

CHEMICAL HERITAGE FOUNDATION

**THOMAS L. ORTEL**

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview  
Conducted by

Helene L. Cohen

at

Duke University  
Durham, North Carolina

on

24, 25, and 26 October 2000

From the Original Collection of the University of California, Los Angeles

## **ACKNOWLEDGEMENT**

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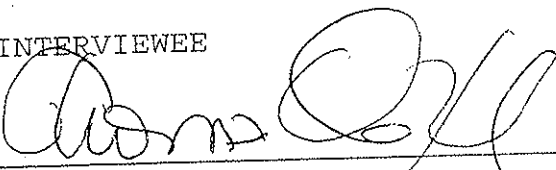
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Department of Medicine  
Duke University  
Box 3422, Medical Center  
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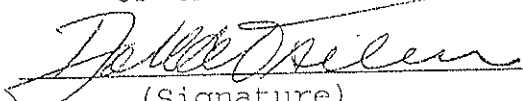
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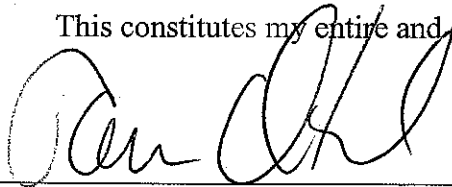
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## THOMAS L. ORTEL

1957 Born in Greenfield, Indiana, on 27 August

### Education

1979 B.S., Microbiology, Indiana University  
1983 Ph.D., Biochemistry, Indiana University  
1985 M.D., Indiana University

### Professional Experience

Duke University Medical Center

1988-1991	Fellow, Division of Hematology/Oncology
1991-1993	Associate in Medicine, Division of Hematology/Oncology
1993-1998	Assistant Professor, Department of Hematology/Oncology
1994-present	Assistant Professor
1995-present	Medical Director, Clinical Coagulation Laboratory
1999-present	Associate Professor, Division of Hematology
1999-present	Medical Director, Platelet Immunology Laboratory

### Honors

1979	Phi Beta Kappa
1981-1982	Indiana University Combined Degree Fellowship
1995	Pew Scholar in the Biomedical Sciences

### Selected Publications

- Moll, S. and Ortel T.L., 1997. Monitoring Warfarin Therapy in Patients with Lupus Anticoagulants. *Ann Intern Med*, 127: 177-85.
- Ortel, T.L. et al., 1998. Inhibitory anti-factor V antibodies bind to the factor V C2 domain and are associated with hemorrhagic manifestations. *Blood*, 91: 4188-96.
- Goel, N. et al., 1999. Familial antiphospholipid antibody syndrome: criteria for disease and evidence for autosomal dominant inheritance. *Arthritis Rheum*, 42: 3 18-27.
- Macedo-Ribeiro, S. et al., 1999. Crystal structures of the C2 domain of human coagulation factor V: Implications for Ca( 2+)-independent membrane binding. *Nature*, 402: 434-39.
- Sands, J.J. et al., 2000. Antibodies to bovine thrombin correlate with access thrombosis. *Am. J. Kidney Dis.*, 35: 796-801.



- Ortel, T.L. et al., 2000. Assessment of primary hemostasis by PFA-100® analysis in a tertiary care center. *Thromb. Haemost.*, 84: 93-97.
- Kelley, M.J. et al., 2000. Mutation of non-muscle myosin heavy chain A (*MYH9*) in May-Hegglin anomaly. *Nature Genetics*, 26: 106-8.
- Ortel, T.L. et al., 2001. Immunologic impact and clinical outcomes after surgical exposure to bovine thrombin. *Ann. Surg.*, 233: 88-96.
- Lewis, D.A. et al., 2001. Factor VIII Arg(2304)→His binds to phosphatidylserine and is a functional cofactor in the factor X-ase complex. *Thromb. Haemost.*, 85: 260-64.
- Izumi, T. et al., 2001. Fine mapping of inhibitory anti-factor V antibodies using factor V C2 domain mutants: identification of two antigenic epitopes involved in phospholipid binding. *Thromb Haemost.*, 85: 1048-54.
- Hansen, K.E. et al., 2001. Risk factors associated with thrombosis in subjects with antiphospholipid antibodies. *J. Rheumatol.*, 28: 2018-24.
- Schoenecker, J.G. et al., 2001. Exposure of mice to topical bovine thrombin induces systematic autoimmunity. *Am.J.Pathol.*, 159: 1957-69.

## ABSTRACT

**Thomas L. Ortel** grew up in on a farm in Indiana, the oldest of three children. His extended family lived in the corners of the farm. He and his siblings and cousins had farm chores to do, but then they were able to range all over the farm. Ortel attended a Lutheran two-room school with four grades in each room, ten children in his class. He always liked school, and he did well, except for penmanship. Religion was important through these years, but he made the transition from a Lutheran private school to a public secondary school, ten students in his class to about 150, pretty easily.

