



Conocimientos, sociedades y tecnologías en América Latina: Viejos modelos y desencantos, nuevos horizontes y desafíos

edited by Hebe Vessuri, Bogotá, Colombia, Universidad de los Andes and Fondo de Cultura Económica, 2022, 245 pp., US\$11 (paperback), ISBN: 978-958-5197-16-9

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Conocimientos, sociedades y tecnologías en América Latina: Viejos modelos y desencantos, nuevos horizontes y desafíos, edited by Hebe Vessuri, Bogotá, Colombia, Universidad de los Andes and Fondo de Cultura Económica, 2022, 245 pp., US\$11 (paperback), ISBN: 978-958-5197-16-9

The book I am reviewing is probably the product of the last face-to-face meeting among senior researchers in the STS field in Latin America – together with some European colleagues – that took place before the pandemic. This was in Bogotá, where Hebe Vessuri was invited as visiting professor at the Universidad de Los Andes. This is not a minor fact: Although most of the texts that compose the book were written in the subsequent isolation, the problems that arose with the pandemic were still very new or had not been expressed. Various controversies about care, prevention, treatment and policy issues, very complex aspects of public communication of science and technology, geopolitical questions about the development, distribution, use and acceptance of vaccines are just some of the many changes that have taken place since then, deepening, in most cases, the problems outlined in the various texts. Among these are, for example, center-periphery relations, particularly regarding the development and use of vaccines, the international circulation of knowledge, the promises of science to solve the pandemic, and even the practices of care and attention became central issues in the social analysis of the pandemic reality. The world has become more global and at the same time more unequal as a consequence of the SARS-COV-2 outbreak.

The book I am reviewing is also one of the latest collective works led by Hebe Vessuri, the most important – and beloved – figure in the social studies of science and technology in Latin America. On the eve of the second joint congress between ESOCITE, the Latin American Society for Social Studies of Science and Technology, and 4S, the Society for Social Studies of Science, writing this review, knowing that Hebe will not be present at a congress of the Association, provokes a bitter taste. Hebe Vessuri's work has not only been seminal, creative, and rigorous, but it has also been the work of a builder. As a part of a way of life in which one can clearly see the search for consensus, both between regions and between topics, problems and disciplines, Hebe Vessuri has been able to build bridges, form institutions, human resources, and lines of work that have been consolidated over time.

The book I am reviewing is finally, as can be read between the lines, the homage of colleagues to the work of Hebe Vessuri. Her call always provokes that academic tingle that has the promise and the vertigo of participating in quality work. The colleagues who write here have undertaken this task honoring this call. *Conocimientos, sociedades y tecnologías en América Latina* is a book that brings together texts of great value. Some for their originality, others for their synthesis, but all are dedicated texts, written for Hebe and answering her call. Thus, *Conocimientos, sociedades y tecnologías en América Latina* manages to escape the epidemic that runs through compilation books, where unity and rigor are scarce.

Reviewing a book of these characteristics is a difficult task. First, because of its cognitive dimension: the diversity and quality of the texts imply a specific knowledge, even if only a cursory one, of all the topics addressed. Secondly, because of its social dimension: the stature of the colleagues who write here places one on a podium that is difficult to sustain. It is certain that one will be read – and criticized – for the words written here. Finally, because of its instrumental dimension: the space usually given to book reviews makes it

difficult to review a multiple work. Twelve texts, sixteen authors, and twelve topics can hardly be resolved in a couple of pages. I am grateful here for the flexibility of Leandro Rodríguez-Medina (*Tapuya's* previous Editor-in-Chief), who understands better than anyone the editorial complexities and engages in a hand-to-hand fight against formats and practices that do not promote discussion or thought.

I will now attempt to outline the fundamental aspects of the texts found in the book, trying to highlight their collective contributions.

The first issue to highlight has to do with structure. The book can be thought of in three sets of texts, characterized according to who writes them. The first set has chapters written by European authors (with one co-author from the region) who address general aspects of the field with a more internationalized [external/foreign] perspective. Although all of them are authors closely linked to and interested in Latin American problems and productions, they are still "intellectual immigrants/residents." The second group of texts is written by Latin American authors who address issues central to the STS field from a national empirical perspective, such as the texts by Leandro Rodríguez-Medina and Marcos Cueto, and others who seek to discuss approaches and theories based on local case studies, such as Pablo Kreimer or Alexis de Greiff. The third group is written by Latin American authors who address issues more related to audiences, democracy, and participatory instances, as in the texts by Noela Invernizzi, Olga Restrepo Forero, Claudia Ruvituso, and Tania Pérez-Bustos.

