

**Loet Leydesdorff
wins the
2003 Derek John de Solla Price Medal**

The Editorial and Advisory Board and the Publishers of *Scientometrics* are glad to announce that the 2003 Derek John de Solla Price Medal has been awarded to LOET LEYDESDORFF for his distinguished contributions to the field of scientometrics.



LOET LEYDESDORFF,
the winner of the
2003 Derek John de Solla Price Medal

Loet Leydesdorff: Recipient of the 2003 Derek de Solla Price Award

RONALD ROUSSEAU

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When I was asked to deliver this laudatio I thought ‘piece of cake’, this speech will organize itself: it will be a self-organizing event. The hard truth of course is that words in Dr. Leydesdorff’s publications do not always mean what they seem to mean at first sight, and my brain, the most personal of all neural networks, needs some training before anything gets organized.

Loet Leydesdorff and I first met during the very first conference on scientometrics and informetrics at Diepenbeek (Belgium) in 1987. His talk, entitled “Co-words and citation relations between document sets and environments” (LEYDESORFF, 1988) drew my attention and I had occasion later to cite the corresponding article published in the conference proceedings (AHLGREN et al., 2003). What, however, made the biggest impression on me, and many other conference participants, was his warm laugh. It was always very easy to find Loet: one just had to listen carefully, and one could immediately locate him.

When preparing this talk I had another look at his Diepenbeek article and it struck me how characteristic it is for his earlier work. Just listen to the following list of keywords and phrases: citations and co-citations, co-word analysis, co-words in titles, indexer effect, ‘the problem of what citations mean’, dynamics of science, the problem of how to map science, Pearson correlation coefficient, Jaccard coefficient, Salton cosine measure, dendrograms, biochemistry documents. In this conference article matrices were factor-analyzed, cluster analysis was pursued using Ward’s mode, and the problem of the choice of a similarity coefficient was studied. In the reference list he cites: Susan Cozzens, Henry Small, Eugene Garfield, Michel Callon, John Law, Arie Rip, Jean-Pierre Courtial, Olga Amsterdamska, Gerard Salton and ... Loet Leydesdorff of course. The conclusion of the article was that one should preferably stick to title words instead of keywords for co-word analysis.

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0138–9130/2004/US \$ 20.00
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At occasions like this it is customary to present an overview of the awardee's career. So, let me begin by saying that Loet Leydesdorff was born on this continent, namely in Indonesia in 1948. In 1965 he started studies in biochemistry (so no wonder that he studied biochemical documents in his Diepenbeek article). In 1969 he obtained the bachelor's degree in chemistry and in 1973 the master's degree in biochemistry. However, already as a student he became highly interested in the relation between science and society. As a result, Loet became a shopkeeper. Not of a grocer's or butcher's shop, but of a science shop, where citizens, students and researchers could get help in science-related questions. All these activities further resulted in a large interest in philosophical questions, leading in 1977 to a Master's degree of arts in philosophy. One may say that Loet Leydesdorff got a philosophical degree, before he obtained a Ph.D.

Later he got the opportunity to direct an interdisciplinary unit on science dynamics at the University of Amsterdam. In 1984 he obtained a Ph.D. in sociology as the result of a study of the relationship between employees and technological innovation policy. The conclusions of this thesis were rather negative: knowledge-guided developments can't be observed on the so-called 'lower end', this is by the employees and their unions. This lead to the question: how then can effects of scientific developments be measured? A simple answer to this is: by the publication of a new scientific journal. And this is something that can be monitored – at least to some extent – by studying the *Journal Citation Reports*. The day Loet Leydesdorff realized this he drew his first scientometric matrix, and threw some factor analysis on top. He was in business again: our business this time. This line of thinking led to the article "The development of frames of references" (LEYDESORFF, 1986), cited 22 times since then, according to the Web of Science.

Another important step in the scientific thoughts and work of Loet Leydesdorff was the realization that the entropy concept can be used as the basis of a scientometric calculus. This in turn would lead to his famous book *The Challenge of Scientometrics* (LEYDESORFF, 1995), of which the 1995 edition has been cited 38 times already. This book has been translated in Japanese and in Chinese under the title '*Ke xue ji liang xue de tiao zhan*'. One of the influences on the developments described in this book comes from the distinction that exists in Chinese between the word for information as a mathematical definition, [xin xi] and the word for information-gathering, or status report [qing bao].

Another important step came in 1992, when he studied self-organization in a technological (and economical) context. This lead to the book *Evolutionary Economics and Chaos Theory: New directions in technology studies* (LEYDESORFF & VAN DEN BESSELAAR, 1994) and to the triple helix idea, culminating in another book *Universities and the Global Knowledge Economy: A Triple Helix of University-Industry-Government Relations* (ETZKOWITZ & LEYDESORFF, 1997). This book too has been translated in Chinese.

Although mathematically difficult to visualize, the triple helix idea is a strong metaphor that can function as a heuristic for many interesting studies in our field. Let me just mention in this respect that his article *The dynamics of innovation: from National Systems and "Mode 2" to a Triple of university-industry-government relations*, written in collaboration with Henry Etzkowitz, and published in the journal *Research Policy*, in the year 2000, is already cited 25 times (ETZKOWITZ & LEYDESORFF, 2000).

In recent years Leydesdorff's interest goes mainly to simulation studies and their relation to evolutionary developments. There he studies path-dependencies, lock-ins and irreversibilities. Because feedback-mechanisms in such systems are related to non-linearities, this is a complex, and sometimes counter-intuitive field of study.

Loet Leydesdorff is now a Senior Lecturer at the Amsterdam School of Communications Research (ASCoR) of the University of Amsterdam. He is a member of the editorial board of *Scientometrics*, *Social Science Information*, *Industry and Higher Education*, *Cybermetrics* and the *Journal of Technology Transfer*, among others. He has been a visiting researcher at the National Institute of Science and Technology Policy (NISTEP) in Tokyo (Japan), and of the University of Calgary, Canada. He was, moreover, Maître de Recherche au Centre de Sociologie de l'Innovation, at the Ecole Nationale Supérieure des Mines in Paris. So besides Dutch, English and German, Loet Leydesdorff is also fluent in French and even Italian (this language in the holiday language mode).

As many of the former Price awardees, and as Derek de Solla Price himself, Loet Leydesdorff is not a pure scientometrician. His research focus can best be described as the development of science and of systems in general.

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The organisers of the conference wish to acknowledge the support of the National Natural Science Foundation of China (NNSFC), ISI – Thomson Scientific, the Chinese Association for Science-of-Science and S&T Policy (CASTP), and the Chinese Association of Science and Technology. They thank the Documentation and Information Center of the Chinese Academy of Science (DICCAS) for the hospitality provided during the conference.