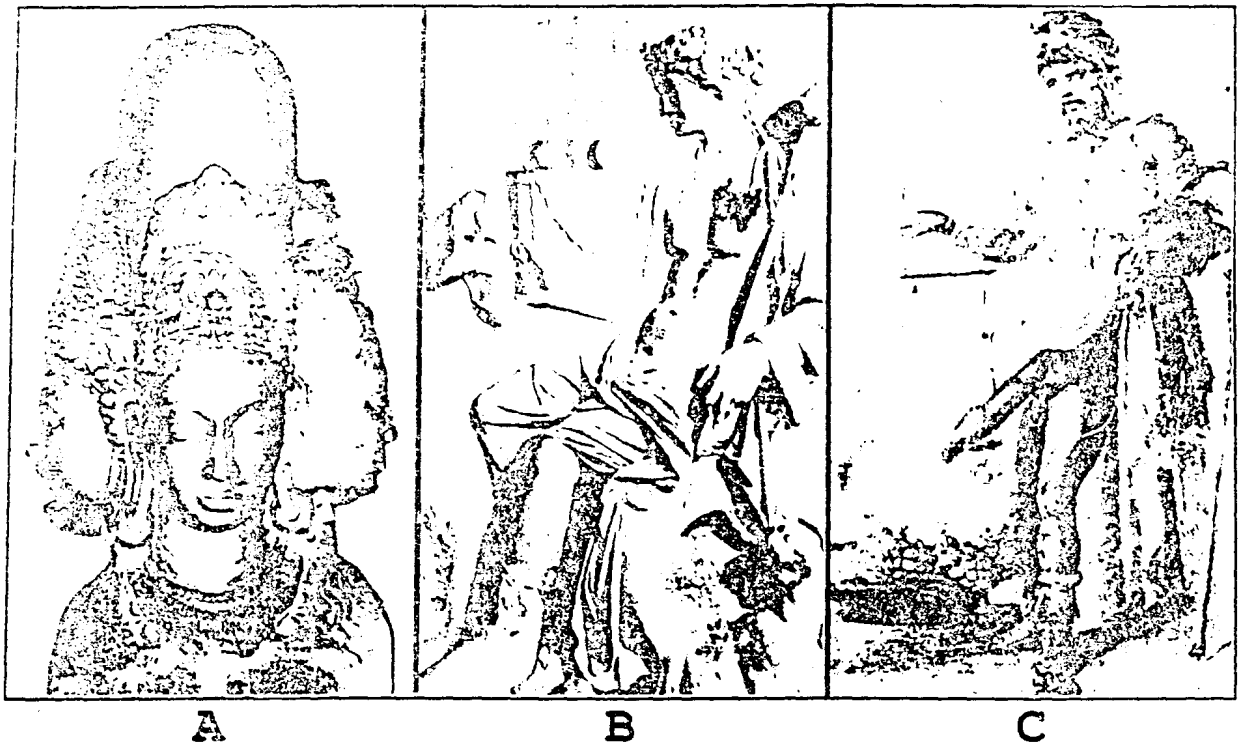
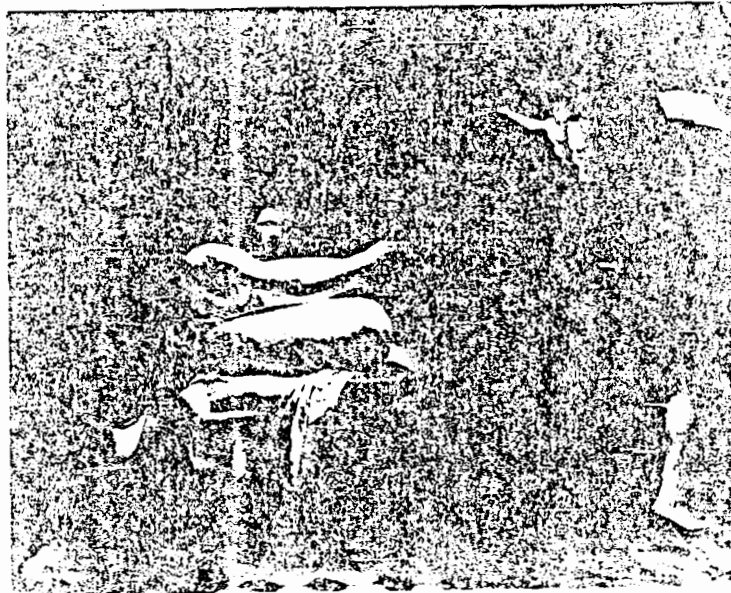


FIGURE 1.2. (A) Lord Shiva, the Hindu deity, (B) statue of Dionysus or Bacchus, and (C) painting of Priapus, in Pompeii.

Tales about impotency, ranging from purely mythological to semi-historical abound. Childhood anxiety and its psychopathological role in adult male impotence was clearly recognised in Greek mythology. King Phylacus asked the physician, Melampus, to cure his son Iphiclus of impotence. He found a childhood experience to be the root cause of the problem; the fear of being emasculated by a blood stained gelding knife had rendered the subject impotent (Graves, 1955). In Satyricon of Petronius, the infliction on impotence on Encolpius as a punishment for desecrating the rites of Priapus is described (Johnson, 1968). Attitudes to life and love 2000 years ago were not different from those of today (Bishop, 1992). In the 16 B.C. publication of poems entitled 'Amores' Ovid treats this subject (Melville, 1990):

*'I blush that being youthful, hot and lusty  
I prove not youth nor man, but old and rusty.'*

A passage in Genesis describes Abimelech becoming impotent as a divine punishment for taking Abraham's wife. In "Genesis and Exodus," Joseph's ability to withstand Potiphar's advances is attributed to God granting him an *ad hoc* coldness in nature. "Potiphar was a very rich man, and he bought Joseph solely because he wanted to perform his lechery with him, because of his beauty; but Joseph became so cold-natured that he had no power to do such a deed" (Morris, 1865). When Potiphar's wife became enamoured with Joseph, he could not but reject her (Figure 1.3).



**FIGURE 1.3.** *Joseph fleeing from Potiphar's wife (Painting by Orazio Gentileschi).*

Herodotus, in the fifth century B.C., gives a mythical account concerning the Scythians, who pillaged the temple of Aphrodite at Ascelon. The goddess in her



fury allegedly turned the plunderers into women and decreed that their posterity should be similarly affected (Krafft-Ebing, 1894).

