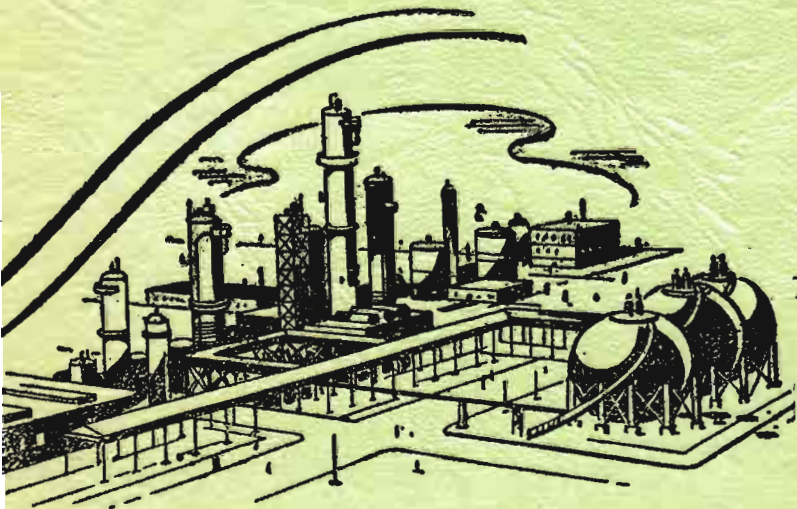


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INSTRUMENT
SOCIETY of
AMERICA



SARNIA SECTION



Monthly Bulletin



The Instrument Society of America

SARNIA SECTION

has as its objectives the advancement of the arts and sciences associated with the theory, design, and use of instruments in the various industries and technologies in the Sarnia area.

The immediate benefits derived by the Sarnia members include the monthly publication, *INSTRUMENTS*, a monthly general meeting at which a qualified speaker discusses an instrumentation topic, and a winter school for instrument men who are interested in improving their knowledge of currently available instruments, as well as their servicing techniques.

Through the activities of its many committees, the national Society is striving constantly for the improvement and standardization of instruments and instrumentation techniques in the process industries. It is therefore worthy of the support of everyone to whom Instruments are a livelihood.

Executive Officers for the 1953-54 season are:

Honorary President	MR. G. E. EVANS Tech. Supt. Polymer Corp.
President	WARREN McKAY Polymer Corp.
Vice President	JACK HEATLEY Imperial Oil Co.
Secretary	LARRY HALL Sun Oil Co.
Treasurer	EARL EVERINGHAM Polymer Corp.

Meetings are held each month on the fourth Monday at 8.00 P.M. The meeting place will be the Sarnia Y.M.-Y.W.C.A unless otherwise announced.

Membership dues are \$12.00 per annum for Members and \$7.50 for Associate Members, and are payable to the Treasurer of the Sarnia Section.

Correspondence relating to the general activities of the Sarnia Section should be addressed to L. J. Hall, Secretary, 730 Talfourd St., Sarnia. Correspondence concerning programs should be sent to H. Kohlmeier, Program Chairman, Polymer Corp., Ltd., Sarnia, Ontario.



*I*t was not so very long ago that accurate measurement of industrial processes depended entirely upon laboratory instruments. These instruments however, laboured under severe limitations for while they were extremely sensitive they were correspondingly delicate. Their mechanism could not withstand the corrosive atmosphere, shock, heat and vibrations characteristic to many of our industrial processes.

