Caduceus

A Publication of the Medical Division of the American Translators Association

Spring 2006

CONTENT: Part One

Spring 2006

Caduceus is a quarterly publication of the Medical Division of the American translators Association, a non-profit organization dedicated to promoting the recognition of translating and interpreting as professions.

- The lead article is a trip into the world of medical and forensic anthropology led by the discovery of the Egyptian adolescent King Tutankhamen's tomb, the most spectacular chambers ever found in the Valley of the Kings. The medical aspects described are the result of a donation of state-of-the-art scanning equipment by The National Geographic Society and the Siemens Corporation, Ltd. to the Egyptian Council of Antiquities.
- Ailish Maher introduces us to Web Corp, a new and ingenious way for a translator to use the World Wide Web.
- Leon McMorrow, in this issue of Clinical Rounds, looks at some current translation aids, discoveries and inquiries.
- Esther Diaz, President of AATIA and Board Member of the NCIHC rounds up our understanding of what is needed to get started as a medical interpreter.
- Zarita Araujo and Vonessa Phillips explain the pros and cons of consecutive vs. simultaneous medical interpretation during a triadic encounter. This probably needs a counterpoint. Anybody interested?
- Maria Rosdolski describes a curriculum for online education of German to English medical translations at NYU.
- Elena Sgarbossa provides an interesting view into the world of homophonic neologisms and portmanteaus in her Pitfalls and Caveats column
- Gilberto Lacchia continues to bring us his column dedicated to resources in the field of translation.
- An interesting full sized medical crossword puzzle by member Claudia Cohen - Rey is a first in Caduceus.

Instructions to Authors

Submissions for publications must be sent electronically in Word format. The deadline for submissions for the Summer issue of Caduceus is 15 June 2006.

Caduceus carefully reviews its content in order to eliminate any textual errors. Nevertheless, we apologize for any errors in grammar, punctuation, typography and the like which may inadvertently appear on our pages.

Tutankhamen Medical Aspects

Shape of the Skull / Cleft Palate
Klippel-Feil Anomaly / Scoliosis
Impacted Wisdom Tooth / Fractures
Forensics

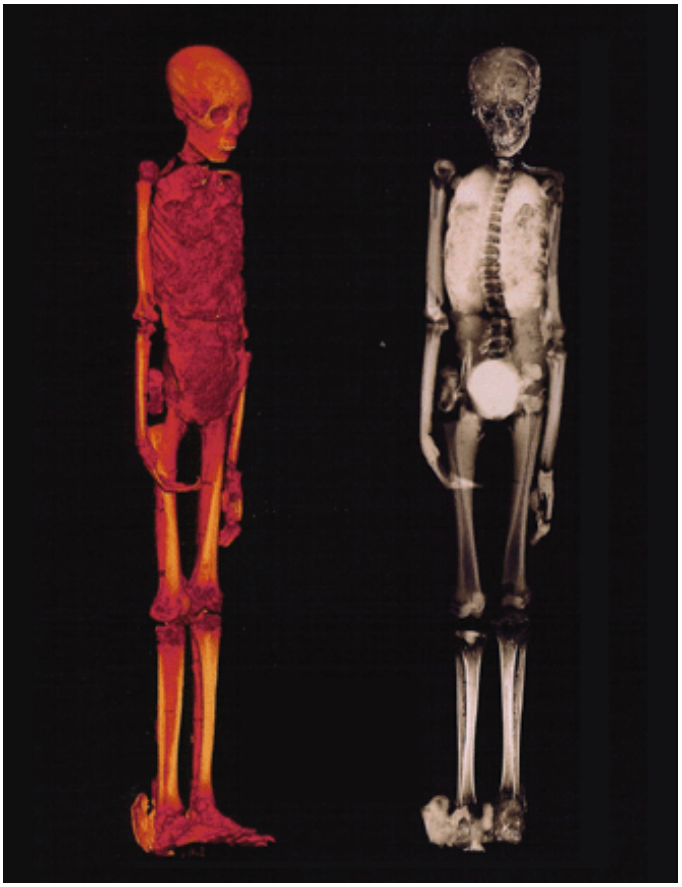
By Rafael Rivera, M.D.

The discovery of the almost intact tomb of King Tut ~ ankh ~ amun in 1922 raised to prominence a little known figure of the 18th Egyptian dynasty. Very few tombs in the Valley of the Kings, the traditional burial site for pharaohs, remained intact when discovered. Grave robbing and looting of burial sites and pyramids was the rule. The sarcophagus (see below) remained closed for a year while British archeologist Howard Carter, the discoverer, and the Egyptian government settled their differences.

