

# ON HERBERT A. SIMON AND JORGE LUIS BORGES ABOUT FREE WILL

BY  
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*In 1970 Herbert Simon was invited by the Sociedad Argentina de Organización Industrial to deliver lectures on “Business Management in the Technological Era.” He asked for an audience with Jorge Luis Borges, the director of the Argentine National Library. Simon had read Borges’s stories and was particularly fascinated by “La Biblioteca de Babel” (The library of Babel), wherein he discovered that Borges, like him, conceived of life as a search through a labyrinth. The Spanish translation of the interview was published in Primera Plana, an Argentine journal. The brief interview sheds light on some of Simon’s ideas about determinism and free will. His critique on maximizing rationality and his suggested approach to decision making have contributed to enlarge the concept of rationality as construed by standard economic theory. Consequently, it may be argued that Simon is incorporating free will in economics. However, though Simon’s position implies an advancement for the role of free will, the whole context of his ideas conditioned it, thus resulting in a “weak” notion of it. During the course of his conversation with Borges, Simon clarified his personal stance, which is consistent with his ideas. The paper will reveal Borges’s and Simon’s understanding of free will. This paper also contains part of the conversation between Simon and Borges that has not been published previously in English. Introducing it in its entirety is a contribution to the knowledge on Borges’s and Simon’s thought.*

## I. INTRODUCTION

In his book *Models of My Life*, Herbert Simon wrote (1996, pp. 175–176):

In December of 1970, Dorothea and I visited Argentina, where I was to give some lectures on management. In my correspondence about arrangements, I did something I have never done before nor since: I asked for an audience with a celebrity. For a decade, I had admired the stories of Jorge Luis Borges (I didn’t then know his poetry), and had

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been struck by the role that mazes played in them. I wanted to know why. I wrote to him (in English, since I knew he was fluent in it).

In the last paragraph of a letter to Jorge A. Rizzi, then president of SADOI (*Sociedad Argentina de Organización Industrial, Argentine Society of Industrial Organization*), who had invited Simon to lecture in Argentina, Simon wrote: “I would be delighted, also, at the opportunity to meet Jorge Borges, whose books I enjoy and admire very much; but I expect he is constantly pestered by people, and I should not like to intrude on him. Perhaps you can judge whether that would be a good or a poor idea.”<sup>1</sup>

Next, he sent Borges a one-page letter, stating, “I have been seized by an unaccountable wish to meet you,” and explaining the reasons why he was looking forward to meeting him. The letter ended with a reference to his letter to Rizzi: “I have asked him if he would inquire whether you might be agreeable to a brief call. If it is inconvenient, I will understand the reasons that make it so, but I would be delighted if you could and would spare the time.”<sup>2</sup>

Simon introduced himself to Borges in the letter as “a social scientist who tries to understand human behaviour by building mathematical models (or, more recently, computer simulations).” He enclosed a copy of a 1956 paper (“Rational Choice and the Structure of the Environment”), explaining to Borges that the paper described life as “a search through a large branching maze.” He then told Borges that he had written a short story about a maze wanderer, and that he had discovered that Borges also viewed life as a search through a maze by reading the latter’s “La Biblioteca de Babel.” Simon’s maze story is published in his *Models of My Life* book (1996, ch. 11), before part of the interview with Borges. The difference between Simon’s and Borges’s views on life as a search through a maze is that, while Simon expressed it mathematically, Borges did it with “fascinating stories.” Simon stated that “a meeting would celebrate this interesting parallelism of world lines.” Indirectly, this was what happened.

Simon found links between human behavior, mazes, and computers. He was interested in artificial intelligence, and he saw connections between his view of computers/AI/mazes and Borges’s ideas behind his mazes stories,<sup>3</sup> and he wanted to explore those links.

In his notes on the conversation with Borges, Simon wrote, “He [Borges] asserted that his stories grew as stories—he was not conscious of any underlying ‘theoretical’ framework or philosophical analysis (I asked him particularly about the ‘Biblioteca,’ the ‘lottery’ and ‘the paths that branch’).”<sup>4</sup> However, the conversation continued in a second part that focuses on some interesting coincidences about free will.

