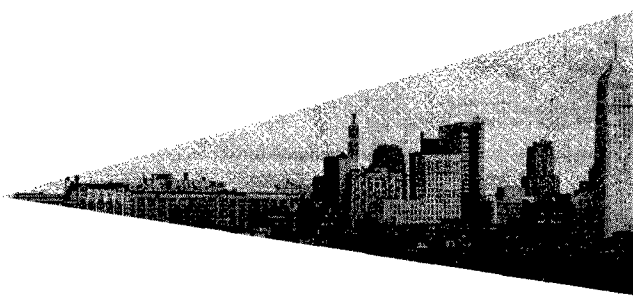


# Deadline for Technical Papers Nears



# Sinclair Poem Focuses On Technical Program

"Bestir yourself! It's later than you think! The July 29th deadline for receipt of abstracts of technical papers is only a short time away," says Don Wheeler, Program Chairman for the 37th Annual Fall Meeting, to be held at the Hotel Radisson in Minneapolis, September 30 through October 2. He, of course, is addressing these remarks to those authors who plan to present papers at the meeting.

Present indications are that the technical program will be an excellent one. Two symposia are planned: one on "Drugs Affecting Lipid Metabolism," and another on "Binding of Lipids by Proteins". A third symposium on "Drying Oils" is at the tentative planning stage. A number of authors have already indicated their intentions to present papers in a number of other fields of interest to the membership. These include biodegradable detergents, surface activity, pro-oxidants, as well as engineering and safety in vegetable oil production.

Additional papers touching upon any of the above-mentioned subjects will be welcomed, as will general papers on the chemistry, metabolism and production of oils, fats, and lipids.

Policies for presented papers are:

1. Publication rights are reserved by AOCS. Release by the editor of *JAACS* is required for publication elsewhere.
2. Papers given at the meeting are subject to the same review as any other paper, before publication in the *Journal*.
3. Papers shall be free of advertising or sales promotion.

Abstracts should be addressed to Donald Wheeler, Program Chairman, General Mills Research Laboratory, 2010 East Hennepin Avenue, Minneapolis 13, Minnesota.

## Ladies Program Announced

Mrs. Ralph Marmor and Mrs. Marvin Formo, Co-chairmen of the Ladies Entertainment Committee for the Fall Meeting in Minneapolis, are lining up an excellent program for those wives who accompany their husbands to the "Land of Sky Blue Waters".

For those who arrive early, a Koffee Klatch will be held Sunday afternoon in the Hotel Radisson, headquarters for the meeting. All ladies are asked to attend—to greet old friends and make new ones. On Monday, a scenic drive along the St. Croix River is planned in conjunction with a luncheon at the Lowell Inn. The Inn, known as "The Mount Vernon of the West" is located in Stillwater, Minn., in the heart of the beautiful St. Croix Valley. Upon returning from Stillwater, a tour of the Campus of the University of Minnesota is planned.

Tuesday's activities include a visit to the American Swedish Institute, located on Park Avenue in Minneapolis. The Institute is filled with paintings, art work, and historical objects typical of the Scandinavian heritage of many of Minnesota's residents. The James Stanley Berglund Memorial Glass Exhibit has recently been added to the museum's collection. The Institute is housed in a building that was originally a lavish private home built shortly after the turn of the century. Each room has its own fireplace decorated with varied colors of marble and

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## HIAWATHA'S LIPID

by H. M. SINCLAIR

(*"Hiawatha's Lipid"* was first published by H. M. Sinclair (1958) in the *American Journal of Clinical Nutrition* (Nov/Dec 1958). Minor revisions are with the permission of the author.)