Weekly allergy shots and chicken butchering on the farm provided scope for an early interest in science, especially biology. Ortel attended Indiana University (IU), finishing with a double major in microbiology and chemistry. Never interested in other schools, he enrolled in the M.D./Ph.D. program at IU, where he entered the Frank W. Putnam lab to study protein chemistry. He describes his first years of medical school at Bloomington, Indiana, and his clinical rotations.

Ortel chose to study hematology/oncology at Duke University Medical Center; he liked the support and camaraderie there, as well as the fact that people seemed to connect basic science research to clinical practice (and, of course, the climate). During his three years as intern and resident he performed an eye-opening rotation in infectious disease in Dar es Salaam, Tanzania. Having become interested in coagulation, he decided to stay at Duke for a fellowship and from that point joined the Duke faculty. He discusses his lab's funding and funding in general; how he writes grants and journal articles; his teaching and administrative responsibilities; the ethnic and gender makeup of his lab and the faculty at Duke University Medical Center; and his lab management. He describes a typical workday, including some of his leisure activities.

Ortel continues with details about his current research on Factor VIII and interactions between immune systems and clotting mechanisms, and he explains the genesis of his ideas. He believes his medical practice has a very important influence on his basic research; conversely, he is mindful of searching for practical applications of his research. He answers the interview questions about current issues in science: patents; competition; ethics and the enforcement of laboratory ethics; genetic engineering; and the appropriate overseers of science. He loves the science he does and is accepting of the fact that there is always more to do, that one cannot ever catch up to his aspirations. He wishes he had more leisure time, but concedes that it is a matter of balance. If he could not be a scientist Ortel would stay in academics, in astrophysics or archaeology or anthropology. Future research and professional goals include settling his lab members in their own labs; developing more of a network of medical practitioners who recognize the importance and use of clotting; and finding a better balance in his own life. He feels that the Pew Scholars inclusion of MD/PhD scholars is an excellent acknowledgement of the importance of connecting the clinical and research aspects of medicine. Ortel concludes his interview with a graceful nod to how important and engaging the Pew Scholars oral history interview process is.

## UCLA INTERVIEW HISTORY

### INTERVIEWER:

Helene L. Cohen, Interviewer, UCLA Oral History Program. B.S., Nursing, UCLA; P.N.P., University of California, San Diego/UCLA; M.A., Theater, San Diego State University.

### TIME AND SETTING OF INTERVIEW:

**Place:** Ortel's office, Duke University.

**Dates, length of sessions:** October 24, 2000 (102 minutes); October 25, 2000 (103); October 26 (103).

**Total number of recorded hours:** 5.8

**Persons present during interview:** Ortel and Cohen.

### CONDUCT OF INTERVIEW:

This interview is one in a series with Pew Scholars in the Biomedical Sciences conducted by the UCLA Oral History Program in conjunction with the Pew Charitable Trusts's Pew Scholars in the Biomedical Sciences Oral History and Archives Project. The project has been designed to document the backgrounds, education, and research of biomedical scientists awarded four-year Pew scholarships since 1988.

To provide an overall framework for project interviews, the director of the UCLA Oral History Program and three UCLA faculty project consultants developed a topic outline. In preparing for this interview, Cohen held a telephone preinterview conversation with Ortel to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Ortel's file at the Pew Scholars Program office in San Francisco, including his proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For technical background, Cohen consulted J.D. Watson et al., *Molecular Biology of the Gene*. 4th ed. Menlo Park, California: Benjamin/Cummings, 1987; Bruce Alberts et al., *Molecular Biology of the Cell*. 3rd ed. New York: Garland, 1994; and Horace F. Judson, *The Eighth Day of Creation*. New York: Simon and Schuster, 1979, and recent issues of *Science* and *Nature*.

The interview is organized chronologically, beginning with Ortel's childhood in Greenfield, Indiana, and continuing through his undergraduate work at Indiana University, his graduate work and medical training at Indiana University, and the establishment of his own lab at Duke University Medical Center. Major topics discussed include his first years of medical school at Bloomington, Indiana, the origins of his interest in coagulation and hemophilia mutations, and his current research on Factor VIII, interactions between immune systems, and clotting mechanisms.

## ORIGINAL EDITING:

La'Tonya Rease Miles, editorial assistant, edited the interview. She checked the verbatim transcript of the interview against the original tape recordings, edited for punctuation, paragraphing, and spelling, and verified proper names. Words and phrases inserted by the editor have been bracketed.

Ortel reviewed the transcript. He verified proper names and made a number of corrections and additions.

William Van Benschoten, editor, prepared the table of contents. Miles assembled the biographical summary and interview history. Romi Keerbs, editorial assistant, compiled the index.

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