When the huge sarcophagus of Tutankhamen was opened in 1925, the mummy was found resting in the innermost of three nested coffins. The body had been anointed with massive amounts of unguent and mummification resin that crusted the mummy to the coffin. It was covered with delicate silver wrappings, flower arrangements and jewelry. The body had to be carefully detached and dismembered in order to be removed from the coffin and carefully reassembled in a sand tray for transportation and future study. It wasn't until 1968 - 46 years after discovery - that the mummy was examined for the second time by a team from the University of Liverpool. With great difficulty a small, portable conventional x-rays machine was brought into the burial chamber to take the first radiographs of the mummy's skeleton.

In 1978 the sarcophagus was reopened by an American team and studied in far greater detail. The National Geographic Society and Siemens, Ltd., the well-known manufacturer of scientific equipment, donated to the Egyptian Supreme Council of Antiquities a state-of-the-art scanning equipment. It was not until January 5, 2005 - 83 years after it's original discovery (see below) - that the mummy was CT- scanned.

Dr. Zahi Hawass, Head of the Egyptian Supreme Council of Antiquities, left, helps prepare the mummy for its historic CT scan.



Full body scanning of Tutankhamen as it lay on the sandbox tray. The curvature of the spine due to positional artifact is noted. The sternum and anterior portions of ribs were missing. This area was possibly removed by discoverer Carter's team to retrieve the overlying pectoral and the beads.

A closer view at the mummy resting in a sand box where it was reassembled after dismemberment necessary to remove it from the coffin.

The massive coffin lid is replaced after scanning.

Skull deformity known as dolichocephaly caused by premature closure of the sagittal cranial suture. In King Tut's case it was probably an anthropomorphic variant.

In this article we will examine the medical data gathered so far, particularly the latest information obtained from x-rays and CT scanning of his remains.

The most immediately striking feature of Tutamkhamen's mummy is his elongated head. This particular deformity is known as dolichocephaly or scaphocephaly, caused by the premature closure of the sagittal cranial suture. It is one of several possible deformities of the head depending on which cranial suture closes prematurely, thus forcing the cranial contents to grow in a different direction. Careful CT scanning over the last 2 years did not confirm a premature closure of the sagittal suture allowing the experts to discard a pathological reason and instead focus on a normal anthropological variant, some of which are clearly depicted in ancient Amarma art of the times (see below)

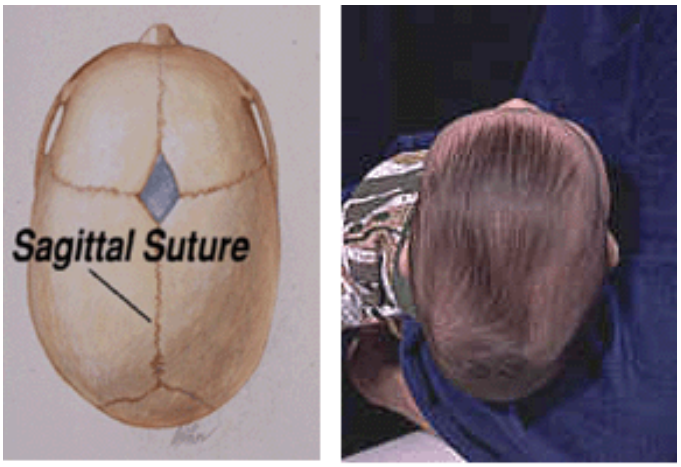


Illustration of the cranium and its sutures pointing to the sagittal suture which gives rise to the posterior elongation of the skull when it closes prematurely. The head of a child with dolichocephaly is shown above.

Dolichocepahy ..
from the Greek.. "dolichos" meaning long and "kephale" meaning "head.

Tutankhamen had a clearly demonstrated fusion of the upper cervical vertebrae, a condition known as Klippel-Feil Syndrome (See Fig 1). This rare disorder is characterized by congenital fusion of any 2 of the 7 cervical vertebrae, which may impair movement of the head and neck. The two fetuses of his young children found next to his tomb also had the Klippel-Feil abnormality.

