



COMMENTARY

The ecological and consumption themes of the films of Hayao Miyazaki

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Abstract

Films are an underutilized media to explore and amplify the many messages of ecological economics. While a few popular films and videos have effectively addressed environmental themes, this commentary argues that they have an even greater role to play in the educational process in order to reach a broader audience and help it to rethink its role in the world's ecosystems. Hayao Miyazaki, the masterful animator from Japan, is singled out to offer ample material in many of his popular and children's films to stimulate such critical thinking on the systemic problems addressed by ecological economics.

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1. Introduction

Ecological economics, as a trans-discipline, has an inclusive view on the contributions that the many traditional disciplines make to its advancement. As the science of sustainability, ecological economics must similarly take a broad view on both its audience (academia, applied practitioners, government, business and the general public) as well as the means of delivering its messages. Consequently the field not only needs to consider the use of scholarly journal

articles, books and reports, but also popular writings and alternative means of using the visual field for both specialists in the field and the general public. Among the options for the latter are plays, television and films. One can imagine a broad range of topics that could be addressed, from the traditional focus on air and water pollution, recycling, waste disposal, toxic substances, sustainable resource use, overpopulation, international trade, etc. to advanced topics such as biodiversity loss, global climate change, and more complex questions of optimal economic scale, inter-generational and inter-species equity.

A comprehensive videotape series on ecological economics topics was developed in the 1990s by Griesinger Films in Ohio. This series included an

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introduction to ecological economics; investing in natural capital; conversion to a sustainable society; and a special focus on Costa Rica, a well-known destination for eco-tourism (Griesinger, 2004). While these films have sold well in many countries, they are clearly targeted to a specialized audience of students and true-believers in this alternative paradigm of the world's economic system. Such films have an important role to play in the educational process, but need to be supplemented by films that can reach broader audiences to think and re-think their role in the world's ecosystems.

This brings us to Hayao Miyazaki. While many fairly serious films have been directed at explicitly environmental or ecological subjects (e.g., *Chinatown*, *China Syndrome*, *Blade Runner*, *Silkwood*, *Dune*, *Akira*, *Gorillas in the Mist*, *Milagro Beanfield War*, *Fire Down Below*, *A Civil Action*, *Erin Brockovich*), Miyazaki is an animator and storyteller whose main audience is children. Yet he has a cultural and ethical dimension in his films that is sorely lacking in all but the most specialized movies of any genre. Having viewed many of his beautiful films, we are struck by the clarity of his message on ecological and societal problems, even when those problems are rather complex (which is often the case). Given this clarity and the consistently high quality of his work, there is a great potential for important lessons to be learned from several of Miyazaki's films with ecological and consumption themes, thus the focus of this commentary.

The next section of this paper provides personal background on Hayao Miyazaki so the reader can better appreciate the perspective that he brings to his ecologically-oriented works. Clearly much of this orientation is cultural, historical and personal. The next section addresses five specific films of his that have prominent environmental themes, four that he directed and one that he produced. We follow this discussion with some thoughts on how these films could be used to highlight ecological economics messages, and close with a few conclusions.

2. Background on Miyazaki and his ecological thoughts

Hayao Miyazaki is a famous animator, film director and producer whose recent films are the all-time most

viewed in Japan. He has received several major awards for his works, including: the Saturn Award from the Academy of Science Fiction, Fantasy and Horror Films in the U.S. (2001); the Golden Bear Award in Germany (2002); the Academy Award for Best Animated Feature Film, Silver Screen Award from the Amsterdam Fantastic Film Festival, and the Broadcast Film Critics Association Award (2003). Before we discuss the ecological themes of some of his major films, however, it will be instructive to consider his background.

Miyazaki was born as the second son in Tokyo in 1941. When attending elementary school he had strong interest in Tetsuji Fukushima's "manga" (comic strips). His father often took him to movie theaters when Miyazaki was a junior high school student. Once he entered senior high he started to master the art of painting. Miyazaki became interested in animation at the age of seventeen when he watched *Hakujaden*, the first color animation movie created in Japan. After graduation from the faculty of economics at Gakushuin University in 1963, he started to work for Toei Animation. According to Miyazaki (1996), the Japanese people have a strong tradition of telling stories of politics, economy, religions, arts, wars, and other human affairs using *Emaki* (a method of telling a story with a combination of paintings and words) to portray events such as those during the Heian Period (794–1192) and the Kamakura Period (1192–1333). Miyazaki is clearly a follower of the *Emaki* tradition.

