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Incubator Baby Shows: A Medical and Social Frontier

Hannah Lieberman

South High School, Minneapolis, Minnesota

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AMERICA'S FIRST HOSPITALS for premature infants were built at the turn of the twentieth century at fairs, amusement parks, and expositions. These hospitals represented both a medical and a social frontier. They had a great impact on American medicine because they demonstrated the success of caring for premature infants using incubators. The incubator hospitals were a social frontier, because they challenged many of the social norms of the time, providing affordable care while marketing their product and making a large profit. The hospitals also had an impact on society as a whole because the public was exposed to new technology, which greatly improved the care of premature infants. **1**

Prior to the invention of the incubator, care of infants, including premature infants, was the responsibility of the mother, and doctors were not likely to take very much responsibility for the care of any infants. Most babies were born at home, which created a situation in which the doctor was not always readily available to care for infants. In general, doctors were "in no position to expand their direct responsibility for the newborn" (Baker 13). Because of this situation, death rates of premature infants were very high, often as much as 85 percent ("Wonderland is Now in Full Swing"). **2**

When they were treated, premature infants were not considered a unique category of patient. Rather than treating them differently from other infants, doctors considered them small or weak (Baker 9). As a result, most premature infants were considered too weak for survival, and were not cared for properly. After seeing the techniques used at the hospitals, parents were better able to care for premature infants. **3**

One of the first modern incubator systems was invented by Alexandre Lion of France. The Lion incubators, which were later used in the first American incubator hospitals, were invented in 1891. These incubators were heated by a cylindrical water boiler that was mounted on the outside wall of the incubator. This type of incubator system was unique, because the incubators had their own ventilation systems. Each incubator "was ventilated by fresh air blown through a large pipe by an electric fan on the outside of the building; the air entered the incubator through a metal box attached to the left side of each cabinet" (Silverman 131). (See Figure A.) By regulating the temperature of the infants and filtering the air, the Lion incubators were able to successfully treat most infants. **4**

Since the Lion incubators were very complicated and very expensive, the technology was hard to sell to hospitals. To promote the technology, Alexandre Lion displayed the incubators and their premature residents at fairs and expositions, becoming the first person to do so. At some point in this process, Lion came up with the important idea of charging admission, which further reduced the cost of running the equipment (Baker 89). The success of this idea had much to do with the turn-of-the-century fascination with technology. Barely out of the industrial revolution, people were mesmerized by the sight of new **5**

technology at work.

Inspired by Lion's success and fascinated by the popularity of the exhibits, Martin Couney set up an incubator exhibit at an exposition in Berlin. Couney was German, and a student of the noted pediatrician Pierre Budin. Budin had studied under Stephane Tarnier, who had invented the first warm air incubator (Silverman 127). The Berlin exhibition was immensely successful and a second exhibit was set up the following year in London. After the second exhibition, "struck by the success of both shows, Martin Couney resolved to become a professional doctor-turned-showman" (Baker 90-91). **6**

Couney set up his first American incubator hospital at the Trans-Mississippi Exposition in 1898 in Omaha, Nebraska. Although the exhibit did not attract very much attention at the time, he returned to the United States three years later to set up an immensely popular incubator exhibit at the Buffalo Pan-American Exposition. Under Martin Couney, "the incubator stood poised to take the country by storm in 1900" (Baker 76). **7**

8

Couney's longest-running exhibit was at Coney Island in New York. This particular exhibit ran from 1904 to 1943. Baker reports that, "Couney's Luna Park exhibition, in fact, became the longest running show at Coney Island; it lasted well past the park's heyday and into the 1940's, the years in which premature infant nurseries finally were becoming a national priority" (Baker 97). A shorter-lived exhibition was located at Coney Island's other amusement park, Dreamland. The public was fascinated with the Coney Island Exhibition, to the point where people would often come back week after week to keep tabs on a particular baby. The Coney Island exhibition cemented Couney's success as a doctor-turned-showman, and led to the building of many more such hospitals.