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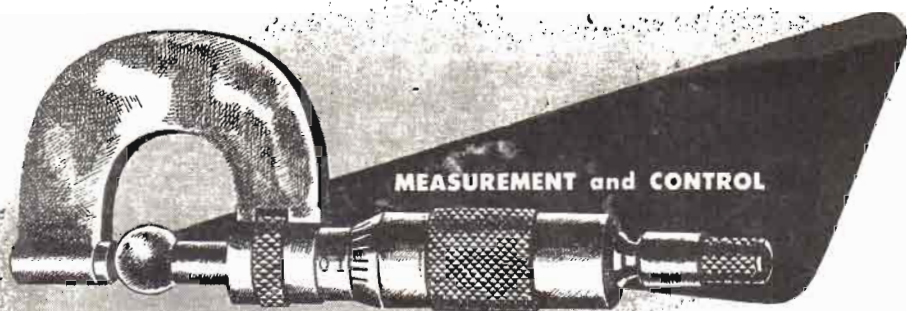
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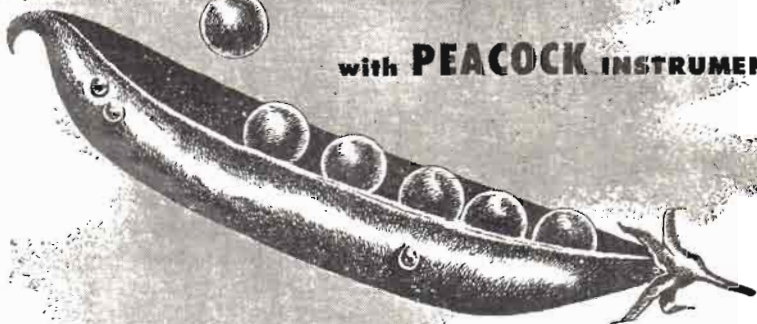
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The "BULLETIN"

VOLUME 3 No. 6

MARCH 1954

Editor: Larry Hall

Circulation Manager: A. Upfold

Asst. Editor: Ross Lindsay

Advertising Manager: H. Kohlmeier

Illustrator: N. Knowles

"Written on a Roll Chart": H. Hobbs

THE FEBRUARY MEETING

Long distance oil pipe lines was the theme of the February meeting of the Sarnia Section of the Instrument Society of America which was held at the Sarnia "Y" on Monday, February 22, 1954.

The program opened with a very interesting sound color movie entitled: "Oil Across the Rockies" which depicted the construction of the Trans-Mountain Pipe Line from Edmonton to Vancouver. The difficulties of laying a large pipe line across mountains, streams, rivers and through soft muskeg were vividly illustrated by the film, which took 40 minutes to run. Our thanks go to the Bechtel Corporation through whose courtesy the film was obtained.

In the absence of the president, the chair was taken by the vice-president, Jack Heatley, who first welcomed the several visitors present from Bechtel Corporation and the International Pipe Line Company. A recommendation from the Educational Committee to build instrument literature in the Technical Section of the Sarnia Public Library by our buying two books and a subscription to the I.S.A. Journal was unanimously endorsed by the membership.

A Nominating Committee consisting of Bert Elliott as chairman, and Bob Brayne, Hadley Cole and Dick Langler as members was appointed by the chairman. They are to bring in approved nominations for next year's executive at the March meeting, and elections will take place in April.

Mr. J. W. (Bill) Graeb was then introduced as the speaker for the evening. Bill chose "Instrumentation of Oil Pipe Lines" as his subject and illustrated with slides of the Sarnia pumping station.

One of the main difficulties in pipe line control is to keep the various products going through the line separated from each other as much as possible in order to prevent waste. Bill explained that in the Sarnia to Toronto products pipe line of Imperial Oil, there may be as many as eight different products at one time. Separation is best made by keeping turbulent flow in the line rather than streamlined flow.

Control of pipe lines is primarily pressure and amounts to limit controls rather than throttling controls. At times, it is necessary to have an over riding flow control, however, and the instrument hook-up to accomplish this was illustrated by the slides.