It seems that the major force driving Miyazaki to create animation movies comes from his affection for his children. To wit: "I owe my two children. The older child gave me an opportunity to remind me of what I myself wanted to do and yearn at his age. This experience was very precious to anybody with my profession. The younger child taught me by his life how I must have felt at his age and why I chose my profession including how my character was formed, so that I have understood more about myself. I must create animation movies by which children feel happy with their birth and life they are leading. This is the most important motivation as a professional animation director, and nothing more" (Miyazaki, 1996, 2002; Miyazaki and Yoro, 2002).¹

¹ The translations into English from Miyazaki's books were not necessarily made word for word, since the translated materials were derived from many passages in the three books by Miyazaki.

Miyazaki's attitude toward children appears related to intergenerational issues, particularly to environmental concerns. Miyazaki's mother used to talk to him about many Japanese people who changed their ideologies suddenly without any sincere thought on history and what they did before the Second World War. Thus, young Miyazaki could not see much significance in the history of Japan and its cultural tradition until he encountered the book *Cultivated Plants and the Origins of Agriculture* by Sasuke Nakao (1916–1993) in the 1970s. Nakao was a professor at Osaka Prefecture University who proposed a hypothesis of "Culture of Evergreen Oak Forest". The productivity of Japanese oak is so high that many animals, fish and other plants can co-exist, and its cultural background is not confined to Japan—it originated far away in Bhutan. Nakao's theory proved that Japan started agriculture within the Jomon Period (about 13,000–300 B.C.E.) hypothesized by Eiichi Fujimori (an independent archeologist). This theory gave Miyazaki a drastic turn on his thinking where the Japanese people came from. This cultural tradition is something Miyazaki is proud of, and an important hint for the scenes of *Princess Mononoke*.

One of Miyazaki's favorite places for walking is the Meiji Shrine in Tokyo, which is surrounded by evergreen oak forest: "When choosing an appropriate daytime with less people and walking narrow unnamed trails there, I feel as if I were out of Tokyo. You will be surprised to know that the trees in the deep evergreen oak forest were collected from all area of Japan during the Taisho Period (1912–1925). The Meiji Shrine can be an important example: if we have strong will, we can recover forest within a short span of time. We must remember that we all come from forest" (Miyazaki, 1996). Miyazaki is involved in the national trust movement, such as the Totoro Home Country Foundation, to preserve the forests in Japan.

3. How the films address the themes of ecological economics

Miyazaki's ecological views are best epitomized by his own words: "I think it better to think of environmental problems in view of 'courtesy' proposed by Ryotaro Shiba (1923–1996), a novelist who has writ-

ten about many distinguished figures in the history of Japan. We need courtesy toward water, mountains, and air in addition to living things. We should not ask courtesy from these things, but we ourselves should give courtesy toward them instead. I do believe the existence of the period when the 'power' of forests was much stronger than our power. There is something missing within our attitude toward nature" (Miyazaki, 1996). Five films most typify his views on ecology and consumption (see also McCarthy, 1999).

3.1. *Nausicaa of the valley of the wind* (1984)

This film is a masterpiece with a central environmental message, and is based on a full-length manga by Miyazaki himself. As in his later films *Princess Mononoke* and *Spirited Away*, Miyazaki portrays the central character as a strong woman, in this case one who fulfills an ancient legend to end all wars and "tie the strings of the earth together." *Nausicaa* is loosely based on *The Odyssey* by Homer (Fagles, 1996). Yet readers in the Western world might wonder why *Nausicaa* in the movie is so different from the one in *The Odyssey*: "When I encountered *Nausicaa* in the book by Bernard Evslin (*Gods, Demigods, and Demons: An Encyclopedia of Greek Mythology*), I recalled another heroine, *Mushimezuru Princess* who is a princess that appeared in *Tsutsumi Chunagon Monogatari* (ten short stories edited in the Heian Period; for translation into modern Japanese, see e.g. Misumi, 1981). *Mushimezuru* literally means deep respect and affection to insects. Unlike other princesses in that period, this princess did not cut brows and did not paint her teeth black. I continued to wonder how she lived after this story? In my mind these two princesses, *Nausicaa* and *Mushimezuru Princess*, became fused into one lady and created the story. I feel that there is something inside myself that can be called animism rather than religion. In fact, *Nausicaa* herself in this movie is governed by a sort of animism" (Miyazaki, 1996).

