Kim Williams

*Nexus 2002:
Relationships Between Architecture and
Mathematics*

15-18 June 2002, Óbidos, Portugal

The fourth conference in the Nexus series for architecture and mathematics shared with its predecessors the cordial, stimulating atmosphere that has characterized Nexus since the beginning, as well as the truly international, interdisciplinary roster of participants and speakers. Participants came from Portugal, Italy, the United Kingdom, France, Germany, Denmark, Turkey, the United States, China, Canada and Australia, and represented the disciplines of architecture, mathematics, historians of both fields, education, computer science, chemistry, engineering. The conference was co-directed by myself and José Francisco Rodrigues of the Centro de Matemática e Aplicações Fundamentais of the University of Lisbon.

Several things distinguished this year's conference. First, this was the first year that the Nexus conference had the privilege of inviting four distinguished speakers, Lionel March, Alberto Pérez-Gómez, Robert Tavernor and Marie-Thérèse Zenner. Each of these presentations set the tone for that morning or afternoon's session, contributing to the cohesion of each session. In contrast to previous conferences, the other thirteen presentations at Nexus 2002 were chosen from the more than ninety abstracts received following a Call for Papers issued in spring 2001. The Call for Papers was so successful that we will be choosing papers for the Nexus 2004 conference using this method. Papers chosen from the Call for Papers were presented at this year's conference by João Pedro Xavier, Peter Schneider, Sylvie Duvernoy, Randy Swanson, John Hatch, Rumiko Handa, Alpay Özdural, Anthony Scibilia, Andrew Li, Vini Nathan, Steven Fleming, and Graham Pont (co-author with Peter Proudfoot). Richard Padovan was unable to attend the conference (but you can read his paper in the *Nexus IV* book, but Leonard Eaton and Stephen Wassell graciously accepted my invitation to present brief accounts of their latest projects, respectively on the work of engineer Hardy Cross and the sixteenth-century treatise of engineer Silvio Belli.

The other innovation of this year's conference was the special session on Computer Tools for Architecture and Mathematics organized by José Francisco Rodrigues. This special session recognized the now established presence of the computer in architecture, both as a conceptual tool and an instrument for engineering or use analysis. Presenting papers at the Computer Tools session were Jean Brangé, Robert Scharein and Ulrich Kortenkamp. Jürgen Richter-Gebert gave the concluding talk of the session.

This was the first Nexus conference to take place outside of Italy, which brought a new audience to the conference and added a new dimension to the discussions, especially the Round Table discussion. The Round Table, moderated by Judith Moran, was dedicated to the role of mathematics curriculum (see the transcription in this issue of the

NNJ). The experiences of Portuguese educators regarding mathematics and architecture shed a particular light on the education of architects.

The opening evening of the conference on Saturday 15 June was highlighted by the opening of an exhibit on Portuguese sundials entitled “As Sobras do Tempo...In the Shadows of Time”. The exhibit was coordinated by Adelaide Carreira, Ana Paula Silva, Pedro Miguel de Oliveira, Suzana Metello de Nápoles and realised by Projecto Matemática em Acção-Centro da Matemática e Aplicações Fundamentais da Universidade de Lisboa, is the result of research concerning the relationship between Astronomy and Mathematics.

As is by now customary, the Nexus conference closed with a post-conference excursion that allowed participants to experience first-hand some of Portugal’s splendid medieval architecture. João Pedro Xavier was our guide for visits to the monasteries of Alcobaça and Batalha, and it was fun to hear how the comments as we visited the monasteries reflected ideas that we had been hearing presented during the conference. For instance, at Alcobaça we found a beautiful tiled wall narrating the founding of the monastery in which were shown architects and angels laying out the foundations by “stretching the cord”, as described in Peter’s Schneider’s presentation, while in Batalha, the Manuelline stonework of the unfinished octagonal chapel contained myriad examples of the knots that Robert Scharein had presented in the Computer Tools session.

It is thanks to José Francisco Rodrigues that we were able to bring Nexus to Portugal in the first place, and I am grateful for his enthusiasm and the hard work that went into making the conference happen. José Francisco and I wish to thank Telmo de Faria, mayor of Óbidos for the splendid local arrangements and superb hospitality offered to us by the town of Óbidos. We also wish to thank Paula Ganhão and Mary Ellen Lawrence for their logistical assistance at the conference, and the audiovisual technicians for managing the projection equipment in such splendid style as well as the tape recording of the Round Table discussion. And finally, we gratefully acknowledge the support of the sponsors of this year’s conference: the Fundação Calouste Gulbenkian, the Fundação para Ciência e a Tecnologia of the Portuguese Ministério da Ciência e das Universidades (Apoio do Programa Operacional Ciência, Tecnologia, Inovação do Quadro Comunitário de Apoio III) and the Fundação Luso-Americana (FLAD).

The papers presented at the conference are published in the book, *Nexus IV: Architecture and Mathematics* (Fucecchio, Florence: Kim Williams Books, 2002; ISBN 8888479090).

About the Author

Kim Williams is the founder of the Nexus conferences on architecture and mathematics and the editor-in-chief of the *Nexus Network Journal*.