Hippocrates (460-377 B.C.), more than a century later describes some Scythians suffering from this dreaded malady, which according to him the inhabitants ascribed to a deity. These eunuchs, called Anarieis, were held in awe and reverence and were worshipped lest the malady befalls others as well. However, Hippocrates maintained that there was an underlying natural cause for their malady. He ascribed it to their flabby constitution and long periods of horseback riding in cold, which he thought wears them out and causes varicose veins. As a result these men were weak in the sexual act. They treated themselves by cutting the veins behind their ears. The hippocratic author of "Airs, Waters, Places," refers to the link between the vascular and generative systems with reference to Scythians: "For by the side of ear are vessels, and if they are cut for the purpose of blood letting, the person becomes impotent" (Chadwick and Mann, 1950).

Centuries ago, man first developed the proverbial wisdom that loss of semen was harmful; the individual's ability to function sexually being conceived as a finite quantity, which was limited and ultimately exhaustible. The Greek writer Plato (428-348 B.C.) and the ancient pioneer of medicine, Diocles (375-300 B.C.) of Carystus in Euboea, a pupil of Aristotle, are said to have believed that semen came from the brain and spinal marrow and that excessive copulation would in consequence injure the sense and the spine resulting in impotence (Allbutt, 1921; May, 1931).

This belief not only has great antiquity but also is widely diffused among the peoples of the world, from China through India and Europe. In Tantric Yoga, it has long been basic to an entire philosophy. Biblical and Tantric teachings

regarding the saving of semen probably descent from the same source in pre-recorded history. Believing that sexual desire was itself an evil, the early Christians were ready to assist their aspirations toward asceticism by means of auto-castration. In the Gospel according to Matthew, extravagant praise is heaped upon men who "have made themselves eunuchs for the Kingdom of heaven's sake" (Szasz, 1980).

## 1.2 MEDIEVAL HISTORY (1000 - 1500)

The classic Arabic literature contains books giving advice on the sexual arts. The best known is the comprehensive Arabian treatise called "The Perfumed Garden," compiled and written by Shaykh Umar ibn Muhammed al-Nefzawi of Tunisia, in the beginning of the sixth century at about the year 925 of the Hejira. This book was translated by Sir Richard Burton (1821-1890) and gives advice on many items concerning sexual practice. The causes of impotence mentioned include: premature ejaculation, hypospadias, microphallus, congenital as well as acquired erectile weakness subsequent to diseases of the degenerative organs and fevers. Remedies for curing impotence and aphrodisiacs for improving potency are described. The author warns against coitus after a heavy bout of drinking. He advises avoiding greasy liquids as in the long run this may result in a diminution of the erectile strength. Psychogenic impotence is also detailed and loss of erection immediately before intromission is described. This, the author attributes to various factors including, an exaggerated respect for the woman, misplaced bashfulness, unpleasant odour, or finally owing to feeling of jealousy inspired by the reflection that the woman is no longer a virgin and has served the pleasures of other men. The author says that the frequency of the sexual act coitus should be subject to a man's need and must not be regulated by the excessive demands

of the female partner since this may result in impotence (Burton, 1886). These observations made over a century back are consistent with our present day knowledge.

Allen Edwardes (1959) in his book "Jewel in the Lotus," describes in detail the sexual practices of the orient. The Hindus popularly believed that circumcision diminished or destroyed penile sensitivity and produced impotence. In India a treatment for psychological impotence was provocation of an illusionary state by taking drinks prepared from hemp (*Bhang*) or sap of thorn-apple seed (*Datura*). The resultant dreams were said to make men potent who had psychologically lost their manhood. Some masochistic Brahmins provoked bee stings to their penises before engaging in copulation for the purpose of increasing penile turgidity prior to sexual intercourse.

Aphrodisiacs were popular in India. Cowage, a hairy pod, was known for its aphrodisiac effects. When rubbed upon the penile skin, it provoked a prurient itch accompanied by swelling and throbbing. There were also aphrodisiac pills and applications, causing turgidity of the penile shaft and swelling of the glans penis; rubber penile bracelets; artificial phalli of rubber, ribbed horn, gold, and silver; and artificial feminine pudenda. Hairy insects and strange varieties of plants were used for similar purposes. Frequently these aphrodisiacs proved toxic and in some individuals a furious priapism was induced, which at times proved fatal. Cures for priapism were also available but mostly the result was permanent loss of virility.

The author also describes a Persian sect called Aly-Ilahee, who considered procreation sinful and wilfully destroyed their virility so that they may not revert to women and have an issue. This they did by either a ritual excessive masturbation resulting in obliteration of sexual desire or by cultivating hypersensibility

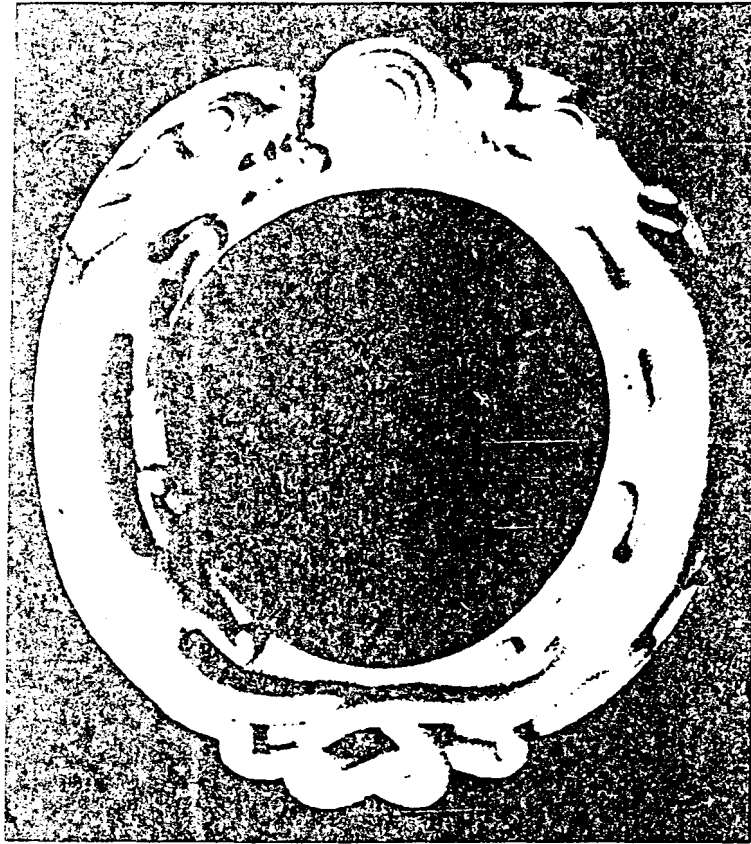
preventing penetration. A method for producing reflexogenic erection through stimulation of the pudendal nerves was employed by some Persians. This they did by introducing an anointed wooden phallus sprinkled with fine pepper and ground nettles into the anus.

