HEART PATIENT quarterly

Vol. 4, No. 2, Jul, Aug, Sep 2009

A Near-Fact Story

The Nurse Assisted Showers
by Homer B. Tilton

I had a heart monitor in the breast pocket of my hospital gown. It was attached electrically to a bevy of electrodes—five I think—that were stuck to my chest. A nurse removed the monitor and the leads to the electrodes. I then moved to the bathroom for my shower.

Then, on the occasion of this first nurse-assisted shower, in the shower stall Nurse Molly grabbed the front of my gown and abruptly pulled it off me throwing it into a corner of the bathroom. We were both standing, facing each other. All of me was in clear view: I had been shaved two or three days earlier by the nurse who catheterized me then. That catheter was now gone, having been removed by Carmen at the time of my original sponge bath as reported in the previous issue of HPq.

Molly told me to sit on the chair that was there in the large shower stall which I did. She then covered the large bandages at my right shoulder and left groin with sheets of plastic as protection against the spray that would be coming from the shower. She also covered the IV port which was still sticking out of my right arm inside at the elbow joint; that would remain in my arm for the entire ten days of my stay but would never be used after that.

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She sprayed my chest with water and pulled off the electrodes that were stuck there, one by one.

I noticed a cord hanging from the shower pipe and supposed that was the nurse call bell. The nurse pointed out the cord and said, "That's the call bell. Pull that if you need help any time."

When all was ready for my shower, Molly left the bathroom and my wife, who had been standing there all that time, took over.

On the second shower a few days later, nurse Ruth had me sit then gingerly rolled my gown down into my lap in preparation to covering my bandages. I told her she could remove it entirely saying, "I won't attack you" which she then did. I felt I was now really getting into the swing of things! ...Except that here I was, in the shower with two babes, and the only one naked was me. Beam me up, Scottie; this planet is strange!

After each shower I was given a clean hospital gown, a clean pair of slipper sox, I was put to bed and the heart monitor was again hooked up.

I was on solid food now. One nurse was at the left side of my bed having just brought my evening meal with her.

Then another nurse came in and announced, "Time for your medication. There's a plethora of pills."

I responded, "A plethora? As opposed to a paucity? What about a myriad? Do you know how many pills a myriad would be?"

"Here. I can get the Internet on the portable computer I brought with me." After trying to find the definition of myriad for a time, she announced: "I can't find it but I'll continue looking for it." Then she left.

Later she came back in and said, "I found it! One meaning given for myriad is ten thousand."

Each morning, early, the man-woman team of Floppsie and Mopsie wheeled in a portable X-ray machine and took a picture of my chest. The film plate was hard and cold every morning. Then one morning Floppsie, the man, announced that they had warmed up the film plate. What a kidder! This was all going on at TMC. At a later hospital visit at St. Joseph's, they did that too, but the plate really had a comfortable temperature. ...MPq
God is an Engineer

Homer B. Tilton

This makes twice within a period of less than a year that I've seen a reference like that. The first time was in the Harvard Heart Letter for October 2008 on page 4 in the section titled "Valve failure":

"Each squeeze of the heart pumps blood in four diections. It's an efficient piece of engineering made possible by four strategically placed valves. Each valve is made of tough but flexible flaps known as leaflets. They act like swinging doors that open and close with each heartbeat to create a one-way flow of blood through the heart and the body."

Okay, now for the second time: It appeared in a 2009 Special Report received in May on Macular Degeneration and other Diseases of The Aging Eye: Diagnosis & Treatments from the Cleveland Clinic and the Cole Eye Institute. On page 9 in the section titled "Anatomy of the Eye":

"The human eye is an amazingly complex bit of bioengineering that can focus light and create moving pictures far more efficiently than any camera known to man. It also works with the brain to process and interpret those images more efficiently than any digital imaging system yet invented. It's a space saver too: the entire eye is a ball only an inch wide, about the size of a walnut [and they come in pairs!]

...underline emphasis added to both quotations.