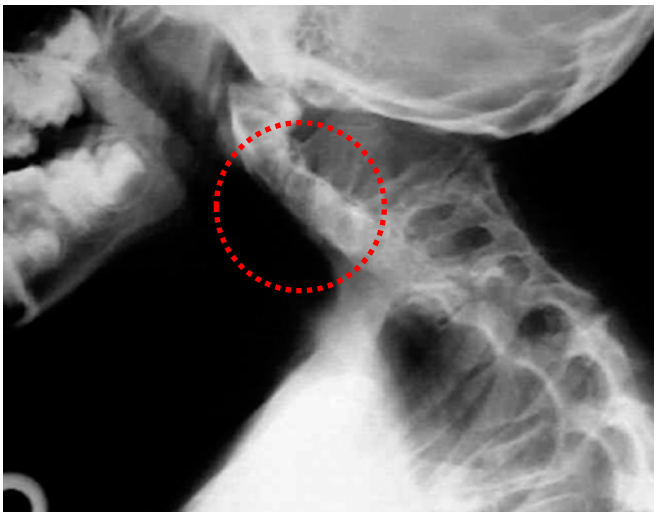
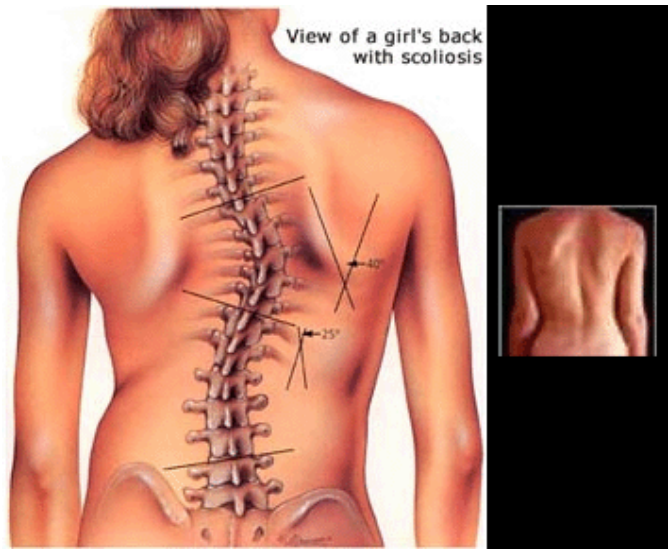


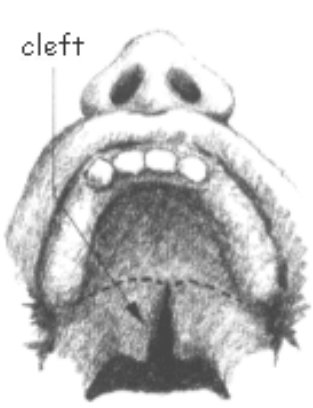
Fig 1 - Tutankhamen's cervical spine film showing the fusion of the first two cervical vertebrae.

Klippel-Feil is often associated with an abnormal curvature of the spine - scoliosis - which King Tut was also suspected of having based on conventional x-rays. This was not confirmed on CT scanning.

For illustration purposes the figure of a true scoliotic spinal curvature is shown below.



The degree of a scoliotic curve is measured in angles as shown on the illustrations.



A small cleft palate is shown

Fig 2
Impacted wisdom tooth can be seen in back lower row.

A complete suprachondylar fracture of the femur is clearly visible. This is as yet unexplained but assumed to have happened during the movement of the fragile mummy out of tomb into a sandbox for transportation and x-rays.

What were the physical characteristics of this Egyptian young man?

He was 5'6" tall and using modern milestones his age is pegged at 18-19 years. This is primarily based on examination of his epiphysis - the growth areas of long bones - and the incompletely erupted wisdom teeth, one of which was impacted (see Fig 2). The overall health of the King was good, as can be judged from the characteristics of his bones. There were no signs of malnutrition or chronic diseases. His teeth were in excellent condition although his left upper wisdom tooth was impacted. He had large front incisor teeth and his lower row was slightly misaligned.

The King also had a slight cleft palate. It is the opinion of experts that this was small, not clinically significant and not likely to be associated with a companion cleft lip.

Forensic anthropology - the re-creation of a face from a skull.

Whenever skeletonized remains are discovered it is a forensic anthropologist who will determine the age, sex, race and other characteristics of the body. In Tut's case some 1700 digital cross-sectional images captured the mummy from head to toe. Forensic artists and physical anthropologists from Egypt, France and the US joined in.

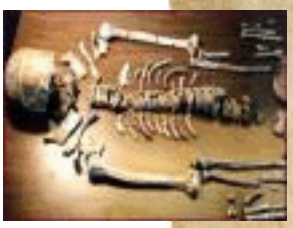
CT scanning of face for facial reconstruction

Here's the evolving facial reconstruction of Tutakhamen. A darker circle on the back was though to represent a blow to the head in an attempted murder. This is now believed to have been caused by trauma from embalmers and the handling by the original discovery team.

In addition to the scanning and scientific surveys, two wooden sculptures created during Tut's lifetime were referred to. All these combined sources allowed the fleshing out of details such as eyebrow thickness, nose, lip shape and size of ears.

