

LOYOLA COLLEGE

THE FORUM

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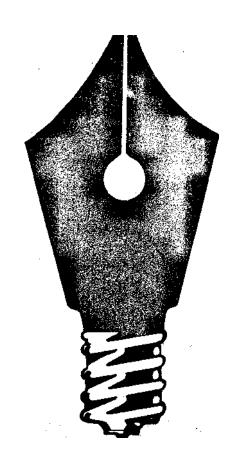
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The Forum encourages submissions from students on a wide variety of topics. If any paper should be too technical or specialized, we ask the author to rewrite the paper in a more generalized form.

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Breast Cancer and Xeroradiography

by Juan Boston

Xeroradiography is a relatively new technique for producing images. Equipment for its use was not generally available until 1972. In brief terms, xeroradiography is the process of making x-ray images on a selenium-coated plate rather than on photographic film. This technique, first used on bones, has only recently been applied to mammography.

The system most commonly used in xeroradiography of the breast is manufactured by the Xerox Corporation. The Xerox 125 system consists of two independently operated units which can be plugged into standard 13A sockets. The method of xeroradiography is illustrated in figure 1; the following is a brief description of the method.

A storage box containing six aluminum plates are coated on one surface with selenium, which acts as a semi-conductor. Each plate is removed in turn automatically from the box, and passes through the relaxation oven (where it is heated to remove any residual electric charge before passing onto a magazine). When an empty cassette is inserted into the conditioner, a plate is taken from the magazine and is given a uniform electric charge. The charged plate is then loaded into the cassette and the xeroradiograph is now ready for use.

When the plate is exposed to x-rays, it adopts a discharge pattern corresponding to the various densities in the object being radiographed: a latent image is produced. After exposure, the whole cassette is slid into the processor where the plate is automatically removed and transferred to the developing chamber. There a cloud of electrically charged blue powder is sprayed on the plate. The powder adheres to the plate according to the discharge pattern (making the latent image visible). Following development, the plate and a sheet of plastic-coated white paper are brought together, and the powdered image is transferred from one to the other. The paper then passes into a fusing chamber where it is heated. This "fixes" the powdered image before being ejected from the machine. It is then ready for viewing. The whole process takes about 90 seconds.

Xeromammograms are taken from the following positions: cranio-caudal; lateral; and axillary (the latter being exclusively for assessing nodes). In the cranio-caudal position, the patient is generally examined standing, and the height of the cassette is adjusted to breast level. The breast is then placed on the Perspex cover of the cassette (the cover prevents discharging). Great care must be taken to insure that the whole of the breast is within the radio-graphic field. The patient then leans forward to press the lower rib

cage against the edge of the cassette, and the breast is adjusted so that the nipple is in profile. For the other views, the apparatus swings 90 degrees in either direction, and the same positioning principles are applied.

XEROX125 SYSTEM FLOW DIAGRAM

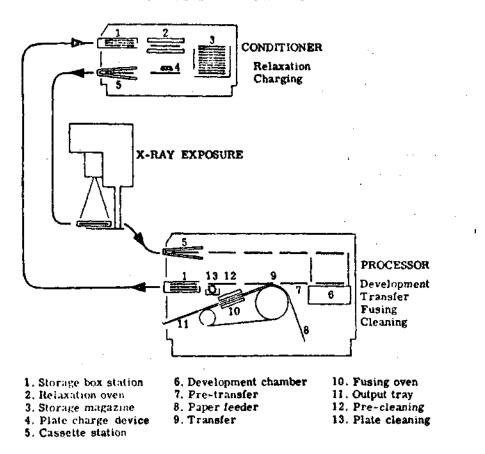


Figure 1

Xeromammography in comparison to the conventional film mammography has the following advantages: (a) the xeroradiographs are easier to interpret, (b) they require less radiation, (c) they afford greater detail and thus are more accurate, (d) xeroradiography is a dry process, (e) the finished product is obtained more quickly and with greater ease.

This ease in interpretation is due to the phenomenon of "edge enhancement" (which is one of the most important features of xero-radiographs). "Edge enhancement" is the result of the extra toner

(the blue developing powder) being attracted to the boundaries of areas having different electrostatic charge. This "edge contrast" is most marked at the boundaries between highly charged areas (dense areas) and those with little residual charge. Thus a clearer, more precise picture is obtained.