Today's cameras using CCD's (charge-coupled devices) have sensitivity pretty much on a par with the eye but not everyone knows that.

Of course God, I thought, is an engineer; but He is much more than that. He is the repository of all that we still do not know. Or maybe it's just that medical types think of "engineering" as a thing in its own right, devoid of any connection with someone called an engineer. I, as a retired engineer, do not think of it that way.

Engineers are thusly challenged to excel with examples like these showing what is possible using the materials and tools we are given in This Universe. ...HPq
Once a heart patient, always a heart patient.

See more commentary on human vision as described in the 2009 report from the Cleveland Clinic and the Cole Eye Institute below. Read "Mail Matters: Human color vision."

MAIL MATTERS

Human color vision

Today, 15 May 2009, we received a report from the Cleveland Clinic written in collaboration with the Cole Eye Institute.* It is an informative report titled Macular Degeneration and other Diseases of The Aging Eye: Diagnosis & Treatments. The report also contains an "explanation in detail how the eye works" (p.3). Your editor turned immediately to that part to see if this segment of the scientific community had caught up yet with the developments of the 20th century or if it's reporting 19th-century theory as is still common today.

It is little recognized even today that Hermann von Helmholtz in the mid-19th century showed that Young's trichromatic theory cannot explain the large gamut of colors that the human eye actually senses. Sure enough the Cole Eye Institute, according to subject report, is still supporting a disproven theory. (The reach and power of the Royal Society of London is indeed far-ranging. Thomas Young was/is one of their darlings.) Circa 1980 when I was developing my ideas, one scientist accused me in the letters column of one journal of only attempting to besmirch the image of Young. Not so. I simply have a strong need to understand things and Young's trichromatic theory just did not do it for me: An inspired idea which answered little.

This editor took it upon himself to write those responsible for subject report to suggest a rewording of the text on page 10 to bring it more into line with current thinking. That letter follows. [As of Aug.12 as we go to press, an answer to my letter still has not been received.] ...HBT

* 2009 Special Report on: Macular Degeneration and other Diseases of The Aging Eye: Diagnosis & Treatments, Brought to you By: Cleveland Clinic, Published in Collaboration with Cleveland Clinic/Cole Eye Institute; ISBN: 1-879620-81-2

"Long-established views are not easily surrendered."
...R.Westfall, Isaac Newton biographer

"A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually expire." ...Max Planck
Human color vision, continued

To: Writer Karen Rafinski/Cleveland Clinic Health Special Reports/800 Connecticut Ave./Norwalk, CT 06854-1631
To: Contributing Editor Stephanie Watson/Cleveland Clinic Health Special Reports/800 Connecticut Ave./Norwalk, CT 06854-1631
To: Consulting Editor Nadia K. Waheed, M.D./Cole Eye Institute c/o Cleveland Clinic Health Special Reports/800 Connecticut Ave./Norwalk, CT 06854-1631

Dear folks:

15 May 2009

We are in receipt of your report on macular degeneration and have no reason to doubt its medical accuracy; however, the biophysics of human color vision is much better understood today than it was in the 19th century, the time of the theory discussed on p.10 of the report.

Historically, Thomas Young, physicist/mathematician/physiologist, proposed his three-primary-color (trichromatic) theory of color vision in 1801. He was not the first; Palmer preceeded him in 1777 according to color-vision scientist Leo M. Hurvich.

At the time, the existence of the rod receptors was unknown so the theory was framed entirely around cones. Hermann von Helmholtz, also a physicist/mathematician/physiologist, in the mid 19th century knew of the retinal rod receptors initially choosing to believe them to be nonfunctional but soon found they do function. Helmholtz showed that a theory based on three primary colors — any three — is inherently incapable of sensing the full color gamut. (Relatively recent engineers' attempts to build a color television camera based on red-, green- and blue-sensitive photosensors support Helmholtz' expressed views of a limited color gamut.)

