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President's Message:

Greetings all!

As our New Year starts I am looking forward to a great year as your President. It is with honor that I accepted this position, having the opportunity to represent an organization made up of professionals from such a wide range of disciplines. I thank you all for your support.

When I was first asked to consider the position of President, I felt that I could not possibly fill the boots (or hat, for that matter) of our last president, Daniel RAHN, who passed away unexpectedly in June of last year. Throughout the years I've found that many individuals come and go from our daily lives. The majority, are mere acquaintances that move on or drift from your life with little notice or long lasting affect. The minority, however, are individuals that one builds friendships with and that leave a long lasting impression on one's life, leaving you with a heart-felt sadness when they move on or depart from our lives. Dan was of the minority. As it was through Dan's push that I became involved with the Executive of the IABPA, so I guess, in some ways, it seems fitting that I now step into this position.

I am grateful to have met so many wonderful people through this organization and look forward to meeting many more in the year ahead. I'd like to welcome John Frederick [VP Region II] and Robert Spalding [VP Region IV] to the IABPA Executive and say that I'm looking forward to working with our dynamic new board. I also wish to recognize the efforts of the so many volunteers who year after year donate their time and effort to make this Association work.

For those that were able to attend our 2002 Conference in Harrisburg, PA, I'm certain you would agree that it was a **HUGE** success. Thanks to all of the individuals who contributed to the conference and for making it the success it was. A special thanks goes out to LeeAnn Singley who welcomed us into the State of Pennsylvania and took on the tremendous task of organizing such an event. Well-done LeeAnn.

Plans are well under way of the 2003 Conference in Odessa, TX. Thanks to Rick Pippins for taking on the task this year. I hear that everything is BIG in Texas, so I'm certain this too will be a huge success. I would encourage all of you who have an interesting case study or relevant research material to make a presentation at this year's conference. You are the organization, I need you to join me by staying informed, involved and in partnership with our Association.

I hope to see you in Texas.

As Dan would say, *Take care of yourselves and be good to one another.*

William (Bill) Basso

IABPA in Europe - a message from the first European Vice President

It was at the Annual Conference in Tucson in 2001 when the idea of a European Vice President was first suggested and discussed, and subsequently approved by ballot of the members. I was present at that Conference and fully supported the idea. In 2002 I was unable to attend but in my absence, possibly on the basis that I couldn't disagree, I was nominated for the office. Norm tells me that I have now been officially elected as the first European Vice President, a position that I am proud to accept.

I think it is most appropriate that we have a representative on the Board, as all the other members from the North American continent are represented. And we are growing in number. There are now over 60 members from Europe with the majority from the UK and The Netherlands, but also including members in Germany, France, Italy, Northern Ireland, Turkey, Finland, Sweden, Denmark, and Norway. The latest applications for membership include two from Iceland and one from Austria.

Interest in BPA and its significance is spreading, and I acknowledge the enormous contribution that our friends in the USA and Canada have made through the training courses and workshops they have presented in various European locations in recent years.

I should like to take this opportunity to appeal to all our European members to encourage your BPA colleagues to join the IABPA and make every effort to attend the Annual Conference. The members of the IABPA come from a wide variety of backgrounds, and work within organizations that have different structures, different management, and different codes of practice. This is apparent to anyone who attends the Annual Conferences, and the contributions from the European contingent have added considerably to the success of these Conferences.

All members of the Association share a common interest in BPA, and its application to the Criminal Justice system of our own country. By sharing our knowledge and our ways of working through the IABPA the organization will grow in strength, and you the members will benefit from belonging to this Association. It is the only organization devoted entirely to the study of bloodstain patterns, and the active

involvement of more European members will help it to fulfill its title as a truly International Association.

Have a good year and I look forward to seeing you at the Odessa Conference in October. If you wish to contact me about any BPA matters, I will be very pleased to hear from you.