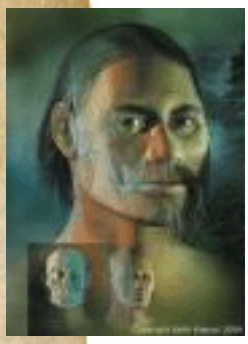
References

1.Brier, B. The Murder of Tutankhamen, Berkley Books, NY
2.Zahi Hawass. Tutakhamen and the Golden Age of the Pharaohs. National Geographic, Washington, DC
3.Several internet sites

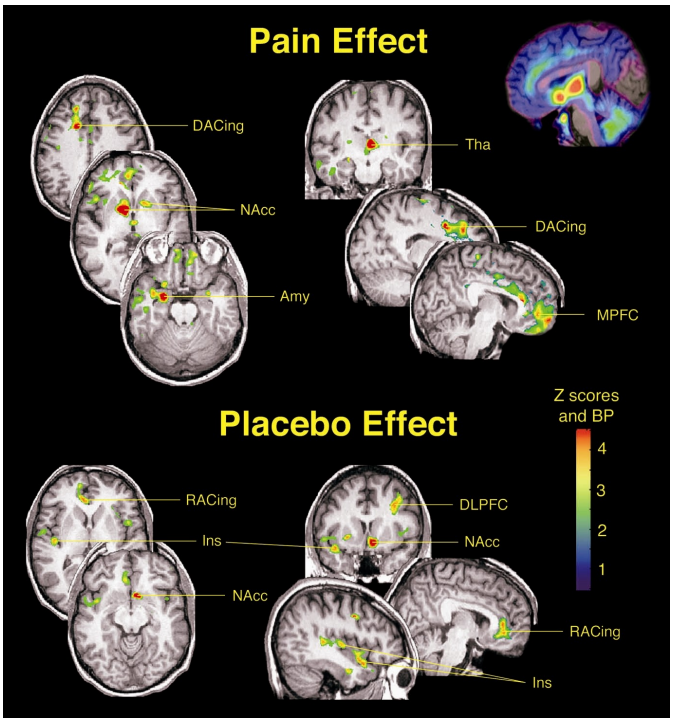


The Kennewick Man

Another example of the remarkable reconstructions of forensic anthropology is the face of one of the best preserved remains ever found in US soil - the Kennewick man, accidentally found in 1996 along the banks of the Columbia River in Kennewick, Washington. Dated as 8400 years old this discovery has created new theories about the arrival of people to the Americas. Anthropologists have noted features traditionally called “Caucasoid” shared by populations of Asia and the Pacific. The Kennewick man has raised several avenues of discussion currently debated by the scientific community. What is not debated is the accuracy of the forensic anthropological reconstruction.



A little bit of everything



Brain scans and placebo.

In a recent study researchers injected a salt solution into the jaws of 14 men to produce pain. Each was given a placebo - an injection said to be an experimental pain medication. In nine of the men the pain subsided. PET scans turned up differences in brain activity. Those who reported pain relief after taking the placebo showed increased activity in parts of the brain associating with modulating pain. A radioactive tracer also revealed that binding occurred at receptors for naturally occurring pain-fighting endorphins.

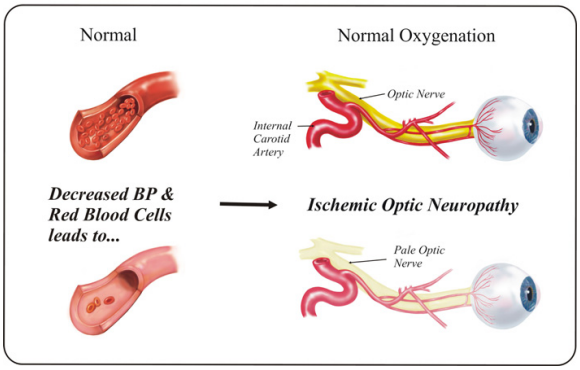
"If somebody believes something will work, that positive expectation by itself, through different connections in the brain, activates mechanisms that suppress pain. A linear relationship between how people reported pain and how the brain released opioids was seen." In actual drug trials researchers want to minimize placebo effects, so you can see what the actual drug is doing. The difficulty, of course, is that all possible expectations must be eliminated if a true "pharmaceutical" effect is to be seen.

Too much sex can make you blind.

Fifty cases of ischemic optic neuropathy (ION), usually resulting in irreversible unilateral blindness, in men using the drugs Viagra, Cialis or Levitra for erectile dysfunction (ED) had been received by the US Food and Drug Administration by March 2005. The companies downplayed the adverse effect indicating that an underlying cardiovascular disease was at play as the risk factor, not the drugs. To test this, investigators compared the rate of reports of optic neuropathy per million prescriptions filled in those using ED drugs, with the rate of ION in those using Lipitor - both groups presumably having an increased CV risk.

