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Archive of Three-hundred-and-fifty [350] Published, Original, Color Medical Illustrations of Cardiac Surgery.

by Harwin, Fredric M.

**In collaboration with renown surgeon and inventor of the heart valve:
Albert Starr, M. D.**



Sixty [60] original drawings on 13" x 12" boards with 12" x 9" artwork, and two hundred and ninety [290] drawings on 9" x 6" boards with 8" x 5" artwork. Each individual work of art is at least four layers; mylar cover, tissue protector, artwork, all atop a Ray-Board or Illustration board. From Vols. 1 & 2, 1980 to Second Edition, 1994, all drawings have been published and books are included.

The plaudits for these illustrations were broad and laudatory:

"In this beautifully illustrated work, the authors have succeeded in representing up-to-date information of interest to the serious student of cardiac surgery." - Mayo Clinic Procedures

The Collaborators



Includes drawings of early model of the Starr-Edwards heart valve, here illustrated with a technique for suturing into the aorta.

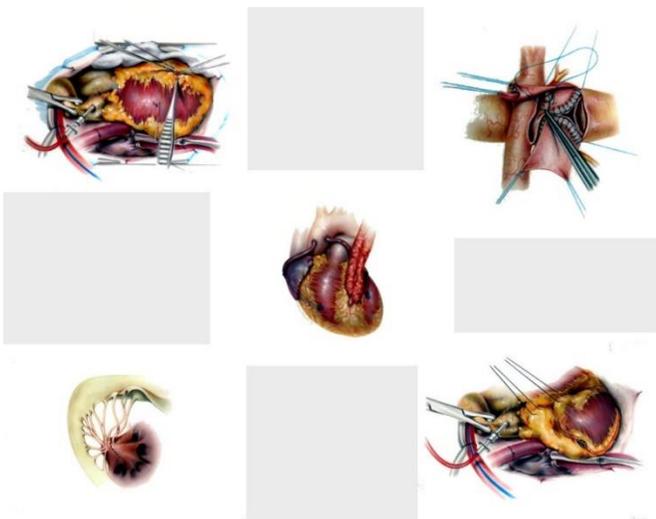
Fred Harwin, in his capacity as illustrator collaborated on this project with the renown cardiac surgeons, Drs. Brad Harlan and Albert Starr. This included placement of the famed Starr-Edwards heart valve, which was the first successful prosthetic device implanted in a human mitral and marked a new era in the treatment of valvular heart disease. Their work has provided help and hope for patients who otherwise would have died from the complications of rheumatic heart disease and other valvular disorders for which valve replacement is the only treatment.

Until the development of the Starr-Edwards valve, there were no published reports of patients who had lived longer than 3 months

with a prosthetic valve in the mitral position. This valve was the result of a unique partnership between the young surgeon, Dr. Albert Starr, and an experienced engineer, Mr. Lowell Edwards. Working as a team, these 2 men developed and successfully implanted the 1st Starr-Edwards valve within less than 2 years of their 1st meeting. Their key to success was their willingness and ability to make repeated modifications to their design to solve each clinical problem as it arose. Along the way, they abandoned the idea of imitating the appearance of native valves, in favor of developing valves that would be clinically successful.

“The illustrations have Coddington quality and Broedel Beauty” – Practical Cardiology

The Illustration Process



The illustrations are a result of Harwin’s personally developed and practiced technique of *“Scientific Realism”*. The composition of which includes in his drawings: color accuracy to real body internals, the visual perspective and technique of the surgeon, the creation of the visual illusion of looking through superficial layers to the deeper structures, and visually instructional procedures for the successful completion of the surgery.

The illustration technique, involves applying media to both sides of a frosted mylar, with an inter-connectedness of color and value. The bottom side of the illustrations were completed in

a combination of colored pencil, graphite, carbon or pastels, while the top side was mostly airbrushed

with water colors or gouache. However, depending on the need, the overlay is modified by the order of media application. This process allows for the ability to convey the field with minimal loss of reality or dimension and display up to four separate depths of tissue.

The benefits of this technique is to allow the surgeon or medical student to “see” an organ as it will appear in the operating room, with all its subtle coloration, while at the same time allowing the eye to see through to where a patch, a suture or a graft has been applied. This approach allows the observer to grasp the totality of the surgery, while simultaneously alerted to the minute detail.

There are multiple teaching values included with this technique. First, the work can be enlarged to a group teaching size (4' x 6' color print or transparency). Additionally, the technique allowed for black and white reproduction, reducing the cost of printing in financially challenged countries.

Harwin's illustrations use as authentic color as possible, allowing for medical procedures to be taught totally visually. He worked from actual specimens, high resolution photos, and of course he made countless trips to the operating room to validate the accuracy of his reproductions.

“The numerous full color illustrations are well done and accurately represent surgical exposures and techniques as they would be encountered on the operating table.”