In his book’s acknowledgments section, Simon noted (1996, p. xi):

<sup>1</sup> [https://digitalcollections.library.cmu.edu/node/40348?search\\_api\\_fulltext=rizzi](https://digitalcollections.library.cmu.edu/node/40348?search_api_fulltext=rizzi), June 25, 1970 (accessed April 5, 2023). Rizzi’s nephew, Cristián, provided me this information (email dated December 11, 2019).

<sup>2</sup> [https://digitalcollections.library.cmu.edu/node/54661?search\\_api\\_fulltext=rizzi](https://digitalcollections.library.cmu.edu/node/54661?search_api_fulltext=rizzi), September 23, 1970 (accessed April 5, 2023).

<sup>3</sup> There are more references to Borges’s works in Simon’s writings. For example, in some 1969 notes for Chapter 10 of the book *Human Problem Solving* he coauthored with Allen Newell (Newell and Simon 1972), Simon included a quote from Borges on psychology: [https://digitalcollections.library.cmu.edu/node/41094?search\\_api\\_fulltext=Borges](https://digitalcollections.library.cmu.edu/node/41094?search_api_fulltext=Borges) (accessed April 5, 2023).

<sup>4</sup> [https://digitalcollections.library.cmu.edu/node/44945?search\\_api\\_fulltext=Borges](https://digitalcollections.library.cmu.edu/node/44945?search_api_fulltext=Borges) (accessed April 5, 2023).

The conversation with Jorge Luis Borges in chapter 11 took place in Buenos Aires in December 1969, and a Spanish report of it was published in the January 1970 issue of *Primera Plana*, published by the Sociedad Argentina de Informática e Investigación Operativa (SADIO). The English version reproduced here is my own retranslation from the Spanish (the conversation was in English).<sup>5</sup>

The organization that actually invited Simon was, as mentioned, SADOI, and the conversation took place in December 1970. *Primera Plana* was an independent journal (not of SADOI) published from 1962 to 1973, and the correct date of publication was January 5, 1971.<sup>6</sup>

Simon introduced his version of the interview in this way: “I met Borges in his beautiful high-ceilinged baroque office in the Biblioteca Nacional.<sup>[7]</sup> We had several hours of conversation (in English), of which I reproduce here only the portion relevant to labyrinths (1996, p. 176).”<sup>8</sup> In fact, the Spanish version of the conversation is longer and includes a second part.<sup>9</sup> In this second part of the Spanish version, Borges posed some probing, relevant questions on the matter of human free will. In the conversation, Borges associated Simon’s ideas about mazes with behaviorism and free will and asked him about this topic. Simon then explained how computers may have free will, and an interesting conversation on this difficult topic unfolded as a result.

The next section outlines Borges’s idea of free will, and [section III](#) presents my translation of the second part of the conversation. [Section IV](#) frames Simon’s idea of free will within different philosophical theories. The paper ends with a brief conclusion.

## II. BORGES ON FREE WILL

The notion of free will had always created a certain tension in Borges, a tension that he conveyed in some of his literary works. In fact, he had overtly expressed it during some interviews. The following paragraphs illustrate this point:

Question: How does Jorge Luis Borges understand the concept of free will?

Borges: I believe that *free will is a necessary illusion*. Right now, I feel free. But if you were to assure me now that the moment I said “right now, I feel free” I could not have said otherwise, I would accept that there is no such thing as free will. But we need that belief, perhaps false, in order to write. That is, we need to believe that we make free

<sup>5</sup> I have tried to lay my hands on the original version of the conversation, as I am sure Simon did, too. I contacted Gabriel Zadunaisky, who, as the article explains, participated in the meeting. He is a professional translator. I asked him for the original version, and he replied on WhatsApp: “Mr. Crespo: I am very sick. Unfortunately, I am unable to provide you with the information requested.” My hypothesis is that Zadunaisky translated the conversation directly from the recorded version and that this original version has been lost.

<sup>6</sup> [https://en.wikipedia.org/wiki/Primera\\_Plana](https://en.wikipedia.org/wiki/Primera_Plana) (accessed April 5, 2023).