The impending decline of virility with age weighted heavily on the mind of Arab men. An impotent old man was held contemptible and to admit to impotence was to open oneself to derision. Cures were eagerly sought. The Sudanese concocted a love potion by crushing the scarab beetle and compounding the mash with liquid hashish. This was used for conserving, heightening or even reviving the sexual powers. Some Arab medical books expounded that deflowering a virgin will cure impotence (Edwardes, 1959). The medical formulary of Al Kinda, an Arabian text probably dating around 600-700 A.D., provides a remedy for impotence based on anointing the phallus with jasmine and asafetida oils (Herman, 1969).

A book entitled "*Lei Chêng Phu Chi Pên Shih Fang* (Classified Fundamental Prescriptions of Universal Benefit)" printed in A.D. 1132, attributed to the eminent Chinese physician, Hsü Shu-Wei who flourished in 1132, recommended the use of animal testes for restoring sexual debility (Read and Yü-Thien, 1931). Another Chinese technique for combating impotence was the application of Monks red to the glans penis (Johnson, 1968).

As mentioned earlier, the ancient Chinese had recognised the androgenic properties of urine. Chu Chen-Hêng in his book *Pên Tshao Ten I Pu I* (Revision and Amplification of the General Ideas of the Pharmacopoeia), written in about 1350 A.D. says: "All such cases of *yin hsü* (impotence, sexual debility...), which no medicine will benefit will take a turn for the better if urine is administered" (Read and Yü-Thien, 1931). From the eleventh century onwards the Chinese

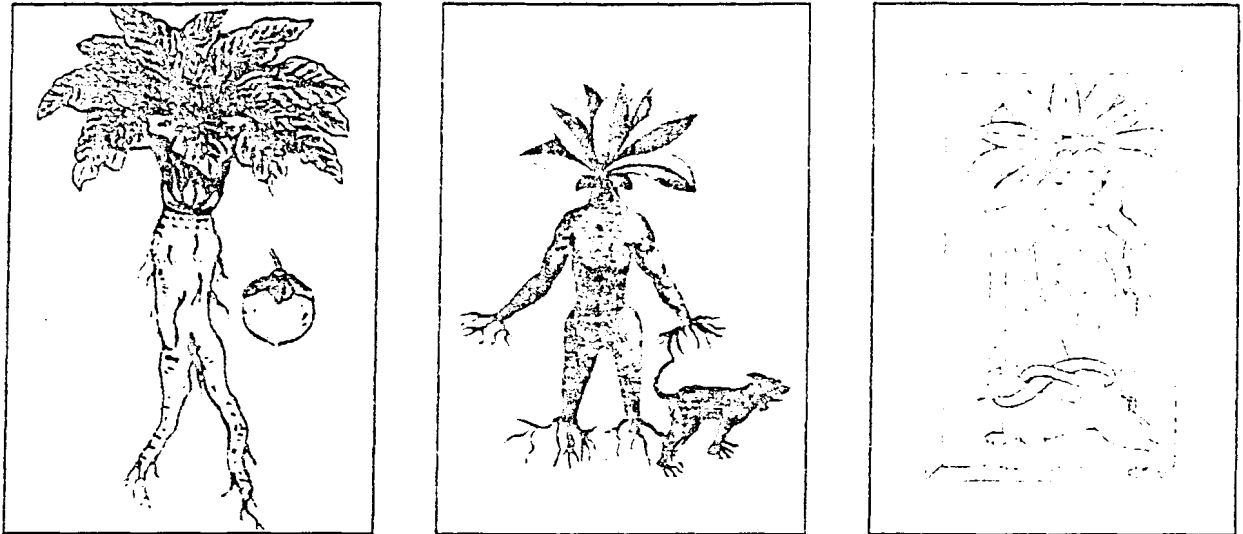
chemists and physicians were earnestly looking in urine for substances of androgenic properties. They had recognized its connection with the blood, and even in medieval times, they successfully managed to produce quasi-empirical preparations of active androgenic substances through fairly sophisticated methods, which involved evaporation, sublimation and saponification (Gwei-Djen and Needham, 1964).



**FIGURE 1.4.** *A penile ring that was fitted round the base of the erected member. It is made of ivory, and decorated in front with a pair of dragons, carved in relief. Their tongues are twined together so as to form a protruding spiral forming a symbol of sun or magic potency. The ring was kept in place by a silk band passing through the hole between the dragon's tails and fastened round the waist of the wearer (van Gulik, 1951).*

A Ming treatise *Tz'û-chin-kuang-yüeh-ta-hsien-hsiu-chên-yen-i* (Explanation of the Meaning of the Cultivation of Truth, by the Great Immortal of the Purple-gold

Splendour) composed by the author Têng Hsi-hsien, describes complicated massages for improving erections and recommends tying of silk bands boiled in medicine (aphrodisiac) around penile base for prolonging erections (van Gulik, 1961). Rings made of jade or ivory were frequently worn around the penile base to prolong erection (Figure 1.4).



**FIGURE 1.5.** *Mandragora* or *Mandrake*, as represented in the early herbals, showing the fancied resemblance of the plant to human figure.

Parts of plants or animals, which bear a resemblance to the male organ have long been believed to have aphrodisiacal powers when suitably prepared, e.g., powdered rhinoceros horns, testicle-like bulbs of sea-holly and the onion (held in great repute by the Greek). In medieval times the mandrake root (*Atrapa mandragura*), which resembled the human figure (Figure 1.5) was considered to have aphrodisiac properties. The first mention of the aphrodisiac properties of the plant has been found in Middle English writing in connection with the lack of sexual desire of elephants: "...they are so cold-natured that they have no thought of lasciviousness till they make use of a plant called mandrake" (Hall, 1920). The plant was considered to cure impotence and was also worn around the waist as

a talisman to ward against impotence (Randolf, 1905). Deadly nightshade (*Atropa belladonna*) and thorn apple (*Datura stramonium*) were the other members of the nightshade plants, which were recommended. Diet was regarded as particularly important: raw eggs and cheese were believed to stimulate sexual desire. William of Saliceto, a thirteenth century physician recommended fattening foods for impotence due to bodily weakness and hot foods for impotence caused by "cold sperms and poor ejaculation" (Lemay, 1982).

Impotence has long been recognised by the Christian Church as a valid reason for the annulment of marriage. In 1234, Pope Gregory IX (1170-1241) caused to be prepared the *Nova Compilatio Decretalium*, which was printed in Mainz in 1473. The Decretals required a proof of congress in the presence of witnesses. Guy de Chauliac (1300-1368), the most eminent surgeon of the middle ages, describes in *Chirurgia Magna* (1363), the famous book on surgery, the practice of "proof of congress." The physician after medically examining the parties, appointed a Matron in whose presence intercourse was to take place in the light of a fire of vine branches (ancient fertility symbols) (Brittain, 1964). Guy de Chauliac cites an "evil cold complexion" (i.e. constitution or temperament) as one of the causes of impotence in men: "Lechery, indeed is prevented in men because of an evil cold constitution which prevents standing or stretching (i.e. penile erection), and because of an evil constitution which results from rheum and renders useless the penis and the testicles" (Ogden, 1971).