– Lahey Clinic Foundation Bulletin

The Illustrator and Artist



Harwin applying his skills at the head of the operating table with Drs. Albert Starr and Brad Haraln. (Photo by Wes Guderian)

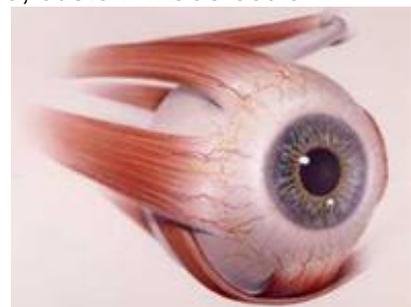
Fred Harwin was awarded a Bachelor of Fine Arts degree in interior architecture, drawing and painting from Wayne State University. He then went on to receive his Master of Science degree in medical and biological illustration from the University of Michigan.

After completing school, Harwin served as the Director of Medical Illustration at Wayne County General Hospital, a teaching affiliate of the U. of Michigan. He later joined the faculty at Oregon Health Sciences University in Portland, OR. Harwin has also taught at Portland State University, and was an Adjunct Professor of Medical Illustration at the University of California's San Francisco Medical Center.

Harwin also serves as an adjunct faculty member with the Department of Art as Applied to Medicine at The Johns Hopkins School of Medicine.

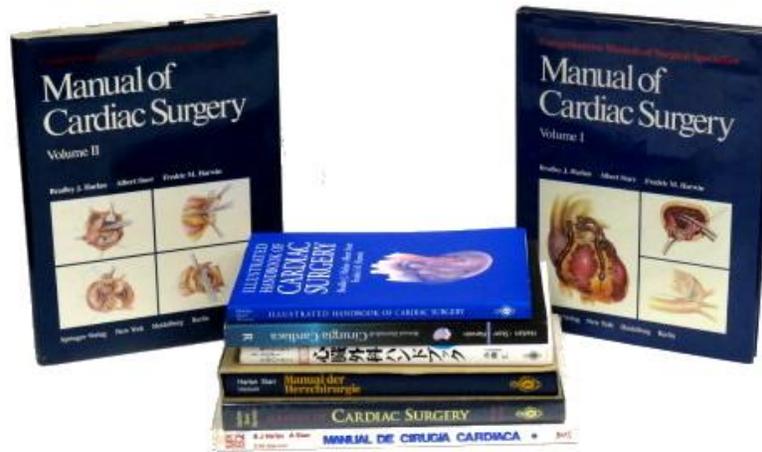
Fred's current life work is as a devoted ocularist, creating highly detailed, custom-made ocular

prosthetics (artificial eyes). Each prosthesis is hand crafted for comfort and realism and is as unique as the individual for whom it is created. His team is now working on an ocular prosthetic which has a pupil that dilates with varied levels of ambient light. Harwin now finds great joy in assisting recipients with both the appearance and self-confidence associated with their new eye.



Fred's post-career creativity is often spent in front of an easel with a palette of oil paint.

The Publications



Included are the following published collection of books which include reproductions of this collection. *Manual of Cardiac Surgery* and *Illustrated Handbook of Cardiac Surgery*, published in five language editions:

[A] Vol 1, Springer-Verlag, New York, 1980, 12" x 9", xv 1 – 204., 183 full color illustrations. Fine with DJ.

[B] Vol 2, Springer-Verlag, New York, 1981, 12" x 9", xv 205 - 347, 130 full color illustrations. Fine with DJ.

[C] *Manual der Herzchirurgie*, Springer-Verlag, Berlin, 1983, 12" x 9", xvii 1 – 389 pp, followed by 2 pp. of advertisements, 312 full color illustrations, near as new in blue cloth over boards.

[D] *Illustrated Handbook of Cardiac Surgery*, Springer-Verlag, 1986, xiv 1 – 220 pp. Blue card covers, Fine.

[E] Second Edition, 1994, as new, in shrink wrap.

[F] *Manual de Cirurgia Cardiaca*, Vol. 1 as new in shrink wrap. This book is in Spanish.

[G] *Illustrated Handbook of Cardiac Surgery*, Springer-Verlag, 1996, xv 2 – 292 pp. This book is in Japanese Kanji, Fine.

[H] *Manual Ilustrado de Cirurgia Cardiaca*, Livraria e Editora RevinteR Ltd, Rio De Jenaro, 2000, 1 – 288 pp. Graphic covers, French Flaps. This book is in the Portuguese language.

Springer-Verlag's longstanding expertise in the field of color reproduction and their commitment to quality made all of these editions essential.

“Yet the artwork surpasses the text and, in many chapters, is so good that it could stand alone as an atlas – even if one could not read. The subtly colored drawings are remarkable clear – so clear that I wish life could ore adequately imitate Harwin’s are and render pathological anatomy as easily understood as these drawings.” -Thomas J. Vandrslam, M. D.



Some of the illustrations have a label and/or photo registration mark applied. These are easily removed and cleansed with isopropyl alcohol. The Verso of most illustrator boards have a label which identifies the chapter and page where the illustration was used in the first and second editions.

“This book is blessed with a medical illustrator who is not content with the watchful passivity of a photographer. He obviously shares with his surgical co-authors the continuing ability to create and accommodate.” – New England Journal of Medicine.

The Collection

Easily stored in 1.5 cu. ft. currently housed in 10 folio boxes, this archive would serve as an ideal academic tool for instructional or research purposes. The illustrator will sign all sheets upon request. The ideal environment would be a medical illustration post-graduate curriculum, a cardiac surgery teaching hospital or University Medical School.