<sup>7</sup> At the time, Borges was the director of the Argentine National Library.

<sup>8</sup> Simon referred to this conversation in later works, for example, in “The Midday Moon” (1992, p. 185).

<sup>9</sup> Only a few paragraphs of the second part of the conversation are included in Simon’s book (p. 179). In the transcription of the interview that I present in [section III](#), I highlight those passages in italics.

choices. That is, we may well be pieces on a board, but we must think of ourselves as the players moving those pieces. And it's funny that you should ask me about it, since only yesterday I was writing a foreword for William James's *The Will to Believe*, which deals with this question of free will. And I also remembered Jonathan Edwards who wrote a defense of predestination a century and a half before. I think that if someone were to tell us now that from the moment we were born up until this very moment we have been mere puppets, we have been forced to do what we did, not by the will of some god but, you know, as a result of an infinite number of past events, we would accept it. But if anyone were to tell us right now that we are helpless, we would reject the idea. Perhaps the mere illusion of free will is enough for us. I also recall William James, a man who wrestled with questions for a long time, struggling with poor health, worries and concerns until he made the decision to make his first act of free will a choice to believe that his will was free. He convinced me that free will really does exist, and he convinced many others, of course. And perhaps free will is required for ethics, because, you know, if our actions are determined by outside forces, we certainly don't deserve punishment or reward. But then I insist that *free will is a necessary illusion* and we spontaneously support that idea daily, beyond abstract discussions. That is, we feel free, and perhaps this sense of free will is good enough for us, *and maybe one day we will know if we have ever been free.*<sup>10</sup>

Student: You have stated that you take what life gives you and you settle for that, but isn't your life the fruit of your own doing?

Borges: *I don't believe in free will.* So, my life is not actually the fruit of my own doing. Carlyle observed that "universal history is a book that we are all incessantly writing and reading", and in writing something called the Kabbalah, which we are also reading, we are not only directors and actors, but also signs, letters, that divine bibliography we are both writing and reading. It's a shocking notion. When I read about it, I felt a slight quiver.

Now, if you believe in free will, *free will is a necessary illusion.* As far as my past is concerned, I can accept that everything I have done has been conditioned by universal history, by previous cosmic processes. But if anyone were to tell me right now that I'm not free, I would refuse to accept such idea. Say, for example that I put both my hands up and tell myself I can choose which one of them I am going to put down on the table, and I may be pretty convinced of it. But having put down the left hand, can I accept the idea that I was fated to do so and that I couldn't possibly have chosen to put down my right hand?

On the other hand, with regard to the past, one could think that if a man has done wrong, he would have no reason to repent, since he was predetermined to do wrong; hence, the whole idea of reward and punishment would lack foundation, since everything has been prefixed; there is no freedom of the will, every event and action has been conditioned.

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<sup>10</sup> "Jorge Luis Borges: Conversación con el público en ESEADE," *Revista de Instituciones, Ideas y Mercados* 62–63 (2015): 207–229 (my italics). The text is on pages 208–209.

But I guess that will depend on each person. Most young people believe more strongly in free will. I find it hard to believe it myself.<sup>11</sup>

The questions asked by Borges during this meeting, as proved in the text, clearly reflect his doubts. As for Simon, I have tried to extract his ideas about free will from his academic writings in my 2017 book *Economics and Other Disciplines* (Crespo 2017, pp. 47–48), wherein I concluded that his bounded rationality proposal “sounds more like a mechanical, dynamic and interactive adaptation process than a conscious, free one” (2017, p. 47).

### III. THE SIMON–BORGES CONVERSATION

This section presents part of the text that appeared in *Primera Plana* and was not included in Simon’s book. As noted in footnote 9, Simon’s book contains only part of the conversation (in italics herein). The first two paragraphs below refer to a dialogue about translation. In the third paragraph, Borges’s question introduced the topic of free will.

BORGES: The experience with translations is often like that. I discovered something interesting about Walt Whitman. It happened around 1917. I was studying German and I stumbled into some German translations of his poems. Later I read the same poems in English and realized that translating Whitman into German posed no particular difficulty, that his poems actually retained their original value. On the other hand, translating his works into Spanish proves much more challenging.