Hukai (literally meaning a rotten sea) is a new type of ecosystem that was once destroyed by a ruined civilization. *Hukai* was a "device" contrived 1000 years ago to purify the environment. Ecologists who contrived this device, however, could not predict how *Hukai* might change over time. In this film,

Nausicaa plants many plants in her room brought from the Hukai. Perhaps adults cannot understand her ideas. But Nausicaa seems to realize the significance of the connection between a pure world that exists under the bottom of the Hukai, and that nourishing plants brought from Hukai can again thrive in the human world.

3.2. *My neighbor Totoro (1988)*

This film is typical of the majority of his work in that it is clearly targeted to children. According to Miyazaki (2002), *My Neighbor Totoro* is a letter to himself, and to his own childhood during which he could not have any respect toward green plants and regarded them as a symbol of poverty. However, Miyazaki's view on Japanese cultural background drastically changed after he encountered Nakao's book already mentioned in Section 2. Since then Miyazaki has held a deep love for the world of plants as a symbol of complexity and diversity. In this animation, we see a very big camphor tree that is an imaginary scene Miyazaki has been wondering about since he became interested in nature and its functions after he turned thirty.

When Miyazaki created the character Totoro, which is a giant forest spirit that looks like a huge bunny rabbit, he decided the animal's face must not reveal what it is thinking. We need someone or something such that the existence of it per se (even without actual interaction with it) has strong meaning or warm feelings for us. For Miyazaki, this character Totoro might have something in common with Mr. Sato: "When I was a senior high school student, I met a teacher (his art instructor, who was more than 50 years old) whose political position and perspective on life was entirely different from mine, but his presence "there" was a final resort, as it were. His existence had significant meaning to me" (Miyazaki, 2002). Miyazaki also got a hint for Totoro from *Acorns and a Wild Cat* by Kenji Miyazawa (1896–1933) who is well known in Japan for his devoted life to improve living standard of farmers based on Buddhist thinking. Miyazawa also wrote many interesting books, some of which have been translated into English and French.

Miyazaki does not create this animation movie because of his nostalgia about its scenes typical of

Japan in the 1940s and early 1950s. Rather he wishes that this movie will induce children to run in the forest available or to pick up acorns as the sisters Satsuki and Mei do in the movie. He also wishes that children will go behind a small shrine still with some forest left.

3.3. *Princess Mononoke (1997)*

This film is targeted to an older audience, as it contains violence and more complicated themes. *Princess Mononoke* (called San) can perhaps be regarded as a culmination of Miyazaki's ecological views, symbolized as the uncompromising relation between forest of evergreen oaks and human appropriation of nature through Tatara in Japan. San is a girl who was raised by wolves and develops a bitter attitude toward human society. The main scene, located in the Izumo area (Shimane Prefecture), is the Tatara iron works surrounded by deep evergreen oak forest. Tatara is the iron producing technology using iron sand of high quality thanks to volcanic activities and a lot of wood. Miyazaki seems to create a new type of hero entirely different from typical Samurai movies. The hero in this movie, Ashitaka, is adopted from Emishi whose clan used to live in Tohoku area and was ruined by the Yamato Dynasty (about 1500 years ago). The scene was set up as if it were during the Muromachi Period (1338–1573).

At the beginning of the movie, Ashitaka is cursed by a Tatari Gami (a boar god). This was a huge monster covered with black snakes or worm-like feelers. The Tatari appeared because Lady Eboshi (the head of Tatara place), who is responsible for forest destruction, shot a big wild boar that was considered as a guardian for the oak forest (in which Shishigami was the god of oak forest). A curse by the Tatari represents a mythical belief of the Japanese that the forest is full of gods who occupy superior position to humans, and that when humans are aggressive against the forest the forest god tortures humans in return. However, after invention of iron producing technology Tatara, the relation between forest and humans is overturned. At the ending scene, after Shishigami recovered her head (which was shot off by Eboshi), Shishigami's body was scattered throughout the dead forest and the forest began to recover again. Unfortunately, the severe co-evolutionary tension between the

oak forest and Tatara place remains as a separate life of the two protagonists in the movie: Ashitaka who lives in Tatara place and San, who would never forgive humans and stays in the forest (McCarthy, 1999). Her hatred toward humans never disappears.

