

## A Tribute to Richard Nelson (1930-2025)

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### 1. Introduction

I begin this tribute with a brief personal note that reflects the character of Richard Nelson. I met him in Athens in 2017. After one of his interventions at the Globelics conference, several young attendees, including myself, approached him. To our surprise, he spent a generous amount of time in a lively conversation filled with thoughtful advice for our future academic careers. In the end, we took a photo together that remained as a memory of the moment.

Eight years later, Richard Nelson is gone. His passing has profoundly shaken the innovation studies community. We have lost a towering figure whose thinking extended well beyond the study of innovation and technological change, securing him a place among the foremost economic thinkers of our time. Nelson was notable for the breadth of his intellect and the multifaceted nature of his work. He was not only a brilliant author, with publications in leading economics journals, but also an organiser who led several of the most important collective efforts within the innovation community over many decades of prolific activity. He was a mentor who trained generations of economists and, above all, was recognised by those who knew him as an exceptional human being.

This text is part of a broader effort to commemorate Richard Nelson's legacy. Several tributes from colleagues have already offered profound insight into Nelson's contributions (see Cantner and Verspagen, 2025 and Dosi et al., 2025). Among these, the article published in *Research Policy* by Martin and Steinmueller

(2025) stands out as a particularly comprehensive reflection on the breadth and depth of his work. After such thoughtful and personal accounts from close collaborators, one might feel that little more needs to be said. Yet Nelson's work is so extensive and influential that no single tribute can fully capture it. In this spirit, I have chosen to remember him in a somewhat unconventional way. Drawing on social network analysis, I present a visualisation of his core ideas and collaborations within the scientific community. The purpose is to offer a broad overview of Richard Nelson's intellectual legacy, rather than a detailed bibliographic analysis of his scientific output.

## 2. Nelson's work

The analysis began by identifying the works authored by him that are indexed in Google Scholar. After removing duplicates and correcting various indexing inconsistencies, 178 publications remained in the dataset. Collectively, these works account for an impressive total of 193,245 citations. The sample was restricted to publications with more than 50 citations, including peer-reviewed articles and books, whether authored or edited by Nelson. I also included volumes that he coordinated, such as *National Innovation Systems: A Comparative Analysis* (Nelson, 1993) and *Technical Change and Economic Theory* (Dosi et al., 1988), as they bear the clear imprint of his thinking and rightfully deserve inclusion in a retrospective of this kind (see Table 1).