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Technical Article:

DETERMINATION OF IMPACT ANGLE USING MATHEMATICAL PROPERTIES OF THE ELLIPSE

INTRODUCTION

The mathematical relationship between the impact angle of a blood droplet on a surface and the width and length ratio of the resultant bloodstain has been a long accepted principle of bloodstain pattern analysis. This relationship is often stated as,

$$\text{SINE } \theta = \frac{\text{Width}}{\text{Length}} \quad (\text{or abbreviated as } \text{SIN } \theta = \frac{\text{Width}}{\text{Length}}).$$

One of the critical skills for the student of bloodstain pattern analysis is to make proper measurements of the bloodstains width and length in order to calculate the proper impact angle. Improper measurement can greatly alter what is an estimate with respect to the impact angle. The traditional method, taught at many basic courses, involves envisioning a perfectly fitted ellipse superimposed on the bloodstain. No excess portions such as tails or spines, outside the boundaries of the ellipse should be included in the measurement determining the length and width. (See Figure –1.)

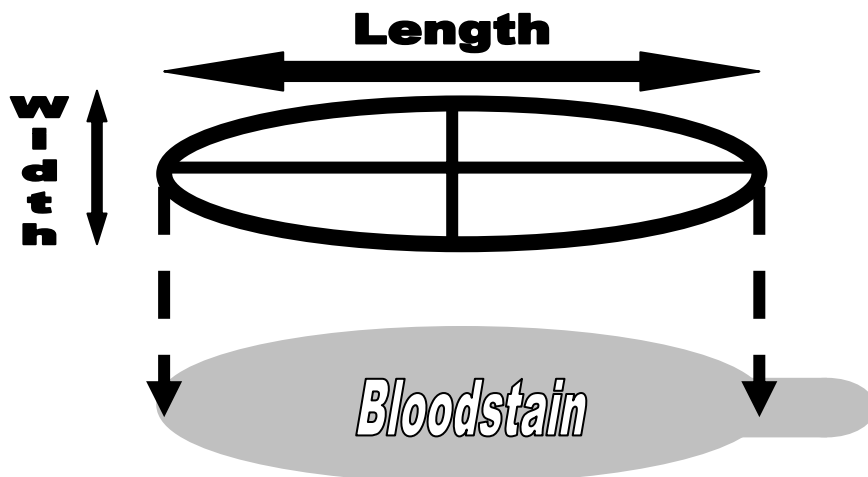


Figure –1

To determine the appropriate length and width measurements the analyst must envision a perfectly fitted ellipse superimposed on the bloodstain.

By selecting well-defined stains it is often easy to determine the width of a bloodstain. The excess tail portion may present some difficulty for beginning students in determining the length as it maybe difficult to envision where the vertex of the perfectly fitted ellipse falls within the extended tail region.

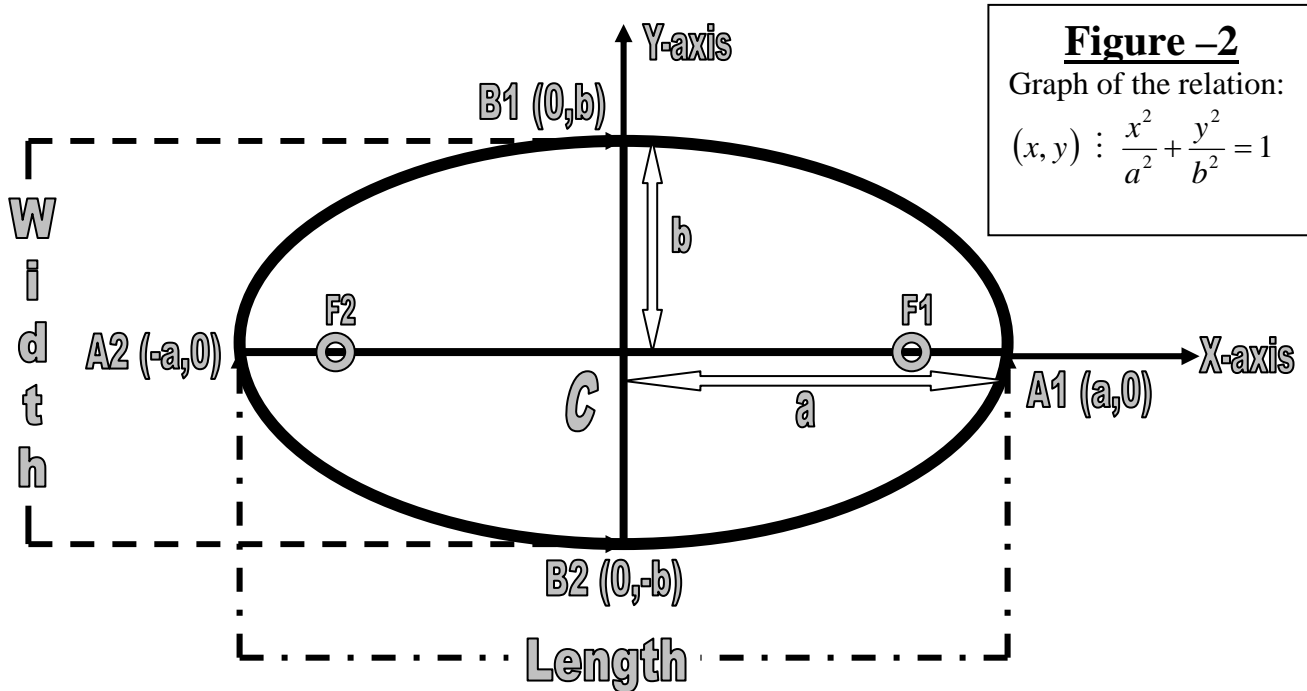
By exploring some mathematical properties associated to the general ellipse, we discovered additional methods of determining the ratio associated to the sine of the impact angle of a bloodstain.