The level of radiation required in xeroradiography is one third that of conventional mammography. This has been made possible by the addition of filtration to the primary x-ray beam, and by recovering the loss of contrast through manipulation of the xeroradiographic contrast. This significant reduction can be accomplished without any deterioration in image quality.

Specific images in xeroradiography, as already stated, are much more detailed than conventional film mammography. Calcific densities as small as 0.1 mm can be seen using xeroradiography. These densities may not appear at all on film. Approximately 50% of cancers show calcification; so its recognition is very important. It may be the only sign of malignancy.

Ducts are also more evident on xeroradiographs and their detail extends well into the breast structure. A prominant ductal pattern is an early sign of malignancy. Consequently, such increased detail leads to a greater accuracy in diagnosis.

Xeroradiography also improves the image of the axillae. The soft tissues and glandular elements appear more clearly in xeroradiography. Such clarity permits an even more accurate appraisal, more accurate than a clinical assessment.

In the diagnosis of the small and dense breast, which is one of the most difficult problems radiologists face, xeroradiographs provide superior detail and penetration. They also show all parts of the breast in one image.

One other improvement of xeroradiographs over film mammagraphs is the speed of the process. Properly prepared, xeroradiographs can be read in a screening program at the rate of four to five cases per minute. In a similar program, film mammographs were read at a rate of fifteen to twenty per hour. The overall accuracy of xero-radiography is also greater than that of film mammography. The range of average accuracies for film mammography was 90-95.3%, compared to 96-97.6% for xeroradiography. In many ways, xeroradiography appears to be the superior method. Such a method should be the one employed in the assessment of all breast disease.

Note: This article contained certain references. Anyone interested in the references should consult the author.

Black and White

by Patrick J. Curran

In 1971, a songwriter named Don McLean produced an album that contained some remarkable music. The album was called American Pie. Along with some beautiful lyrics and haunting melodies, it provided us with one man's bleak view of life. If a central theme is to be ascribed to American Pie, it would be a lack of faith in love and people, and in institutions in general. Yet the presence of such a theme is not really surprising when one considers when the songs were written. America had just emerged from the 1960's, a decade in which many previously treasured values and institutions were questioned and rejected. It was an easy time to be cynical about the future and a difficult time to find something to hope for or believe in.

Yet the country did recover, and people did find something to believe in: themselves. The 1970's are now history and looking back, it can be seen that while the 60's were a time when there was nothing to believe in, the 70's were a time when hope and belief really did not matter. We have just been through the "me" decade, according to the social psychologists. It was a time when the watchword was hedonism; when the gratification of the self was placed over the needs of others. Americans, unwilling to have their faith shattered again, declined to believe in anything but themselves as individuals.

This lack of faith is a serious problem that cannot be denied. Because of it, there has been a loss of identity on the part of most Americans. They tend to view themselves not as members of a country, but as individuals. This lack of social awareness, particularly among young people, is most disconcerting. While the students of the 60's wanted to change the world, those of the 70's seem to only want a career.

What caused this loss of identity and lack of faith? More importantly, what can be done about these conditions? One possible cause was seen by Don McLean back in 1971. The album American Pie included a poem written about Hopalong Cassidy. To McLean, Cassidy was the archetypical American hero. Such heroes lived in a time when life was simpler and values were more easily defined. There was good and there was evil, and to paraphrase Kipling "...never the twain shall meet." McLean's version was perhaps a bit less eloquent, but just as effective:

"Black and white, that was you Hoppy the bad men fell the good guys lived on."

During the days of Hopalong Cassidy, it was easy to tell who and what was right and wrong. Unfortunately, the progress and level of intellectual sophistication achieved by Americans in recent years

have led to a transformation of McLean's treasured black and white into various shades of gray. The good guys do not ride white horses any more, nor do they ride off into the sunset. The bad guys might be genuinely evil, but the good guys are no angels themselves.

Consider the following examples from recent history.

The Shah of Iran was an American ally. He brought his country into the twentieth century, improved the standard of living and level of education, and provided for a more equitable distribution of available land. He also tortured and killed dissenters on a frighteningly large scale. The regime that replaced him has largely done away with his reforms and is being just as brutal with his former supporters.

Pope John Paul II has evidenced a great deal of concern for the poor and oppressed people in the world. He is a vibrant, charismatic individual who has brought a new sense of dignity, relevance, and humanity to the papacy. Yet his recent dealings with Hans Kung seem to indicate a severe intolerance for any form of dissent.