It is a little bit surprising that the distribution of the book turned out as it did. Undoubtedly, a thematic-conceptual decision prevailed when organizing the texts and that is precisely what leaves its mark. The texts go, broadly speaking, from the general to the particular, from the external to the internal, generating and reproducing asymmetries from which it is very difficult to escape. However, this responds to questions of power as well as cognitive questions. Some issues are more likely to be raised from a central position. As Kreimer has already shown with the concept of subordinate integration, generalizations are more easily accepted when they come from the centers than when they come from the south. However, these generalizations come from shallower views, from less rigorous analyses, precisely because they are made from a distance. Some of the first chapters that point out how some productions from the region had an impact in Europe without due recognition deal with this. The simple fact of mentioning it, of recognizing that the center is indebted to these works, brings back the asymmetry from which it seems impossible to escape.

In the first chapter, Dominique Vinck and Nicolás Baya-Laffite attempt to systematize what for them is an agenda of challenges facing STS Studies from the South. The place from which their perspective is constructed is interesting. Dominique is French, specialized in STS studies in Latin America and concerned with the dissemination of these studies both within and outside the region, as his book *Science and Society*, practically an STS manual for the region, makes clear. Nicolás is Argentine, based in France. The symmetry and complexity of his views can be seen in his chapter. The first thing the authors do is to try to dismantle the notion of "South." There is not one South, but rather there are plural, multiple "Souths" united by the asymmetry of which they are subject to, facing the theoretical and methodological developments of the "North."

In their agenda of challenges for thinking about the STS field from the South, the authors propose five lines that are, at the same time, fields of research and political spaces. First, an invitation to think STS studies in and from the periphery, pointing out the advances made, mainly by historiography, to redefine the power that the Eurocentric vision of scientific-technological development has today. Secondly, they propose to develop new articulations with other approaches on and from the South, highlighting here the philosophical-literary developments made to this day as a critical perspective to the hegemonic narratives. Thirdly, they

propose to rethink Science and Technology from the understanding that we are in a new geopolitical order. This implies recognizing a new economic order, a new world order that manifests itself, among other things, in the diminishing role of the States in the development of S&T. Fourth, and more incisively, they propose a rethinking of risks and the commons from the South, addressing aspects such as peace, environmental management or development, and access to knowledge, while calling for a greater politicization of STS studies, which leads to the fifth and last point on their agenda: they propose a greater emphasis on making the developments of the South known, thus challenging the knowledge produced in the North. In this sense, they call for greater efforts in clarifying syntheses of both locally generated knowledge and global discussions.

Thus, once again Dominique Vinck proposes not a manual for an STS course on Latin America, but an agenda that could well serve to organize the work of an entire Latin American Ministry or program to strengthen S&T with an STS perspective.

Rigas Arvanitis' chapter "¿Investigar para quién? El cambio paradigmático de los Estudios de la Ciencia en América Latina y el mundo" (Research for Whom? The Paradigmatic Shift of Science Studies in Latin America and the World) presents, in a pleasant and personal style, an analytical account of his time in different Latin American countries, such as Venezuela and Mexico, and in different institutions both in Latin America, such as CENDES (Center for Development Studies), and in Europe, such as IFRIS (Institut Francilien Recherche Innovation Société), in which he was able to participate and observe the development of STS topics, ways of working, and perspectives. A personal anecdote highlights all the tensions that run through a large part of this book. Hebe Vessuri, in the 1980s, pointed out to a young Arvanitis the dissatisfaction with researchers "from the North" who "come to do their field work in Latin America and disappear without a trace." That phrase condenses a large part of the discussions on internationalization, usefulness of knowledge, and even agendas that concern researchers in the field in the region. In his personal journey, Arvanitis, perhaps arguing a bit with Vinck and Baya-Laffite's text, points out the regional emergence of topics that have been a reference for European social sciences, particularly in science and technology. Among them, he mentions the link between sociology and the role of science in society, the connection between the users of science and the scientific community, international collaboration, the role of the social sciences in the shaping of global markets, and the governance of science in the face of the multiplication of actors and sources of funding. In contrast to the more customary views on the development of global STS knowledge, the author ends by recognizing the role played by Latin American STS developments in the European and international scene.