3.4. *Spirited away (2001)*

Spirited Away is the best known film by Miyazaki. It has received substantial play and accolades in North America and Europe, and is the most widely seen film ever in Japan. Its beautiful colors and imaginative characters remind the viewer of *Fantasia* and *Alice in Wonderland*. While the main focus is the misadventures of a scared little girl who gets separated from her parents when they turn into pigs after gorging on a banquet they find in a deserted amusement park, while traveling to their new home, Miyazaki introduces ecological elements as a subtle but important subtext. The girl, Chihiro, ends up in a bathhouse in the spirit world used to replenish all varieties of spirits but is surrounded by Roman-style feasting. She seeks employment in the boiler room from a half-human named Kamaji, who works in crude, dirty, hazardous conditions to keep the coal and energy flowing. Through her hard work and diligence she eventually is able to find a way to rescue her parents, who had become victims of their irresponsible consumption.

The environmental messages become clearer when Chihiro encounters two strangers. First, she is asked by the keeper of the bathhouse, the evil witch Yubaba, to tend to a stink spirit in need of a major cleansing. It is very large, dirty and smelly and scares off the other guests and staff. It is only allowed into the bathhouse because of its great wealth. The stink spirit is entangled with an incredible array of garbage and discarded metal objects. It turns out that this entity is actually a river spirit that has lost its identity because the real river was filled for a housing development. The viewer later learns that the river spirit is none other than Master Haku, Chihiro's friend from the moment she entered into the spirit world. It seems that this spirit saved Chihiro when she was very small and she never really forgot. This love for non-material things is also conveyed in the attempt of No Face, another wealthy, gluttonous visitor to the bathhouse, to try and win over Chihiro's friendship. He is puzzled by her lack of interest in his gold offerings, and her

contrast with everyone else in the bathhouse. As he eventually learns this lesson, No Face finds happiness during a visit to Zaneba, Yubaba's more benign twin sister, and shows his knitting skills! Eventually, Chihiro is reunited with her parents who are turned back into humans, and as the film ends the viewer is left wondering what is real and what is imaginary.

3.5. *Story of Yanagawa Horiwari (2003)*

Miyazaki's involvement as a producer of the *Story of Yanagawa Horiwari* is not well known. This documentary movie was directed by Isao Takahata in 1985 and finally released as DVD form in December 2003 (Takahata and Miyazaki, 2003). Yanagawa Horiwari is a network of narrow canals in Yanagawa City, Fukuoka Prefecture of Kyushu. Takahata was impressed with the tremendous effort of Tsutae Hiromatsu (1938–2002), who worked for the Yanagawa Municipal Office, to stop the plan to fill in Horiwari due to serious environmental degradation in the late 1970s and tried to preserve Yanagawa Horiwari. The total length of this water network is more than 450 km, with an area of about 40 km². The Yanagawa area used to be a lagoon and gradually became low land for cultivation. Horiwari is an ingenious system: precious fresh water is introduced into the center of Yanagawa City through a water network, and when Ariake Sea is in high tide, sea water is prevented from flowing into Horiwari through valves of sluice gates. Fresh water of Horiwari is used for drinking and irrigation. Horiwari is also used for transportation of goods and people. Horiwari dries up each winter and then a lot of mud is utilized as manure.

4. How the films could be used

The previous sections have illustrated the depth and imagination that has made Hayao Miyazaki a world class storyteller and animator. Miyazaki's films also provide a rich and powerful medium to explore contemporary issues in ecological economics. It must be noted that most of Miyazaki's recent work has been directed at more mature audiences, which allows him to explore more complex themes that include violence and coercive power. This is what makes Miyazaki's films so valuable for use in explor-

ing the conflicts expressed in political, cultural, and social dimensions of issues from pollution to biodiversity loss.

In *Princess Mononoke*, the complexity and richness of the story, not to mention the brilliant artistic depiction, provides critical viewers with a world in which an environmental problem has begun to impact people disproportionately. This situation is known the world round and Miyazaki's ideology helps to bring it into focus. In what Boyce (2002) calls the political economy of the environment, "everyone may have the same right to pollute the air and water, but not everyone has the equal means to do so." This leads to what Boyce further articulates as environmental cost shifting; winners of an environmental outcome are able to inflate their benefits only by inflating costs to the losers. By reading Miyazaki's films as case studies, they become material for rich discussions about the imposition of environmental costs onto groups with less access to information and means of protecting themselves. A discussion of *Princess Mononoke* might explore how the experience of Tataru, the mysterious result of forest destruction, is not shared equally among the characters of the film. This film can also serve to augment material such as the edited volume by Peluso and Watts (2001), in which the environmental security discourse laid out by Homer-Dixon and Kaplan are challenged by:

"rejecting the automatic and simplistic linkages between "increased environmental scarcity," "decreased economic activity," and "migration" that purportedly "weaken states" and cause "conflicts and violence"...Violent Environments accounts for ways that specific resource environments and environmental processes are constituted by, and in part constitute, the political economy of access to and control over resources." (Peluso and Watts, 2001, 5).