GEOMETRY OF AN ELLIPSE

An ellipse is the set of all points, in a plane, the sum of whose distance from two fixed points (the foci) is constant. The standard general equation for an ellipse, with the length parallel to the x-axis and centered at the origin, can be stated as:

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

where the numeric values associated to “a” and “b” of this equation have a relation to the length and width of the ellipse. (See Figure –2.)



In Figure – 2 the points A1, A2, B1, and B2 are called the vertices of the ellipse. The points F1 and F2 are the foci (plural of “focus”) of the ellipse.

The line segment $\overline{A_1A_2}$ is called the major axis or more commonly the length by the bloodstain analyst. The midpoint of $\overline{A_1A_2}$ is “C” the center of the ellipse.

The line segment $\overline{B_1B_2}$ which is perpendicular to the major axis and through the center (“C”) of the ellipse is called the minor axis, or the width by the bloodstain analyst.

The distance from the vertex A1 to the center, is called the semi-major axis (“a”). Similarly the distance from the vertex B1 to the center of the ellipse, is called the semi-minor axis (“b”).

APPLICATION TO BLOODSTAIN PATTERN ANALYSIS

Note that the major axis (or length) is equal to “2a” while the measurement of the minor axis (or width) is equal to “2b.” We can substitute this information into the trigonometric equation involving the width and length to obtain:

$$\text{SIN } \theta = \frac{\text{Width}}{\text{Length}} = \frac{2b}{2a} = \frac{b}{a}$$

Thus the impact angle of a blood droplet can also be defined equally by the width / length ratio or by the semi-minor / semi-major ratio. This offers the analyst additional methods of determining the impact angle. One such method is by simply measuring the semi-minor and semi-major axis, and calculating a direct ratio. For example if a bloodstain had a semi-minor axis of 3 mm and a semi-major axis of 4 mm, this could be used to determine:

$$\text{SIN } \theta = \frac{3}{4} = 0.75 \Rightarrow \theta = \text{SIN}^{-1} (0.75) = 48.59^\circ$$

We could also determine the ratio associated with an impact angle by taking the actual width of the bloodstain and by doubling the measurement of the semi-major axis, that is:

$$\text{SIN } \theta = \frac{\text{Width}}{2a}$$

If we use the same data as above, the width would be 6 mm and the semi-major axis would be 4 mm and we obtain:

$$\text{SIN } \theta = \left(\frac{6}{2(4)} \right) = \left(\frac{6}{8} \right) = (0.75) \Rightarrow \theta = \text{SIN}^{-1} (0.75) = 48.59^\circ$$

Figure –3 demonstrates this concept on a bloodstain that impacted the target surface at a 30° angle. The first method demonstrates the semi-minor to semi-major axis ratio while the second method expresses the width over twice the semi-major axis ratio. Either method employed obtains the same angle of impact calculation.