In the third chapter, Wolfgang Schaffner offers a more global view. "Futuros deseables para resetear la ciencia, tecnología y sociedad en el siglo XXI" (Desirable Futures for Resetting Science, Technology and Society in the 21st Century) is a text that proposes to think about a university training program that picks up the gauntlet of many of the challenges developed in the book and, from the reflection generated by the very recent crisis provoked by COVID-19 (very recent for the authors at that time), to catapult a proposal for a future in which Science and Technology integrate a more just and livable society. In this sense, there is a position, to which I adhere, proposing that the COVID-19 crisis arose from the pre-existing global environmental crisis. And this crisis represents the failure of the techno-scientific development of the last 200 years and about which the new generations have an accusatory look towards their predecessors. This recognition leads the author to propose a multidimensional integration of S&T on three levels. The first is an interdisciplinary integration. STS developments have generated views and analyses of science, but not so much with science. It is necessary to strengthen this integration particularly from the design sciences and the reformulation of the idea of "project" in an adaptive and non-predetermined process. The second is that of

cultural integration. Interdisciplinary integration is the prerequisite for cultural integration, anchored in the materiality of engineering and the production processes of technological objects. Finally, the plane of integration between technology and nature. The environmental crisis prior to COVID-19 already showed the need to integrate these aspects. Schaffner synthesizes the central problem of human technology in the separation between the three fundamental elements of technology: matter, information, and energy, which in nature are inextricably linked. Their separation is the origin and cause of imbalances. These integrations thus make it possible to rethink future strategies for an STS program. We can add a final point, with which I also feel very much in line, the integration between knowledge production and the public. This is the final and substantive element of the integration process that would allow to take advantage of all the capabilities of the University in the twenty-first century for a transformation of society.

In the fourth chapter, Leandro Rodríguez-Medina returns us to the center-periphery discussion. In the chapter entitled “Internacionalización de las ciencias sociales como desafío institucional” (Internationalization of the Social Sciences as an Institutional Challenge), he begins with the question: how is it possible for the “central” science to ignore the “peripheral” science but, nevertheless, to impose itself on it? How does one dominate that which is ignored?

To answer this question, Leandro Rodríguez-Medina defines very precisely the internationalization of science from an STS perspective and then shows empirical results of the Project “Space and Knowledge. Dynamics and Tensions of International Collaboration in the Social Sciences in the Context of Globalization,” and, finally, from secondary information based on what could be seen at the beginning of the pandemic on production and internationalization of knowledge on COVID. Thus, he manages to show some trends in internationalization processes that show how social scientists, pressured by national and institutional policies for internationalization, have learned to “collapse” the distinction between the local and the global.

Of great interest in this work is the empirical analysis of the internationalization process that reveals multiple paths to internationalization, while providing elements for deeper empirical analysis and more appropriate policy making. In particular and in the reading that arises from following the chapters of the book in the proposed order, one cannot help but wonder how is it that, in a world where – according to some authors – the intervention of the State in the development of science is in decline, it is precisely the State that intervenes in the development of a science with little local and regional anchorage. A partial answer to this question will be offered below by analyzing the differential roles that exist in the region when compared with world trends.

Marcos Cueto is the author of the fifth chapter, “Brasil, salud global y antirretrovirales contra el SIDA, 1996–2020” (Brazil, Global Health and Antiretrovirals against AIDS, 1996–2020). Based on an exhaustive historiographic analysis of AIDS prevention and treatment policies in Brazil, anchored both in actors, knowledge, technologies, but also in local and international dynamics, the author shows us how battles can be won and lost associated with central topics of STS studies: Local production of knowledge, medicines, participatory processes in the definition of policies, and conceptual positions that have political repercussions, for example in the definition of antiretrovirals as a common good, show the validity and usefulness of STS analyses both for the description and analysis of reality, be it general or particular, such as the pandemic, while at the same time providing hope and dismay in a changing and unpredictable world.

From the hands of Alexis de Greiff comes the sixth chapter: “Actuar en el teatro de operaciones del SARS-COV-2: Un desafío para los estudios Sociales de la Ciencia” (Acting in the Theater of Operations of SARS-COV-2: A Challenge for the Social Studies of Science). “One

dead is a tragedy, a million dead is a statistic,” writes Alexis de Greiff, attributing the phrase to Stalin while he condenses a very interesting and original exercise: to use and hybridize war with theater and performative practices to analyze the role (or its absence thereof) of STS Studies in the SARS-COV-2 pandemic (or perhaps we should say, following the author, “The war against SARS-COV-2”). The comparison between both worlds allows him to identify actors, roles, strategies, institutions, ways of attributing and distributing responsibilities that allow him to carry out a lucid analysis, not always visible, drawing important lessons from other historical, health, and war events that are useful for thinking about the present. Perhaps the most interesting thesis of the analysis is linked to having found in this analogy a point to anchor ideas already known, but not so often used: that reality, like a play, is only one, and it can only be successfully interacted with by understanding that everyone, the actors, directors, lighting technicians, but also the lights and pulleys, the audience, and even those who sell tickets, play roles, have voices, demands, and needs.

