Parallel Session 20: Museums and science centres in the transmission of cultural diversity

ART AND SCIENCE AT AN EXHIBITION: MUCH MORE THAN SIMPLY PICTURES

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Abstract

A new exhibition being created by the Universum science museum and the Mexican National Institute of Fine Arts explores the deeper connection between art and science. It shows how both originate in the human brain and how they are informed by the brain’s peculiarities. One section explores how our brains make meaning out of patterns and structure. Another suggests that theory building in science is guided by aesthetic criteria such as parsimony and unity in diversity. The exhibit as a whole suggests that art and science are the same search for structure, a search spurred by the pleasure of creation.

Key words: art, science, museums

Text

Introduction

Mysterious as art and science may sometimes seem, their roots lie ultimately in the material processes of the human brain. As argued in Wilson (1999) and Pinker (1999), our brains are machines designed by evolution to solve specific problems. Consequently, the mind is not a blank slate that only experience can mold, but a structure of hard-wired processes that dictate a well defined human nature (Pinker (2002)). Connections are therefore to be expected between everything humans do, particularly between art and science. As Miller suggests (Miller (2001), 6), “Instead of referring to an ‘interplay’ between art and science, we must begin to speak of ideas that were developed in common by artists and scientists.” A novel approach to presenting art and science in a science center is to explore these ideas.

The exhibition

The exhibition opens with a section on the senses as “feelers” whereby the brain takes in the outside world. By means of tactile enigmas, optical illusions, and musical stimulations, this section suggests that perception is a collaborative effort between the sense organs and the brain.

The second section presents the brain as an interpreter (Gazzaniga (2002)). In order to make sense of the myriad stimuli it must deal with, the brain has evolved to excel in a number of tasks, such as connecting the dots (finding patterns) and reading between the lines (completing missing information –or making it up!).

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These abilities are important in both science and the arts. In science they are an essential part of theory-building. In the arts, cinema and good writing, for example, convey meaning without tiresome explanations by letting the public connect dots and read between lines.

But why did we evolve these capabilities? The answer is a dictum for fitness in the environment of our ancestors: predict or perish. A knack for predicting the behaviour of nature, or of your neighbours, was adaptive in the Paleolithic environment where the brain evolved, as indeed it still is.

Pinker (2002) writes: “Organisms get pleasure from things that promoted the fitness of their ancestors” (p. 405). We suggest that the joys of art and science are associated with the pleasure we get when using our brains to seek or create symmetry, order, harmony, structure; in a nutshell, the pleasure of finding form (science) and creating form (art).

The main section of the exhibit explores some of Miller’s “ideas developed in common by artists and scientists.” The Mexican playwright Bertha Hiriart, in Castro (2003), describes the art of drama as a search for accuracy, order, and beauty. As it turns out, that is not a bad description of science. There are other convergences. Science and the arts share a passion for unity in diversity and for hidden meanings. They also share the need for imagination and acute observation. These convergences are illustrated by examples from both disciplines.

Outlook

From the outset it was decided that the exhibition would not be explicative, but only suggestive, of these ideas. Text was to be kept at a minimum in accordance with the basic tenet that reading between the lines, or supplying missing information from clues, is one of the main adaptive abilities of the human brain and one on which art and science rely heavily. The exhibit does not impose a message on visitors. It proposes stimuli and experiences that point in the general direction of a new assessment of the link between art and science.

One message we do expect our visitors to take away with them is that science and the arts are not the antagonists that common belief makes them out to be. This may help pave the way to a better understanding and appreciation of science as an important part of culture.

References