Richard Nixon was, in the opinion of this writer, a very capable administrator and a good conductor of foreign policy. His failings, however, are legion and there is no need to delineate them here.

John Kennedy was probably the last true American hero. He was young, handsome, and charismatic, and he made Americans feel good about themselves. Yet recent history has cast a shadow on his moral character and revealed that the conduct of his foreign policy towards Cuba was amateurish, if not incompetent.

There are other examples. The list can go on and on. It would be difficult today to find a global figure who is not tainted in some way. Last year, <u>Time</u> magazine did an analysis of the potential presidential candidacy of Senator Edward Kennedy. One of the conclusions reached was that Americans desparately wanted someone that would make them feel good again. It was thought by many that the Senator, by invoking the spirits of his brothers, would be able to do this for the people. Sadly, though, these expectations have proven to be false. It is not that he is guilty of any great wrongdoing; it is just that he seems tainted with the spirit of mediocrity, and that spirit is all too present in American politics today.

John Wayne was a hero of sorts. To many people, he symbolized the American spirit. He was the Hopalong Cassidy of our time. The good guys killed the bad guys and we all lived happily ever after. But you must remember John Wayne was not real. He was a creation of celluloid from a magical place called Hollywood, which specializes in creations, of that type. He came to exist in our minds and hearts because we wanted and needed someone like him. There is a writer of science fiction named Michael Moorcock who believes that people create gods to fill certain needs. When the gods no longer fill these needs man destroys them and creates new ones. This perhaps explains the effect that John Wayne had on America. I do not really believe in this theory, but I wish it were true. It might solve a lot of our problems right now.

This is just one person's opinion on what is wrong in America today. There are other explanations, many of which are probably better than mine. I believe, however, that what I have written here

is at least a partial explanation of some of the problems we face. In parting, I would like to give just one final observation on the 70's. There was one omnipotent colloquialism which never failed to grate my nerves: "Have a nice day." It seemed to me that, rather than wishing each other well, people were simply nervously reassuring each other that things were not as bad as they seemed. I think a tall man dressed in black on a white horse would do us all a lot more good than would the ceaseless repetition of such a trite phrase.

In case anyone is interested, here is what Don McLean said about the problem, in fewer words and more style than I could manage:

"No matter how scary life got I could depend on you You had that easy smile and white, wavy hair You were my favorite father figure with two guns blazing Not even Victor Jory could stand up to those 44-40's you packed And that stallion you rode, I think his name was Topper He was so beautiful and white he came when you whistled I've always liked black and loved your clothes Black hat, black pants and shirt Silver spurs and two quns in black holsters with pearly-white handles Black and white, that was Hoppy The bad men fell the good guys lived on The ladies touched your hand but never kissed Whenever John Carradine asked a question you'd say 'That comes under the heading of my business' Then you'd call for another sarsparilla I believed in you so much that I'd take my Stetson Off and put it over my heart whenever anybody died My hat's off to you Hoppy Say good-bye to all the boys at the bar-20 The black and white days are over So long Hopalong Cassidy."

Don McLean

Have a nice day?

The Wit and Wisdom of Leo Rosten:

"Can lunatics like noodle toys?
Angels have no adenoids."

by Tom Welshko

During the summer of 1978, I was leafing through the latest edition of Reader's Digest when I came upon an article entitled "You Have a Right to be Unhappy." It stated that you don't have to be bubbling with joy every minute of the day to be a sane, normal person. Indeed, those people who are continuously happy are insane and abnormal. This realistic, common sense approach to happiness differed from the pie-in-the-sky approach of the self-improvement books that were popular that year. I noted who wrote this matter-of-fact piece of literature. His name: Leo Rosten.

Rosten, I discovered, is characteristically not a philosopher. In fact, the article sited above is atypical of his style. He is primarily regarded as a humorist--one of the finest living today.

Born of Jewish parents in Lodz, Poland on April 11, 1908, he and his family immigrated to America two years later. He is a doctor of political science and has been a professor of that subject at several leading American universities. He has also been a movie writer, director of the Office of War Information during World War II and a staff member of the Rand Corporation, a Washington-based political "think tank." Since 1961, he has devoted most of his time to writing. He is author of 21 books. Rosten's humor, though, is evident in three of his later volumes: Rome Wasn't Burned in a Day, The Power of Positive Nonsense, and Passions and Prejudices. Along with the wit, however, there is also a good deal of wisdom.