From his brief case Hiawatha  
Took his paper for the meeting,  
Typed in triple-spacing and in  
Triplicate on foolscap paper;  
Glanced upon the crowd before him,  
Critical and very hostile,  
Like the lions in the arena  
Waiting for a Christian victim,  
As the surgeons in some theater  
Wait impatiently the patient;  
Saw them with their notebooks waiting,  
Saw the tape recorder ready  
Gleaming in its chromium plating  
By the Ampex Corporation  
And preserving all the nonsense  
Spoken by the previous speakers,  
As the snow upon the prairies  
Uselessly records the footprints,  
So preserving all the nonsense  
Spoken by the previous speakers.

### Introduction

Hiawatha, taking courage  
Started on the Introduction  
Giving first a brief description  
Of the Proto-Keysian period  
When all fats in equal measure  
Raised cholesterol in serum:  
Butter, sardines, walrus liver,  
Margarine, or safflower seed oil,  
Or arachidonic acid,  
Or the body fat of quokkas,<sup>2</sup>  
Or adrenals of the muskrat,  
Or the milk of female reindeer—  
As these fats in equal measure  
Raise cholesterol in serum,  
As the rain in Minneapolis  
Fills the ditches in the roadways  
(So at least thought Hiawatha)  
So these fats in equal measure  
Raise cholesterol in serum.

Then the Meso-Keysian period  
When it's known from work of others  
Quantitative variations  
Do occur when different lipids  
Are included in our diets,  
Plentifully in our diets:  
Butter, sardines, walrus liver,  
Margarine, or safflower seed oil,  
Or arachidonic acid,

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<sup>1</sup> Delivered at the 6th Annual Symposium of Lipids, San Francisco.  
<sup>2</sup> A marsupial (that is, it carries its nipples in a bag) which has a ruminant's digestion like a cow (which doesn't) (2).



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## Hiawatha's Lipid . . .

(Continued from page 7)

Or the body fat of quokkas,  
Or adrenals of the muskrat,  
Or the milk of female reindeer—  
Do not in an equal measure  
Raise cholesterol in serum;  
As the smoke is wind-swept upward  
Randomly with Brownian movement  
Wandering above the wigwam,  
So these fats in different measure  
Raise cholesterol in serum.

Then the Neo-Keysian period  
When arithmetic will tell us  
By an intricate equation  
What cholesterol in serum  
We will have when we have eaten  
Butter, sardines, walrus liver,  
Margarine, or safflower seed oil,  
Or arachidonic acid,  
Or the body fat of quokkas,  
Or the adrenals of the muskrat,  
Or the milk of the female reindeer;  
Count the double bonds and add by  
Electronic automation  
On a digital computer  
From the Ampex Corporation  
There's no need to estimate it—  
All cholesterol in serum  
Follows now the Keys equation;  
As the caribou in summer  
Migrate by accustomed pathways  
And predictably are herded,  
Dietetic computation  
Of the double bonds in lipids  
With a slide-rule calculation  
Gives you now a neat prognosis  
Whether you will die tomorrow  
From a thrombus in your vessels—  
Myocardial infarction  
Or ischaemic heart diseases—  
As a cork pushed in a bottle  
Stops the wine from flowing freely  
(Vin rosé of California);  
Atheromatosis also  
Is predicted by this method,  
By this skilful Keysian method.

Others are not quite so lucky:  
Larry's lowered lipid levels (1)  
After vegetable seed oils—  
Polyethenoic acids  
Or essential fatty acids  
From the vegetable seed oils—  
Follow a more simple pattern,  
So at least thinks Hiawatha  
In unpublished observations:  
As the sun comes up in morning,  
As the sun goes down in evening,  
So the laws of lipid levels  
Are predictably determined—  
Saturated fatty acids  
Raise cholesterol in serum,  
Polyethenoic acids  
Lower serum lipid levels—  
So at least thinks Hiawatha  
In unpublished observations.

