Review - Quantum International Relations

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CHENGXIN PAN, AUG 18 2025

Quantum International Relations: A Human Science for World Politics
By James Der Derian and Alexander Wendt
Oxford University Press, 2022

The turn of this century was marked by a series of fateful events in world politics such as the Asian financial crisis and the 9/11 terrorist attacks in the United States (and the subsequent "Global War on Terror"). As most IR scholars were rightly preoccupied with understanding such challenges, two leading IR scholars, James Der Derian and Alexander Wendt, had *separately* begun to cast their eyes on a rather different subject: quantum theory.

Der Derian made his first reference to quantum mechanics in his introduction to *The Virilio Reader* (Der Derian, 1998). In 2001, Wendt spotted a book in a Chicago bookstore remainder bin:*The Quantum Society: Mind, Physics, and a New Social Vision* (Zohar and Marshall, 1995). That, as Wendt (2015) wrote later on, was his "aha!" moment. These seemingly unremarkable anecdotes changed the main research trajectory of both scholars. Their initially "separate" encounters with quantum mechanics then became "entangled" as they joined forces on the broad and ambitious project of quantizing IR. One of the fitting products of this collaboration is their co-edited book*Quantum International Relations: A Human Science for World Politics*.

Expanding on their co-edited Special Issue "Quantizing International Relations" in *Security Dialogue* (Der Derian and Wendt, 2020), the book seeks to make a case for grounding the study of international relations in quantum approaches, broadly and diversely defined. Being the very first — and still probably the only — edited book dedicated to quantum IR, this volume is a truly welcome and much anticipated addition to this endeavor. Anyone who wonders about how IR can benefit from quantum perspectives should not hesitate to pick up a copy and delve into it (if they have not already done so). The reward would be an incredible intellectual feast like no other.

Despite its bold title "Quantum International Relations", the book does not call for building "a single grand theory of quantum IR," or launching "another great debate or a polemical attack on other theoretical approaches" (p. 18). Rather, it has a more modest, but still profoundly important and challenging, goal of fostering "a human science for world politics" (the book's subtitle), because classical or mainstream IR, based largely on Newtonian worldviews, has been too mechanical, deterministic, reductionist, and abstract. On the other hand, the various "weird" characteristics of quantum reality – such as *entanglement*, *superposition*, *uncertainty*, *complementarity*, *the observer effect*, and *the wave function* – seem better equipped to capture the *human* face of world politics: often contingent, uncertain, probabilistic, entangled, and fundamentally relational.

The book features an impressive list of scholars in the small and emerging community of quantum IR scholars, ranging from PhD candidates to leading scholars who share an interest in all things quantum. The diversity of both contributors (though as the editors rightly note, there still is room for more diversity) and their chapters means that you are likely to find a topic of your own interest. If you want a historical sociology of knowledge about the entanglement, estrangement, and transposition between quantum mechanics, IR, and philosophy, the first three chapters (by Nicholas Harrington, Jayson Waters, and Jairus Victor Grove respectively) in Part 1 "History and Theory" will offer fascinating reading. If you are interested in questions of how quantum technologies and discourses about them will affect various aspects of international relations, then chapters in Part 2 "Science and Technology",

especially by Shohini Ghose, Jon Lindsay, and Frank L. Smith III, provide expert coverage of such issues. Part 3 "Quantizing IR" focuses on examining the theoretical and conceptual affinities between quantum approaches and a range of alternative, non-classical IR approaches such as a dialectical approach (Thomas Biersteker's chapter), critical theories (Michael Murphy's chapter), and systems theory (Mathias Albert and Felix M. Bathon's chapter), while Part 4 "Bringing the Human back into Science" and some chapters in Parts 2 and 3 apply quantum insights to rethinking issues such as state sovereignty (Mark B. Salter's chapter), the role of money (David Orrell's chapter), the role of individuals in climate governance and social change (Karen O'Brien and Manjana Milkoreit's chapter), consciousness (Leonardo Orlando's chapter), traumatic memory (K. M. Fierke and Nicola Mackay's chapter), and Kantian ethics and international intervention (Laura Zanotti's chapter). And those who are curious about mathematical interpretations of quantum theory can learn much from chapters by Michael Schnabel (focusing on linear algebra and probability theory) and Badredine Arfi (focusing on category theory).