The infliction of impotence was believed to be one of the objects of witchcraft, especially in the middle ages. The medieval Catholic theologians accepted the idea of ligature (impotence produced by sorcery). Women become witches: these charges were set forth in 1484 by the Pope (Innocent VIII). Jacob Sprenger (1436-1495) and Heinrich Kramer (1430-1505) of Germany published their infamous

*Malleus Maleficarum* (Witches' Hammer), the Inquisition's textbook on how to find, torture and dispose of witches. The book discusses in length the various ways by which the devil produces impotence in men. However, it does concede that in certain cases the impotence is due either to natural defects or coldness of nature (Kramer and Sprenger, 1971).

The state of ligature was also recognised as a valid ground for dissolution of marriage outside the Roman Catholic Church. Belief in witchcraft was prevalent in Britain and King James I (1566-1625) in 1594 wrote a treatise called "Demonologie" on the subject. When the Countess of Essex attempted to divorce her husband on grounds of impotence due to witchcraft and was refused divorce by a Commission appointed to investigate the case, the King believing the Countess's story, intervened and granted her the divorce (Willson, 1956). Don Carlos II, the last of the line of the Spanish Hapsburg family, whose failure to give Spain an heir provoked the War of Spanish succession, was married twice but failed to provide an heir. His impotence was ascribed to witchcraft and in spite of several exorcisms his impotence persisted till his death (Nada, 1962).

### 1.3 THE EARLY MODERN ERA (1500-1800)

The importance of psychogenic factors in impotence was recognised as early as 1580, by Michel de Montaigne (1533-1592). In his famous "Essays," he describes the acute onset of impotence in a previously potent male on hearing of this condition in another man (Montaigne, 1580). However, belief in witchcraft as a cause for impotence remained popular. The 17th century book on sexuality called *Geneanthropeia*, written by Giovanni Sinibaldi, professor of medicine at Rome,





described: "Impotence arises from defects of the system, the seed of the penis - or, of course, from being bewitched, or wanting the desired object too much." Aphrodisiacs were advised: "...the best being: rest, boredom, sleep, red meat and women" (Sinibaldi, 1658).

A modification of Sinibaldi's book *La Generation de l'Homme, ou Tableau de l'Amour Conjugal* by Salcocini (Figure 1.6.B) was published in 1686 whose real author was Nicholas Venette, Dean of Faculty at La Rochelle. Impotence was ascribed to sexual excess: "the dangers of excess now precede the advantages of moderate use, and include consumption, desiccation of the brain and impotence" (Comfort, 1967).

In the East, the practice of masturbation was accepted, and even cultivated as a natural method designed to preserve intersexual chastity. Although now most of the contemporary authorities on sex agree that masturbation during youth acquaints the individual with his natural sexual feelings and actually contributes to a more responsible and satisfactory sex life in adulthood. Yet, in the West, it was regarded as a harmful practice and was considered a major cause of insanity, disease and impotence. The medical profession was mostly to blame for this sexual miseducation.

Perhaps the most influential force in forging a reappraisal of sexual activity in the eighteenth century was the respected hygienist and physician, Simon-André Tissot (1728-97) of Lausanne. In his classic work, *L'Onanisme* (Tissot, 1769), he specially blamed onanism as a major cause of impotence: "Perpetually exhausted, the masturbator is liable to develop melancholy, fits, blindness, catalepsy, impotence.." The book spread far in translation and as Pope's adviser on control of epidemics and author of an important book on public health his word carried

weight. The period of lassitude following orgasm had been noted throughout history, and in Tissot's mind this indicated the drain on the body system. Making Tissot's concepts more acceptable was the confusion of some of the effects of third stage of syphilis with an overactive sex life. The third stage of syphilis was not recognized as being due to syphilis until the last half of the nineteenth century and so tabes dorsalis, memory loss, impotence, tremors, heart disease, skin lesions, and other aspects we now know are associated with third stage syphilis were simply equated with too much sexual activity. Thus masturbation, then called Onanism, was established as an extremely undesirable practice in the West and various methods were developed and advocated to control the natural urge.

Others readily took up the cause. Ebenezer Sibly, M.D., F.R.H.S., botanist, astrologer and quack, in his *Medical Mirror* (c. 1770) (Figure 1.6.A), describes a youth who had lost his power of erection, which he ascribed to onanism. He reported improvement with his "Solar Tincture," a medicine, which he prescribed for various ailments of the male (Comfort, 1967).

Cures for impotence were much in demand. Cantharides (*Litta vesicatoria*), a species of coleoptera, popularly called Spanish Fly, has been since ancient times the most widely known aphrodisiac, was popular. Its active principal, cantharadin, irritates the genitourinary tract leading to erection in the male. Another plant called Damiana (*Turnera diffusa*), long used by the Indians of northern Mexico as an aphrodisiac (Martinez, 1969) also found its way into Europe and was recommended for impotence. Less well known cures were the plant alkaloids Yohimbine from West Africa and Muiracitin of Brazilian origin (Henriques, 1965). Certain foods were thought to promote sexual feelings. These included fresh eggs, lobsters, leguminous plants, French beans, oysters, caviare, celery, asparagus and exotic heavily spiced dishes (Hutchinson, 1911).

Some employed pseudo-science. Dr James Graham of Edinburgh, an eighteenth century quack, in 1780 opened an establishment in London called the "Temple of Health," which advertised 'Grand Celestial State Beds.' These beds were recommended for impotence, since the magnetism in these beds was supposed to awaken the dormant generative powers of the individual (Haller Jr. and Haller, 1991).

Onanist-spotting remained a popular medical and pedagogical practice. Weise, in his *De Signis manustuprationis certioribus* (1792) writes: 'The abominable practice causes not only gonorrhoea but stranguries, priapisms, impotence, blindness, and of course, damnation.' (Comfort, 1967).

John Hunter (1728-1793), the renowned surgeon and the founder of Surgical Anatomy, however, chose to differ with his contemporaries, evoking a vicious response from his professional rivals. In his "Treatise on the Venereal Disease" (1786), he writes on impotence: 'This complaint is by many laid to the charge of Onanism at an early age; but how far this is just will be in many cases difficult to determine; for upon a strict review of this subject, it appears to men to be far too rare to originate from a practice so general." Hunter believed that impotence was usually due to anxiety, and could be greatly aggravated by a single failure; masturbation did no more harm than coitus (Comfort, 1967).

Thus in the eighteenth and well into the nineteenth century, not only medicine failed to advance in this field but there was a process of actively forgetting matters, which Hunter, for example, had clearly understood.