**Table 1.** Top 10 Most Cited Works of Richard Nelson

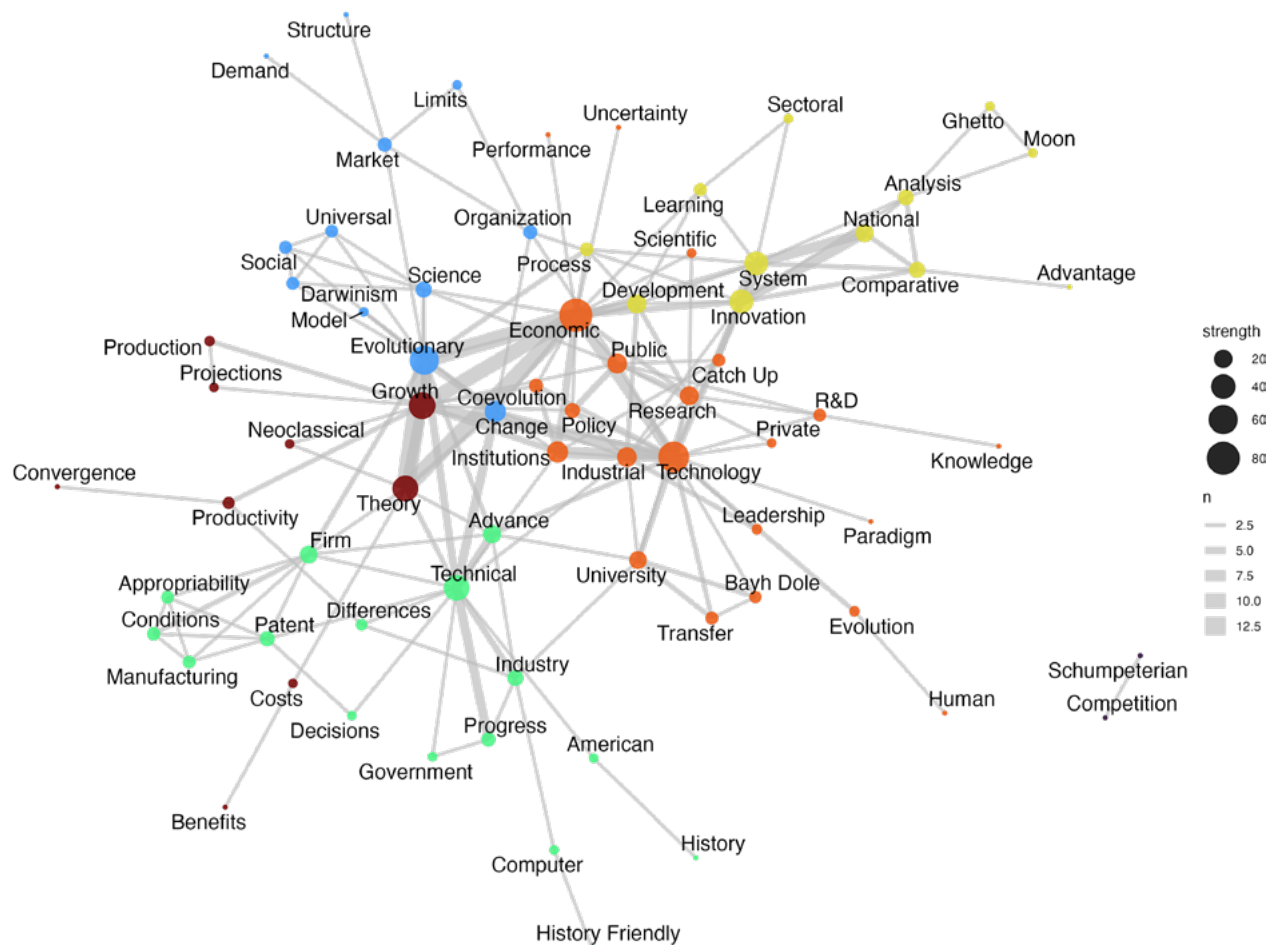
Num.	Title	Citations	Year	Author/Editor
1.	An evolutionary theory of economic change	55885	1985	R. Nelson, S. Winter
2.	National innovation systems: a comparative analysis	16039	1993	R. Nelson
3.	Investment in humans, technological diffusion, and economic growth	7520	1966	R. Nelson, E. Phelps
4.	Technical change and economic theory	6076	1988	G. Dosi, C. Freeman, R. Nelson, G. Silverberg, L. Soete
5.	Appropriating the returns from industrial research and development	6024	1987	R. Levin, A. Klevorick, R. Nelson, S. Winter, R. Gilbert, Z. Griliches
6.	The simple economics of basic scientific research	5387	1959	R. Nelson
7.	Protecting their intellectual assets: appropriability conditions and why us manufacturing firms patent (or not)	5213	2000	W. Cohen, R. Nelson, J. Walsh
8.	In search of useful theory of innovation	4210	1977	R. Nelson, S. Winter
9.	Links and impacts: the influence of public research on industrial R&D	4110	2002	W. Cohen, R. Nelson, J. Walsh
10.	Why do firms differ, and how does it matter?	4053	1991	R. Nelson

Table 1 showcases the profound impact of several of Professor Nelson's most influential works. Leading the list is the book *An Evolutionary Theory of Economic Change* (Nelson and Winter, 1985), a paradigm-shifting contribution to the field. This foundational text offers a well-grounded alternative to dominant neoclassical economic thought and has become an indispensable reference in the study of evolutionary economics.

### 3. Core ideas

With the objective of examining the fundamental concepts addressed in his work, the first step was to identify the keywords used in the titles of the writings included in the dataset. I have always had the impression that Professor Nelson was a master at titling his publications. He often used short titles that effectively captured his core ideas. As usual, stop-words were removed from the list. Then a link between two words was created if they appeared in the same title. Only links that appear more than twice were retained. This generated a conceptual network consisting of 73 nodes and 171 edges. Several clusters were identified with the Louvain community detection algorithm. The results can be seen in Figure 1.

**Figure 1.** Network of main concepts in Nelson's work. Note: Node size reflects weighted degree centrality; colours represent conceptual clusters identified using the Louvain algorithm.



As shown in Figure 1, the network reveals the conceptual breadth of Nelson's work, with distinct yet interconnected clusters. The first cluster brings together concepts such as Growth, Theory, Productivity, Production, and Neoclassical. It summarises his studies on the foundations of economic growth, determinants of productivity, and the role of technological change and innovation in capitalist societies (Nelson, 1964, 1994, 1997; Nelson and Phelps, 1966).