Perhaps the most interesting part of the talk was the description of the unattended pumping stations: that is, a completely automatic station under supervision of a human operator several miles away. The extent

to which automation is carried on such stations was graphically described by the speaker when he told of how the "go-devil", (a device put in a pipe line which is carried along by the oil flow to clean out the line) was made to bypass the pumps at such a station. Stainless steel sleeves are inserted in the line just before the pump suction and after the pump discharge with the pump lines being taken off the main line as a loop so that the main line is straight through. Between the points on the main line where the suction and discharge lines tie in is a check valve which is normally closed. As the go-devil reaches the first stainless steel sleeve, it causes a change in the magnetic flux surrounding the pipe which is detected and converted by instruments into a signal which causes the pumps to shut down. Since the pressure on each side of the check valve is now equalized, the check valve opens and the flow of oil (by pumps further upstream of the station) carries the go-devil past the suction line, through the check valve, and past the discharge line. The pumps may now be started again without danger of drawing the go-devil into the pumps and this is accomplished by the second stainless steel sleeve past the discharge tie-in, which initiates a signal to start the pumps.

The speaker was thanked by Gerry Crossman and the meeting was turned over to the Entertainment Committee for refreshments.

"A PROPHET IS WITHOUT HONOUR IN HIS OWN COUNTRY"

One of the policies formulated by the executive to guide the Program Chairman for this year was that at least one speaker for our monthly meetings should be a local man. The executive felt that just because a person works in Sarnia does not mean that he is incapable of delivering a technical paper on instrumentation. In fact, some of our best meetings over the years have been those in which a local man was the speaker. For its size, Sarnia is probably the most highly instrument conscious city to be found anywhere owing to the great number of process industries automatically controlled. So we have quite a few instrument experts who are just as good as the experts from the larger centres.

Of course, familiarity breeds contempt, as the old saw goes, and there was just a shade of doubt that using local speakers might result in a decreased attendance. But the policy stood and the Program Committee asked Bill Graeb, Chief Instrument Engineer for Imperial Oil Engineering Division, to speak at the February meeting. Now, Bill is a modest fellow and inclined to under rate his knowledge and experience in instrumentation and probably would not have been too surprised to find a small audience awaiting him at the "Y" the night of the meeting. But when he got there on time and found the audience consisted of TWO, both of who worked for him, and not even an executive member, it was too, too much. Bill doesn't say what he thought or felt but we can well imagine!

It was only after consulting the BULLETIN closely that the worried speaker found that he had arrived a week too early! Accustomed to

the long standing practice of the Sarnia Section of having the monthly meeting on the THIRD Monday of the month, Bill automatically turned up on Monday, February 16th, instead of Monday, February 22nd., the FOURTH Monday, which was recently adopted by the section because of the facilities available at the "Y".

Bill said his first reaction on discovering his mistake was to give the lecture anyway — to the city council, who were meeting there that night, but decided, on second thought, that they had enough headaches trying to set the tax rate without trying to absorb one of his papers. So he waited a week and to his satisfaction—and ours—found 52 members waiting to hear him out, and also to laugh over his absent minded predicament of the previous week.

INSTRUMENT BOOKS FOR THE LIBRARY

In an effort to stimulate more interest in the growing field of instrumentation, the Sarnia Section, I.S.A. decided at their February meeting to buy some instrument publications for the Sarnia Public Library. The texts chosen were two by Eckman, "Principles of Industrial Control" and "Industrial Instrumentation", a copy of "The Handbook of Measurement and Control" (an extra copy of which the Secretary has had for some time) and a year's subscription to the "Journal of the Instrument Society of America" starting with the first issue, January 1954.

While this move on the part of this year's section membership does not bind future memberships to a policy of donating instrument texts to the library, it is hoped that it will indeed become a policy, so long as financial conditions permit. The Library Board also will be buying instrument texts at the suggestion of our Educational Committee, and in time a substantial Instrument Library should be built up.

This is consistent with one of the chief aims of the Instrument Society of America, which is to stimulate interest in instrumentation and to encourage high school and college students to enter this field. We feel that having these publications and other instrument literature available at no cost to the students of the Sarnia area, will result in more interest in our field and possibly determining the future course of young men so that they will choose instruments as their field.