### Methodology

After this review of others  
Hiawatha turned to methods  
(Methodology, he called it  
Making it more scientific—  
Longer words are scientific);  
Talked about silicic acid,  
Mead's silicic acid column,  
How he trapped the different lipids

As he used to trap the beaver.  
Then he pushed them back and forward—  
Countercurrent distribution—  
As the frightened hare or reindeer  
Runs at random back and forward  
Then he boiled them up with potash,  
Alcoholic potash mixture,  
Following the rules established—  
Riemenschneider's "skilful witchcraft"  
So politely called by Mattson  
(Personal communication)—  
As the dinner in the stewpot  
Is boiled up by Minnehaha,  
So he boiled them up with potash  
And the double bonds determined  
Spectrophotometrically.  
Then he used the latest method,  
Gas-chromatographic method  
Introduced by James and Martin  
Showing peaks upon the paper  
Like the Rockies at the sunset  
Like the mole hills in the prairies.  
Thus he estimated lipids  
As he wondered if it mattered,  
Wondered secretly about it  
With unpublished wond'rings.

### Results

Thus supplied with diverse methods  
Hiawatha took some serum  
From his arm by venipuncture  
And cholesterol determined;  
Why he had no clear conception  
But there's wild enthusiasm  
For cholesterol in serum;  
As the children round the camp fire  
Dance and shout in exultation,  
So there's wild enthusiasm  
For cholesterol in serum:  
Why it rises on infusion  
Of suspended phospholipids  
(Ethanolamine and choline  
Joined to phosphatidic acid  
With unsaturated acids—  
Polyethenoic acids—  
Also saturated acids,  
From the glycerol projecting  
Like the branches of a cactus),  
Coming out from unknown tissues—  
Red cells, liver, spleen and kidneys,  
Atheromatous aortas,  
Hepatectomized adrenals;  
Why it falls when you have eaten  
Polyethenoic acids  
Or essential fatty acids.

Thinking that this single value  
For the level in his serum  
Might not be sufficient data  
To establish without question  
What the normal value should be,  
Hiawatha with his cunning  
Took a logarithmic table,  
Photographed a page at random  
For a lantern slide of figures,  
Showed it very confidentially  
With his back toward the audience  
Talking fast and very softly  
At the figures thus projected  
Which were very small and many  
Like the sands upon the seashore;  
And the audience, not hearing  
What he spoke toward the blackboard  
Very softly, very swiftly

(Continued on page 44)

## Hiawatha's Lipid . . .

(Continued from page 42)

Like the gentle brook in springtime,  
Thought him wise and very clever  
To have got so many figures  
And their standard deviations,  
Arithmetical progressions,  
Geometrical regressions  
And regression coefficients;  
Praised his industry, his brilliance,  
And applauded his statistics,  
For they had not understood him  
Nor could read his logarithms.

Having thus established clearly  
What the normal value should be,  
Hiawatha took a patient  
Who had grave thrombotic symptoms,  
Used his methods on the serum  
(Methodology he called it),  
Found a curious lipid in it—  
Ante-iso-*trans*-oleic;  
Recognized it by the usual  
Gas-chromatographic method,  
By the humps upon the paper  
Like the Rockies at the sunset,  
By the bumps upon the paper  
Like the mole hills in the prairies,  
By a very curious spicule  
Like the tower of Hotel Raddison  
Coming in a new position  
Which unquestionably proved it  
Ante-iso-*trans*-oleic;  
Called it Hiawatha's UFA  
"Hiawathianic acid";  
No one else had found this lipid  
In the serum of a patient;  
Called it Hiawatha's syndrome,  
Hiawatha's lipidosis,  
But he did not know his patient  
Had been bitten by a viper—  
*Viperus Russellianus*—  
And in Russell's viper venom  
There is but one type of UFA—  
Ante-iso-*trans*-oleic,  
Hiawathianic acid.

### Therapy

So he started quick to treat him;  
Gave him safflower oil and corn oil,  
Gave him pints and quarts of corn oil,  
Gave it by infusion, also  
Gave it by inunction, also  
Poured it down, *per os*, his pharynx,  
(As the beaver in the flood time  
Being drowned in swirling waters  
Soon becomes a bloated carcass).  
Every orifice was needed  
For administ'ring the doses  
Of essential fatty acids;  
But the patient still had in him  
Ante-iso-*trans*-oleic,  
Hiawathianic acid.