For Viagra there were 18 times more reports of ION per million prescriptions than for Lipitor, for Cialis 25 times more reports. Thus, it is very likely that that these drugs for ED can cause blindness in some people

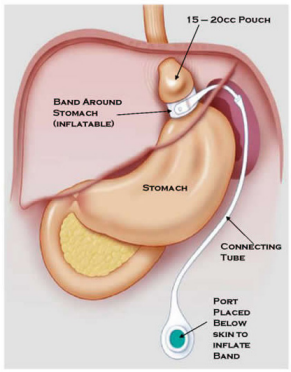
Ischemic Optic Neuropathy

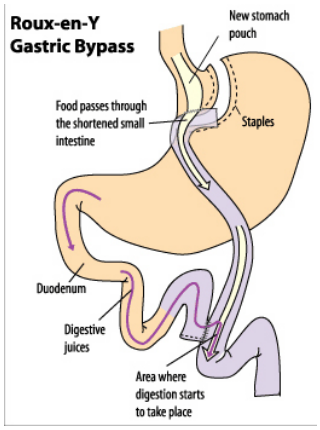


Advances in bariatric surgery for obesity

Excessively obese individuals are resorting to surgical methods in increasing numbers. These approaches are of two kinds. Plastic surgical methods that include the actual physical removal of accumulated fat through liposuction or the removal of overhanging fat pads with the overlying skin attached to it. Bariatric surgery, as it is called, alters the anatomical disposition of the digestive tract aiming to control the amount of food

COI LAPAROSCOPIC ADJUSTABLE GASTRIC BAND





The laparoscopic adjustable gastric band -- Lap - Band ®, the latest advance, encircles the upper portion of the stomach creating a small pouch. The procedure restricts how much the stomach can hold. The doctor can inflate or deflate the band in order to allow more or less food into the pouch. This adjustment is made by adding or removing fluid inside the encircling band. There is no cutting or stapling that would permit delivery of measured amounts of food via the connecting tube.

In a gastric bypass the upper stomach is partially closed creating a small pouch with staples. A disconnected end of the small intestine is reattached to the gastric pouch. Food passes through the shortened small bowel past where the original disconnection took place bypassing the rest of the stomach, duodenum and the early portions of the jejunum. Digestive juices from gallbladder, pancreas and upper small bowel can still run down and meet whatever is eaten past the new intestinal connection

The eyes have it. (Continuation of the past issue)

Professionals and technicians who work in the various ocular fields.

• **Ophthalmologist** - a doctor of medicine who specializes in the field of ophthalmology - eye diseases and surgery.

• **Oculist** - an obsolete term for an ophthalmologist.

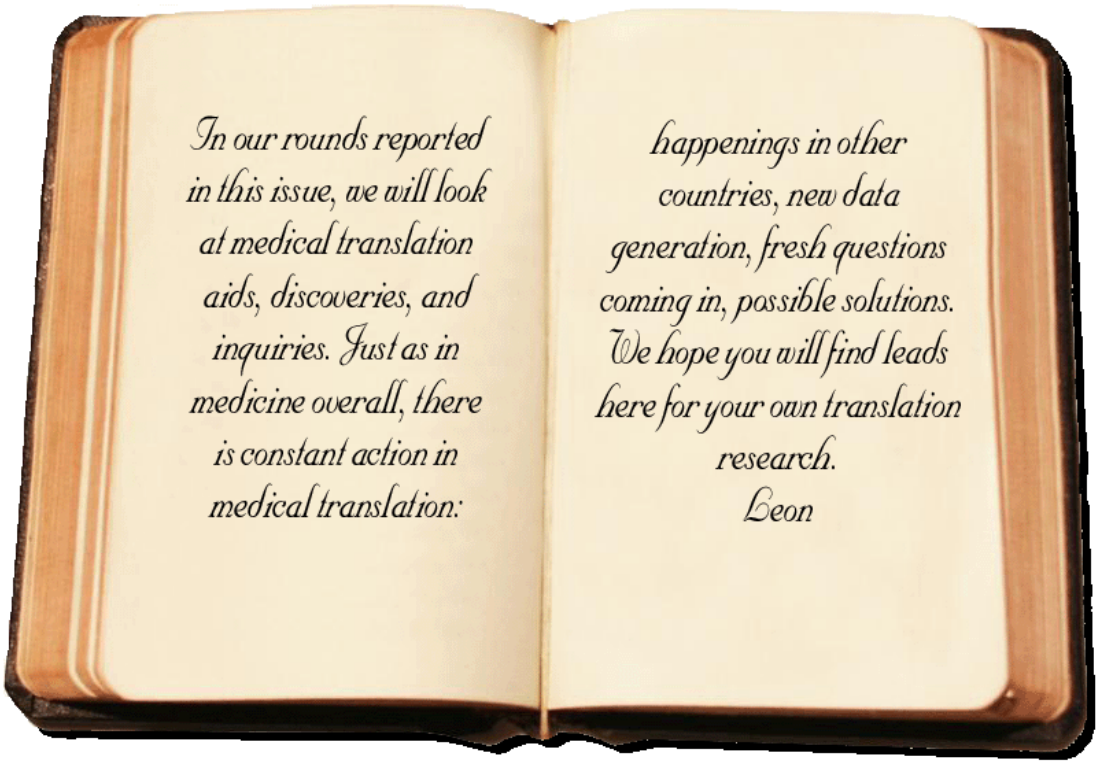
• **Optometrist** - a doctor of optometry (not a physician) who performs eye exams, recognize visual defects, prescribe glasses and fits contact lenses.