While Der Derian, Wendt and their contributors are well aware of the skepticism around the value of a quantum approach, the book is still seemingly written for the (almost) already converted, or at least for those who have some assumed knowledge of quantum theory. For the less initiated reader, many quantum concepts — despite being introduced in the Introduction chapter and elsewhere — could remain largely mysterious and difficult to understand. And this might be a problem if the book hopes to broaden the appeal of quantum IR, as it no doubt does. After all, the ultimate success of the book is probably not best measured by how sympathetic readers respond, but rather by how the general IR community thinks about it. While I myself have been experimenting with understanding IR from a quantum (holographic) perspective (see, for example, Pan, 2025), and therefore I am hardly a detached, unbiased observer, reading the book as a *reviewer* has put me in a quantum superposition state of being simultaneously inside and outside of the virtual quantum IR circle. From the perspective of an "outsider", I get the feeling that the book has yet to fully address a couple of nagging issues often raised about quantum IR.

The first is the perennial doubt about whether quantum is applied literally or metaphorically. The editors call for practicing "an open pluralism" on such questions (p. 9), but judging by some other reviews of the book (see, for example, Jackson, 2023), there is no easy way for quantum IR scholars to let themselves off the hook on this issue. Apparently, the skeptics are demanding an almost impossible task: to be truly convincing, quantum IR has to be actual rather than just metaphorical, but then demonstrating how quantum literally works at the human level would first have to overcome the "scaling-up" and "decoherence" problems when quantum effects get washed out at the macroscopic level. Ironically, as Der Derian and Wendt note, mainstream IR, despite the lack of such a "scaling-up" problem, still relies heavily on metaphors "whose metaphorical nature has been forgotten" (p. 9). There is perhaps a subconscious double-standard here but then mainstream IR, by virtue of being mainstream, can now afford to not worry about it. At the same time, this is a metaphysical challenge that still needs to be more systematically addressed, not only by this book, but also by the broader quantum IR community down the track.

Second, the book seems to fall short of meeting the inevitably diverse expectations of its readership. To physicists, with their perhaps strongly held scientistic conviction about how science in general and quantum mechanics in particular work, the very attempt to transpose physics onto politics and IR would seem inherently problematic. To critical IR scholars, many of the "new" ideas introduced by quantum IR sound rather familiar already, except that such ideas have been given a "quantum facelift." Some may also regard this appeal to the authority of science as yet another case of "physics envy" (Sjoberg, 2020). And finally, to mainstream IR scholars who are likely to ignore quantum IR altogether, the book may appear to offer them little buy-in to get interested in the first place. Sure, it is unrealistic for a book to try to be everything to everyone, and to the credit of the book, it does include a few physicists (e.g., Shohini Ghose and Michael Schnabel) and has featured dialogue with critical approaches in several chapters. There are also a number of chapters on the key IR topic of security. Still, it seems to me that it would probably be able to draw more attention if it included a chapter or two that explicitly engage some mainstream IR concepts and issues such as *power* (or *the balance of power*), *war*, and *the security dilemma* from a quantum perspective.

These concerns about the book might also be a reflection of both the inherent difficulty of translating the counterintuitive ideas of quantum physics (unlike those from classical physics) into IR on the one hand, and the lack of a collective "aha!" moment for the discipline as a whole on the other. Sure, international relations continue to surprise us, but nothing on the scale, for example, of the abrupt end of the Cold War (which partly helped elevate

constructivism to the forefront of IR — see Finnemore and Wendt, 2024), seems to be on the horizon to fundamentally disrupt conventional perspectives. Perhaps in this chancy, indeterminate world, quantum IR needs a bit of its own luck to make further inroads into this still largely Newtonian discipline.

About the author:

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