

Abduction, Dialogue and the Learning Paradox: How Metaphor Choice Affects Teaching in Multicultural Schools

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ABSTRACT

The learning paradox, an ancient inquiry found in Plato's Meno, is still widely discussed today. It focuses on the puzzle of how students acquire new understandings out of the knowledge they already possess. Richard Prawat's concept of abduction, or the use of metaphor by teachers, is a compelling answer, but not all metaphors are equally effective for all students, especially in multicultural schools where students have different cultural backgrounds and understandings. The utilization of a fixed metaphor that only some students comprehend can limit the learning opportunities of others. This article attempts to address this concern through applying Nicholas Burbules' concept of dialogue to the abductive process. Dialogue allows greater mutual understanding between learning counterparts despite their differences and opens up possibilities for other relevant metaphors. Consequently, the integration of dialogue in the abductive process assists a more equal acquirement of knowledge and enriches learning more holistically and meaningfully.

Keywords: Learning paradox, Abduction, Dialogue, Metaphor, Multicultural schools.

INTRODUCTION

One teaching objective in schools is to enable students to acquire new and more complex knowledge. Metaphor is one of the techniques used by teachers to assist students obtain such knowledge. Teachers select and using icons or images that they assume students might be familiar with. Despite the complexity of the knowledge objects, metaphor simplifies the learning task for students and unpacks the unknown into the possible, making it an effective tool for education.

Prawat elaborates on this process in his proposal of "abduction" as one of his four solutions to the contested learning paradox, first raised by Plato in the *Meno*

(the others being induction, deduction and the linguistic turn). The paradox concerns “how new and more complex learning develops out of less complex learning” (Prawat, 1999, p. 48). In other words, how do we acquire new knowledge out of old knowledge? Drawing on the philosophy of Dewey and Peirce, Prawat explains how abduction is the answer (1999, p. 47). In Prawat’s abductive learning, students use a metaphor with which they are familiar as a medium in their learning process.

This article focuses on abduction in the context of multicultural schools where the application of metaphor is challenging. I argue that the abductive process must include a pedagogical dialogue that allows mutual understanding across students’ diverse cultural knowledge backgrounds. In this process, more relevant metaphors can be discovered, enriching students’ learning and helping them acquire new knowledge. Without this contextual understanding, teaching with metaphor does not genuinely assist students to acquire new knowledge and instead creates inequality between students from majority and minority groups.

To pursue this aim, I use Burbules’ ideas surrounding dialogue in teaching to shed light on how abduction can be implemented in a multicultural context. This article consists of three parts. First, I explicate Prawat’s analysis of abduction as an answer to the problem of the learning paradox. Second, I explore Burbules’ discussion of dialogue and how it might enable abduction to be effectively applied in the learning process, particularly in multicultural schools. Third, I offer reflections on the relationship between dialogue and abduction.

ABDUCTION AND THE LEARNING PARADOX

Plato’s the *Meno* is a dialogue between Socrates and Meno on the question: “Can virtue be taught?”. In the *Meno*, Socrates does not give any direct instructions about the meaning of virtue but challenges Meno with many questions and statements. Socrates’ purpose is to unpack Meno’s fixed thoughts on ‘virtue’ and to enable Meno to discover its new meanings by thinking about virtue more deeply and critically. That is why Meno describes Socrates as a “stingray” (Plato, 1961a, p. 363), numbing other people’s minds from the certainty of their conventional beliefs in order to help them acquire new knowledge through their own mental efforts. In the middle of the dialogue, Plato (1961a) adds the figure of a slave boy who becomes involved in Socrates’ conversation. Interestingly, as he did to Meno, Socrates gives guidelines rather than direct answers to the boy, so that he can independently develop new knowledge from his previous knowledge. On the basis of Socrates’ dialogues with Meno and the slave boy, Plato’s the *Meno* demonstrates that each person has an intrinsic ability to construct new knowledge from his previous knowledge.

Nonetheless, the *Meno* poses a question: How is this new knowledge constructed from the old? The question is important because it enables teachers to understand students’ cognitive development in the learning process. This provides insight on how to improve teaching of students in school overall.