SIMON: It has to do with the fact that both English and German easily form compound words, while Spanish doesn’t.

BORGES: Yes, that’s true. But now I would like you to tell me a bit about the so-called behaviorism. What is its underlying principle? Is it free will or predestination?

SIMON: Well, I always end up talking about computers. I’m in love with computers. We could put it this way. Faced with a certain problem, a computer will also behave in a certain way. And we may wonder whether it acted out of free will. We can say it employed free will in the sense that had it been programmed differently, it would have chosen to do otherwise, it would have behaved in a different way.

BORGES: What do you mean by behaved? Because we are talking about a purely mechanical process here. I mean, in the case of computers, of course.

SIMON: Yes, it’s a mechanical process. But I believe, like many others in my professional field, that human beings also display a mechanical type of behavior, much like computers.

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<sup>11</sup> “Encuentro con Borges” —“Encuentro con Jorge Luis Borges el 12 de septiembre de 1984 invitado por el Profesor Titular de Filosofía Tomás Abraham y los profesores asociados Alejandro Rússovich y Enrique Marí, en el Aula Magna de la Facultad de Psicología de la UBA.” Online. [https://www.tomasabraham.com.ar/index.php?option=com\\_content&view=article&id=77](https://www.tomasabraham.com.ar/index.php?option=com_content&view=article&id=77) (accessed April 5, 2023; my italics).

BORGES: Do you mean to say that we act by force of habit?

SIMON: Rather accordingly to programs that we have stored in our brain. And we have free will in the sense that our resulting behavior will depend on who we are and the situation we are in. People respond differently when confronting the same situation.

BORGES: So, in your opinion, when faced with a dilemma, say, a situation in which there is a choice to be made between two possible behaviors, we can choose one of them?

SIMON: Your mental programming does the choosing. Yes, you choose. But there is no uncaused cause there. We are not an uncaused cause.

BORGES: Would this imply that if any all-powerful being, any god, knew everything about my past, my childhood, even about the time before I was born, my ancestors ... would this imply that he would be able to predict my behavior in any one situation?

SIMON: According to my scientific beliefs, I would say so. With such knowledge, we can predict an individual's behavior.

BORGES: So, what I'm saying right now is ...

SIMON: ... it's a result of your past ...

BORGES: ... it's inevitable.

SIMON: It is inevitable, yes. However, you still retain your identity, your individuality. You embody your own past.

BORGES: I understand. Well, I like to think I do. Now, does this account for all of our actions? That is, if my right hand is resting on my left hand, is it because it has to be this way? I believe people do quite a lot of things without any thinking.

SIMON: That's the doing of our subconscious mind. You're right, yes, otherwise, we would hardly be able to tie our shoelaces. Most things happen in this way. But that's because we are heavily programmed.

BORGES: Would you say then things are to be also inevitable in this sense?

SIMON: They might be different, but always depending on programming. Any determinant could affect your programming and lead you to act differently. And if we introduce chance into the picture, scientists will always ultimately rule it out. At some point they may have to admit their inability to explain a particular phenomenon, but they will keep on working on the assumption that actions are determined by certain causes. And therefore, when we study a person who is in the process of solving a problem, we start from the assumption that every little thing has a cause. We are not always able to identify those causes.

BORGES: Well, of course. In order to study a person's behavior, professionals have to go back to that individual's history. Even to the historic past, to the origin of humanity, the cosmos.

SIMON: No, it's not like that. Because the past influences a person's present behavior to the extent that this past is already in the person. So, we can always find a starting point. That is how physicists work, for example. If you want to study the moon, you don't need to know its entire past. You just need to know its current position and speed relative to the other planets. You can take that as a starting point. You need to know the past determinants of a few things.

And it is surprising how little of the past influences a given action which occurs in a short period of time, that is, an action taken by man. For example, if I play chess with a man, say, for five months non-stop and without engaging in any other activity with him, it is surprising how little I will learn or get to know about the contents of his mind. I will know very little about the determinants that would affect him in other circumstances.

BORGES: So ... there's room for free will?