Figure A
The Lion Incubator (Silverman 131)

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Infant incubators in operation at the Trans-Mississippi Exposition, Omaha, Ne. 1898. The Lion Incubator manufactured by Paul Altmann was warmed by a cylindrical "water-boiler" (a) mounted on the outer wall of the unit and the infant's cabinet was ventilated by fresh air blown through a large pipe by an electric fan on the outside of the building; the air entered the incubator through a metal box (b) attached to the side of each cabinet. Here the air was moistened by being passed through a layer of absorbent wool suspended over a saucer containing water. From this filtering box the air passed into the bottom and center of the incubator where it was diffused and passed over the surface of hot-water coils from the external heater, and then flowed into the infant's compartment in the upper part of the incubator. On the top of the incubator an outlet "chimney" (c) was fitted with

fan-blades which allowed only one-way passage of an upward current of exhaust air.

Another example of Couney's hospitals was at Wonderland Amusement Park in Minneapolis, Minnesota, at Lake Street and 31st Avenue. The exhibit at Wonderland, while short-lived, was extremely successful. It opened in 1905, along with the amusement park itself. Unlike at the Coney Island amusement park, according to *Minneapolis Past*, the incubator babies were the main attraction at Wonderland. The hospital building itself was two stories tall. The *Minneapolis Journal* reported that "the first floor will be devoted to a room in which the incubators...will be exhibited. A room adjoining will be fitted up as a model nursery...The rooms upstairs are the living rooms" for the doctors and nurses. ("The Incubator Babies at Wonderland Park" 10). The *Minneapolis Times* informed potential visitors that "to the spectator the incubator babies will appear to be living undisturbed lives behind the glass doors of their castles." Doctors usually referred infants to the hospital as a last resort. The building that once housed the incubators is the only remaining part of the amusement park. (*Minneapolis Past*) (See Figure B). **9**

Because the idea of displaying infants at expositions was a social frontier, it was very controversial in society at the time. As soon as Couney had set up the first exhibit at Coney Island, the Brooklyn Society for the Prevention of Cruelty to Children (SPCC) protested his actions. They believed that it was immoral to display infants in a public place, and that Couney's main goal was not to save babies, but to make money. When the Dreamland amusement park burned to the ground in 1911, the president of the Brooklyn SPCC once again tried to have the exhibit shut down, claiming that the infants' environment was unsafe (Baker 97). **10**

Couney and other incubator promoters responded to criticism by making themselves appear as legitimate as possible, especially to the press. The *Minneapolis Journal* reported that "the Infant Incubator is to be something more than an exhibit merely; it is to be an educator" ("To Educate the Public"). Of Coney Island, it was said, "at no other sideshow was the spiel so restrained, so lacking in boastful polysyllables, or so scientifically correct" (McCullough 276). John Zahorsky, who was head of the incubator hospital at the Louisiana Purchase Exhibition, referred often to the educational value of the shows (Cone 55). Couney and others also often stressed their credentials, challenging the assumption that they were only businessmen. **11**

Figure B

This image is unavailable for electronic reproduction. Please see the printed issue to view.

The building that once housed the Wonderland Incubator Hospital, which is located at 31st Street and 31st Avenue in Minneapolis, Minnesota. (Photo by the author.)

Another reason that incubator hospitals were a social frontier was their affordability to the parents of the premature infants. They were free, and were set up to take infants from any socioeconomic or racial background. At the infant incubator hospital at Wonderland, it was said that "the parentage of babies cuts no figure in their treatment. They may be orphans or foundlings, they may be of high or low degree...the same thing applies to babies born in every station of life, high or low, rich or poor, black or white" ("The Incubator Babies" 10). This was a new phenomenon. Other than charity hospitals, where survival rates for children were low, there were no hospitals that were available to people of all backgrounds at the time. "There was generally no room in hospitals facilities for premature babies born to less than wealthy parents. Thus the premature baby incubators fulfilled a genuine medical need" (Adams 51). Hospitals that were affordable did not generally provide quality care for premature infants, and mortality rates for all children were very high. "Even in the best-regulated institutions roughly half of all infants under one year of age died following hospitalization" (Baker 136). **12**