To answer this learning paradox, Prawat (1999) proposes the concept of abduction as a way to explain how new knowledge comes into existence. Prawat views metaphor in the abductive process as a middle ground that relates our mind to the objective world. Through the metaphorical process, “the mind plays a role in

helping to develop certain antecedent expectations or anticipations about the world, but the world has its say as well, which leads to reshaping or remolding of one's expectations in ways that conform to the reality of what is actually being experienced" (Prawat, 1999, pp. 50-51). Through this process, ideas become "carriers of meaning" that can be recognized beyond an embodied mind and can be understood in their interaction with the external world as well as disclosing the possibility of the transformative relationship between mind and the world. Therefore, unlike dualistic approaches (deduction and induction) that separate clearly between the interior mind and the exterior world, or the linguistic approach that simply locates mind in the world, as it views words as the source of creating the world of things, the abductive process offers a different answer to the learning paradox.

But how does the metaphorical process occur? To answer this question, Prawat divides the metaphorical process into three stages. The first stage is called the "iconic stage", labeled as the "immediate interpretant", which refers to the process in which a teacher selects a metaphor that has a high possibility of enabling students to acquire new knowledge. The metaphor can be an icon or an image with which students are already familiar, so that they can associate it with the object or the referent they are learning about. The second is the "indexical stage" labeled as the "dynamic interpretant" in which students begin to examine the metaphor with the referent in regard to "how well the sign [metaphor] delivers on its initial promise" (Prawat, 1999, p. 64). To reach that, the students are encouraged to discern both similarities and differences between the icon and the referent. If this is effective, they can grasp the new meaning from the object they learn. The final stage is the "symbolic stage" labeled as the "logical interpretant", which concerns how the new idea sheds light on a broader understanding of different issues. In other words, the new idea coming from the metaphorical process allows the students to further develop their understanding alongside related ideas.

The selection of a relevant metaphor for students is a vital stage as teachers need prior knowledge to consider an image or an icon that may have the potential to assist students in their learning. This prior knowledge refers to teachers' understandings that help to select a relevant metaphor, including: first, the metaphor itself; second, the interpretant or the anticipated experience that student might have related to an object; and third, the referent, i.e., the object or event to be learned. Prawat gives an example of a food factory as a metaphor to explain the process of photosynthesis:

The metaphor food factory, which a teacher might use to get across the scientific concept photosynthesis, conjures up the image of a series of relatively self-contained units that specialize in the production of certain "essentials". On the basis of this image, a student would initially expect to see certain things in using this metaphor to better understand the uniqueness of green, leafy plants. For example, the student might assume that the respiration of a leaf is just as observable as the discharge of smoke and gas from a factory (Prawat, 1999, pp. 62-63).

The question is: How does the teacher know what kind of experiences his students may anticipate in relation to the learning objects? This is vital because if the

teacher is lacking this prior knowledge, the teacher might be incapable of choosing a relevant metaphor for students in their learning. In multicultural schools, for instance, if a teacher does not genuinely understand the students' diverse cultural backgrounds, the teacher might end up with a metaphor that only benefits some students. This causes an injustice for those students who do not have prior knowledge or experiences related to that metaphor.

It is worth looking more closely at Prawat's example of a food factory as a metaphor to explain the process of photosynthesis. This metaphor would be relevant and effective only when all students in a classroom knew what a food factory was. But even if all students might have heard about food factories, if only some had experienced a real food factory and understood its process then there would be still an unequal understanding among the students concerning the process of photosynthesis. But is it possible for a teacher to select a metaphor relevant to all students in the same classroom?

Drawing on this concern, I propose that pedagogical dialogue must be integrated into the process of abduction. This dialogue creates mutual understandings between partners. It also provides a repertoire for better comprehension wherein new relevant metaphors can be discovered in relation to the object students are studying. In this way, teachers and students are able to move from their one-sided understandings and to open up to the richness of possible metaphors that perhaps originate from different cultures. This dialogue has a broader sense and can be varied. For example, it could include dialogue through conversation between teachers and students, dialogue through experiences of living with people from different cultures, or dialogue from learning materials such as books, film, etc., that offer different perspectives, and so on. Next, I will elaborate on this concept of dialogue through Burbules' analysis in relation to Prawat's concept of abduction in education.