Similarly, Martinez-Alier (2003) helps us to further our understanding of such environmental conflicts. He is attentive to many instances in which one group of people exerts the power to impose a valuation scheme that simplifies complexity, creating an environmental distribution conflict. Miyazaki's attention to complexity and creation of pseudo-historical environmental conflicts in Japan allows him to draw viewers into the difficulties of real environmental problem solving. Miyazaki not only shows us courtesy of the forest, but

how that relationship also dictates courtesy toward each other. His films may even help to introduce viewers to contemporary developments within ecological economics such as its connection with political ecology.

We do not mean to give so much attention only to *Princess Mononoke* here, but to elaborate on the applicability of Miyazaki's films to the field of ecological economics. We further the advocacy of Miyazaki's films by considering the use of *Spirited Away*. This film may help critical viewers to consider issues surrounding personal and collective agency in addressing environmental problems. Through *Spirited Away*, Miyazaki masterfully creates mysterious connections between remediation and the politics of environmental problems, over-consumption, and sense of place. The characters' abstracted identities allow Miyazaki to craft a story that can give substance to discussions that relate the process of personal growth of little Chihiro and her ability to solve environmental problems as well as those of political organization inherent in a democracy. Accordingly, Prugh et al. (1999) situate personal and collective agency in the advantages of democratic forms of political organization in order to achieve genotopia, "the place that is continually unfolding, being born and reborn." They go on to say that the dilemma of creating a political agenda for sustainability is to make it, "consciously approachable." In the film, we are confronted with maddening over-consumption that threatens a mystical community. *Spirited Away* can help us to locate our feelings and identify with Chihiro while being conscious of how the psychology of capitalist consumption patterns complicates efforts of collective problem solving. The associations in the film are loose but they provide for an almost magical encounter with real feelings and problems that society faces.

5. Conclusions

The historical background on Hayao Miyazaki, his ideological growth concerning the environment, and his passion for the art of animation demonstrate that he has made significant contributions in environmental education accessible to a wide range of audiences. His notions of environmental 'courtesy' pervade all of his films giving audiences many ways to become

familiar with this philosophy. In several respects, we would consider Hayao Miyazaki to be an ecological economist. He not only helps us to recognize the complexity in our world but he presents a humble humanity in which to address it. His ability to depict power relationships so eloquently, demonstrates his mastery in the production of animation but also his passion for sharing his understanding of contemporary environmental problems; an understanding that many in ecological economics can identify with.

We hope that this exploration into the work of Hayao Miyazaki will encourage further identification of other artists that help to creatively promote ecological economics.

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References

- Boyce Jr., J.K., 2002. *The Political Economy of the Environment*. Edward Elgar Publishing, Cheltenham, UK.
- Fagles, R., 1996. (Trans.), *Homer, The Odyssey*. Penguin Classics, New York.
- Griesinger Films, web-site: <http://www.griesingerfilms.com>, last accessed September 25, 2004.
- Martinez-Alier, J., 2003. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar Publishing, Cheltenham, UK.
- McCarthy, H., 1999. *Hayao Miyazaki: Master of Japanese Animation*. Stone Bridge Press, Berkeley, CA. 240 pp.
- Misumi, Y., 1981. *Tsutsumi Chunagon Monogatari*. Kodansha, Tokyo. Translated.
- Miyazaki, H., 1996. *The Starting Point (1979–1996)* (in Japanese). Tokuma Shoten, Tokyo.
- Miyazaki, H., 2002. *The Returning Point of Wind: From Nausicaa to Spirited Away* (in Japanese). Rocking On, Tokyo.
- Miyazaki, H., Yoro, T., 2002. *Dialogue Between Miyazaki and Yoro* (in Japanese). Tokuma Shoten, Tokyo.
- Peluso, N., Watts, M. (Eds.), 2001. *Violent Environments*. Cornell University Press, Ithaca, New York.
- Prugh, T., Costanza, R., Daly, H.E., 1999. *The Local Politics of Global Sustainability*. Island Press, Washington D.C.
- Takahata, I., Miyazaki, H., 2003. *Story of Yanagawa Horiwari* (DVD in Japanese), Stajio Jiburi, Tokyo.