Evidence for the medical impact of the incubator hospitals can be found in the large numbers of infants that were saved. The *Minneapolis Daily Times* reported that "it is a matter of statistical record that previous to the use of the incubator that only 15% of the prematurely born lived. By use of the incubator 85% are saved." ("Wonderland is Now in Full Swing"). At Coney Island, "his [Couney's] success was astounding. He saved over 6,500 of the 8000 babies brought to him" (Adams 51). Although these numbers appear to be accurate, Couney himself provided the only statistics that are now available. This high success rate was a dramatic change from earlier times, when most premature infants were cared for at home and had a much higher mortality rate. Margaret Cosner reported that her sister was born prematurely in 1907, and weighed only one pound and seven ounces. She was brought immediately to the Wonderland hospital where, "due to the care of doctors and nurses, she survived to live into her 70s and raised three children" ("Wonderland Amusement Park Was The Greatest of Its Time" 1,4). **13**

The incubator exhibits played a key role in the transition to caring for premature infants in hospitals. Many hospitals used equipment from the exhibits. One of the most elaborate incubator exhibits was located in Buffalo, New York. "The Buffalo Children's hospital operated a modest incubator station for several years using equipment purchased from the fair" (Baker 99). Other hospitals, like the Sarah Morris Hospital in Chicago, sent infants to the exhibits during the summer months (Cone 45). After Couney left his successful Chicago exhibition, he donated his premature infant ambulance and other equipment to the city (Silverman 137.) **14**

As a social frontier, the incubator hospitals had a strong impact by exposing Americans to technology they would never otherwise have seen. "By seeing how the gadgetry worked, they could participate in a medical milieu that was otherwise firmly closed and mysterious to them" (Adams 52). This also led to better care of premature infants at home, because it gave people the opportunity to see how the infants were cared for in hospitals. John Zahorsky referred to their educational value when he stated that "they **15**

would acquaint the public with the existence of premature infants; this awareness would lead to efforts to rescue them from death as a matter of course" (Cone 55). Fern Tharp, who was born in Saint Paul, Minnesota in 1919 and now lives in Minneapolis, is an example of this phenomenon. Born prematurely, she was placed in an oven in her home by a relative and kept warm (Tharp). This technique was not widely known before incubators came to the United States.

Overall, the first American hospitals for premature infants were an important part of American history, both socially and medically. America's first incubator hospitals created a new awareness of the premature infant in America and brought scientific credibility to the idea of treating premature babies. They created large amounts of controversy in the medical field, because they challenged many of the social norms of the time by displaying infants in public and turning medicine into a profitable business. The hospitals provided quality affordable care to infants, saved huge numbers of children who would otherwise have died, and played a crucial role in the transition to caring for premature infants in hospitals. Finally, the first hospitals for premature infants also had a significant social impact because American fairgoers were exposed to technology they never would otherwise have seen. This perhaps saved the lives of many children, as with Fern Tharp. Overall, the infant incubator exhibits have earned a place in the history of medicine and in the history of American society.

16

Primary Sources

"Twin City Wonderland Visited by Thousands Sunday." *Minneapolis Journal*, May 15th, 1905:10. This news article describes the opening of Wonderland amusement park. It helped me get a sense of what the park was like.

"Big Force of Men Hustling at the Wonderland Park." *Minneapolis Journal*, May 18th, 1905: 7. This describes the construction of Wonderland. Also, it has a picture of the hospital building, which helped me identify the building as it is now.

"The Incubator Babies at Wonderland Park." *Minneapolis Journal*, May 20th, 1905: 10. This article is also about the opening of Wonderland, but it is specifically about the incubator hospital. I learned a lot from this about the incubator hospital and how it was run.