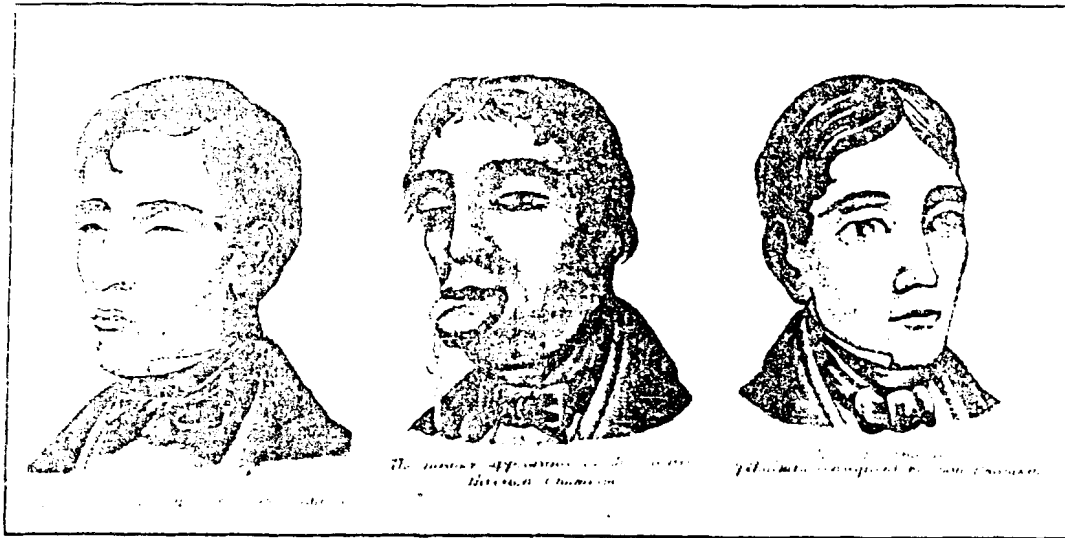


FIGURE 1.7. Illustrations from *"The Silent Friend"* by R & L Perry and Co. (1853) showing the effects of masturbation. From left to right: "the general appearance of the features through Onanism, the meagre appearance of the features through Onanism, and Spermatorrhoeal Ophthalmia."

#### 1.4 RECENT HISTORY (1800-1990)

Masturbational anxiety continued into the nineteenth century. Benjamin Rush (1746-1813), in the first American textbook of psychiatry, *"Medical Inquiries and Observations upon the Diseases of the Mind"* (1812) ascribed "seminal weakness, impotence, dysury, tabes dorsalis, etc." to this activity (Rush, 1962). Onanists were described with meagre jaws, pale looks, feeble legs and weakened generative organs. Such features are shown in an illustration from an 1853 book, *The Silent Friend* (Figure 1.7).

Various methods were advocated to control masturbation including strenuous physical exercise, cold baths, tying of the boys hands when sleeping or wearing of strait jackets, chastity belts and extreme measures like infibulation (putting a

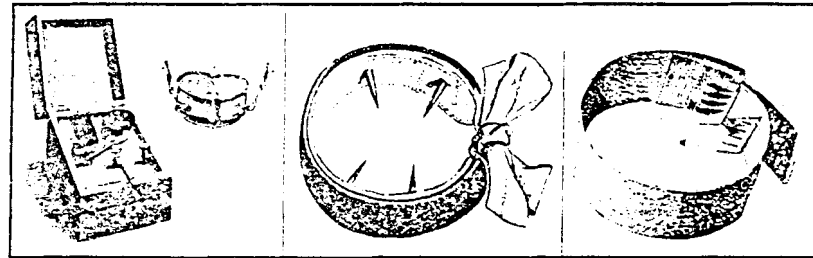
wasting disease of spermatorrhoea ultimately ending in impotence (Acton, 1857).

Sir James Paget (1814-1899) in his "Clinical Lectures and Essays" stated that masturbation does no more harm than sexual intercourse and that most cases of impotence were psychological (Paget, 1875). Samuel W Gross in his "Practical Treatise on Sterility, and Allied Disorders of the Male Sexual Organs" also dared to challenge the belief that masturbation was harmful (Gross, 1881).

The views of Paget and Gross were contrary to the popular sentiment and were drowned by the contemporary medical opinion. There were many variations to the theme. A venereologist, F W Lowndes of Liverpool Lock Hospital, in 1883, attributed sexual hypochondriasis to: 'previous excessive intercourse or self-abuse' (Lowndes, 1883). J H Kellogg who authored many books on the disease of masturbation had a repulsion to sexual relations and his marriage forever remained unconsummated. Married in 1897, he spent the time on his honeymoon writing "Plain Facts for Old and Young, a warning against the dangers and evils of sex" (Kellogg, 1888). Impotence continued to be widely considered a penalty for excessive masturbatory exercise in youth (Vecki, 1901a & 1920; Robinson, 1933). The discovery of hormones provided ammunition to the conservationist's theories warning against wastage of vital fluids in boyhood (Dickerson, 1930).

The anti-masturbation methods and the measures adopted to control spermatorrhoea exemplified the nineteenth century "medical terrorism." There were a multitude of treatments for spermatorrhoea. Mild cases were treated with exercise, sedatives, quinine, ergot, bromide of potassium, chalybeate waters, squills, digitalis, strychnia with iron, belladonna, cimicifuga and cannabis indica (Milton, 1854). For moderately severe cases doctors prescribed opium, application of hemlock poultices to the loins, injections of tepid water into the rectum and

nightly purging. Nocturnal anti-erection devices ranged from electric alarms, which were triggered on penile erection to spiked or toothed penile rings, which pierced the skin on erection (Figure 1.9). Severe cases merited urethral cauterization, injections of silver nitrate in urethra, and even suction cups to the perineum to draw blood after the region was blistered with cantharides (Gascoyen, 1872; Haller Jr., 1973). Metal, rubber and porcelain "eggs" were popular in 1860s and 1870s. These were placed in the rectum and were designed to apply pressure on the prostate gland to redirect emission by forcing the semen backwards into the bladder (Lankford, 1871).



