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*Dr. Jessica Norberto Rocha & Gabriela Heck*

*CECIERJ Foundation*

## ABSTRACT

What are the potentials and challenges for science museums to promote equity and justice from a science capital perspective? That was the theme of one of the CIMUSET sessions during the ICOM Conference in 2022. This review presents highlights from the panelists' presentations and the discussion afterward. The session demonstrates that museums recognize accessibility, inclusion, and diversity as relevant and urgent themes to be addressed. However, there is little concrete evidence of practice — especially regarding including people with disabilities. At the same time, the discussion highlighted weaknesses and sensitive topics, lessons learned, opportunities to be explored, and a field of practice and research to be deepened and broadened.

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# Science Capital and Science Museums: Review of a CIMUSET Session in the General Conference of ICOM 2022

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*What are the potentials and challenges for science museums to promote equity and justice from a science capital perspective? That was the theme of one of the CIMUSET sessions during the ICOM Conference in 2022. This review presents highlights from the panelists' presentations and the discussion afterward. The session demonstrates that museums recognize accessibility, inclusion, and diversity as relevant and urgent themes to be addressed. However, there is little concrete evidence of practice — especially regarding including people with disabilities. At the same time, the discussion highlighted weaknesses and sensitive topics, lessons learned, opportunities to be explored, and a field of practice and research to be deepened and broadened.*

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**Author α:** Researcher and science communicator at the Foundation Science Centre and Higher Distance Education of the State of Rio de Janeiro (Cecierj Foundation). Ph.D. in Education from the University of São Paulo (USP) and a Master's Degree in Scientific and Cultural Communication from the University of Campinas (Unicamp). Professor at Oswaldo Cruz Foundation (Fiocruz) at the Doctorate and Master programs in Bioscience and Health Education and the Masters in Science, Technology and Health Communication.

**σ:** PhD candidate in Education at the Pontifical Catholic University of Rio Grande do Sul (PUCRS). Master's Degree in Science and Mathematics Education.

## I. ICOM 2022 AND THE NEW DEFINITION OF MUSEUM

Between 20-28 August 2022, it was held in Praha (Czech Republic) the International Council Of Museums General Conference (ICOM 2022). The conference's summit was the approval of the new definition of a museum:

A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing (ICOM, 2022).

After many years of discussions, the qualifiers "accessible," "inclusive," and "diversity" were added to the definition bringing light to changes (and challenges) in the social role of museums.

## II. SCIENCE CAPITAL AND SCIENCE MUSEUMS - THE SESSION

Aligned with this new perspective of a museum, one of the sessions held by the Committee for Science and Technology Museums (CIMUSET, from French Comité International des Musées de Sciences et des Techniques) was entitled "Science Capital: Exploring Potentials and Challenges for Science Museums to Foster Equity and Justice." According to the session description, its objective was to promote a discussion on the potentials and challenges for science museums to promote equity and justice from a science capital perspective. Thus, it was proposed to rethink the

role of science museums, focusing on including voices that are not being heard and people who are, in general, not participants in museums' activities - for example, communities of black people, indigenous communities, needy communities, immigrants, and refugees.

The session proposed Science Capital as a key point of the discussion. This concept was developed to explain patterns of scientific aspiration and participation in science among young people, which is fundamental to promoting equity in the field of STEM [Archer, Dewitt & Willis, 2014; Archer *et al.*, 2015]. One of its results is the Equity Compass: a tool developed to deepen equity issues in the scientific field and guide equitable and transformative pedagogical practices [Yestem, 2020].

A Brazilian researcher from Museu da Vida (Museum of Life) from Oswaldo Cruz Foundation was the session's chair in which six researchers, museum professionals, and science communicators from North and South Americas and Europe participated. A University College London (UK) professor explained science capital and equity compass. Two professionals from the Science Museum Group (SMG) (UK) addressed the science capital approach at the institutions. A Colombian professional from the interactive science center Maloka, located in Bogotá, contributed with reflections on science capital in the Latin American context. A Danish professional from the Museum of Science and Technology in Denmark discussed how to face and eradicate exclusionary practices in science museums. Lastly, a Canadian professional from the Ingenium Museum spoke about building a bridge between science and society through the lenses of science capital.