"Wonderland Park is Well Opened." *Minneapolis Journal*, May 28th, 1905: 7. This is a very interesting article about Wonderland. It explains exactly what the doctors at the Wonderland hospital were trying to do.

"To Educate the Public." *Minneapolis Journal*, May 28th, 1905. This article explains the educational purpose of the incubator hospitals. I was able to gain support for part of my thesis through this article, because it quotes Couney on the educational value of the hospitals.

"Wonderland!" *Minneapolis Journal*, May 25th, 1905: 11. This article is about opening day at Wonderland. It describes the attractions at the park.

"Wonderland is Now in Full Swing." *Minneapolis Daily Times*, May 28th 1905: News, section, part 2. This article is about the incubator babies at Wonderland. It describes the hospital and also some of the history of the incubator system.

"Unable to Save Tiny Little Life." *Minneapolis Daily Times*, June 5th 1905: 3. This is about a baby who died at Wonderland in June 1905. It describes exactly what the criteria are for saving premature infants and what the statistics are.

Tharp, Fern. Personal Interview. 2-25-01. Fern Tharp is my next door neighbor. Her story is a good example of my thesis, so I thought it would be interesting to include it. I learned something from this about how people's views of the premature infant were changing around the turn of the century.

Secondary Sources

Adams, Judith. *The American Amusement Park Industry*. Boston: Twayne Publishers, 1991. This book is about the amusement park industry, and approached the hospitals from that perspective. It was useful in helping me see how they fit into the amusement park industry.

Baker, Jeffrey P. *The Machine in the Nursery: Incubator Technology and the Origins of Newborn Intensive Care*. Baltimore: Johns Hopkins University Press, 1996. This book had a chapter devoted to the incubator hospitals. It took a very negative view of the hospitals, which it gave me a different perspective of the topic.

Cone, Thomas E. *History of the Care and Feeding of the Premature Infant*. Boston: Little, Brown and Company, 1985. This is a very detailed history of the history of premature infant care. It was useful because it had detailed information about Alexandre Lion and the Lion incubator.

Colon, A.R., and P.A. Colon. *Nurturing Children*. Greenwood Press: Westport, 1999. This book used some interesting sources that I was able to track down to get more information for my project.

"The Greatest of Its Time," *Longfellow Messenger*, June 1984: 1 and 4. This was a very useful article about Wonderland. It features a personal interview with a woman, Margaret Cosner, whose sister was in the incubator hospital at Wonderland in 1907.

Kyriazi, Gary. *The Great American Amusement Parks*. Citadel Press: Secaucus, 1976. This is another source on Coney Island. It had a lot of information on the Coney Island Incubator hospital.

McCullough, Edo. *Good Old Coney Island*. New York: Scribner's Sons, 1957. This was a very useful source. It has a lot of information on the incubator hospitals at Coney Island and offers a very positive view of them.

McNamara, Brooks. *Step Right Up*. Jackson: University Press of Mississippi, 1975. This book is about the history of American amusement parks. It was not a useful source, because it didn't mention the incubator hospitals.

Minneapolis Past. Videocassette. Produced by Bill Hanley. KTCA, 1993. 57 minutes. This is a video about the lost architecture of Minneapolis, which was helpful in my preliminary research. It featured a short segment on Wonderland, which mentioned the incubator hospital briefly.

Silverman, William, MD. "Incubator-Baby Shows." *Pediatrics*, August 1979: 127+. This is a very interesting article, and is one of the most comprehensive sources on the incubator hospitals.

"Wonderland Amusement Park Was the Greatest of its Time," *Southside Pride*, Aug. 1995: 12. This article, from a neighborhood newsletter, is a retrospective on Wonderland. It also has valuable information about the amusement park itself.

"Wonderland Didn't Last Long," *Longfellow Messenger*, September 1984: 4. This article had useful

information about Wonderland. It describes the park, and explains the circumstances around its closing.

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