*SIMON: This is the form in which I conceive free will: It resides in the fact that I am that which acts when I take a given action. And the fact that something has caused this behavior in no manner makes me (the I who acts) unfree.*

*So when we reach a bifurcation in the road, of the labyrinth, "something" chooses which branch to take. And the reason for my researches, and the reason why labyrinths have fascinated me, has been my desire to observe people as they encounter bifurcations and try to understand why they take the road to the right or to the left.*

BORGES: *It seems to me that these sorts of things happen continually in my stories. I would have to apologize for having confronted you with new questions ...*

SIMON: On the contrary ...

*BORGES: ... but if I did not write these stories in specific terms, all would be artificial. That is to say, if I write these stories it is because I have to, or because I need them. Because if not, I could invent other stories, and these stories would have no meaning for me, or perhaps for the reader. Because the reader will feel that they are artificial literary exercises.*

SIMON: I think these stories adequately fit our time, that's why I was so drawn by what you said about Bertrand Russell. The idea of the "branching maze". The idea of the combinations in large spaces such as your libraries, these ideas are extremely central to many of the advances in modern logic and in operations research or computer science.

BORGES: I have certainly used many logical and mathematical concepts in my work, but in truth, every time I have sat down to confront these topics, I have felt defeated, and I have been unable to fully grasp them. Now, I have taken most of these ideas from my

father's notes. I have not read much in these fields, but I have done a lot of rereading. I have always believed that you get more out of revisiting old books than reading new ones.

SIMON: Another disadvantage of new books is that you have to review them. And in order to review them, you have to risk wasting time reading them.

This seems to mark an important difference, I would say, a generational difference. People who are currently in their fifties, on average, have been educated to develop a literary taste in the classics, while those under that age have lost their taste even for the Bible or Shakespeare's plays. This is the case in my country, at least.

BORGES: Yes, I have also noticed the same in mine.

SIMON: I am not clear about the reasons for this, but over the years, I have come up with some data. While staying in Paris, there came a time when the number of monuments with which the French shared their everyday life made me feel miserable. It occurred to me that things should somehow change, that monuments should not last forever but rather should be replaced at some point in time with new monuments to enable a continuous flow of new symbols, albeit a somewhat controlled flow. Of course, the best things would remain the longest. That is, new generations should be given the opportunity to amalgamate the new with the old. Naturally, this would mean that many things would simply have to disappear.

BORGES: Let's get back to literature. I have noticed that many Argentine writers tend to read one or two Spanish classics and one or two French or English classics and then devote themselves to Argentine literature. It's a shame that great, classical writers like Cervantes or French authors should be so neglected.

SIMON: It could be the case that current needs have forced Argentine writers to turn to Argentine literature, thus discarding the classics.

As anticipated in the abstract and in section I of this article, the previous dialogue is a very nice conversation between two great thinkers about the meaning of free will. The next section frames Simon's idea of free will, as conveyed in the dialogue, according to different philosophical theories on the topic.

#### IV. SIMON'S VIEWS ON FREE WILL

I have not found any statements about free will in Simon's writings that prove clearer than those contained in the above conversation.

In his Nobel Lecture, Simon argued that "choice is not determined uniquely by the objective characteristics of the problem situation, but it depends also on the particular heuristic process that is used to reach the decision" ([1978] 1979, p. 507). There are two elements at play—the organism and the environment; both have to be taken into account (1955, p. 100). The standard rationality theory applies to situations featuring certainty



and known or knowable probability but not to uncertain situations: “a strong positive case for replacing the classical theory by a model of bounded rationality begins to emerge when we examine situations involving decision making under uncertainty and imperfect competition. These situations the classical theory was never designed to handle, and has never handled satisfactorily” ([1978] 1979, p. 497).

Given this criticism of the “classical theory” and a proposed different decision-making method, with the heuristic interaction with the environment viewed as decisive, Simon has expanded the narrow rationality notion of neoclassical economics. In this new view, psychological and sociological dimensions matter. At the same time, Simon regarded reason as instrumental: “it cannot tell us where to go; at best it can tell us how to get there” (1983, p. 7); “these are theories of how to decide rather than theories of what to decide” ([1978] 1979, p. 498). According to him, “reason goes to work only after it has been supplied with a suitable set of inputs” (1983, p. 6). He stated that rationality “denotes a style of behavior that is appropriate to the achievement of given goals, within the limits imposed by given conditions and constraints” (Simon 1972, p. 161; 1964, p. 573).