Then the Royal Society of London bracketed "Helmoltz" with "Young" in the name "the Young-Helmholtz trichromatic theory" arguably in an attempt to silence Helmholtz. The ploy (if it was that) worked.

Other important players are: anatomist Max Schultze of Duplicity Theory fame (1866); and engineers Stuart Seeley & Jack Avins who showed with their ratio detector (1947) how to perform frequency discrimination — how to sense hue — with only two kinds of filters or receptors which turned out to be nominal or average cones and rods in the case of vision. Seeley & Avins' work was done in connection with FM radio signal demodulation but is directly translatable to the optical band and color vision.

Present day: It has been shown in numerous experiments since the 1970's that the rods do indeed contribute to color sensing, specifically hue. Even diehard supporters of that theory acknowledge that the rods cannot be one of the color receptors under that theory but experimental evidence that the rods do contribute to the sensing of hue is presently overwhelming thus it is clear that Young's trichromatic theory is in serious trouble.

As for the saturation dimension of color space, it turns out that it is only necessary to have one type of cone with normal statistical variations in their spectral-response functions and this is more in line with experimental findings than is the idea of RGB (red, green, blue) cones. (Young originally specified red, yellow, blue as your article reports, later red, green, violet followed by RGB.)

A modern embodiment of Helmholtzian theory is the BHS (brightness-hue-saturation) model. The BHS model is capable of sensing the entire color gamut and is evolution friendly; - continued on next page -
the trichromatic theory is not — on both counts. Check my reports in the Journal of the Optical Society of America, Nov. 1977, the journal Atti Della Fondazione Giorgio Ronchi, March 2001 and elsewhere. For an overall signal processing diagram (block diagram) of the normal human retina under the BHS model see "200 years of colour vision theories" in Speculations in Science and Technology, Chapman & Hall, ISSN 9155-7785, 1997. The abstract from that article:

An account is given taking us from the trichromatic idea of color vision to an idea involving rod receptors. Since the preliminary report in November 1977, the model outlined has been completed and 90% validated. The model is supremely simple. It accounts for the facts of human color vision in terms of Helmholtzian luminosity, hue, and saturation. It uses only known building blocks and it inherently transitions between scotopic and photopic vision in a simple and proper way.

Individuals cognizant of my work include Neil R. Bartlett, Psych Dept., UA and Michael H. Brill, Sarnoff Corp., Princeton, NJ.

One more thing: On page 11, reference is made to "the brain [turning] the image right-side up." However since the brain is not sensitive to retinal image orientation relative to the eyeball but only to the "up and down-ness" of parts of the image to each other and there is no inversion there, then the supposed need for image rectification is obscure.

Many of us lay people regard the Cleveland Clinic and the Cole Eye Institute with deep respect and it would be a shame to soil that well-deserved reputation by dealing this way with science — by putting men above logic and experiment.

It is my goal to short-circuit the perpetuation of highly questionable material wherever it may appear; and to that end, suggested rewordings of portions of pages 10 & 11 of your report are given in the attachment. Those rewordings are not so extensive as to overly strain the sensibilities of diehards.

Sincerely, Homer B. Tilton
htilton@pima.edu

cc: Neil R. Bartlett
Michael H. Brill

Attachment to above letter - Suggested rewordings

Sentence starting on page 10, line 11:
"Cones mediate the sensing of the hue dimension of color in the photopic (daytime) range of light intensities but there is no cone output in the scotopic (nighttime) range so colors fade and become without hue when it gets dark enough."

Sentence starting middle of page 10, line 14:
"Spectral-sensitivity functions vary within the cone population. Such variation is responsible for the saturation (color purity) dimension of color sensing."

Sentence starting on page 10, line 21: Strike the words "which do not perceive color."

Page 11, lines 12 & 13: Strike the words "not only turns the image right-side up, but also".
Keep those cards and letters coming in folks!
We check our e-mail once a month whether we
need to or not; so be advised. "Snail mail"
can be the fastest way to go!