• **Optician** - an expert in the art and science of making and fitting eyeglasses.

• **Ophthalmic dispenser** - one skilled in the fabrication, fitting, adjusting of ophthalmic lenses and frames.

• **Ocularist** - an eye specialist who designs, makes and fits ocular prosthesis.

By Leon McMorrow..



Bone Substitutes: *Allogenic* **and** *Alloplastic* **Bone Materials**

We have long been familiar with the use of the prefix *allo-* to indicate something derived from, oriented to, or affecting the local system from outside, whether benign or noxious. Terms such as allograft, allobiosis, allopathy are well-established. Within this field we also find the terms *allogenic*, *alloplasty*, *alloplastic*, and also two terms that we will see used more and more commonly: *alloplast* and *allograft*.

An alloplast is an artificial, inert, biocompatible material used for implantation. This is a rich area for medical corporate "miners." Companies are exploiting the often dizzying pace of development of new compounds with properties supporting their successful use in replacing lost or diseased bone and dental hard tissue. How do they work? After all, bone too is living tissue. One writer aptly suggests: "the advantage of implant materials may be in their efficiency in filling the defect through incorporation of the material into the healing site and rapidly bridging the wound" (Mah et al. *European Journal of Orthodontics*, 2004 26(5):475-482). In other words, the implant provides a scaffold for the local bone to work with.

An alternative strategy adopted by many orthopedic surgeons (especially in spinal fusion) is to go halfway between autografts (autogenous grafts) and alloplastic implants. They use allogenic bone substitutes. One abbreviation that often occurs in orthopedics today is *DBM* = [human] demineralized bone matrix. Demineralized bone matrix products are alternatives or supplements to autografting. Most of the minerals are extracted from natural bone, leaving collagen and non-collagenous proteins behind. Stabilizers, preservatives, etc. are added and the product is marketed usually in the form of a paste or a gel. This is injected into cavities or around autografts to give better contact with the vital tissue. Since growth factors are retained in the DBM, osseoinduction or bone growth is often rapid.

The FDA has tried to regulate this area by defining what is *natural* here and what is *artificial*. You may wish to visit their website at www.fda.gov/oc/combination/bone.html.

A range of new terms relating to bone and tissue substitutes is emerging. Some are familiar to us already, such as dimethylsiloxane (silicone rubber) and polytetrafluoroethylene (PTFE) now commonly listed under the brand name Gore-Tex (a microporous polymer of PFTE), and polymethyl methacrylate (PMMA) resin (a bone cement). Newer terms include guided tissue regeneration (GTR), guided bone regeneration (GBR), hard tissue replacement (HTR), hydroxyapatite, calcium sulphate pellets (for implantation), osteoinduction/osteoinductive, osteoconduction/ osteoconductive, osseointegration. A useful English glossary is found (surprisingly!) at www.swissbiomat.ch/glossary101b.htm.

Do ut Des

(Latin for "I give – you give": Here are suggested translation for some terms not found easily (if at all) in dictionaries or on the Web, and as recompense I invite your solutions to puzzles I have not adequately solved.

1. I give: ***Durchdrückpackung*** **(Ger.) = blister pack** (drug administration)
   You give: ***Excipiens pro compresso obducto*** **(Latin/Italian; context: drugs)** = English?

2. I give: ***DIMDI*** **= Deutsches Institut für Medizinische Dokumentation und Information (German medical information service)**
   You give: ***organifizieren*** **(German, endocrinology)** = English? [what does it mean?]