“Promesas tecnocientíficas en la periferia: lo que dicen y lo que ocultan” (Techno-Scientific Promises in the Periphery: What They Say and What They Hide) is the title of the seventh chapter which, like the seventh son, delves into something familiar with myths and legends: the promises of science which, like the wolf cub, hide more than they show. Pablo Kreimer explains how the imaginaries that science proposes as a way of defining – and solving – the problems of the world, both social and physical-material, operate in modern society. Techno-scientific promises, Kreimer explains, mobilize technical, cognitive, and social elements to propose a specific construction of the future that implies the resolution of a set of current problems. However, this future does not emerge from consolidated promises, that is, from the certain or highly probable resolution of problems. They are configured by those who propose the promise in the construction of a desirable but uncertain future. In this way, the future itself and the definition of the problems that this future will have to solve are jointly configured and consolidated. To find a structure of techno-scientific promises and their role in the functioning of current technoscience, Kreimer analyzes the various multi-scale rhetorical strategies together with the mobilization of technical and disciplinary dimensions that are involved in the process of achieving these imaginaries.

Noela Invernizzi is the author of “Participación pública: revisitando sus efectos democratizantes en la ciencia y la tecnología” (Public Participation: Revisiting its Democratizing Effects in Science and Technology), the eighth chapter, which centrally addresses a topic that had already been announced in previous texts: the relationship of science and technology with broad and diverse audiences in the construction of agendas, and access to the benefits of this knowledge. However, it does so by escaping the naive and fashionable positions that take the democratization of knowledge in a superficial and politically correct sense. It attempts to make a critical reading of the phenomenon by attacking it from an infallible side: empirics. Although she does it from secondary information, the author proposes to critically survey the experiences of public participation (citizen, democratic, etc.) to democratize science. Have the scientific agendas changed as a result of these experiences? And, the technological trajectories? Thus, she identifies a series of dimensions, such as the types of actors that participate in these experiences, the relationship between experts and laymen, the democratizing effects of the experiences, among others. This exercise allows Noela Invernizzi to find a typology of forms of citizen participation: institutionalized and activist, and from there, to carry out a very interesting analysis that allows us to extract some useful lessons to think about future strategies.

In the ninth chapter, Olga Restrepo Forero wonders about the relationship between science and democracy. “¿Cómo entender las relaciones ciencia y democracia hoy? Una mirada desde los estudios sociales de ciencia, tecnología y sociedad” (How to Understand the Relationship

between Science and Democracy Today? A look from the social studies of science, technology and society) is a chapter that provides a brief but lucid historical overview of some relevant points for STS studies in their reflection on science-democracy relations or, to put it more precisely, how has the social contract that regulates the intervention of science in the decision-making that affects society as a whole been configured and changed? From the seminal work of Robert Merton, which describes the scientific ethos and marks the golden age of scientific expertise, through the irruption of the military-industrial complex and the privatization of knowledge, which substantially modify this contract and generate social effects, to climate change and AIDS, which transform the governance of science. “Publics” and “risks” emerge as structuring elements of the science-democracy links while the idea of expert is democratized. It is no longer a question of a singular gaze, that of science, but rather pluralities begin to appear: many sciences, experts from other areas of knowledge, but also panels of experts. It is no longer a matter of individual figures, but of true collectives specifically convened to produce knowledge that can be used in decision-making. However, “all the dirt comes out in democracy” as Hans Magnus Enzensberger states and is quoted by Olga Restrepo to denote the complexity of these relationships. While necessary, they are uncomfortable for any society, but perhaps they are the only way to establish a positive balance that promotes a certain kindness and equity in the world.

In the tenth chapter, Clara Ruvituso delves into the analysis of the circulation of Latin American social theories in the North, particularly Germany and France. In “Teorías del Sur en circulación: una agenda pendiente para las ciencias sociales Latinoamericanas” (Theories of the South in Circulation: A Pending Agenda for Latin American Social Sciences), she proposes to analyze the translations of local texts into French and German, two central languages in the social sciences, at least until the fall of the Berlin Wall in the last third of the twentieth century. In this way, she identifies a set of authors and theories that were translated early, such as “cepalismo” (“eclacism”), developmentalism, dependency theory, liberation philosophy, pedagogy of the oppressed, identifying also the necessary mediations that had to occur for this to happen. Less studied is the impact that the translation of these works had, i.e. how and for what purpose they were used. The change in the economic-political contexts that occurred in the late 1980s and early 1990s led to thematic shifts in the region, an even greater hegemony of English as a lingua franca, and also to a change in the interest of European institutions-promoters of these processes-such as the renewed interest in Eastern European studies to the detriment of Latin American studies. Currently, the democratization agenda, memory and peace studies, the links between societies and nature, and indigenous knowledge, among other topics, occupy the local agenda together with feminist struggles which, without ignoring previous developments, make up a rich body of local production in the social sciences whose circulation has been modified. The author’s proposal for a “conviviality” analysis of the circulation in social sciences is to support works that make these mismatches visible, but that also highlight and value these intertwinings.

