

## Should Science Reform the Humanities?

*Parable of the Chicken House: The Importance of Metaphors in Science and Humanities*, **JESSE JAMES THOMAS** (San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-6062; you1@verizon.net, jthomas@mail.sdsu.edu).

Should science reform the humanities? No, but they can collaborate, and neither Pinker nor Wieseltier make that obvious. Consider, however, developing polymath C.S. Peirce's suggestion a century ago to blend (scientific) evolution and (humanistic) metaphor.

1. Evolutionary History of Both Science and the Humanities: Nature, life, and human existence are *teleonomic* (end-directed). Only process models work in either science or the humanities. The laboratory is time; God, nature, or humanity is both scientist and artist; evolution is the experiment; survival is the verification. Reality (scientifically and artistically) survives and thrives. Chaos may lurk, but both Science and Humanities puts it to work.

2. Traditional Science (Analogy) and Art (Metaphor): Analogies are self-contained and can be clearly stated. Metaphors are "out-of-the-box," unpredictable but creative. Creation myths included metaphor, but modern scientific method requires precision, so metaphor tends to be thrown out with the bathwater. Art struggles to save it, as does recent "far-from-equilibrium" physics and "noise in-order out" biology, which are open and creative. Science and humanities today need each other.

3. Parable of the Chicken House: What does survival of the *fittest* really mean? C. S. Peirce's *Agapisticism* (after the New Testament *Agape*, spontaneous and "out-of-the-box" love). Parable: Male Chauvinist Rooster (Analogy) Meets Nourishing Hen (Metaphor). Application: Dad has muscle and lays down the law, but mom loves the kids, tells bed-time stories, and does what's needed while dad is busy. James Joyce's Molly Bloom knows all. Inside and Out; Scientific, Humanistic, and Family Reality All Need Analogy and Metaphor.

*Should Science Reform the Humanities?* **NICOLE ASHLEY MEDA** (San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-6062; Meda.nicole2@gmail.com).

Should the sciences reform the humanities? No, but the humanities and the sciences would both benefit from learning from each other.

Steven Pinker argues that imbuing science into the humanities could reverse the recent decline in the status of the humanities, while Simon Wieseltier argues that, since the sciences has authority over fact, while humanities deals with values, they must stay separate. My position is in both agreement and disagreement with both viewpoints. I agree with Pinker in that the humanities could benefit from incorporating certain aspects of the sciences, but I feel that the sciences could benefit from learning from the humanities as well. Like Wieseltier, I agree that the sciences and humanities ultimately deal with separate end goals and thus the sciences do not have the authority to impose their will onto the humanities. But I believe that the humanities, as well as the sciences, could benefit from learning from each other on their own accord. The sciences cannot try to impose itself into the humanities without ultimately altering the purposes of the humanities since the two desire different end goals. However, the sciences and humanities have been intimately intertwined since the beginning and thus there is much they can learn from each other, so neglecting to adopt an interdisciplinary approach prevents the achievement of both fields' ultimate

potential.

*Expanding Artistic Expression through Science?* **SHERIDON STOKES** (Herb Alpert School of Music, University of California Los Angeles, 445 Charles Young Drive East, 2539 Schoenberg Music Building, Los Angeles, CA 90095; sherstokes@aol.com).

Should science reform the humanities? No, however science does contribute essential principles to the underlying creativity of the humanities. Through the scientific process the performer of music learns to express oneself, expanding the art's boundaries and capabilities. Science provides an explanation to the performer using a scientific logical approach to the underlying techniques of the performing arts. The performer's understanding and use of scientific principles in the art's techniques greatly accelerates learning of the art form as well as the expanding the art form itself. This understanding creates a strong emotional feeling within the performer, to the point where science and music cannot be separated.

An understanding of the scientific principles translates the emotional experience of the performer: joy, excitement, relaxation, sorrow, anger, sweetness, inspiration and creativity into interpretive expressive qualities. Understandings of the scientific principles behind the art often result in a sudden shift in attitude, moving the artist from outside to inside the art form because an awareness of the complexity of what they are learning. The presentation will summarize the principles in body mechanics, breathing techniques, muscle control, external and internal stimulus according to linguistics, laryngology, respiratory therapy, acoustics, atmospheric and sensory physics based on 60 years of music performance, film recording, teaching experience and research.

*Should Science Reform the Humanities?* **DARREN IAMMARINO** (San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-6062; processtheology@yahoo.com, diammarrino@mail.sdsu.edu).

Should science reform the humanities? Yes, but only if the humanities also reform the sciences in a process of mutual transformation and enrichment. Wieseltier downplays the potential value and importance of the digital humanities to clearly and graphically express layers of information. Pinker, who claims that science is "hard," happily ignores the most difficult problem of all—the reconciliation of religion and science.