Rome Wasn't Burned in a Day is a collection of quoted and quotable malapropisms; these are the mangling of incongruous words to form outlandish, sometimes contradictory, but almost always funny phrases.

The late Sam Goldwyn, founder of MGM Studios, was famous for his malapropisms. Rosten quotes a number of them. "An oral contract," Goldwyn declared, "isn't worth the paper it is written on." On observing the sloppy performance of an actor in his studio, he offered this advice to him: "Put more life into your dying!" Goldwyn, it seems, was against nuclear weapons. "They better not fool around with that atomic bomb," he warned, "it's dynamite." His most famous though was "anyone who goes to see a psychiatrist should have his head examined."

Baseball great Yogi Berra was good at malapropizing as well. "You can observe a lot by watching," he observed and how true. When Yogi Berra Day was proclaimed at Yankee Stadium, the guest

of honor was asked to speak. Berra said that he "just wanted to thank everyone who made this day necessary." When asked about the quality of a famous New York eating establishment, Yogi replied that "no one ever goes to that restaurant any more; it's too crowded."

Rosten also notes that Casey Stengel and Dizzy Dean (two other baseball greats) came up with a few of their own. "You've got to take the bad with the worst," Dean philosophized. Stengel, who could rattle off malapropisms with such finesse that his commentaries were said to be in "Stengelese," noted on his eightieth birthday that a lot of people "my age are dead at the present time." When asked how the New York Mets (Stengel managed that team in its early days) were progressing, he stated, "you have to remember that this team came up slow, but fast."

The author's favorite malapropism came from comedian Groucho Marx. Marx had been tardy replying to some correspondence that Rosten had sent him, so he began his letter with this apology: "Excuse me for not answering your letter sooner, but I've been so busy not answering letters that I couldn't get around to not answering yours in time."

According to its author, <u>The Power of Positive Nonsense</u> is a "heartless expose of absurd maxims, fake facts, and cockamamy 'truth---' a carnival of hallowed baloney to boggle the mind and tickle the funnybone."

Rosten exposes "absurd maxims" in a chapter entitled "Poor Rosten's Almanac." He lists 61 popular Ben Franklin-type sayings and after each one, shows its flaw or simply makes light of it.

As the saying goes, "the early bird gets the worm." Leo Rosten's reply to this maxim is "big deal." "Now look at it from the worm's point of view. The early bird gets the worm early; hence it is clearly in the worm's best interest to stay underground snoozing while all those early birds peck away at the worms who were stupid enough to go to work too soon."

"A penny saved is a penny earned," but Rosten notes "a penny spent is a penny enjoyed."

Then there is the celebrated "people who live in glass houses shouldn't throw stones." The author has alot of fun with this one. "That's not all they shouldn't do. They shouldn't play handball, give their kids toy hammers or make love until nightfall either."

"'Poor Rosten's Almanac' is as clear as a bell on this chestnut: People who live in glass houses shouldn't get stoned."

Dr. Rosten is also as clear as a bell on fake facts; there are a number of them that almost everyone accepts as true that "just ain't so."

Mice, for example, do not prefer cheese over every other food. In an experiment, where mice were offered many different foods including the best of cheeses, most of them chose to eat gumdrops.

Likewise, vampire bats Do Not suck human blood. The notion that they do is a "cockamamy 'truth.'" According to the author, "the worst a bat will do is nick an arm or leg. This nick is so small that it closes quickly. The only danger from bat nicks is

infection--which is more than you can say about batnicks who go around scaring little girls to death with horror stories."

Passions and Prejudices is a different kind of book, with longer articles, yet with the same kind of Rosten humor. In an article entitled "Delicious Scoundrels," Rosten tells the story of a certain fraternity pledge he knew who was so disgusted with the torments he had to endure, that one night, he sneaked into the fraternity library and wrote his name in every book with the words "Gift of" above it.

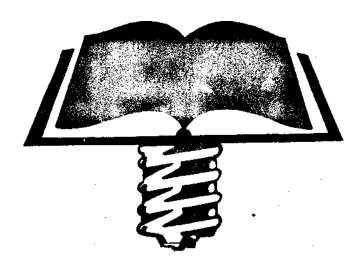
In another chapter, he reveals how Agnew was chosen Vice President. Richard Nixon, lacking for candidates, went to the classified ad section of the <u>Washington Post</u> and looked under "Vice Presidents, Availiable For. There, lo and behold, was one name: Spiro T. Agnew."