PEDAGOGICAL DIALOGUE FOR ABDUCTION

Returning to the question of the learning paradox in the *Meno*, Burbules attempts to answer this problem through his concept of dialogue in teaching. Burbules focuses on dialogue "to refer to a particular kind of pedagogical communicative relation: a conversational interaction directed intentionally toward teaching and learning" (Burbules, 1993, p. X). In other words, Burbules develops the concept of dialogue in education to provide teachers with philosophical reflections on how dialogue can be applied to their teaching more effectively.

Burbules distinguishes four types of dialogue. The first is dialogue as conversation, which aims to understand the beliefs, feelings, or experiences that influence someone's viewpoints. This dialogue is not expected to reach concordance among all partners. The second is dialogue as inquiry, which aims to answer a specific problem or issue and to reach a common agreement. The third is dialogue as debate, which refers to skepticism that tests opinions or positions without hesitation—this does not necessarily result in agreement either. The fourth is dialogue as instruction, which applies critical questions or statements to enable someone to acquire new knowledge.

From these four types of dialogue, Burbules categorizes Socrates' fashion of teaching as the fourth kind, dialogue of instruction, in which teachers give an indirect instruction allowing their students to actively learn and acquire new understanding. This indirect instruction can refer to questions or statements that increase students' capacities for critical thinking. In this process, students will independently come to an answer. In the Socratic dialogues, we see that Socrates often uses different questions to "unfreeze" (Arendt, 1971, p. 431; 1978, pp. 171,174) his students' fixed beliefs or concepts. As this method leads students into a state of uncertainty, or *aporia* in Greek, they become capable of examining their own thoughts and open themselves to new meanings. Thus, it is not surprising that Socrates compares himself to a 'midwife' (Plato, 1961b) who assists a woman in delivering her own child. It is the same with Socrates' *aporetic* method that helps students unpack the true knowledge inside of them by separating what is true from what it is not. As Burbules explained:

In the Meno, we observe Socrates leading a young boy [a slave boy] through the steps of a geometric proof, apparently never asserting anything himself, but asking questions at just the right level of difficulty to keep the student making active connections without needing to make conceptual leaps he was not prepared to make. One of the central features of this dialogue, and of Socratic interrogation generally, is the phase – Socrates says it is an essential phase – of inducing a state of aporia, or deep conceptual confusion, before the reconstruction of a new and more accurate understanding is possible (Burbules, 1993, pp. 120-121).

Burbules argues that dialogue as instruction not only refers to Socrates' teaching method, but also to similar forms of reciprocal teaching, such as the modern constructivist approach called "scaffolding" (1993). We can imagine how scaffolding assists people working in the construction of a building. When construction is finished, the scaffolding is removed. This is like the role of a teacher who uses different means to assist students to acquire new understanding in their learning process without direct instructions. Therefore, when we talk about Socrates' critical questions or Prawat's abduction, they have a similar function as scaffolding allowing students to actively discover new knowledge from what they already know.

Nonetheless, Burbules suggests a teacher be flexible in using the pedagogical dialogues according to their context (1993). This flexibility refers to teachers' ability to discern how to implement one or more types of dialogue according to their circumstances. This includes the Socratic method, that might be interpreted in different approaches. Thus for Burbules, the role of teachers is vital, because they are the ones who decide which approach is used and how it is used, so that it benefits students the most:

While many have characterized dialogue in terms of something called the "Socratic method", the Socratic method can refer to several quite different things and is therefore not truly a "method" at all but a repertoire of dialogical approaches that the skillful teacher knows how to select and adapt to varied pedagogical circumstances (Burbules, 1993, pp. X-XI).

When we talk about teaching in multicultural schools, I contend that dialogue as instruction is inadequate. We also need dialogue as conversation in order to understand our students' backgrounds, thoughts, beliefs, values, and so on. This should provide sufficient understanding for a teacher to select or formulate a *relevant* pedagogical scaffolding, i.e., critical questions, metaphors, and so on. We can imagine a certain construction project: if we want to create a scaffolding for a building, it is necessary to know what kind of building it is. The scaffolding can be created only after we already have a clear and comprehensive knowledge of the building. This is the same with the application of metaphor in Prawat's concept of abduction in which our knowledge about who our students are and what kind of previous knowledge they have is vital.