In the second cluster, words such as Evolutionary, Change, Coevolution, Science, and Organisation appear. This group appears to reflect the important efforts devoted to Nelson developing an alternative vision rooted

in an evolutionary theory of economic change, in contrast to the mainstream economic thought (Nelson and Winter, 1985, 1974, 1977; Nelson, 2016).

The third cluster connects keywords such as Innovation, System, National, Development, and Learning, reflecting his foundational contributions to the theoretical bases of national innovation systems (Nelson, 1993, 1996, 2000; Nelson and Rosenberg, 1993). We should remember that Nelson was one of the academics that contributed the most to consolidating the innovation systems approach after its emergence in Europe.

The fourth cluster, more focused on technology, connects concepts such as Economic, R&D, Research, Catch-up, Knowledge, Institutions and Policy (Cimoli et al., 2005; Cohen et al., 2002; Nelson, 1995; Nelson and Nelson, 2002; Rosenberg and Nelson, 1994). This group reflects the central role of technology in the economy, including the role of knowledge production and innovation for the catching-up process. Industrial policy, also addressed in his influential book *The Moon and the Ghetto* (Nelson, 1977), is particularly notable within this cluster.

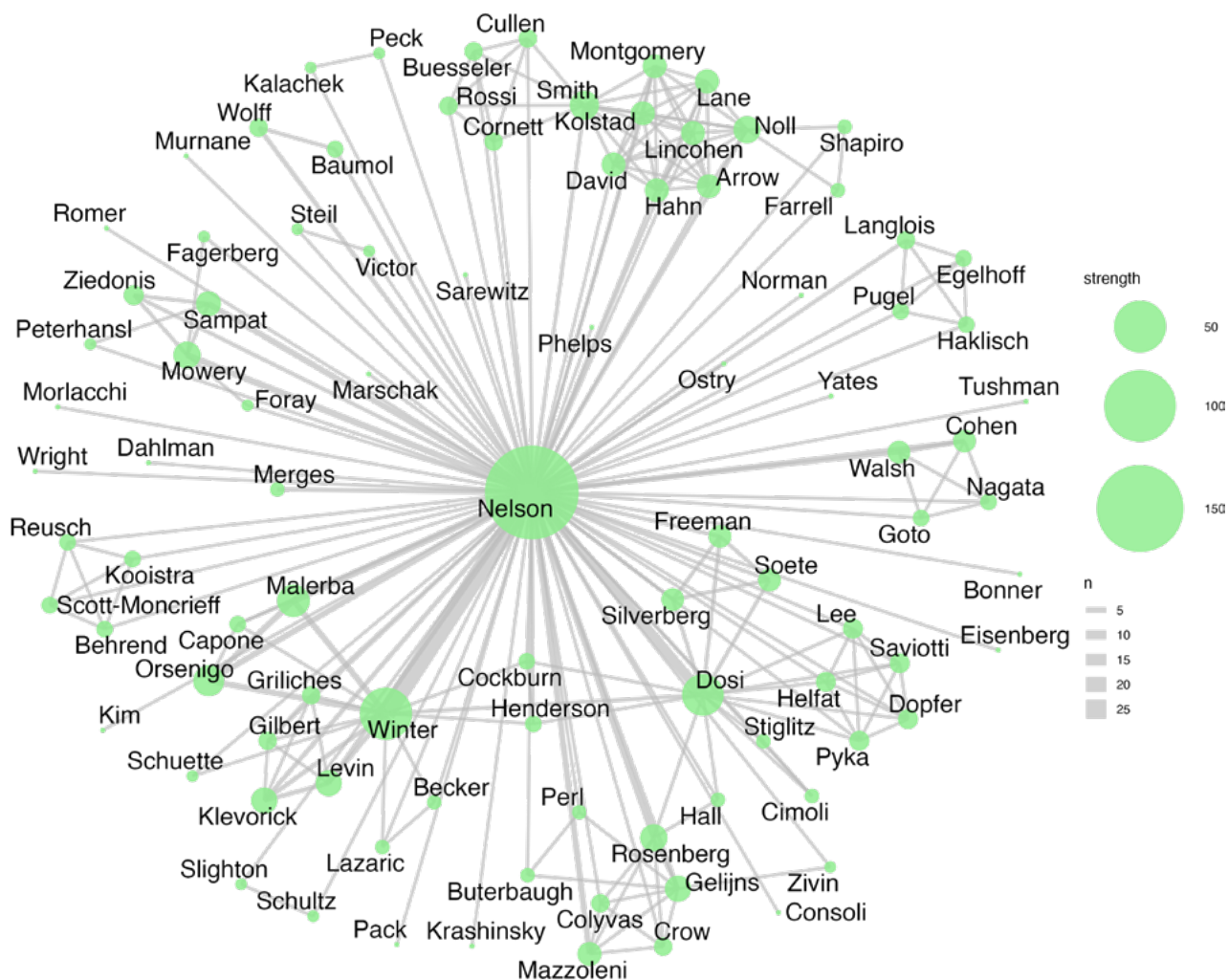
The final cluster consists of concepts such as Firm, Patent, Technical, Advance, and Manufacturing (Cohen et al., 2000; Malerba et al., 1999; Mazzoleni and Nelson, 1998). This group of words is oriented towards the study of the microeconomic dimension of technological change and productive processes. This recalls the efforts of Nelson in the study of the microfoundations of evolutionary economics and the theory of the firm.