3. I give: *SUSAR*: **suspected unexpected serious adverse reaction [also plural –** *SUSARs*]
   You give: *E/A Verhältnis* **(Ger.)** = English? [Integral der E-Welle zu Integral der A-Welle (Echokardiographie)?]

4. I give: *EMEA*: **European Medicine Evaluation Agency / "European Medicines Agency" (their website), and**
   MHRA: **Medicines and Healthcare products Regulatory Agency (UK), previously called the Medicines Control Agency (MCA)**
   You give: Abbreviations/Names for medical products regulatory agencies in France and/or Spain? Optional: any Latin-American countries you are sure about.

5. I give: ***trocoscopio*** **(Ital.) = rotating radiology table**
   You give: *test strumentale* (general physical examination) = English?

6. I give: ***Durchgangsarzt*** **or** ***D.-arzt*** **(Ger.) = workers compensation physician**
   You give: *Chefarzt/Oberarzt* = U.S. English? or British English? (they are different!) [suggestions: Chairman/Senior physician]

Curiosity

The American Translators Association website (atanet.org) provides an excellent source for clients and agencies to locate a medical translator or interpreter (I have been contacted numberless times since this resource was provided; congratulations ATA!). Some other translation-related Web sites now also provide translator/interpreter locator services, which is all to the good.

Several of these sites, including the ATA site, provide the self-reported "field expertise" of translators. In developing this strategy, they use the category "general medicine" as a catch-all term alongside more specialized subcategories (the ATA site offers 13 specialties under medicine, including dentistry and veterinary). But what does "General Medicine" mean? What is it useful for?

Under the *Medicine (general)* heading in the ATA translator list, we find 278 entries for French, and 624 for Spanish. A similar situation exists for *Law (general)*. If I were a client or agency looking for a medical translator, I think I would be daunted by the number of choices. I would immediately look

for a better match for my particular job, and go to the specialties. On the other hand, some agencies who do not specialize in medical translation will most likely not be able to recognize the field in the source language, since their PMs (project managers) are often hired not as translation specialists but for their desktop publishing expertise. (One agency put me on alert last year to expect a medical article for translation from an "Italian" newspaper. It arrived: the article was from "El Mundo" in Spain. You can guess the reaction when I called them back.).

Here is my " inquiring mind" question – if you are a medical translator, why do you list yourself under *Medicine (general)*? Surely you know that to be a translator of "medicine in general" you will have to have far more *extensive* knowledge of medicine than if you picked a specialty. Take terminology, the translator's ballpark: a general medical dictionary is at least 4-5 times larger than any specialty dictionary, unless the latter is full of "filler" material. "Internal Medicine" is the most challenging specialty of all the 53 medical specialties for its required range of knowledge, and will probably soon expire from overload. My problem as a translator is trying to keep up with a small number of specialties, both for mental and financial reasons! Why would 624 Spanish>English translators called themselves "generalists"? I hope it is not because there is a subtext or subliminal message saying "we will get the easy stuff, not the hard." The only easy stuff in medical documentation is "patient literature" or "medical journalism". Would it not be better if the ATA simply divided "medicine" into two parts: "Patient Literature" and "Scientific Documentation" and then subdivide the latter into 13 subcategories? It would make the field a lot more practical and transparent. The same applies to Law. Nowadays all sciences have their "public" or "user" segment, people who need a good but more journalistic statement of scientific situations and solutions. My source is the New York Times "Science and Health" supplement each Tuesday, which is "quasi-scientific" in register. The Wall Street Journal also has similar material on a regular basis. ATA certification exams usually strike this level also. Perhaps we need to adjust our terminology slightly in thinking about advertising ourselves. Forget the "generalist" category and be a master of something – it is far less stressful, and more rewarding in every way.

Archaic medical terms

Does anybody have an idea about what these diseases were or are in modern medical terms?

- Miner's diseases
- St Anthony's fire
- Perleche
- Blackbain
- Strawberry tongue
- Fire measles
- Floating kidney
- Trench back
- White plague
- Colliquative diarrhea
- Prosector's wart

Write to bukrak@bellsouth.net

Plan early

ATA Annual Conference
New Orleans, Louisiana
November 2-5, 2006

Medical Division Conference
Cleveland, Ohio
May31-June 3, 2007

Homophonic neologisms and portmanteaus

By Elena Sgarbossa

Linguists who work with the spoken word (e.g., translators and editors of recorded material and interpreters) are keenly aware that while some groups of words in the source language sound alike, they have different meanings. The "homophone pitfall" can usually be avoided by paying due attention to context. This is how linguists make decisions when confronted with term possibilities such as *waist* vs *waste*, *they're* vs *their* vs *there*, *waive* vs *wave*, and so on.