1. The first argument states that the most fruitful area for immediate mutual transformation is the application of computer technology and statistical analysis to the humanities. Therefore, the digital humanities are the most logical point of contact. Infographics and podcasts provide examples of how the visual/audio arts have helped to shape data and information, and how scientific methodologies and computer technology have allowed for large-scale data mining.

2. The second argument presents a far greater challenge—paving the way for religion AND science rather than religion VS. science. This paper proposes a systematic way forward. 1) Abandon the New Atheism vs. Intelligent Design discussion completely. Furthermore, the debate must expand outside the confines of Western Monotheisms vs. scientific reductionism/materialism. 2) Instead, begin dialogue from the standpoint of Chinese and Indian religions. 3- Address the fact that religion will always remain as more than truth claims; it is fundamentally about hope. 4) Allow permanent sections on religion and science at professional societies on both sides. 5) Explore progressive, naturalistic forms of

theism (e.g. process theology, emergent theism etc.) that do not advocate denying major scientific theories.

*Problem-Posing: How Altering Our Educational Philosophy Can Bridge the Divide Between the Sciences and the Humanities*, **TREVOR AULDRIDGE\*** and **JEREMY JUYSARI** (San Diego State University, 2164 Dickinson Drive, Carlsbad, CA, 92008; trevorausdrige@live.com, jjuybari@gmail.com).

This paper establishes two arguments in relation to how the Sciences and Humanities can reform each other. First, we contextualize the development of the Sciences and Humanities. Second, we put forth a potential role that an alternative educational philosophy can better enhance the development of these disciplines in relation to the “progressive agenda”.

1. Disparities in development between the two disciplines do not necessarily come from the method in which these two disciplines produce knowledge but can also be attributed to the sociopolitical context in which they are evolving. The morality of science, Pinker claims, derives from the scientific method (which is corruptible). Wieseltier hints at the notion of “should we do it vs. can we do it” of science and that science only pursues the “can”, which further imposes a moral dilemma of problem solving and posing. Science can solve the world’s problems, but by what means? There is no morality *sui generis* in either of these two disciplines, but is produced in their relationships to the world/society.

2. Problem-Posing educational philosophy can cultivate critical scientist-humanists and critical humanist-scientists. Need an educational system/philosophy that situates the ability to analyze “Chardin’s” painting in scientific and humanistic terms, but we also need to be able to question why individuals are looking at that particular painting in the first place. Interpretation is paramount. Educational philosophy needs to let students have confidence in their own powers. Promoting student autonomy can contribute to production of the “progressive agenda”.

*A House Divided: The Humanism of Science and the Scientific Nature of the Humanities*, **MARK RICHARD WHEELER** (San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-6062; mark.wheeler@sdsu.edu).

Should science “reform” the humanities? A great deal depends on how we understand the notion of reform.

If by ‘reform’ we mean something like ‘help to improve’, then Pinker is surely right to suggest that the humanities have much to gain from the sciences. There is nothing new in this suggestion. The humanities are and have always been eminently rational disciplines. Scholars in the humanities, like their scientific colleagues, pride themselves on rigorous, rational, and public debate. Improvements in the various scientific methods and theories have, will, and ought to inform and improve the methods and insights of the humanities. But if the sciences can and should “reform” the humanities in this sense—if they ought to help improve the humanities—then so too the humanities can and should reform the sciences. Although it is an often neglected fact, one that both Pinker and Wieseltier fail to foreground in their discussions, in pursuing testable, predictive, empirical and mathematical theories the sciences are essentially grounded in, and represent highly abstract and technical developments of, the more critical and speculative forms of knowledge that define the humanities.

In the first part of this paper, I develop arguments in support of the foregoing claims. In the second part of the paper I consider

another and misguided way in which one might think that science should “reform” the humanities. One might think, and Pinker seems to think, that the humanities should be *re-formed* so that they become, effectively, sciences themselves. This revisionist and reductionist program is based on a fundamental misunderstanding of (or a willful forgetting about) the nature of human knowledge, the place of the sciences within the economy of human knowledge, and the complex way in which the methods and bodies of knowledge constituting the various rational disciplines are inextricably intertwined. Much the same can be said about the contrary counterpart of this naïve and dogmatic scientism: the radically relativist and irrationalist rejection of all claims to objective scientific knowledge (and the claim, effectively, that science is another kind of poetry or history) suffers from a similar blindness or aphasia. Drawing on recent work in philosophy, I argue that the sciences neither can nor should attempt to re-form the humanities in their images; nor can the humanities, nor should they, attempt to re-create the sciences in their images.