COMPLIMENTS FROM ARUBA SECTION

Our Bulletin goes all over the world. From far off Aruba, an island off the northern tip of South America, another "Bulletin", that of the Aruba Section of the Instrument Society of America, had this editorial comment in its December issue:

"Our hat is off to Editor Larry Hall and his staff for succeeding to have their publication done so nicely. Besides the working members of his staff there are specialists such as their illustrator: N. Knowles and 'written on a Roll Chart' by H. Hobbs. After reading the latter's column, this writer feels Columnist Hobbs is going to provide us with more interesting reading in the future. We are posting the cartoons by Illustrator Knowles in our Instrument

Shop. Keep the presses rolling, boys." Well, thanks fellow members of the Aruba Section. We like your "Bulletin" too, and always look forward to receiving it. For further "interesting reading", don't fail to follow the exploits of the aged instrument man, "Graybeard" and his helper, as is currently being depicted by columnist Hobbs. The first scene of the play is presented in the February issue, and the second scene in this issue. We don't know just whether Hobbs is going to write more scenes or not, but we hope he does, for we find them vastly entertaining, and to instrument men who have come up the hard way, more truthful than satirical. We have received a new batch of cartoons from our talented Illustrator, "Knobby" Knowles and to satisfy demand, are publishing them two at a time instead of the one per issue as heretofore. We hope these cartoons are being pinned up in instrument shops all over the widespread domain of the I. S. A.

WRITTEN ON A ROLL CHART (The Legacy)

(Continued from the February "Bulletin")

Scene II

A dimly lit portion of an industrial building. In the back-ground a long row of compressors. Above, a myriad of pipe and conduit. Hanging like jungle vines are numerous chains for operating the many valves. Surmounting all is the overhead crane, straddling the building and seeming to sit in continuous judgment of the machines below, it's massive, pendant hooks waiting to snatch up some offender and carry him struggling, to some more suitable place.—

Fore-ground, two figures stand in front of some cupboards, or closets whose doors are secured by an imposing padlock of some ancient make. One, a youth of attractive, energetic appearance. The other, much older and rather nondescript, fumbles through many pockets and unearths a large key.—

Graybeard:

"Good youth, this day is very suitable
To introduce to you a little more
The secrets of our own peculiar trade.
Behind these oaken doors, this goodly lock
Is evidence I've gathered through the years,
Equipment, tools, and sundry learned tomes
Which I bequeath, along with this advice,
Each item has its lesson, heed them well,
And you'll keep skating on the thinnest ice."

(Here Graybeard opens the padlock with a distinct grating sound and flings open the doors displaying a dark and cluttered interior.)

Graybeard:

"Behold the debris of a long career!
Intrinsically these things must rank quite low
But paltry as they are, the sight of them

Doth bring a trace of moisture to these eyes.
 Examine what you will, if anything
 Within these shelves beseems obscure a mite
 Pray ask, and I will tell thee, willingly.

Youth:

"Indeed, 'tis not a stimulating sight.
 More like the window of some broker's shop
 Long since bankrupt. His musty stock remains
 The muted proof of pledges unredeemed.
 Each article too poor to tempt a thief.—
 But here is something which I fail to see
 Has any bearing on our type of work.
 A large black cloak of ample roominess
 And sewn into the corners, quite secure,
 Are horse-shoe magnets of familiar shape."

Graybeard:

"The public dearly loves to watch our work.
 And as we make adjustments at the board
 They oftimes stand and breath upon our necks.
 These magnets hold the cloak well into place,
 And it protects you from the gimlet gaze
 As does the hood of a photographer.
 Work carried on beneath these goodly folds
 Is truly of a beneficial sort.
 For it preserves that air of mystery
 So useful to the bride.—I must remark
 That underneath this thing is rather dark."

Youth:

"And this, with long and rounded hickory shaft
 Surmounted by a ponderous hardwood block.
 It has distinct resemblance to the type
 Of maul, so well-beloved by the men,
 Who swinging lusty in the early morn
 Drive home the circus tent-pegs. Of what avail
 Is this device in our sedate profession?"