Over the past years, several new English homophones have arisen. These neologisms need to be recognized as such to prevent mistranslations. Here are some of them.

Brane. A homophone of *brain*, the neologism *brane* derives from "membrane". Within the field of extragalactic astronomy, branes are conceived by "M-theory" as objects of spatial dimensionality "*p*". M-theory equations propose the existence of P-branes, which are membrane-like structures of one to 11 dimensions. A p-brane has p spatial dimensions: a one-brane is a string, a two-brane is a flat surface or membrane, and a three-brane has volume (i.e., three extended dimensions). Branes, thus, are multidimensional objects similar to our four-dimensional universe that move or float in a higher-dimensional space (of 11 dimensions). This multidimensional space in turn is called the "bulk". Branes contain universes, including our own. According to M-theory our visible, four-dimensional universe would be restricted to a brane within a "bulk".

So if you hear expressions that sound like "brain dimensions" or "a physicist's brain" (particularly if allusions to the word "membrane" are also included), consider that the noun at play may be not brain, but *brane*.

Phishing and **pharming**. If you are a regular Internet user, by now you are probably familiar with the terms *phishing* and *pharming*. The spelling *ph* itself (to replace *f*) in this context was introduced years ago, apparently because of the need to name an early form of hacking: *phreaking*. The term *phreaking* is a portmanteau (i.e., a word combination) of "phone" and "freak." Phreaking is the illicit use of a switchboard or electronic telephone network so that the places free calls or re-directs the calls (and charges them) to an unauthorized account. The *ph* spelling was then adopted to name the techniques for Internet fraud.

Phishing is a method used to "fish" for private information. It consists of sending electronic communications (e-mail or instant messaging) aimed to acquire sensitive information such as passwords and credit card data. "Phishers" pose as trustworthy companies or entities by sending unaware users carefully worded messages and by providing return e-mail addresses that resemble those of the real entities. Phishing is used for both spamming and identity theft.

The activity that engendered phising first appeared in the 1990s. It consisted of creating accounts on AOL with bogus, algorithmically generated credit card numbers. These accounts could last a long time. When this fraud was eventually detected

and halted by AOL in 1995, the perpetrators subsequently resorted to "fishing" for legitimate AOL accounts; hence, phishing was born (circa 1996).

As users have become increasingly aware of phishing, "phishing expeditions" are currently being conducted mainly by viruses. They generate pop-up messages requesting private information or copy entire address books that are later used by phishers to target other victims.

The most recent cyberswindle is *pharming*. Pharming is a form of Internet domain spoofing that exploits the software vulnerabilities of the DNS (Domain Name System). The DNS is the system that "translates" domain names (i.e., URL's) into their IP addresses (i.e., 4 groups of numbers separated by dots). This is called "name resolution". The DNS is indeed a worldwide network of directories that store the IP address of each domain name. If one DNS server cannot resolve a particular domain name, it asks another server; the process continues until the correct IP address is returned. The domain resolution requirement is a weak link in the Internet's infrastructure. By cracking into the DNS, "pharmers" can hijack a site. They acquire the site's domain name and then redirect that website's traffic to another website. The bogus sites look the same as the genuine sites. What users see in their browsers is the URL they typed. Yet when they enter their login names and passwords, their information is submitted -without their knowledge- to pharmers. Pharmers can also send out email viruses to compromise individual machines and rewrite local host files.

With phishing scams, con artists lure Internet users into compromising their personal data -one at a time. With pharming, entire "schools" of victims can be allured at once. This is why it has been said that "phishing is to pharming what a guy with a rod and a reel is to a Russian trawler".

But the neologism *pharming* is not only a homophone of *farming*; it is also a homograph of the biotech term ***pharming***. In Life Sciences, *pharming* is a portmanteau of "pharmaceutical" and "farming". It refers to a method of producing medically active substances from transgenic plants or animals. Transgenic beings contain genes that were transferred from another organism. Transgenic animals can produce, for example, human proteins in their milk which can be used as medicines. Different animals express different compounds, including some that are used to treat hemophilia, emphysema, and diabetes.

According to the World Wide Words site, the term pharming may have originated in the name of the company Gene Pharming Europe (now Pharming Health Care Products), which bred a transgenic bull in 1990. The derived term *pharm* is also used, for example in terms such as "pharm products".

Being aware of neologisms in our source languages is the first step toward recognizing them and sorting them out from their sound-alike homophones. As for rendering each neologism into your target language, we will leave that to you!

Internet sources: World Wide Words, Wikipedia, others.

"8, 4, 2"!

"Who's been fooling around with these x-rays?"