After approximately 50 minutes of presentation by the panelists, the audience was invited to ask questions and share experiences. Faced with the emerging issue of accessibility and inclusion of people with disabilities, we asked the following questions: "When you talk about inclusion and diversity, are you also thinking about people with disabilities and how your programs target these audiences?"

Regarding this first question, the professional who works for SMG answered that "*inclusion means everyone*," suggesting that they consider people with disabilities in the science capital framework. She informed to the audience that the SMG has a staff member that is *head of access and inclusion*, responsible for mitigating barriers that people have to engage at any level, not only for disability but also emotional or intellectual. The Danish professional commented that, in his institution, still there's no staff responsible for addressing specifically the theme of inclusion – an issue that needs to be transformed by changing the organization's mindset. Lastly, addressing the Canadian context, the professional refers to the Accessibility Act of Canada and states that her museum compels it, promoting different accessibility practices. Still, even before the Act, they already worked with an inclusion, diversity, and accessibility framework.

Specifically for the professor developing the "Science Capital" concept, we also asked: "How does the equity compass address people with disabilities? Do you know any other research (apart from Heck's<sup>1</sup>) that addresses people with disabilities, equity compass, and science capital?" She explained that the Equity Compass was developed to be used across any form of intersectional injustice. It means it can be used in a disability context or perspective, as well as gender or race. She considered that it might be helpful to work on specific case studies about particular areas - in special people with disabilities, given that intersectionality is very complex, involves different societal issues, and people can forget some of them.

She concluded by saying she currently leads a project called "Making Spaces"<sup>2</sup>, funded by Lloyd's Register Foundation. One of the project's partners is an adaptive designer based in New York who works with people with disabilities. So, she hopes the group will have more exciting case studies in the future. Finally, she did not mention or refer to any other research that has applied the Equity Compass to this particular area.

<sup>1</sup> See Heck [2022]

<sup>2</sup> <https://m4kingspaces.org/about/>

### III. DISCUSSION AND CHALLENGES

Following up on the panelists' answers, a practitioner from the audience – who works in a science center in Pakistan – commented that her institution had undergone an audition process highlighting the importance of being more accessible. She clarified that apart from complying with local policies, they also aim to be broad their inclusive practices; however, it has been challenging for them for many reasons, such as institutional change and professional training and expertise,.

Through this productive discussion, we could perceive that the challenge was not only in the Pakistani case. With the insights from the panelists and other people from different parts of the globe that were in the audience, it became evident that accessibility, inclusion, and diversity incorporated in the new definition of museums are still a process under development in practice and theory. From our point of view, the CIMUSET session demonstrates that institutions recognize the theme's relevance, and some try to combine it with the ideas of "science capital" and "equity compass." However, when questions and discussion came, the responses predominantly focused on theory and the need for an organizational change—as Reich (2014) had already stated in her Ph.D. thesis. There is little concrete evidence of practice — especially regarding including people with disabilities.

Either incentivized and based on literature or demanded by international conventions and national laws and policies, these science museums are still crawling towards more practical and concrete actions towards the new museum's qualifiers. The CIMUSET section was undoubtedly a success and served as a strong and promising starting point. While it brought to light weaknesses and sensitive topics to discussion, there are lessons to be learned, opportunities to be explored, and an entire field of practice and research to be further explored and developed in the coming years.

The 2022 CIMUSET session during the ICOM conference demonstrated that the issue of accessibility can be further explored, with an

interest in investigating and improving practical actions to make museums more accessible and inclusive to everyone. In this perspective, it is essential to mention that this topic is becoming increasingly relevant, to the point where it will be the focus of the next CIMUSET Conference taking place in 2023 in South Korea, titled "Enhancing Accessibility to Museums." The upcoming meeting will provide a valuable opportunity to further advance in this area, share experiences, discuss challenges, and promote the development of guidelines and best practices.

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