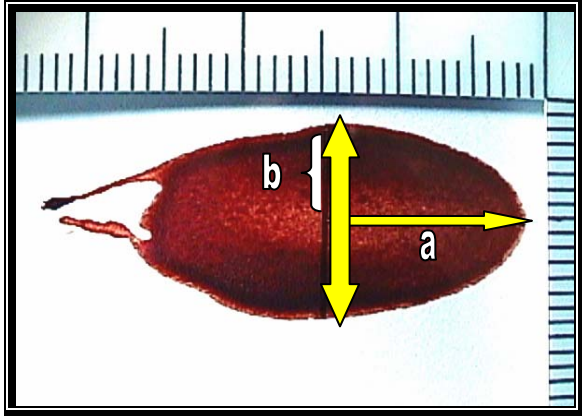


Figure – 3

Bloodstain where $b = 6\text{mm}$ and $a = 12\text{ mm}$.

$$(1) \quad \text{SIN } \theta = \frac{b}{a} = \frac{6}{12} = 0.5$$

or

$$(2) \quad \text{SIN } \theta = \frac{\text{Width}}{2a} = \frac{12}{2(12)} = \frac{12}{24} = 0.5$$

$$\theta = (\text{SIN}^{-1}) 0.5 = 30^\circ$$

CONCLUSION

This method maybe useful when one has difficulty determining the vertex of an elliptical bloodstain due to obscurity by the tail or spine. By using the half of the ellipse that is better defined, more accurate measurements may result. The beginning student might find this method easier and more accurate than the traditional technique. The experienced analyst who does not have access to current software programs (such as Dr. A. L. Carter's "Back Track ®" – Forensic Computing of Ottawa) for reconstruction purposes may utilize these techniques as an alternative or supplement to the traditional methodology.

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REFERENCES

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2003 IABPA Annual Training Conference

Odessa, Texas
October 8-10, 2003

Planning to attend?? Kindly phone or email Rick Pippins (see below) and indicate your intention to attend (no obligation). A brief contact will assist in the ongoing conference planning.

The Annual Conference is a great opportunity to be a presenter and offer a case or ongoing research to be reviewed and discussed by fellow and experienced members of the IABPA. As an attendee you will be given the opportunity to share your comments, questions and ideas. Remember....this is YOUR conference....help to make it a memorable one!!!!

Call For Presentations

Time slots for presentations will be limited. If you have an interesting case or research project, please consider presenting it at the 2003 IABPA Conference. It's never too early to reserve your time slot for your conference presentations.

If possible, we request that presentations be one half hour or less to allow more to participate. We also ask that you submit a short abstract (300-600 words) to be placed in the conference notebook.

2003 Conference Coordinator:

Detective Lieutenant Rick Pippins
Odessa Police Department
205 N. Grant
Odessa, Texas 79761

Voice: 915-335-3327
Fax: 915-335-3388
rpippins@ci.odessa.tx.us

CHECK THE IABPA WEBSITE (WWW.IABPA.ORG) AND UPCOMING NEWSLETTERS FOR UPDATED INFORMATION THROUGHOUT THE YEAR.

2003 IABPA Annual Training Conference

TENTATIVE SCHEDULE

Tuesday – October 7, 2003

On-site Registration Elegante Lobby	3:00pm - 9:00pm
Hospitality Room - Poolside Atrium	5:00pm - 11:30pm

Wednesday – October 8, 2003

Continental Breakfast	7:00am - 8:00am
Opening Remarks & Welcome by local officials	8:00am - 8:30am
Case Presentations	8:30am - 10:00am
BREAK	10:00am - 10:30am
Case Presentations	10:30am - 12:00pm
LUNCH	12:00pm - 1:00pm
Case Presentations	1:00pm - 2:30pm
BREAK	2:30pm - 3:00pm
Case Presentations	3:00pm - 4:30pm
Adjourn	4:30pm
Hospitality Room - Poolside Atrium	6:00pm - 11:30pm