Clearly, these five clusters do not capture the full richness of Nelson's thought. They offer only a preliminary sketch of some key aspects of his work, always with the inherent risk of overlooking important contributions. They can not be seen as rigid or self-contained; instead, they are deeply interconnected.

#### 4. Collaborations

For an author of intellectual depth, long career, and profound impact, such as Richard Nelson, his collaborations reveal an interesting pattern. By today's standards, where many researchers are encouraged to collaborate more frequently, Nelson co-authored relatively few writings. Most of his work was published as single-authored publications (46.6% of the total in the dataset) or was written with only two collaborators (32% of the total in the dataset). Yet, his co-authors stand out because nearly all of them went on to have prominent research careers. The network of collaborations, which consists of 94 authors and 237 joint papers, is shown in Figure 2.

Figure 2 highlights the compact, but high-calibre nature of Nelson's collaborations. Each connection represents a relationship with lasting academic impact. Among these, his work with S. Winter stands out as it laid the foundations for evolutionary economics (Nelson and Winter, 1974, 1977, 1985). In the same direction, another key collaborator was G. Dosi (Dosi et al., 1988; Dosi and Nelson, 2010), with whom he further advanced the development of the discipline. Here are also very relevant his close ties with the Science Policy Research Unit (SPRU) at Sussex University and the founding figures of the innovation systems approach in Europe, such as C. Freeman and Luc Soete (Dosi et al., 1988). Some other frequent collaborators were F. Malerba, alongside L. Orsenigo and S. Winter for the development of history-friendly models for the study of industrial evolution (Malerba et al., 1999); N. Rosenberg with whom he focused on the US Innovation System (Nelson and Rosenberg, 1993; Rosenberg and Nelson, 1994); or D. Mowery, with whom he concentrated on industrial dynamics (Mowery and Nelson, 1999). Also notable were his collaborations with three Nobel laureates, Edmund Phelps (Nelson and Phelps, 1966), Paul Romer (Nelson and Romer, 1996), and Joseph Stiglitz (Cimoli et al., 2005).



**Figure 2.** Main academic collaborations of Richard Nelson. Note: Node size reflects weighted degree centrality

## 5. A Legacy of Intellectual Integrity and Depth

This brief overview of Richard Nelson's intellectual work highlights his substantial contributions to economics. Despite the limitations of the approach adopted, the objective is to provide a reflection of the breadth and depth of his scholarship. The analysis demonstrates the wide range of topics he addressed but always connected to his central concern: understanding how capitalist economies develop and grow. It also highlights his network of collaborators, distinguished by their exceptional intellectual acumen.

Beyond what the images and figures tell us, as an academic, Richard Nelson stood as a model of intellectual honesty. He distanced himself from fleeting academic trends, choosing instead to focus on deeper, more enduring questions. Unafraid to challenge orthodox economic thinking, he revived Schumpeterian ideas and contributed substantially to lay the foundations of what we now recognise as evolutionary economics.

He left behind not just a legacy of innovative economic thinking, but also a powerful demonstration that there is intellectual life beyond the confines of general equilibrium theory. His multifaceted body of work and career stands as a testament to his enduring influence. Without a doubt, his legacy deserves systematic study and will continue to inspire innovation scholars and historians of economic thought for years to come.

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