Graybeard:

"There are a sort of men who constantly
 Uneasy prowl before the panel-board.
 And as they gaze in gloomy worriement,
 At our good friends the faithful instruments.
 They pause and deal them sundry taps and blows
 As if percussion might assist their work.
 And if my heartfelt please do not suffice
 To turn them from their rapping, banging way
 I take this frightful cudgel in my grasp
 And with one swing produce the light of day.
 Percussion has its place in Krupa's band.
 But isn't needed here, please understand."

Youth:

"And here a mammoth casting doth appear
 Beyond the power of any man to lift.
 It squats immovable upon the floor
 Impervious to time and element.
 If this is part and parcel of our work
 I must decline to have to do with it.
 Its ugly weight would strain a team of mules."

Graybeard:

"Look well and thorough at this instrument,
 It is the product of another age
 Resembling nothing that we see to-day.
 And yet it was a most prolific sire
 Of all force-balance meters 'twas the first.
 Its numerous offspring throng throughout the land
 The man who built it we may call a hero
 But like the later models it won't zero.

Youth:

"This book with many dog-eared, tattered leaves
 Well thumbed and seemingly scrutinized.
 Mayhap a log? — A list of instruments?
 Some drawings, plans, or wiring diagrams?"

Graybeard:

"Not so, my friend, this volume doth contain
 The very soul of our activity.
 Which you and I, (between ourselves) admit,
 Is one part science, nine parts quackery.
 Now instruments have many vagaries,
 Some plain, but many more mysterious.
 And when these troubles have no ready cure
 We must dig deeper than the box of tools.
 We must have ready answers which will serve
 As explanations for obscure complaints.
 They shield us from oppression and may oft
 Divert attention to some other point.
 This book contains a lengthy well-tried list
 Of reasons, alibis, and good excuses.
 Monotony is a vice I do avoid,
 I here record the date when last employed."

Youth:

"You rightly give this book an honoured berth
 Impossible to calculate its worth!"

Graybeard stands with look of quiet pride while Youth continues to peruse book. A buzzer sounds raucously. They hurriedly lock the cupboard. An operator runs through the building shouting
 "H-3! The Torch, The Torch."

Exit all, at the double. The curtain falls.

—H. Hobbs.

MEETING NOTICE

DATE: Monday, March 22nd, 1954

PLACE: Sarnia YM-YWCA

TIME: 8.00 p.m.

SPEAKER: Mr. R. N. Pond
Divisional Sales Manager
Taylor Instrument Companies
Rochester, N. Y.

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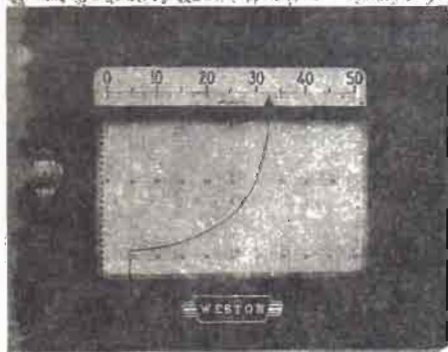
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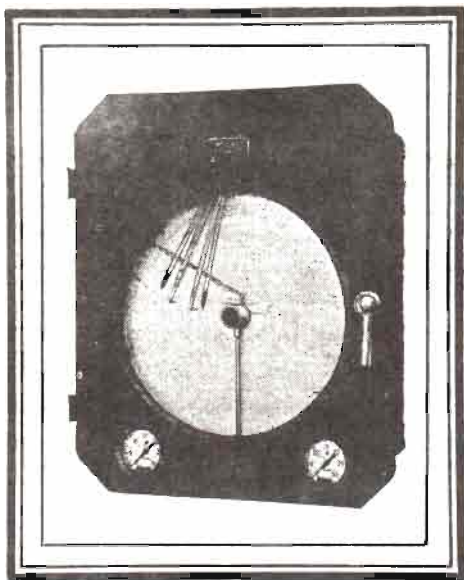
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