**FIGURE 1.9.** *Anti-erection devices used for the treatment of spermatorrhoea illustrated in J C Milton's "Pathology and treatment of Spermatorrhoea" (1887). From left to right: an electric alarm to ward nocturnal emissions, a four pointed penile ring and a toothed penile ring.*

As if spermatorrhoea was not enough. The nineteenth century physicians, next developed the theory of "Neuraesthesia" or nervous prostration, which supposedly resulted from a loss of body's "natural electricity." One type of neuraesthesia, supposedly resulting from the nervous exhaustion of sex organs was labelled "sexual neuraesthesia." The American "electrotherapist," George M Beard, wrote several books on the subject from 1871 to 1905. Because of the relationship of electrical energy to the theory of sexual neuraesthesia, electrical gadgetry was employed to aid the sexually neurasthenic person. Practitioners applied both





solutions. Their diets, nostrums and appliances generally staggered the imagination. Physicians employed stomachics, aromatics, odoriferous gums, balsams, resins, essential and volatile oils and perfumes (particularly musk). Drugs included gold chloride, arsenic, platinum chloride, phosphorus, arsenious acid, cocaine, phosphide of zinc, hypodermic injections of ergot, strychnine, damiana, saw-palmetto, nux vomica, agnus castus, caladium, capsicum, china, conium, digitalis, gelsemium, picric acid, platina, stramonium, sulfur, and zincum. In addition, doctors prescribed circumcision and local electrotherapy (Caldwell, 1879). Cantharides remained the sheet-anchor of the nostrum trade, especially in France and Italy. Ants were popular as a remedy for impotence in France and Germany. Koumiss, a fermented liquor made from mare's or camel's milk was an expensive aphrodisiac of Russia. Tonics containing a mixture of alcohol and strychnine to restore sexual powers were common (Haller Jr. and Haller, 1991).

Special dietary instructions for the sexually impotent were provided. Physicians recommended saffron, mustard, cinnamon, sage, carrot, turnips, marjoram, nutmeg, cardamom, arrowroot, laure, leek, ginger, onions, cloves, peppers, parsnips, celery, fennel, vanilla, oysters, fish, game and pork as aphrodisiac foods (Vecki, 1901b).

Gradually psychogenic and organic factors were also taken into consideration. Copland's Medical Dictionary (1858) describes different kinds of impotence: (1) organic due to hypogonadism, (2) functional as a result of excessive or premature sexual indulgence, masturbation, and smoking, (3) moral or mental impotence due to psychological causes such as fear of incapacity, of not being loved, timidity, shame disgust, hatred, jealousy, suspense, terror etc., and (4) constitutional impotence inherited genetically. Gross (1887) described the so-called "atonic" impotence, which he ascribed to a constant irritation by inflammatory lesions in

the posterior urethra resulting in the exhaustion of the genito-spinal centre. Erectile impotence was also considered to be the penalty for excessive sexual exercise in youth (Veckel, 1901a). Bloch (1908) attributed "neurasthenic impotence" to masturbation, gonorrhoea and excessive venery.

The dawn of the current century, saw the birth of the modern concept of sexuality, in the light of psychoanalysis. Psychoanalysis was a product as well as an initiator of social and cultural change. Scientists of international repute such as Ellis, Freud, Stekel, Adler, Janet and others pioneered the field of sexual science. Their efforts directed the attention of the modern civilization towards a better understanding of the dynamics of the sexual impulse.

Richard von Krafft-Ebing (1840-1902) in his *Psychopathia Sexualis* introduced the concept of disease etiology as being hereditary, degenerative or due to physical nervous system (Krafft-Ebing, 1894). Havelock Ellis (1859-1939) and Magnus Hirschfeld (1868-1935) in their studies in the *Psychology of Sex*, further advanced the study of sexuality and its disorders (Ellis, 1933; Hirschfeld, 1920).

Freud, his contemporaries, and the other investigators following them, perpetuated various psychodynamic theories of impotence. Sexual dysfunction was basically viewed as an outcome of deep seated personality conflicts generated early in the individual's psychosexual development. Sigmund Freud (1856-1939), the founder of psychoanalysis, attributed impotence to unresolved Oedipus strivings. Basically, it implied that the patient's intense sexual attachment to his mother in childhood leads to guilt and castration-anxiety due to an unconscious fear of punishment by the father, which may result in impotence (Freud, 1963). Ferenczi (1913) considered impotence to result from fear of castration on account of incestuous sexual desires. Alfred Adler (1870-1939), a pupil of Freud described the inferi-

ority complex (Adler, 1912). He disagreed with Freud that sexual conflicts in early childhood cause mental illness and attributed sexual inadequacy to a constant subconscious effort to assert and attain superiority, so that the bodily resources were overtaxed to compensate for the latent inferiority. Pierre Janet (1859-1947), professor at the College de France, through his studies of the sexual factor in hysteric patients concluded that sexual inadequacy in the neurotics was a symptom rather than a cause (Janet, 1920). Wilhelm Stekel (1868-1941), a contemporary of Freud, in his exhaustive work, 'Impotence in the Male' considered impotence to be a widespread disorder characteristic of the modern age not confined to one nationality or culture (Stekel, 1927). Both Adler and Stekel favoured Janet's view of sexual inadequacy as a symptom rather than a cause of neurosis.

Sigmund Freud brought sexuality and its study into the limelight; and by default, due to medical professional disinterest, the diagnosis and therapy of sexual problems ranging from impotence to homosexuality became the responsibility of psychiatrists and psychoanalysts. This resulted in many of the sex problems being subsumed into the general category of a psychiatric illness. However, not surprisingly, the psychoanalyst theories by and large proved inadequate as they were based on untested and unproven assumptions and predated the modern knowledge of sexual physiology and pathology.