Thursday – October 9, 2003

Continental Breakfast	7:00am - 8:30am
Case Presentations	8:30am - 10:00am
BREAK	10:00am - 10:30am
Case Presentations	10:30am - 12:00pm
LUNCH	12:00pm - 1:00pm
Case Presentations	1:00pm - 2:30pm
BREAK	2:30pm - 3:00pm
Case Presentations	3:00pm - 4:30pm
Adjourn	4:30pm
Meet in lobby to board buses for Annual Banquet, Dance Graham's Central Station	6:30pm

Friday – October 10, 2003

Continental Breakfast	7:00am - 8:30am
Case Presentations	8:30am - 10:00am
BREAK	10:00am - 10:30am
Case Presentations	10:30am - 12:00pm
LUNCH	12:00pm - 1:00pm
Business Meeting	1:00pm

PRESENTATIONS WANTED

Speakers are still being scheduled. If you have a case presentation, interesting case study, research project, etc. you wish to present, please contact Rick Pippins at 915-335-3327, 915-362-7131, FAX 915-335-3384, or e-mail rpippins@ci.odessa.tx.us or rpippins@nts-online.net

2003 CONFERENCE REGISTRATION INFORMATION

REGISTRATION FORM Complete the enclosed registration form and submit to:

Rick Pippins
Odessa Police Department
205 N. Grant Avenue
Odessa, TX 79761
Voice: (915) 335-3327

Or FAX to: (915) 335-3384 Attn: Lt. Rick Pippins

REGISTRATION MUST BE ACCOMPANIED BY PAYMENT. SEE PAYMENT OPTIONS BELOW:

FEES: \$185.00 USD PRIOR TO SEPTEMBER 1, 2003
\$200.00 USD AFTER SEPTEMBER 1, 2003
\$230.00 USD ON-SITE PAYMENT

STUDENT: \$150.00 USD PRIOR TO SEPTEMBER 1, 2003
\$175.00 USD AFTER SEPTEMBER 1, 2003

* REFUND REQUESTS **MUST** BE MADE **PRIOR** TO SEPTEMBER 1, 2003

PAYMENTS: BY CHECK OR CREDIT CARD

CHECK PAYMENT: MAKE PAYABLE TO: **IABPA**

MAIL TO: Rick Pippins
205 N. Grant Ave.
Odessa, TX 79761

CREDIT CARD PAYMENT: (VISA, MASTERCARD, AMERICAN EXPRESS)

CONTACT: Norman Reeves
(520) 760-6620 – voice
(520) 760-5590 – FAX
norman@bloody1.com

IABPA federal ID# 52-1597063

ON-SITE REGISTRATION WILL BEGIN AT 3:00 P.M. ON
TUESDAY, OCTOBER 7, 2003, AT THE HOTEL

2003 IABPA Annual Training Conference

Odessa, Texas
October 8-10, 2003

HOTEL INFORMATION:

MCM Elegante Hotel
5200 E. University Blvd.
Odessa, TX 79762

Voice: (915) 368-5885
Fax: (915) 362-8985

RATES:

\$65.00 USD Single / Double (+ appropriate tax)
A government rate of \$55.00 is available with proper credentials

FOR ADDITIONAL INFORMATION ABOUT THE AMENITIES OFFERED
BY THE MCM ELEGANTE HOTEL, VISIT THEIR WEBSITE AT:

www.mcmelegante.com

FOR MORE INFORMATION ABOUT ODESSA, TEXAS REGARDING
ATTRACTIONS, ENTERTAINMENT, DINING, ETC. VISIT THEIR
WEBSITE AT: (This is a very informative website.)