The reason why dialogue as conversation might effectively complement dialogue as instruction is because its purpose is not to reach any result or agreement. It does not simply aim to listen to or to understand others, but beyond that, "conversation in this sense seeks a language and manner of communication that can make speakers comprehensible to one another" (Burbules, 1993, p. 113). This is similar to Charles Taylor's argument that dialogue needs to understand not only what others tell us, but also the meaning of their vocabulary and the context those words develop (1992). This is to prevent us from using our own standards or perspectives to judge how others express themselves. Burbules elaborates this dialogue with Gadamer's concept of the "fusion of horizons" which refers to the basis for intersubjective understanding which is ordinarily established in mutual conversation (2004, p. 390). In other words, the fruit of the conversation can only occur when all partners of dialogue are themselves truly open to learning from one another's perspectives.

Thus, Burbules' dialogue as conversation sheds light on Prawat's concept of abduction which applies a metaphor as a medium in teaching. To begin with, in the selective or iconic stage, teachers can first use a metaphor that they think is possibly relevant in teaching new knowledge. However, the teachers are aware that this possibility of the metaphor's effectiveness is only that, so it remains open to being examined. Simultaneously, students are free to propose different metaphors that are probably drawn from their cultures into the discussions. In this process, dialogue as conversation plays an important role in allowing all students to understand equally what the (proposed) metaphors are about and to explore how each metaphor might illuminate the new knowledge they are to learn.

From Prawat's example of teaching students about the process of photosynthesis, teachers might set out by using a food factory metaphor. However, teachers must not forget two things: first, students may not understand this factory on the same level, and second, this food factory may not be the only possible metaphor. Thus, all students must first be provided with a better understanding of what a food factory is. Some students might know about the food factory for different reasons: living near the food factory, having a family member working there, visiting it before, watching a documentary about a factory, and so on. These students and teachers can share their understandings and experiences with other students who might have never come across or know little about the food factory. The image of the food factory, which previously seemed to be captured only by some students, through dialogue as conversation, becomes relevant and effective to

all students, so they may discuss how a food factory might be related to the process of photosynthesis.

Nonetheless, during the discussion, some students might propose different metaphors drawn from their own cultures. For example, in the multicultural schools in northern Thailand, some students from the Karen ethnic group might propose the concept of the “Karen banquet” for understanding the process of photosynthesis. The banquet is a Karen traditional practice that takes place after a harvest. It is known as *au bu sau khoj* in Karen or *pra-pe-nee kin-khao-mai* in Thai, which in English literally means eating new rice or food. To begin with, each family contributes some rice from their harvest to the “rice merit network” (*khong bun khao* in Thai). Villagers will take some rice from this network to prepare a special meal in the form of a collective celebration as a sign of gratitude to nature and the other people in their community. Meanwhile, the rest of the rice is kept for those who are in need, such as poor families, widows, orphans, the poor, and so on. “The villagers [already] established criteria to identify needy families who will receive rice donations” (Karunan, 2019, p. 42), which indicates how villagers previously knew the condition and needs of their own community. Table 1 shows how Karen students might understand the similarity between photosynthesis (column 1) and the Karen banquet (column 2).

Table 1

Photosynthesis and the Karen banquet.

Photosynthesis	The Karen Banquet	
The plant receives water (H ₂ O) as well as CO ₂ from the air.	Villagers cultivate the plantation and look after it by watering, fertilising, and so on.	<i>Cultivating</i>
Through the energy of sunlight, H ₂ O and CO ₂ are transformed into sugars and oxygen (O ₂).	Villagers prepare food from some rice they harvest, and some products are kept and packed for later distribution.	<i>Transforming</i>
The plant uses the sugars for growth.	Villagers share their meals in the banquet of <i>au bu sau khoj</i> . The celebration is a sign of gratitude and cultivates a sense of community.	<i>Celebrating</i>
The plant releases O ₂ into the air.	Some of the rice is distributed to those in need, such as widows, orphans, the poor, and so on.	<i>Sharing</i>

As indicated in this table, Karen students may share their opinions on why, in addition to a food factory, the practice of the Karen banquet also might be a relevant metaphor for the process of photosynthesis. To accomplish this, they must explain to other students some terms and vocabulary from their own cultures associated with this practice. Through this, dialogue as conversation opens further discussion, such as: What are the differences between the two metaphors: the food factory and the Karen banquet? What can the Karen banquet say about photosynthesis which the food factory cannot? Etc. In the process of dialogue, the Karen culture may invite students to look at the process of photosynthesis from different angles and discover new understandings and insights. For example, from the table above in the last row,

the Karen value of solidarity in *sharing* harvest products with the poor shows that the photosynthesis result (oxygen) is a product not only for the plants themselves but also for other living beings. In other words, unlike the metaphor of a food factory, the Karen banquet metaphor, from the Karen culture, can point out the holistic aspect of this biological process.