So he tried specific treatment;  
Gave some linoleic acid  
(Octadecadienoic),  
Gave arachidonic acid,  
Named you might suppose from peanuts,  
But it is not found in peanuts  
And is plentiful in spiders,  
So perhaps he spelt it wrongly—  
So "arachnidonic acid,"  
Like arachnoidea mater,  
Which, as everyone remembers,  
Is the inmost spidery mother  
Which ensheaths and wraps the cortex;  
But the patient still had in him

Anti-iso-*trans*-oleic,  
Hiawathianic acid,  
Which had come, if he had known it,  
From the Russell's viper venom.

### Summary

The moral of this story is then  
Take some care when you have eaten  
Butter, sardines, walrus liver,  
Margarine or safflower seed oil,  
Or arachidonic acid,  
Or the body fat of quokkas,  
Or adrenals of the muskrat,  
Or the milk of female reindeer;  
To avoid thrombosis don't get  
Bitten by a Russell's viper  
Which has but one type of UFA—  
Ante-iso-*trans*-oleic,  
Hiawathianic acid.

### REFERENCES

1. L. Kinsell and Friskey Michaels, Beveridge and Bronte-Stewart, Malmros, Ahrens, Hiawatha; 1953: Archives of Internal Medicine, Vol. 90, p 11.
2. Hugh Sinclair, Hiawatha's Lipid, Perspectives in Biology and Medicine, Autumn 1960, p. 72.

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## New Literature . . .

(Continued from page 10)

animal fats, Vitamin A, paraffin wax and mineral oil, and polyethylene. Physical properties, solubility data, and information on product availability are also given. (260 Madison Ave., New York, N. Y.)

NATIONAL FLAXSEED PROCESSORS ASSOCIATION has recently published a new bulletin entitled "Stop Concrete Damage," describing a new Linseed Anti-Spalling Compound which eliminates winter damage from de-icing chemicals and the freeze-thaw cycle. It was designed to eliminate the heavy cost of periodic resurfacing and repair. Also available is a file of Linseed Oil Data, containing formulae for house paint primer; white house paint; one coat house paint; calcium carbonate tint base; flat shake and siding paint—with or without a tint base; flat shake and siding paint, deep brown; and flat shake and siding paint, medium green. (6132 Forest Glen Ave., Chicago 46, Ill.)

VOTATOR DIVISION, CHEMTRON CORP. announced the availability of a new brochure on equipment to boost margarine output. Bulletin V-279 describes new, higher-capacity apparatus for continuous, controlled production. The Votator chilling and crystallizing systems are said to offer 50% greater capacity than previous equipment. The bulletin also describes margarine holding tubes and versatile sanitary Triplex pumps for continuous operation at pressures up to 800 psig in margarine production (P. O. Box 43, Louisville 1, Ky.)

RED JACKET COMPANY, INC., is now offering a completely revised brochure on their line of valves that will close drop-tight on entrapped solids without large external devices. They also have available a new bulletin on their Type "DW" valve for heavy duty. (500 Bell Ave., Carnegie, Pa.)

E. H. SARGENT & Co. has announced the availability of the latest issue of Scientific Apparatus and Methods, Vol. 12, No. 1. This magazine features articles on the new Sargent Dual Recording Titrator as a pH-Stat, the Leeds and Northrup pH Meter, a chart of Equilibrium Constants of Inorganic Compounds, and the Model 1600 Series of Micro-Tek Gas Chromatographs. (4647 W. Foster Ave., Chicago 30, Ill.)

THE WELSBACH CORP., Ozone Processes Div., has prepared a new Bulletin L-100, describing operations and detailing specifications for the new line of Welsbach laboratory ozonators and ozone meters. (Westmoreland & Stokley Sts., Philadelphia, Pa.)