“Ciencia comercial en América Latina: Análisis de los retos de la financiación privada de la investigación” (Commercial Science in Latin America: Analysis of the Challenges of Private Research Funding) is the title of the eleventh chapter in which Manuela Fernández Pinto analyzes the interaction between the organization of research in the most developed countries and the organization of research in Latin America. She starts by pointing out the two asymmetries that she identifies as fundamental. The asymmetry in the amount of resources allocated to research in the different regions (United States, Europe, and Latin America) and the asymmetry with respect to who makes this investment (public vs. private). In this analysis, she explores some initiatives that attempted to promote research in the region, such as researcher training

programs and scientific journals, and then analyzes some mechanisms of internationalization, such as philanthropy, scientific collaboration networks, and brain drain.

The last chapter of the book is entitled “Baldosas forjadas, río envenenado y pañuelos bordados: relatos de artesanías para pensar con cuidado la continuidad de la violencia” (Forged Tiles, Poisoned River and Embroidered Handkerchiefs: Craft Narratives to Think Carefully about the Continuity of Violence) and was written by Tania Pérez-Bustos, Isabel Gonzalez Arango, and Natalia Quiceno Toro. This chapter, much more than all the previous ones, introduces a more personal dimension without abandoning the analytical stance. The practices of care are mobilized in their link with the territories to account for their multiple facets. On the one hand, as a way of perpetuating violence, on the other hand, as a way of combating it, and among these, care as a practice that emerges from and survives violence. In particular, the text addresses care and violence in Colombia after the signing of the agreement for the termination of the conflict and the construction of a stable peace in 2016. Three examples illustrate each of these dimensions of care. The first is *Fragments*, a conceptual work made by Doris Salcedo with melted weapons handed over by the Revolutionary Alternative Force of the Common (FARC)¹ to create the metal tiles that cover the floor of a house in ruins. That journey, the experience of walking on that floor becomes, according to the authors, a complex way of healing the pain caused by the war, while perpetuating it. Isn't that finally a scar? The solidification of a pain that is no longer exercised but that exists. The second is called *Eye of the Needle* and consists of an archive and a memorial in which white handkerchiefs are embroidered with the names of the social leaders assassinated after the signing of the peace agreement in Colombia. The third is the collective embroidery done by female artisans who, as a caring practice, each embroidered a landscape with their name on it, depicting their riverside life. This representation of the craft, which goes through painful processes and is perpetuated by them, is interpreted as the continuity of life that seeks creative ways to continue.

There are at least two ways to read this book. The first is in paper format, that is, to read each chapter independently, while the second is to read it in its entirety and in order. Of course, there are more ways, as Italo Calvino suggests in “If a traveler one winter night” (sitting, lying down, on your back, on your side, in an armchair or a sofa, on the bed, naturally, or inside the bed, if you prefer ...).


But assuming you have decided to read it “page by page,” that is to say, completely and in order, what is left after reading *Conocimientos, sociedades y tecnologías en América Latina*? The first thing is the sensation of being in front of a very lively field of knowledge, the social studies of science and technology. The discussions raised are very interesting, sensitive to current issues, and in dialogue with the entire global production of knowledge. The second thing that one takes away is a catalog of problems and clues to continue reading and analyzing. And the third – because one always takes away three things – is a road. The topics common to the texts trace lines of interpretation that speak to us about the place where we are standing, but also about the place – or places – we can go from here. While none of the texts have a pessimistic view of the present or the future, in all of them one can read the complexity of reality and the effort and creativity that must be put into motion to deal with it. The central topics are internationalization, the change in the role of the state, the cognitive structure of knowledge, the relationship with the public and integrations, understood as collective efforts of greater participation, democracy and sensitivity in the collective


¹“Comunes” is a Colombian political party originally founded under the name Fuerza Alternativa Revolucionaria del Común (FARC) in August 2017 by former combatants of the Fuerzas Armadas Revolucionarias de Colombia – Ejército del Pueblo (FARC-EP), following the signing of the Peace Accords between the Government of Juan Manuel Santos and the FARC-EP in 2016.

recognition of the challenges and opportunities that the development of science and technology poses to us permanently, the only possible way to live together.

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