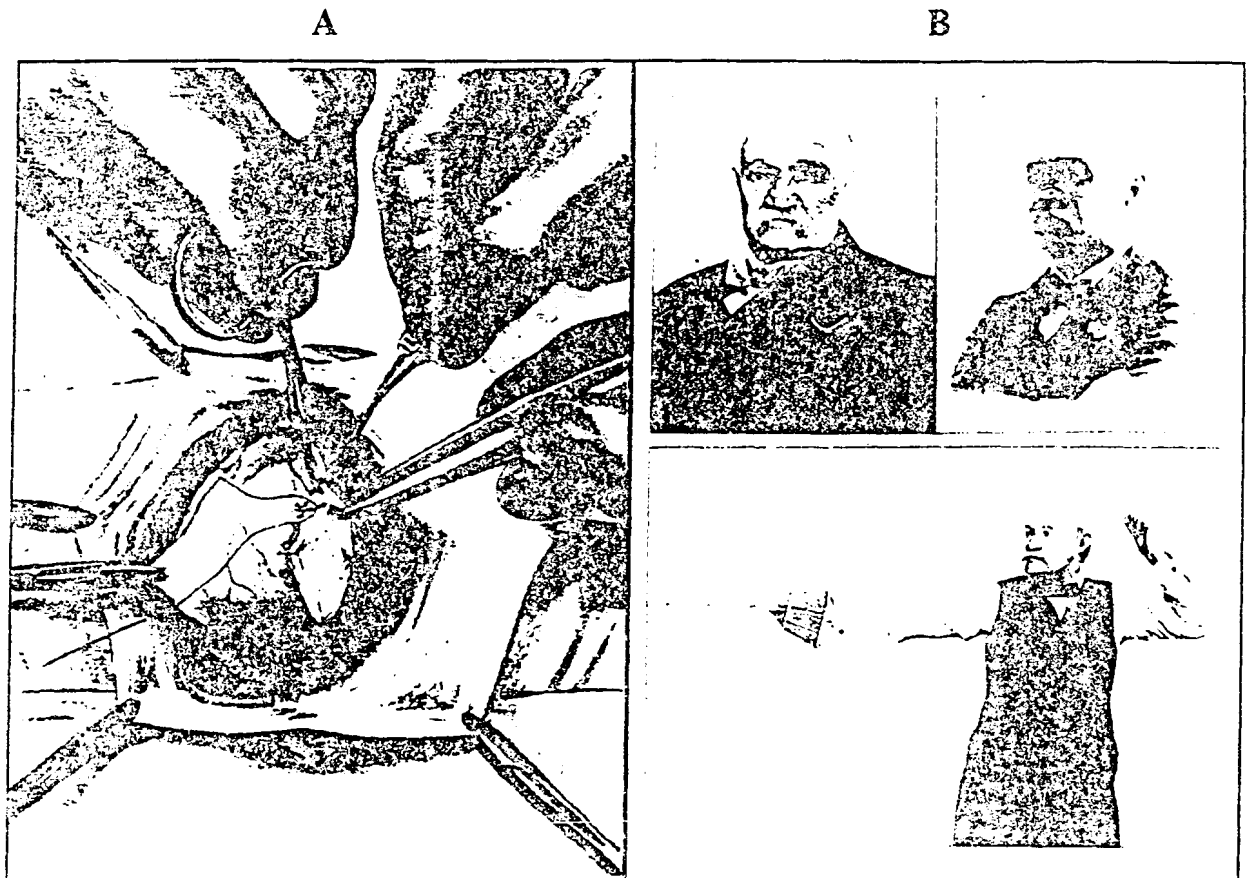
The search for other causes continued. Some blamed impotence on verumontanitis and advocated prostatic massage or application of silver nitrate to the verumontanum (Orlowski 1907; Koll 1918). Ligation of the vas deferens to promote a back-flow of internal secretions in order to erotically stimulate the central nervous system was also recommended (Schmidt, 1924). The Museum of Questionable Medical Devices in Minneapolis, exhibits a 1918 vintage device

called the Electric Thermitis Dilator. This foot long electrical device was inserted into the rectum. When plugged on, it would heat up and according to its literature stimulate "the so called abdominal brain" - otherwise known as the prostate gland. With enough treatments, the device promised to restore the user's sex drive.

The connection between the testes and libido was recognised since quite ancient times by disparate cultures, probably through their observations of the effects of castration. Mesue the Elder (777?-857) had advised the use of testicular extracts for impotence. Theophile de Bordeu, in 1775, suggested that a specific substance was formed by the testes and passed into the circulation (Singer and Underwood, 1962). In 1869, Charles Édouard Brown-Séquard (1817-1894) suggested that the injection of semen into the blood of old men would stimulate their mental and physical powers. Six years later, he carried out testicular grafts in guinea-pigs, and in 1889 he attempted self-rejuvenation by injecting into himself testicular juice and blood from the spermatic vein (Haire, 1924).

In 1920, Eugene Steinach (1861-1944) of Vienna, introduced the operation of ligature of the vas deferens for rejuvenation (Ballenger *et al.*, 1933). The transplantation of animal organs into humans for the treatment of impotence occupied a great deal of scientific literature from 1910 to 1930. Serge Voronoff (1866-1951), a Russian immigrant surgeon in Paris, achieved great fame and notoriety from his glandular transplants (see Figure 1.11). A fallacious belief in the ape's enormous sexual stamina prompted him to treat ageing men with testicular grafts from monkeys for restoring their waning potency (Haire, 1924). In 1926, Voronoff's book "The Study of Old Age and My Method of Rejuvenation," which was published in Great Britain, was even praised by the British Medical Journal (Alexander, 1987). In 1931, the hormone androsterone was isolated in its crystalline form by Adolf Friedrich Johann Butenandt of Berlin,

and in 1935. Fritz Oscar Loquer (1888-1954) isolated testosterone from the testes (Singer and Underwood, 1962). Hormonal treatment now became widely established as a panacea for impotence and was indiscriminately prescribed, often unnecessarily.



**FIGURE 1.11.** (A) Serge Voronoff's technique of testicular grafting: quarter of an animal testis is sutured by the tunica albuginea on the edge of a vertical incision into the tunica vaginalis. (B) Illustration of the rejuvenating effect of testicular grafting on a retired Indian army officer: top left - the patient pre-operatively looking tired and old, top right and below - the patient after the operation looking vigorous and youthful (Voronoff, 1930).

Following the discovery of radioactivity by the Curies in 1898, a school of practitioners instituted the so-called "mild radium therapy," which involved the oral and parenteral administration of radium and its daughter isotopes for

treatment of a wide variety of disorders including sexual debility and impotence. One such nostrum called "Radiothor," containing about 74 kBq of radium was marketed worldwide between 1925 and 1930 (See Figure 1.12). Its inventor, William J A Bailey, who in 1918 was fined for promoting an aphrodisiac pill containing strychnine as its active ingredient (Cramp, 1921), advocated that radium cured sexual weakness, impotency and decreased libido (Bailey, 1926). This drug was finally banned when a well known millionaire industrialist Eben M Byers died of iatrogenic radium poisoning in 1932 due to excessive ingestion of this drug (Macklis, 1990).



*FIGURE 1.12. Original Radiothor sample bottles probably manufactured between 1927 and 1929 (Macklis, 1990).*

An inherited weakness of sexual drive was mostly blamed for the disorder, but other biological and psychological factors were increasingly implicated. Stekel (1927) discussed the relationship between sexual deviation and disorders of heterosexual potency. Reynell (1931) ascribed impotence to sexual deviation, marital disharmony, neurasthenia due to masturbation and coitus interruptus, anxiety and depression, toxæmia, obesity and urethral congestion. Havelock Ellis

(1933) recruited further psychological factors including latent homosexuality, mother fixation, infantilism and poor social adaptation.