Time and time again, Simon cites psychological postulates from cognitive psychology, relies on artificial intelligence, emphasizes computational developments, poses evolutionary arguments, and says he considers the “human organism ... as a complex information-processing system” (March and Simon 1958, p. 9). This position sounds more like a mechanical, dynamic, and interactive adaptation than a conscious free choice. Agents do not maximize taking into account all relevant information, which is impossible for the human mind; thus, we have bounded rationality. However, this alternative does not seem to pave the way to free decision-making processes but to a computer-like process. Simon considered the possible presence of “components of conscious intention, as in much human learning and problem solving” (1990, p. 2), but he represented them with a model that combines “human and computer psychology” (1990, p. 3). The predominant elements in his models of human behavior are drawn from evolutionary biology and computer science. He tried to design a computer program capable of solving human problems, explaining them and predicting behavior. All these inputs point to a “weak” concept of free will. These were “hot topics” for Simon at the time of his dialogue with Borges,<sup>12</sup> as well as before and after that conversation.

Returning to the conversation between Borges and Simon, in Simon’s view, it is the “program” and not the person that ultimately makes the real decision: “Your mental programming does the choosing. Yes, you choose. But there is no uncaused cause there. We are not an uncaused cause.” However, he also thought that “the fact that something [the program] has caused this behavior in no manner makes me (the I who acts) unfree.” Is this an adequate conception of free will?

Since Plato’s time to the present day, philosophers have wondered about the existence and meaning of free will in humans. In modern terms, the two main positions in the free will debate have been compatibilism and incompatibilism. A plethora of nuances within these positions have given rise to different subpositions.<sup>13</sup>

<sup>12</sup> See, for example, Simon and Newell ([1970] 1971) and the then-forthcoming Newell and Simon (1972).

<sup>13</sup> For a detailed review of these positions, see Timothy O’Connor and Christopher Franklin (2022).

As Randolph Clarke, Justin Capes, and Philip Swenson (2021) explain, “Incompatibilists hold that free will and determinism are mutually exclusive and, consequently, that we act freely (i.e., with free will) only if determinism is false.” Determinism postulates “that everything that happens, including everything you choose and do, is determined by facts about the past together with the laws” (Vihvelin 2018). According to incompatibilists, free will cannot exist in a deterministic world.

Instead, as Michael McKenna and D. Justin Coates (2021) express it, “compatibilism offers a solution to *the free will problem*, which concerns a disputed incompatibility between free will and determinism. *Compatibilism* is the thesis that free will is compatible with determinism” (italics in original). This approach upholds that determinism is compatible with our belief that we have free will.

The conversation reproduced above shows that Simon and Borges did not embrace the incompatibilist position, for, according to the opinions they shared in it, they both viewed free will and determinism as compatible. Instead, they can be consequently considered as compatibilists, with Simon’s answers to Borges clearly reflecting this stance.

## V. CONCLUSION

Herbert Simon’s curiosity about the inclusion and role of mazes in Jorge Luis Borges’s works drove him to ask for an interview with the writer when Simon traveled to Buenos Aires for a number of lectures. Simon includes the part of this interview that zeroed in on Borges’s labyrinths in his book *Models of My Life* (1996). A second part of the interview was only translated into Spanish in an Argentine review. Based on Borges’s questions to Simon, the topic of this part of the conversation focused on their views on free will. This part of the interview confirms that Simon adhered to a notion of free will compatible with determinism and that he actually shared this position with Borges. Their conversation makes their views on free will clearly explicit. As Robert Northcott (2019, p. 617) has argued, “free will is not a testable hypothesis.” It is a philosophical stance. If we adhere to the compatibilist theory, we may affirm that Simon recognized the existence of free will. If, instead, we support the incompatibilist theory, we may claim that Simon denied the existence of free will.

## COMPETING INTERESTS

The author declares no competing interests exist.

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