FURTHER REFLECTIONS

Integrating Burbules' concept of pedagogical dialogue into Prawat's concept of abduction creates mutual understandings between teachers and students and provides the possibilities of more relevant metaphors being used to explain new knowledge. Despite the challenge of a multicultural context, each student can actively participate in the abductive process as well as contribute their cultural knowledge to the discussion. Through this, all students have an equal opportunity to acquire new knowledge from their learning no matter what background they have. In this final section, I offer further philosophical reflections on my proposed integration.

At first glance, the pedagogical dialogue in abductive learning enables students and teachers to withdraw from a fixed application of metaphors for learning. Through this withdrawal, space is created for them to be capable of looking at the knowledge object from different perspectives and learn from one another. As in Gadamer's concept of the "fusion of horizons" (2004), students and teachers temporarily distance themselves from their conventional ways of thinking and allow the particularity of otherness to fully appear, such as cultures, beliefs, traditions, and so on. This allows them to discover not only new knowledge, but also new insights or understandings related to the new knowledge itself. Therefore, we see that abduction with dialogue enriches not only Prawat's indexical stage, in which the effectiveness of proposed metaphors is examined but also the symbolic stage, in which related ideas are discovered.

To reach that, each student must learn the other students' languages and vocabulary that influence their ways of thinking. This is in contrast to a system such as managerialism, that places all educational aspects into a single standard of management or measurement. In this way, the space of temporary "withdrawal", which creates a mutual understanding between teachers and students, enables the abductive learning process to become more effective and meaningful for all students. This will eventually build up students' self-esteem and cultural appreciation as a pathway to prepare themselves to become political citizens in a multicultural society.

Nonetheless, the next question is: How does a metaphor, resulting from dialogue, such as the Karen banquet, construct new understandings and insights? To answer this question, Prawat's elaboration on the concept of "theory-constitutive metaphor" that considers metaphor as a key source of meaning itself, is useful.

Prawat analyses the contested possible functions of a metaphor in relation to language from three approaches. The first is substitution theory, believing that a metaphor functions as carrying a meaning of the object only for the reason of being convenient. The second is transition theory, where the metaphor brings about an extension or change of meaning through the common characteristics of two objects

(Black, 1962). This is in contrast to substitution theory which merely replaces the meaning of something into the other location. However, Prawat criticizes both substitution theory and transition theory in their reliance on language, because “they turn everything, including meaning, over to words and propositions or, rather, to the *relations* between words and propositions” (Prawat, 1999, p. 67). The third function is constitutive theory, which views a metaphor not as primarily linguistic as in the first two approaches, but as language-independent and a source of the new meaning or of the language itself used to explain the phenomena. Drawing from Boyd and his idea of the role of theory-constitutive metaphors (1979), Prawat explains:

He [Boyd] views metaphor as more than a source of additional meaning for language; it is a key source of meaning in its own right. In the early stages of theory development, Boyd argues, metaphor provides epistemic access to phenomena ahead of the language that may later be used to explicate the phenomena. Metaphors, or rather the ideas they give rise to, are thus conceptually distinct from the vocabulary developed to talk about the ideas (Prawat, 1999, p. 68).

Drawing from Boyd’s and Prawat’s argument, I contend that a metaphor founded in dialogue brings a richness of meaning into the knowledge objects students study. Consider how the Karen banquet may be used as a metaphor for photosynthesis. First, the Karen banquet explains some basic *operational functions* of the process of photosynthesis. For example, in the first row of table 1, the image of villagers cultivating crops allows students to understand the functions of H₂O and CO₂ that feed the plant. In the second row we see that just as some of the villagers are central actors who prepare the raw products into *food* for consumption and *packages* for distribution, sunlight is the main actor that transforms H₂O and CO₂ into *sugar* for the growth of a plant and O₂ to be released to the air.