www.odessacvb.com

Training Opportunities

May 5-9, 2003

Spring Bloodstain Institute

Corning, New York



Herbert L. MacDonell
Bloodstain Evidence Institute

P.O. Box 1111

Corning, New York

Voice: 607-962-6581

Fax: 607-936-6936

E-mail: forensic@localnet.com

May 5-9, 2003

Advanced Bloodstain Pattern Analysis

By Paul Kish & Stuart James

Appleton, Wisconsin



Daniel Feucht
Fox Valley Technical College

Criminal Justice Department

1825 N. Bluemound Drive

Appleton, WI 54912

920-735-4725

E-mail: feucht@fvtc.edu

May 5-9, 2003

**Basic Bloodstain Pattern Recognition
Course**

North West Bloodstain Pattern Association



Bruce MacLean

780-451-7472

Fax: 780-495-4505

E-mail: bruce.maclean@rcmp-grc.gc.ca

May 19-23, 2003

**Advanced Bloodstain Pattern Analysis
and Expert Witness Workshop**

Miami, Florida



Toby L. Wolson, M.S.
Miami-Dade Police Department

Crime Laboratory Bureau

9105 NW 25th Street

Miami, FL 33172

Voice: 305-471-3041

Fax: 305-471-3350

E-mail: Twolson@mdpd.com

August 18-22, 2003

Basic Bloodstain Pattern Analysis

By Paul Kish & Stuart James

Newcastle-upon-Tyne, England



Alison Dubery
Keith Borer Consultants -Forensic Scientists

Mountjoy Research Centre

Durham, DH1 3UR England

+ 44-191-386-6107

E-mail: AlisonD@borer.demon.co.uk

August 25-29, 2003

Advanced Bloodstain Pattern Analysis

By Paul Kish & Stuart James

Newcastle-upon-Tyne, England

(See August 18-22, 2003)

October 13-17, 2003
Advanced Bloodstain Pattern Analysis

By Paulette Sutton
Denton, Texas

◆
Edward E. Hueske, Forensic Coordinator
University of North Texas
Criminal Justice Department
972-304-8668
Fax: 972-369-8663
E-mail: xprrtwit@aol.com

October 20-24, 2003
Basic Bloodstain Pattern Recognition
Course

North West Bloodstain Pattern Association

◆
Bruce MacLean
780-451-7472
Fax: 780-495-4505
E-mail: bruce.maclean@rcmp-grc.gc.ca

October 23-25, 2003
Association of Crime Scene
Reconstruction Annual Workshops
and Training Conference

Oklahoma City, OK

◆
Tom Bevel
2115 Westwood Dr.
Norman, OK 73069
405-447-4469
Fax: 405-447-4481
E-mail: tbevel1@cox.net
Web Site: www.acsr.org

October 27-31, 2003
Math & Physics as it pertains to
Bloodstain Pattern Analysis

By: Drs. Fred Carter & Brian Yamashita

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780-451-7472
Fax: 780-495-4505
E-mail: bruce.maclean@rcmp-grc.gc.ca

December 1-5, 2003
Basic Bloodstain Pattern Analysis

By Paul Kish & Stuart James
Appleton, Wisconsin
(See May 5-9, 2003)

December 8-12, 2003
Bloodstain Pattern Analysis
Workshop

Miami, Florida
(See May 19-23, 2003)

Training announcements for the
June 2003 Newsletter must be received
before May 19, 2003.

Editor's Message

I would like to thank Fons Chafe for his article submission and Adrian Emes, Vice President Region V for his correspondence, which appear in this issue of the *NEWS*. As you can see from this issue, there is an increase in the number of training opportunities for our membership. We currently have one addition article which is very near to publication.

Rick Pippins, Region III Vice-President has been hard at work preparing for the 2003 Annual Conference in Odessa, Texas. As you have noticed, we have included the Annual Conference Registration form in this issue of the *NEWS*. Please note the enclosed spousal tour registration form included in this issue of the *NEWS*. Rick has indicated the spousal tours have been sponsored by the Odessa Convention & Visitor's Bureau. It's not too early to think about submitting abstracts for presentation at the conference, to register for the conference or to make your hotel and travel reservations. Start planning your trip to the Annual Conference "NOW"!!

Call for papers: The IABPA *NEWS* needs research papers and case studies for publication in future issues. If you have been doing research in bloodstain pattern analysis or have an interesting case, please share it with all of us. Send your completed article to:

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Past Presidents of the IABPA

V. Thomas Bevel	1983-1984
Charles Edel	1985-1987
Warren R. Darby	1988
Rod D. Englert	1989-1990
Edward Podworny	1991-1992
Tom J. Griffin	1993-1994
Toby L. Wolson, M.S.	1995-1996
Daniel V. Christman	1997-1998
Phyllis T. Rollan	1999-2000
Daniel Rahn	2001-2002

Associate Editors of the IABPA News

Barton P. Epstein
Jon J. Nordby
Robert P. Spalding
Joe Slemko
Fons Chafe

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