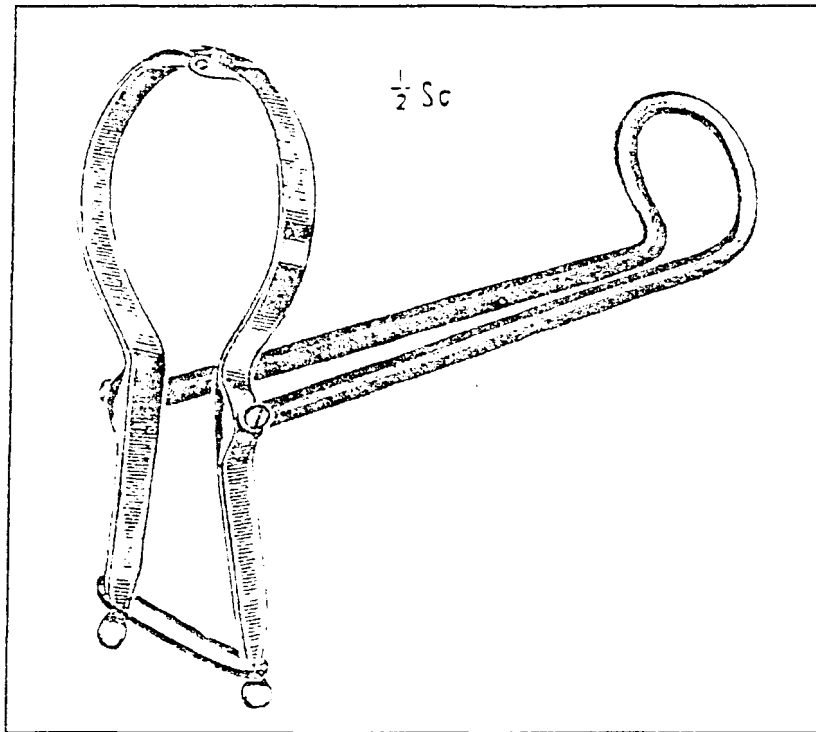


FIGURE 1.13. Lowenstein's "External Penile Splint" (Lowenstein, 1947).

Ballenger *et al.* (1936) discarding the psychic factor as a cause of impotence stressed that the posterior urethra was to blame. Cautery was performed for the correction of assumed pathology in the posterior urethra (Robinson, 1933b), testicular diathermy and galvanic stimulation of perineal muscles was recommended and even operations for tightening the supposedly lax perineal muscles causing impotence were devised (Lowsley, 1936). Loewenstein (1947) invented an "External Penile Splint" allowing intromission of a non-rigid penis (Figure 1.13).

Persecution seemed to have been the fate of anyone who dared to venture into the scientific study of sexual pathology. The pioneer investigators were universally criticised because their work was considered too revealing and clashed with the prevailing ideas. However, gradually, opposition to these new ideas began to abate. Impotence as a consequence of sexual frigidity in the wife (Bergler 1944, Eliasberg, 1944) and a waning of sexual drive in sensitive males due to unaesthetic physical appearance of the wife (Wolbarst, 1947) was described.

The work of Alfred Charles Kinsey and his colleagues represented a watershed in sexual research. In 1948, they pioneered the study of sexual behaviour by publishing the statistical study, "The Sexual Behaviour in the Human Male." According to Kinsey impotence in males under the age of 55 was almost always psychogenic, except in a few cases where mechanical injury to the genitalia or their nerve supply, was the cause. He further stated that impotence in old age was almost always psychogenic (Kinsey, 1948)

It was a common belief in the 1950s and 1960s that greater than 90 percent of impotence was psychogenic in origin (Simpson, 1950; Strauss, 1950). Smith's textbook of "General Urology" in 1966 concluded that almost all impotence was psychogenic (Smith, 1966). At the end of the 1960s the dominant treatment for sexual dysfunction was psychoanalytically oriented psychotherapy. Psychoanalytic therapy for sexual problems has, however, produced only weak evidence as to its effectiveness (Cooper, 1971).

During the 1970s interest in the erectile physiology and pathology developed in medical centres throughout the world. William H Masters and Virginia Johnson integrated the physiology of human sexual activity. They emphasised the role of "performance anxiety" in both the etiology and maintenance of the problem. The



publication of Masters and Johnson's *Human Sexual Inadequacy* (1970) brought a better understanding of the nature of erectile dysfunction. They also developed ways to bring effective help to men suffering from impotence and premature ejaculation and popularized sex therapy for psychogenic impotence.

Early surgical treatments for erectile impotence were reported at the turn of the century. Ligation of the deep dorsal vein of the penis which led to an improvement in erections was first reported by Wooten in 1902 (Wooten, 1902) and in 1923, Leriche first noted the association between insufficient aortoiliac inflow and erectile impotence (Leriche, 1923). The first reported attempts at reconstructing the penis for the purpose of providing rigidity for intercourse were made by Bogoras (1936) and by Frumkin (1944), when they created an os penis by implanting resected rib into the dorsal aspect of the penis.

Despite these early successes, significant progress in the diagnosis and treatment of impotence remained elusive until lately. In 1972, Michal and associates successfully treated arterial occlusive-induced organic impotence with a distal penile revascularization procedure (Michal *et al.*, 1973; Michal and Pospichal, 1978). Placement of acrylic penile splints was reported by Scardino (1950) and Goodwin and Scott (1952); Beheri, in 1960, used paired polyethylene rods (Beheri, 1960); Pearman was the first to use silicone (Pearman, 1967); in 1973, Scott and associates introduced the inflatable penile prosthesis (Scott *et al.*, 1973).

The 1980s brought a better understanding of the mechanisms involved in erection through the availability of sophisticated methods of patient assessment. Nerve stimulation and pharmacological techniques were employed to produce erections in animals and humans in the laboratory; these techniques enabled us to evaluate the erectile phenomenon objectively. Nocturnal penile tumescence testing became

the *sine qua non* for the differentiation between psychogenic and organic impotence, and screening for hypogonadism was instituted through radioimmunoassays for serum testosterone and serum prolactin. The relationship between diabetes and impotence was recognised. Noninvasive vascular tests and internal pudendal angiography helped define the entity of vasculogenic impotence. Sacral reflex latency was developed to define neurogenic causes. These advances have enabled the present day physician to evaluate and classify impotence scientifically and institute rational treatment.

The recent upsurge of interest in this field has brought in its wake the development of new methods and techniques for research and this has contributed significantly towards furthering our knowledge in this hitherto medically neglected discipline. Many new facets of the erectile pathophysiology have been investigated and elaborated. An increasing number of abnormalities associated with impotence have been discovered, leaving about 1/4th of cases primarily psychogenic in origin.

#### 1.4 CONCLUDING REMARKS

For centuries impotence remained a rich field for superstition and quackery. The scientific investigation of erectile dysfunction suffered from the collective disinterest of the medical profession due to the prevalent moral and social taboos. However, it must be appreciated that the ancient people and older civilizations had recognised many facets of erectile dysfunction and had in many instances attempted to devise effective remedies and cures. The psychogenic facet was well recognised by the past cultures. The important relationship between the testes and waning erectile capabilities was established, penile rings and tourniquets helped

combat venous leakage and modern day drugs such as Yohimbine have been employed since long in the treatment of erectile disorders.

*"A look at the past will show that the philosophies of one age become the absurdities of the next, and the foolishness of yesterday becomes the wisdom of tomorrow."*

*(Sir William Osler, 1849-1919)*