Second, the Karen banquet may provide *different perspectives* of understanding the process of photosynthesis that other metaphors are not able to do. For instance, in the third row of the table above, just as sugar, one of the two products, feeds the plant itself, so in a Karen banquet all food is shared with all the people inside their village. This is different from products in the food factory that do not directly benefit the members of a factory, such as the workers. Instead, these products are conveyed to various markets outside the factory for sale. Although the factory workers might receive a salary in return, the amount of salary is controlled by the financial system and the owner of the factory. This is unlike the Karen banquet in that the food will be equally distributed to all villagers, as it is. Therefore, a second alternative metaphor such as the Karen banquet might enable students to understand other operational functions of photosynthesis better than a standard single metaphor raised by a teacher, such as the food factory. In this dialogical process of discussing and comparing different metaphors, students learn to be critical as well as to see the phenomena from broader perspectives.

Third, drawing from the concept of theory-constitutive metaphor, the Karen banquet brings with it new understandings or insights that shed light on other dimensions of photosynthesis. This third role of metaphor in dialogical abduction transcends the mere operational functions of knowledge objects explained by the

first and the second roles. For example, as the Karen banquet emphasizes solidarity and relationships between people themselves, we can learn similarly about the *reciprocal* aspect of all beings through the process of photosynthesis. In other words, students come to understand that all entities in nature are interconnected; for example, the plant needs H₂O and CO₂, H₂O and CO₂ are transformed into sugar and O₂ through sunlight, and so on. Another example: the idea of Karen people caring for poor families by sharing some products with them explains how O₂, one of the byproducts of photosynthesis, would be shared not only with the plant itself but with other living beings, such as humans who need oxygen to live.

Therefore, from this analysis, the metaphors that occur in dialogue not only create new knowledge in response to the learning paradox in operational ways, but also bring their own richness to the new understandings and insights that the students acquire. This makes the abductive learning process more holistic and meaningful. In Socrates' dialogue with Meno about the learning paradox, his function as a midwife aims not only to assist his interlocutors to acquire new knowledge but also to enable them to build a habit of thinking more critically and deeply (Plato, 1961a). That is why Socrates also compares himself to a stingray who unceasingly dedicates his life to prevent the Athenians from their mental sleepiness and passive acceptance of ideas without examination (Plato, 2021). Similarly, in abductive learning, students should not acquire new knowledge solely through a metaphor given by a teacher: they must have a space of dialogue that opens to new possibilities of metaphors across cultural diversity. Through this, the metaphor in the abductive process can be a powerful tool to effectively assist all students no matter where they are from as well as to prepare them to become democratic citizens with respect for diversity in society.

REFERENCES

- Arendt, H. (1971). Thinking and Moral Considerations: A Lecture. *Social Research*, 38(3), 417-446.
- Arendt, H. (1978). *The Life of the Mind (Vol. 1)*. Harcourt, Inc.
- Black, M. (1962). *Models and Metaphors*. Cornell University Press.
- Boyd, R. (1979). Metaphor and theory change: What is "metaphor" a metaphor for?. In A. Ortony (Ed.), *Metaphors and Thought* (pp. 356-408). Cambridge University Press.
- Burbules, N.C. (1993). *Dialogue in Teaching: Theory and Practice*. Teachers College Press.
- Gadamer, H.G. (2004). *Truth and Method*. Continuum.
- Karunan, V.P. (2019). *Historical Documentation*. Research and Training Center for Religio-Cultural Community, Chiang Mai.
- Plato. (1961a). MENO. In E. Hamilton & H. Cairns (Eds.), *The Collected Dialogues of Plato* (pp. 353-384). New Jersey: Princeton University Press.
- Plato. (1961b). Theaetetus. In E. Hamilton & H. Cairns (Eds.), *The Collected Dialogues of Plato* (pp. 845-919). Princeton University Press.
- Plato. (2021). The Apology of Socrates. In S. Books (Ed.), *The Apology of Socrates, Crito, and Phaedo* (pp. 12-51). Amazon.

- Prawat, R. S. (1999). Dewey, Peirce, and the Learning Paradox. *American Educational Research Journal*, 36(1), 47-76.
- Taylor, C. (1992). The Politics of Recognition. In A. Gutmann (Ed.), *Multiculturalism and "The Politics of Recognition"* (pp. 25-73). Princeton University Press.