But the best example of Rostenian wit remains "Tell Me Not in Mournful Numbers," a spoof on computer poetry. Randomly selecting words, like a computer, Rosten came up with this "pregnant thought for our times:"

"Hail! The hairy artichoke.
Torquemada's frog will gloat.
Can lunatics like noodle toys?
Angels have no adenoids."

"I have read this over many times," he laments. "It is very beautiful, and makes no sense."

While Leo Rosten's humor is entertaining, it is also thought provoking. Computer poetry is funny, but it also makes us aware that there are simply things that humans do better than machines. "Poor Rosten's Almanac" makes more sense than "Poor Richard's," since Benjamin Franklin, in the latter, never examined the truth of his "truths." Yes, Leo Rosten is funny, but he is also something that we sorely lack in this day—a truly wise man.

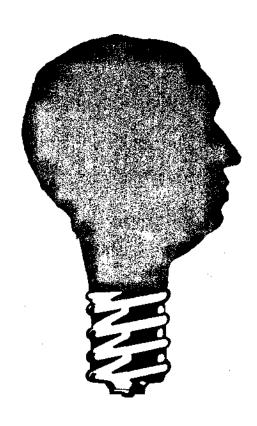


Some Comments on Theology and Hans Kung by William Kotansky

Several articles in newspapers have appeared in the last months explaining actions taken by the Vatican towards the Catholic theologian Hans Kung. The articles have mentioned other theologians besides Kung, but Kung is most mentioned for he has been removed from his position as an official Catholic theologian at the University of Tubingen in West Germany. My response here is not a reaction to the Vatican's position on Kung in particular, nor is it intended as any kind of judgement of the Vatican or Kung. It is rather a few comments on what I believe people like Kung really intend. This intention, it seems, is to place in perspective those ideas which are most central to the Church and its people. Historically, the Church has a rich heritage that it shares with many peoples and many faiths of this world. Yet we can recognize that the historical perspective can sometimes distort what is important to us in the spiritual experience. Such distortion, as the late Felix Malmberg, S.J. pointed out in a lecture last spring to the junior theology classes, was one cause of the "Back to the source" movement in early twentieth century scholar-Such a movement was and is essential to the Church and its It is a movement which cuts through the multiple and somefaith. times controversial images which make the religious experience less intimate -- more of an object. One such book which, for me, helped clear the air of such images was C.H. Dodd's The Founder of Christianity. In Dodd's work, the important thing is the strong and yet unlavish image we have of Christ. These are central images it seems to me. The intention of theologians (like Kung) is to reexamine theology in light of such historical research. They aim at what is most important. Yet theirs is not a negative project. Indeed, they recognize the many images, take them for what they are, and proceed to the ideas which lie behind them.

Our time, itself, seems to be one of striving to reveal what lies "behind." We have recognized the necessity and yet the inadequacy of any image or symbol. We have explored the "nothingness," the "tacit dimension," and "the openness to God." And we have undergone small conversions to such ideas. One such small "conversion" strikes me as particularly interesting: Freud in <u>Civilization and Its Discontents</u> acknowledges that his description of religion in The Future of an Illusion may not have been wholly correct. A friend

wrote to him saying that the religious experience was more of an "oceanic" feeling -- a feeling of "oneness," of what lies "behind." Freud acknowledged that such a feeling was possible. I cannot help but believe that theology in our day sees its project as reconciling this "oceanic" feeling with the central images of faith revealed by scholarship. To do this, it may have to disrupt some of the images to which we so imtimately hold on. But perhaps this disruption will be more of a creation--a creation towards a more meaningful religious experience. Such an experience will recognize the historicity of the Church and work from there. It will use this historicity to the best of its creative, dynamic ability. In ending, I will leave you with another thought of Felix Malmberg's, which expresses his belief in a creative and dynamic world and Church. In his lecture to the junior theology classes last spring, Malmberg told us to imagine ourselves as modern Thomas Aquinas'. But instead of discovering the mind of Aristotle, he told us we could discover the mind of Karl Marx. Such projects are difficult, for any project which forces us to reexamine our basic beliefs is never easy.



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