Near-fact Stories:

"The Sponge Bath" appears in issue 1, 2009
"The Nurse-assisted Showers" appears in the current issue
"The Gropingest Nurse Story" is planned for issue 3, 2009
"The In-home-care Nurse Caper" is planned for issue 4, 2009

Factual articles upon which these "near-fact" stories are based were
rejected for publication by Nurse Week and AARP, The Magazine as
being "inappropriate." The articles report on some open secrets of
the medical profession that neither they nor other publishers
apparently want to come near.

Place your advance order for these blockbuster near-fact stories
now. $8 per issue or $24 per year (four issues) includes postage
inside USA. See details for ordering on page 5.

Also look for the future article: "Does your idea pass the mustard?
or Would you like me to Poupon your salad?" also "Cinco de Mayo does
not mean 'Hold the mayo'."

Suggested by something heard on "Golden Girls":

Betty: "I think sex is just God's little joke."
Blanche: Maybe, but it manages to perpetuate the species."
Doris: "Yeh.
"D'you think you could come up with something better Betty?"

Our call (previous issues) for true "gripping groping" tales has met
with a flood of responses. (Is one a "flood"?) Look for a report in
these pages after we have received two floods. Let us hear from you.
You can remain anonymous in these pages but your name and address
must accompany your true narrative.

SEND US AN ACCOUNT OF YOUR "HEART-FELT" EXPERIENCES
FOR POSSIBLE PUBLICATION IN THESE PAGES

We've found that writing about our experiences can help us over
those mental "speed bumps" that everyone experiences from time to
time.

If you have a medical experience to tell of, one that must be
related but is too controversial for AARP the Magazine(4) and the
mainline medical journals that are open to civilians, please send it
in; but keep it short - about one page. Your story should be factual
or based on fact, perhaps a medical "horror story" that never seems
to get told. If you are having trouble writing up what you have to
say, ask us to help you with it. Get your material in early to avoid
the rush! In any event, your article will be subject to editing.
The primary purpose of this newsletter is to provide a forum for heart patients—it is designed to reflect writers' understanding and so cannot be expected to always be 100% medically accurate even though we make every reasonable attempt to make it so.

Send your letters by US Mail to either of the addresses given below. Your letter must contain your name and mailing address, and it must be signed to be considered for inclusion in this column although your name can be withheld upon request.

All comments received are subject to publication in HEART PATIENT quarterly unless otherwise requested. Your letter may also be subject to minimal editing.

HEART PATIENT quarterly is published and edited four times a year by Homer B. Tilton; Assistant Editor [open], Medical Advisor [open]. Write for information on prior issues.

Our thanks go out for years of fine service to outgoing Assistant Editor Diane Graham, LPN, of the VA Hospital and outgoing Medical Advisor Texanna McPhail, RN, of Cornerstone Hospital. Thank you both.

Appointment Openings

Openings are now available for medical types or other qualified individuals to fill the following positions. Apply to the Editor at one of the addresses given below. Appointments are initially for one year and carry a pay of $1.00 per year. (The experience gained will enhance your résumé and isn't that worth something?!) 

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3. Circulation Manager
4. Production Manager

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New Age Calendar for 2009

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(Mnemonic: Tuesday = 2'sday)

Jan - Paydays are odd-numbered weeks, Fri

MLK Mon; Spring sem.starts Tue

MAT086 starts WK04/Sat

Feb

5th annual Relativity/Starflight

Conf.Tucson(13)

Rodeo Holiday(26,27)

Mar

Spring Break(16-22)

Apr

The brightest objects in the sky:

Sunday comes from the sun

Monday comes from the moon

Tuesday comes from Mars

Wednesday comes from Mercury

Thursday comes from Jupiter

Friday comes from Venus

Saturday comes from Saturn

And now there's the ISS, the International Space Station!

First lunar landing 1969/WK30/Sun

Winter Solstice Holiday Season:

Starts with Dec.21 or Hannukah or Kwanzaa (whichever comes first); runs through Jan.1.